Exploring the relation of trade-specialisation on structural changes in energy intensity

The effect of trade-specialisation on inter-country differences in energy intensity of industries.

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I would be lying if this thesis did not come with many challenges. Before I began this journey, my knowledge of international trade and energy economics was basically zero. I had to learn fast to be at a sufficient level to write this thesis. Without the knowledgeable thoughts of Enno Schröder, Kornelis Blok, and Peter Mulder and the helping hand of my coffee machine, this would not have happened. Furthermore, although my programming skills were good, it was very challenging to converge and match over 100 Gigabytes in data across multiple sets as a whole. While the energy balances data compromised 163,918,266 rows of data, the trade flow data had an even more extensive set of 272,519,466 trade flows that consisted of 218 countries, more than 5000 products, and 23 years of data; let alone speak about the other data sets needed for conversion and matching. Overall, I think this thesis is a significant leap forward for my knowledge and skills and it may provide ground work for further research in these topics. I sincerely hope you enjoy reading it.

Abstract

Climate change has increased the interest around energy intensity to many researchers. Understanding the drivers of energy intensity is essential to produce a fitting policy. While structural changes have been acknowledged as drivers of economy-wide energy intensity, it has not been recognised as an influential factor on industry-level energy intensity because there is simply not enough data to do so. To generate a more reliable understanding of the mechanism that drives industries' energy intensity, I explore the role of international trade on inter-country differences in the energy intensity of industries. The approach in this thesis shows with multiple panel data regressions how changes in trade specialisation in products explain inter-country differences in energy intensity of industries. The results estimate that an industry's energy intensity increases when it develops a comparative advantage in products whose production requires lots of energy, ceteris paribus, and decreases when it develops a comparative advantage in products whose production requires little energy. Since the effect of trade specialisation in one product goes on behalf of the effect of trade-specialisation in other products, there is a strong suspicion that there are changing compositions of industries. For policy changes, these results can provide insights into how a centralised approach in trade agreements and a decentralised approach in industry policies can tackle the industry's energy-intensity problems. In future research, it might be possible to accurately predict the composition effects by explaining the changes in the energy intensity of products with trade specialisation in products.

keywords — energy intensity of industries, structural changes, international trade, trade-specialisation, disaggregate approach

Contents

List of Figures

List of Tables

List of Abbreviations

CHAPTER 1

Introduction

1.1 | Background

Climate change is happening; therefore, countries try to decouple energy from economic prosperity by reducing their energy intensity. In the attempt to decouple from energy, it is has been recognised that technological advances and economic structure changes can reduce the economy-wide energy intensity (IEA, 2019a). With this information, decision-makers worldwide have been trying to impose policy, regulation, tax, and subsidies to make their countries less energy-intensive. However, as there is still a limited understanding of industry-specific drivers, the current energy policy might not be as effective. Therefore, it is critically essential to understand what drives the energy intensity of industries so that decision-makers can take an evidence-based stance and resemble the consequences of their choices in the hope that climate change might reverse while humanity may prosper.

Fundamentally, the sector-level energy intensity – and by extension, the technique effect – might be regarded as a target variable of energy policy (UNEP, 2014). The technique effect is often interpreted as being driven by the deployment of energy-efficient production technology (Mulder, 2015). As more efficient production means less energy use per unit of output, the economic activity can be sustained while energy consumption can be reduced. However, as the mechanisms that drive sector-level energy intensities are not yet well understood, the policy that only aims at technique effects might be ineffective.

While the technique effect has been marked as the most beneficial driver for reducing the energy intensity of industries (Ang and Zhang, 2000), recently, some scientists argued that structural changes could have a more prominent role in explaining changes in industry's energy intensity when it is examined on a more disaggregated level (Mulder, 2015; Mulder and de Groot, 2012; Mulder et al., 2014; Taylor et al., 2010). However, as the amount of disag-

gregated data is limited, studying the effects of structural changes on the energy intensity of industries has been problematic.

Changes in the structure of the economy happen because countries engage in different endeavours such as tertiarisation, industrialisation, and international trade (Moreau and Vuille, 2018; Mulder, 2015). While research shows that these endeavours indirectly influence energy intensity at the country level, it is yet unclear how large the magnitude is of the structural changes on the energy intensity of industries. Therefore, to adhere to this problem, it may be considered powerful to use the international trade theory to explain structural changes that attribute to differences in the energy intensity of industries.

From the international trade theory of comparative advantage, it is known that countries engage in trade because they face different costs to produce the same product (Krugman et al., 2018). As a result, countries choose to specialise in those products in which they have the lowest opportunity costs and offshore those products with relatively high production costs. Therefore, over time and within industries, trade specialisation causes shifts among different products. These shifts indicate there are structural changes in the industry present that explain differences in the sector-level energy intensity.

With future policy being focused on environmental differences, it may happen that country's industries shift their production to "cleaner" non-energy-intensive products and offshore the "dirty" energy-intensive ones (UNEP, 2014). In order to prevent technique targeted policy to only adjust for offshoring of dirty products, it is crucial to understand what the direction and magnitude are of changes caused by trade specialisation in energy-intensive products on the energy intensity of industries.

What makes the international trade theory especially compelling is that it could explain *inter-country* variations in the energy intensity of industries (Mulder, 2015). As these inter-country variations in energy intensity are seen as evidence of energy efficiency potential, the result thereof could be significant if changes in the industry-based policy happen across different countries.

Additionally, if policy implemented across countries causes performers to catch up with the frontier, significant differences in energy intensity between countries can be converged (Miketa and Mulder, 2005; Mulder, 2015). Nevertheless, if, for example, China's steel sector fundamentally differs from the United States (US) steel sector, the cross-country perspective compares apples and oranges. Worse: if the energy intensity of the US steel sector is low because the US imports the most energy-intensive steel products from China, the US low energy intensity cannot be reproduced globally. It would be a fallacy of composition to assume that, by adopting current frontier technology, the world as a whole can attain the US low intensity.

In brief, if trade-specialisation in products changes the industry's structure, and if this change leads to differences in the energy intensity of industries, then what is the effect of trade-

specialisation on inter-country differences in the energy intensity of industries?

1.2 | Problem statement

In this section, the problem that justifies the rationale of my research is explained in combination with the research question(s) and research objective.

1.2.1 | Practical problem

Based on the findings of the extensive literature review to be presented in Chapter 2, it can be concluded that it is unclear to what extent differences in energy intensity of industries are explained by structural changes in the economy. Economic studies have shown that economy-wide energy intensity is driven partly by structural changes. Industry-level energy intensity is also partly driven by structure effects; however, there is not enough data to show this. Therefore, with the current climate crisis and global demands for economic growth, there is an urgent need for an improved policy with a more reliable understanding of the mechanisms that drive the energy intensity of industries.

1.2.2 | Research question

To investigate the practical problem, this thesis explores how trade-specialisation explains inter-country differences in the energy intensity of industries. With the use of product-level trade data, the issue can be illuminated. Derived from this description, the central question of this research is:

> **Does trade specialisation explain inter-country differences in the energy intensity of industries?**

Relating to the research question, the next sub-questions should answer it. These sub-questions are ordered by differing chapters present in the thesis.

1. What is known of the determinants of energy intensity at the country level?
2. What is known of the determinants of energy intensity at the industry level?
3. How does trade specialisation in energy-intensive products contribute to changing energy intensity of industries?
4. How can trade contribute to reducing energy intensity through policy?

The former two questions relate to the literature as described in chapter 2. The question after that can be answered by examining the results from the regression analysis in chapter 5. The last question is elucidated in the conclusion & evaluation chapter.

1.2.3 | Research objective

The practical problem highlights the importance of trade specialisation explaining inter-country differences in energy intensity. This concepts translates in the following research objective:

The aim of this thesis is to determine the effect of trade-specialisation on inter-country differences in energy intensity.

1.3 | Significance of the problem

In this part, the academic prowess of my research, its significance, and its originality is explained through the practical, theoretical and beneficial frame of reference.

1.3.1 | Practical contribution

This research's practical contribution is that it is critically essential to understand the reason for spatial and temporal fluctuations in energy intensity and identify whether, how, and to what extent patterns in one region, industry, and period can be reproduced in different regions industries, and periods. By understanding variations in the energy intensity, one can change the policy around it. To lay the groundwork for possible policy changes and collaborations between countries is exciting and could hopefully contribute to making macroeconomic stability coherent with the ecological limits of a finite planet.

1.3.2 | Scientific contribution

The theoretical contribution of this research is to investigate the technique effects of energy intensity of industries that are actually unobserved composition changes in the industry. Decomposition studies on the energy intensity of industries show that the structural changes within industries are insignificant compared to the technique effects (Henriques and Kander, 2010; Kander, 2005; Stern, 2012a). While this may be true on a higher aggregate level, I argue that there are structural changes present that explain differences in the energy intensity of industries on a more disaggregate level. By showing that trade specialisation in products changes the structure of sector-level energy intensity, scholars might reconsider the effect of structural changes on the energy intensity of industries.

1.3.3 | Benefit to others

The main benefit of this research is that it might generate insights into the effect of composition changes in the economy by using trade specialisation to explore inter-country differences in the energy intensity of industries. Trying to explain variations in energy intensity with trade-flow data is particularly interesting because the highly accurate, disaggregate product data is closer to the industrial process itself. Furthermore, the data and methods used can provide insights into how to take a different approach when explaining certain phenomena such as changes in the energy intensity of industries. Moreover, the research might generate other insights with the large datasets that are being covered. However, the research will have limitations because of the restricted predictability of trade-flow data on production levels within countries.

1.4 | Findings

This research shows how trade-specialisation in certain products explain inter-country differences in the energy intensity of industries. It depends on the nature of the product and type of industry in what direction and in what magnitude the change in energy intensity of industries is headed. While not every product is significant or has enough variance explained in the dependent variable, there are multiple products on different levels of aggregation that show that the explained direction of change describes whether or not the production of a product is energy intensive or not. However, the magnitude that is explained with the direction of change does not always correspond to the foretold production energy intensity of the product. Nevertheless, these results show in an abstract way that composition effects are present and that trade-specialisation in one product might not be right for the industry's energy intensity of a country.

1.5 | Document Structure

Firstly, the state of knowledge on the subject is given in chapter 2. In this chapter, the current literature will be analysed, synthesised, and critically evaluated to clearly picture the knowledge. Furthermore, through the conceptual framework, the hypothesis is formed at the end of the literature chapter. Secondly, the methods necessary to do the remaining research are explained in chapter 3. The methods chapter contains descriptions of why a regression method is the right method for this thesis, how certain variables are computed, and states the regression model. In the third part, the data is explained and analysed (See chapter 4). The chapter begins by explaining the variables, their characteristics, how they match each other, and what their missing values are. After that, the chapter explores the data by interpreting the summary statistics of computed variables, examining the differences between the US and China, and exploring the trends between GDP per capita and energy intensity. Fourthly, in chapter 5 the results are displayed of the regression. The chapter starts with an elaboration on the general findings, then it presents the findings per industry, and after that, the chapter substantiates the findings. Finally, in the conclusion & evaluation chapter, the achieved aims and objectives are discussed, the limitations of the research, how international trade can change policy, how future research may explore the gaps left open, and the chapter ends with the final remarks.

CHAPTER 2

Literature Overview

In this chapter, an overview is created of the current knowledge on the research. With the identification of relevant theories, methods, and gaps, the existing knowledge will be critically analysed and alienated against this research. The chapter begins with the concepts of energy intensity and international trade. After that, the chapter discusses the knowledge gap and how international trade could play an important role in filling this gap. The chapter ends with a conceptualised description of why the theory of comparative advantage should explain inter-country composition differences in the energy intensity of industries.

2.1 | Energy Intensity

In this section, the concept of energy intensity is explored in multiple steps. First and foremost, the classification of energy intensity and the relevant class for this thesis is given. Accordingly, the features of the relevant class are stated. From the features, it is acknowledged that there are six affecting factors that affect the class. Five of the six factors that affect this class are discussed in the subsections after that.

2.1.1 | Classification and Features

According to (Patterson, 1996), the energy intensity is a fraction that can be classified into (1) thermodynamics, (2) thermo-physical indicators, (3) thermo-economical indicators, or (4) economic indicators. Whether the energy intensity classifies as one or the other depends on whether the numerator or denominator is quantified in energy (e.g. kWh) or economic terms (e.g. dollars). Below each classification is explained in more detail (Patterson, 1996).

1. **Thermodynamics**; the fraction in this category depends fully on the measurements from

the science of thermodynamics. For example, the sum of useful energy outputs of a heat engine in the form of work is divided by the useful energy inputs in joules.

2. **Physical-thermodynamic;** is a hybrid indicator where the input is in thermodynamic units, and the output is in terms of physical units. For example, the energy efficiency of freight transport.

3. **Economic-thermodynamic;** is a hybrid indicator where the input is in thermodynamic units, but the output is in terms of market prices. For example, the final energy used per unit of economic output.

4. **Economic;** is an indicator that solely measures the change in energy intensity in market values. Therefore, both the input and output quantify in monetary terms. For example, energy expenditures per dollar of economic output.

Although each classification can be interesting to study, this research focuses on the economic-thermodynamic indicator. Hence, this research refers to the economic-thermodynamic energy intensity whenever the concept of energy intensity is used in this research,.

Features of the economic-thermodynamic energy intensity. When studying the economic-thermodynamic energy intensity, the connection between energy and economic growth is drawn to attention. In general, it is known that more economic growth means more economic activity[1]. Obviously, for activity, work is necessary, which in essence comes from energy. Therefore, one could assume that the more activity a country or industry has, the more energy is needed. However, what has been shown is that rich countries relatively use less energy per unit of increased GDP. In fact, it has been found that a 1% gain in income per capita is associated with a 0.7% rise in energy use per capita (Csereklyei et al., 2016). In other words, on average, the more income one country has, the lower its energy intensity. Hence, as more countries get richer, the energy intensity thereof will decrease. Nevertheless, this does not sugarcoat the fact that global energy use per capita has risen over time, and with the current population growth, total energy demand has significantly increased with an absolute of 42,6% since the year 2000 (IEA, 2019a). In other words, the growth effect pushing up is larger than the intensity effect pulling down.

[1]Activity or production effect can be measured on different scales. On the country level, the activity is often measured in terms of Gross Domestic Product (GDP). At the industry level, activity measurements can be quantity-based (e.g. tons of steel) or in market values of output (e.g. industry output or value-added). According to (Freeman et al., 1997), when higher levels of aggregation are used, the market value of output is more desirable on volume-based levels of output.

Why is it that the richer a country is, the lower its industry-level energy intensity, and the more it declines globally over time? This question shows the relation of energy to the production function of industries as described by Stern (2011):

$$(Q_1, \ldots, Q_M) = f(A_{X1}X_1, \ldots, A_{XN}X_N, A_{E1}E_1, \ldots, A_{EP}E_P) \tag{2.1}$$

where $(Q_1, \ldots, Q_M)$ denotes different outputs like goods and services, $(X_1, \ldots, X_N)$ represents (non-energy) inputs such as labour and capital, $(E_1, \ldots, E_N)$ are various energy inputs like coal and oil, and A_i denotes the indices of the factor-reinforcing technologies. Granted that this relationship between aggregate industry output and energy is true, then according to Stern (2020) the factors affecting the relation could be boiled down to six:

- Substitution of energy and other inputs
- Variations in the composition of the energy input (dependent on energy quality)
- Changes in the structure of the economy
- Efficiency / technological change
- Changes in the mix of the other inputs
- Economies of scale

This thesis reviews each of these factors with relating literature in the sub-sections below. Only the "economies of scale" aspect is left out because it is relatively insufficiently discussed in the describing literature. The structural changes and efficiency effect have only a short elaboration in this section because they detail the discussion later in the literature review. Moreover, the last sub-section elaborates on the rebound effects since they cannot be absent in the discussion.

2.1.2 | Substitution of energy and capital

There has been much empirical research on the substitutability of capital and energy (Stern, 2011). Based on the contrasting numbers of the Morishima Elasticity of Substitution (MES)[2] between cross-sectional and time-series results Apostolakis (1990) affirms that capital and energy are likely substitutes in the long-term and complementary in the short-term. However, Thompson and Taylor (1995) revises this study by finding that there are no differences to be found between cross-sectional and time-series, therefore, concluding that capital and energy

[2]The MES is a natural generalisation of the elasticity of substitution (from John Hicks) with more than two input variables (Blackorby and Russell, 1981). The MES is created by Michio Morishima in 1967.

are likely substitutes in production. Nevertheless, (Koetse et al., 2008) later discovers that in the case of a panel data regression, the MES is high, whereas, in the case of a cross-sectional regression, the MES exhibits low values; therefore, indicating that Apostolakis (1990) was probably right in the first place.

With the discussion on capital-energy substitution coming to an end, the most important conclusion is that in the long run, the substitution of capital for energy could decrease energy intensity significantly (Stern, 2012a). An example of capital energy substitution is if the energy prices are increased, the demand for capital is stimulated (Thompson and Taylor, 1995). In other words, if capital enhances a country's capability to deliver economically valuable work with less energy input, the overall energy intensity declines. Relating to this notion, Lin and Du (2014) explains that capital-energy substitution and technological change play a vital role in the energy intensity decrease in China between 2003 and 2010. In the research conducted, Lin and Du (2014) uses two different decomposition analyses to substantiate these findings. In essence, capital is a crucial factor when explaining energy intensity.

2.1.3 | Variations in the compositions of energy inputs

According to Stern (2010), variations in energy quality cause one form of energy to precede the others. In other words, energy sources are of unequal economic productivity (Stern, 2020). For example, coal cannot directly power electric vehicles, while electricity can. It can even be so that if a workplace transforms to be powered by electricity, it contributes to their productivity gains (Enflo et al., 2009). How productive a fuel is, depends on its characteristics and attributes: entropy, scarcity, ability to do valuable work, purity, how it breaks down into different forms of energy quality (e.g. kerosene, diesel), easiness of use, storage capacity, safety, process efficiency of conversion, et cetera. While these attributes look rigid, over time, the productivity of a fuel or energy quality can change due to variations in attributes caused by different production techniques.

While there are only a handful of studies that explore the change in energy mix on energy intensity, there is not yet much known about the exact effects (Stern, 2020). Although some studies argued that changes in energy composition contributed significantly to reductions in energy intensity (Berndt, 1990; Kaufmann, 2004), others have pleaded that these changes in the mix are insignificant in some cases (Ma and Stern, 2008; Stern, 2012a). As throughout history, energy qualities have changed interchangeably, knowing the effect on energy intensity thereof could be of interest. However, as some fuels are used in an inefficient matter, studying these effects can be complex.

2.1.4 | Changes in the structure of the economy

Changes in the composition mix of a country attribute to relative shifts in the economy where the activity in a sector increases at a pace that differs from the economy as a whole (Farla et al., 1998). In other words, the output mix changes throughout economic development. It is argued that in earlier stages of development, countries engage in industrialisation and advances in transport, while at a later stage of economic development, countries are more involved in tertiarisation to service sectors (Moreau and Vuille, 2018; Mulder, 2015). In the literature, it is often argued that these stages are connected to certain levels of energy intensity, where at an early stage, increased levels of energy intensity are found, while at a later stage, these levels decrease (Panayotou, 1993). Once plotted, these stages represent an inverted U-shaped curve of energy intensity which is in the literature associated with Environmental Kuznets Curve (EKC) (Turner and Hanley, 2011).

In section 2.3, the structural change effect will be further elaborated in comparison to the efficiency effects and the theory of international trade.

2.1.5 | Efficiency effect and technological change

In the studies related to efficiency effect or (real) intensity effect explaining energy intensity, the trends are often mixed (Stern, 2011). The direction of change varies across different sectors of the economy and has not been constant over time. Ruth A. Judson and Stoker (1999) find that technological change causes households to have a rising energy intensity over time while the industry shows a flat to declining energy intensity effects. Furthermore, Stern (2012a) determines that the efficiency effect improved the energy intensity in most developed economies (including China and India) from 1971 to 2007, while there was no improvement or decline in energy intensity by the efficiency effect in many developing countries.

2.1.6 | Other inputs as drivers of energy intensity

Although it has been acknowledged that at the economy-wide level drivers of changes in the structure of the economy and technique effects contribute to changes in the energy intensity (IEA, 2019a; Mulder, 2015), where it gets even more complex is when other factors contribute to these changes. For example, it can be that countries with a comparable per capita GDP show a contrast in their capita energy consumption and vice-versa. The explanation thereof is logical because countries differ in energy resources, energy prices, population density, fuel mix, climate, economic structure, regulatory stringency, and other factors (Stern, 2020). Notable outliers cover energy-producing nations such as Saudi Arabia, the US, Qatar, and Australia, where fossil fuels are created, subsidised, or barely taxed (Stern, 2020). Likewise, it can be that

countries show varying rates of growth in per capita income as opposed to energy use (Stern, 2020). Therefore, it is crucial to see what factors affect the energy intensity and how these factors' effects relate to countries, industries, and products.

While many spatial and temporal factors influence the energy intensity on different levels, Li and Tao (2017) have identified six significant factors that show influence. These factors contain (1) capital investment, (2) environmental indicators, (3) economic structure, (4) GDP, (5) energy price, and (6) labour (Li and Tao, 2017). In this part, an exploration of these factors and defining studies take place. Since the structural changes effects and capital as a driver are already described in the subsections before, no further elaboration will be present here.

Environmental indicators. The environmental determinants of industries serve as a rough proxy for energy consumption and energy efficiency (Li and Tao, 2017). The higher the efficiency needs, the greater the environmental factors, and the less prominent energy consumption should be. For example, it can operate as a proxy in an energy consumption model, highlighting the energy industry's potential trends. Kaneko et al. (2010) exemplifies this by presenting the potential trends of energy efficiency optimisation in China by utilising air pollution as a proxy. In other words, the larger the environmental stringency, the higher the efficiency needs, the more limited the energy consumption should be. Evidence of this is given by Hamamoto (2006), who acknowledges that there is a significant relation between R&D expenditures and pollution control, showing that the effectiveness of environmental regulation would incite innovative activity. The evidence of Hamamoto (2006) is in line with the Porter hypothesis[3]. Therefore, the influence of environmental factors is particularly suitable for policy formulation that provokes innovation.

GDP contribution factor. With the GDP factor, Li and Tao (2017) refers more to *who* has contributed to the GDP boost to increase energy efficiency. A vital element therein is the energy elasticity which represents how much energy is consumed to achieve one per cent change in absolute national activity or GDP (Zemin, 2010). Thus, if the share of increased GDP came from the secondary industry, it would not benefit energy efficiency; however, if the production output came from government investments, it would improve energy efficiency.

Energy price. Energy price changes affect supply and demand; therefore, it influences the energy intensity levels. According to Metcalf (2008), a higher energy price contributes significantly to lower energy intensity. In the study, Metcalf (2008) finds that income and price

[3]The Porter hypothesis states that stringent environmental regulation can promote efficiency effects and boost innovations that might advance commercial competitiveness (Porter and van der Linde, 1995).

predominantly influence variations in energy efficiency more significantly than changes in the mix of economic output.

Labour. Labour is an essential factor in technological change. Companies with superior labour efficiency will have more satisfying energy efficiency performance (Li and Tao, 2017). In economic theory, the production function distinguishes the substitution and technology effect (Harris and Roach, 2018). Substitution here portrays more labour and less energy (or vice versa) at a given output level (on the isoquant). Technological change means the production function changes to become more or less efficient. One study that particularly scrutinises the effect of labour efficiency on energy intensity is from (Subrahmanya, 2006). This study concluded that small companies achieved higher returns than their peers when they realised relatively higher labour productivity with lower energy intensity.

What is important when analysing all these factors is on what different levels the study is completed. On the product level, there are differences in product quality, components, and types of different energy used (i.e. differing in quality), which cause changes in energy use. On the industry and country level, the six factors of Li and Tao (2017) and factors such as country size and behaviours all contribute to the ambiguity of the energy intensity. What is more, are externalities such as the weather that affect energy intensity levels (IEA, 2020). Hence, it is essential to understand how these spatial and temporal factors influence the energy intensity and how studies on different levels (e.g. country, industry, product level) are affected by these factors.

2.1.7 | Economical rebound effects

As described before in sub-section 2.1.5, if a country produces a product more efficiently, they need less energy demand. However, there is a controversy in this efficiency argument. Improving energy efficiency may be less effective due to its so-called "rebound effects". As (Sorrell, 2015) and (Freire-González, 2017) argue, there are three types of rebound effects. Firstly, the direct rebound effect describes that by decreasing the energy intensity of a service/good, the demand for that same service/good can increase (Freire-González, 2017). For example, when aeroplanes become more fuel-efficient, ticket prices will decrease, and therefore, more people will travel by plane.

Secondly, the indirect rebound effect demonstrates that a reduction in energy intensity can raise the demand for other goods and services that still require energy (Freire-González, 2017; Sorrell, 2015). Taken the example before, if the plane ticket price drops, someone, saves money,

and therefore, the person will spend that saved money on other goods and services that also require energy to produce.

Lastly, the economy-wide effect clarifies that a reduction in energy intensity balances itself through changes in prices and quantities (Freire-González, 2017; Sorrell, 2015). When a product is produced more efficiently, it requires less energy, and therefore, energy use decreases. However, to make the product even more efficient in the same order of magnitude, more investments are necessary. Therefore, products show gradually rising investments with an increasingly diminishing efficiency. In other words, they show a decreasing Energy Return On Investment (EROI) (Stern, 2011). For example, the difference in energy efficiency between labels AA and AAA for a fridge is minimal; however, the cost of making it more efficient is relatively higher than from label A to label AA. Hence, this describes the increasing costs for energy efficiency improvements.

2.2 | International trade

In this part, the theory of international trade is explored in two steps. Firstly, international trade is defined with its most prominent explaining model. Secondly, the features of international trade, its causes, and its benefits are reviewed.

2.2.1 | Definition and theories

Trade is the act of selling, buying, or exchanging commodities that can be done either within or between different countries. Countries engage in trade because of two reasons (Hall and Soskice, 2001; Krugman et al., 2018). Firstly, each country has various resources, regulations, and cultures. As a result, countries engage in production trade-offs where they sacrifice the production of one good over another good. Secondly, according to the theory of Ricardo (1817) on comparative advantage, countries engage in trade because they face different costs to produce the same product (Krugman et al., 2018).

How countries engage in trade has been variously modelled throughout the last centuries. Ricardo (1817) famously approaches international trade solely through international differences in the productivity of labour. In theory, Ricardo explained: "that it may be good for a country to import commodities from a country where the production of those commodities costs more than it would cost at home" (Ricardo, 1817; Ruffin, 2002). In the model, Ricardo (1817) does not directly consider factor endowments, such as the comparable amounts of labour and capital within a country (Krugman et al., 2018).

Built upon the Ricardian model is the specific factor model, which assumes that the production factors can exist next to labour (Samuelson, 1969). Herein, it is emphasised that labour

is a mobile factor moving between sectors and that the other specific factors can only be used in the production of particular goods such as climate, soil, and skilled workers. The exposition of the model in general equilibrium was later formalised by Samuelson (1971) through the "four magic numbers" representing: $a_1/a_2 < a_1^*/a_2^*$ in which each unit good a_i requires a_i^* units of labour.

A slightly different model that still most prominently applies today is the one developed by Heckscher (1919); Ohlin (1933). The model describes that: "Countries tend to export goods whose production is intensive in factors with which the countries are abundantly endowed" (Krugman et al., 2018). This model assumes (1) perfect competition between all countries, (2) the same mix of goods and services, (3) technology that is constant and readily accessible, and (4) labour and capital as factors of production that can move freely between industries (Krugman et al., 2018). The difference with the specific factor model is that not only labour is a mobile factor moving between sectors but also the capital. Therefore, the Heckscher-Ohlin model is often described as the 2x2x2 model (2 countries, 2 commodities, 2 factors) (Krugman et al., 2018). The difference is made because they acknowledged that in the short run, some factors are fixed; however, in the long run, all factors are variable inputs. Therefore, when the mobility increased after WWII, some trade explained itself by factor abundance and the rest by comparative advantage; thus, making the model of Heckscher-Ohlin more applicable to the world of today.

An essential addition to the model Heckscher-Ohlin is later added by the theorem of Stolper and Samuelson (1941). The theory explains what the effect is of tariffs lifting prices for goods on the prices of factors of production (e.g. labour and capital) (Krugman et al., 2018). The study shows that an increase in the relative production prices for labour-intensive goods will be beneficial for the factor of labour, whereas it will be disadvantageous for the factor of capital and vice-versa. This theory is important because it causes structural differences between countries in relation to the factors they prefer.

Leontief (1953) tried to test the theory of Heckscher-Ohlin. In his attempt, Leontief found that the global most capital-abundant country (e.g. the United States) was actually more labour-intensive than capital-intensive, therefore, contrary to the Heckscher-Ohlin theory. Leontief concluded from these results that the United States should adopt its competitive policy to the economic realities (Leontief, 1953). The deductive theory of Leontief was later known as Leontief's paradox (Krugman et al., 2018).

The last vital model to mention is the Krugman specialisation index which measures if a country's production pattern deviates from those in a comparison group of countries (Krugman, 1991). In terms of specialisation, this index proves its importance.

2.2.2 | Features of international trade

One of the most important features of international trade is the theory of comparative advantage (Krugman et al., 2018). The simplest way to explain the concept of comparative advantage is to explain it in terms of opportunity costs as theorised by Gottfried Haberler (Bernhofen, 2005). To illustrate the comparative advantage in terms of opportunity costs, let us look at an example:

> In figure 2.1, the production possibility curve for two countries China (CHN) and the United States (US)) and two types of products are drawn (A & B). As shown in the figure, the US can either choose to produce eight pieces of product A per day or six of product B. Therefore, the US opportunity costs to produce product A is 0,75 relative to the opportunity costs to produce product B, which is 1,334. For China, it is respectively the same for each product. Hence, if we compare both countries, the comparative advantage for the US is on product A, while China prevails on product B. Thus, while the US can produce more on both products per day, they should produce product A and import product B from China. As a result, both countries will benefit from international trade.

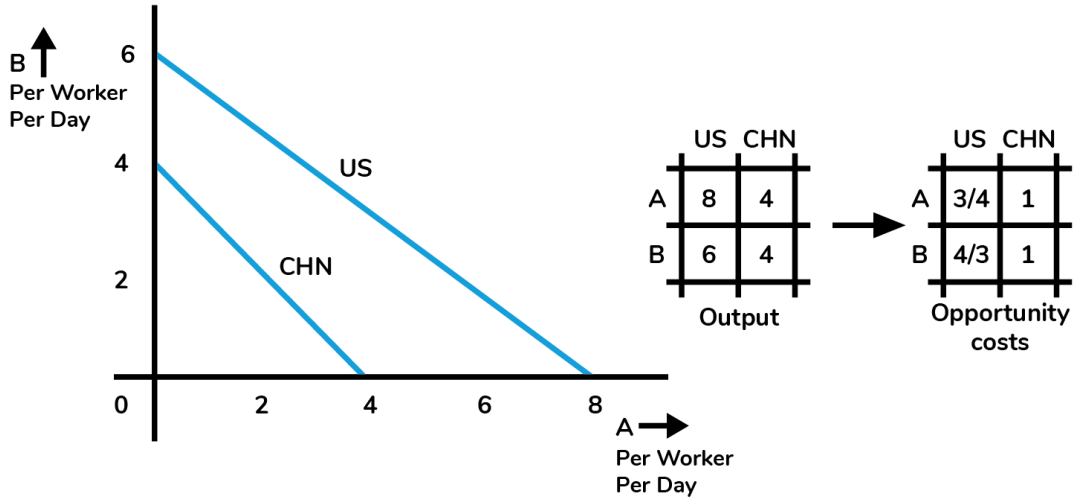

Figure 2.1: Illustrative figure of the production possibility curve to show how comparative advantage can be explained in terms of opportunity costs

The example shows that the primary objective of the United States is to relatively cut costs by producing product A domestically and product B foreign. By reallocating the production activity to a foreign country and thus, offshoring product B, the US gains in comparative advantage. The resulting output from the foreign country can then be imported and be used as an input for the domestic market.

2.3 | Literature review

The discussion over structural changes explaining changes in energy intensity of industries has at times generated some commotion. The theoretical work has identified a series of factors that affect the energy intensity; however, the empirical verification of these factors have seriously been delayed (Stern, 2011; Werner Antweiler and Taylor, 2001). The leading argument claims that the efficiency effect explains most of the sector-level energy intensity differences between countries (Henriques and Kander, 2010; Kander, 2005; Stern, 2011, 2012a). However, in the last decade, it has been proclaimed that changes in the sector composition should also be of importance in explaining differences in energy intensity of industries (Mulder, 2015; Sue Wing, 2008; Taylor et al., 2010). Therefore, while some scientists have had some notable approaches that affirm structural changes in the energy intensity of industries, others decompose marginal composition effects. This section aims to shed light on the limited literature in this discussion and motivate how the role of international trade can contribute to it.

2.3.1 | Efficiency effect v.s. structural changes

In the light of the deliberation between the efficiency effect and the effects of the structural changes, it is often argued that the efficiency effect causes the most significant change in energy intensity of industries (Stern, 2012b). However, in the last two decades, the discussion has taken a turn. Currently, some scientists recognise that the changes in the composition effect can be more significant if the changes are measured on a more disaggregated scale (Mulder, 2015; Sue Wing, 2008). However, with the lacking of disaggregated data, the often-used decomposition studies exhibit marginal or insignificant composition effects relative to the efficiency effects in explaining differences in the energy intensity of industries (Ang, 2004; Ang and Zhang, 2000; Voigt et al., 2014; Wan et al., 2015). As a result, the number of studies that did find structural changes in the energy intensity of industries is limited. The studies that did find differences did so by using an alternative approach.

One approach that noticed that structural changes explain differences in sector-level energy intensity is from Taylor et al. (2010). In the study, Taylor et al. (2010) compares common manufacturing structure intensities with average manufacturing intensities of 21 International Energy Agency (IEA) countries. The comparison shows that structural changes are responsible for almost half of the manufacturing industry's energy intensity differences within the list of these 21 IEA nations. For the United Kingdom, the contribution of the changes in the manufacturing industry in energy intensity had been so significant that the decrease exceeded the gain in energy efficiency.

Another approach that is often used when structural changes have to be explained is through

the concept of convergence. Originally stemming from the empirical growth literature hypotheses of Abramovitz (1986); Abramowitz (1994), convergence distinguishes into σ-convergence and β-convergence (Islam, 1995). In relation to energy intensity, the former explains the cross-country differences in productivity variations, while the latter suggests a tendency of countries to "catch up" with the frontier (Miketa and Mulder, 2005); therefore, substantiating the catch-up hypothesis of Abramovitz (1986). In multiple studies that followed of (Csereklyei et al., 2016; Eichhammer and Mannsbart, 1997; Miketa and Mulder, 2005; Mulder and De Groot, 2007; Mulder and de Groot, 2012; Mulder et al., 2014; Wan et al., 2015), the structural changes explained convergence in energy intensity levels across countries. As argued by these scientists, the convergence trend was driven by a stimulation of knowledge diffusion, balancing factor prices, and the adoption of common environmental regulations.

Although most of the convergence studies had somewhat of a similar method, they all pointed out that specialisation causes energy intensity divergence. However, there was one study that had a rather distinct method. In the particular study of (Mulder, 2015), the convergence was measured by a modified Krugman Specialisation Index. By using this index Mulder (2015) argued that countries try to "catch up" with the developed nations by showing convergence in terms of specialisation. From these findings, it was concluded that:

> "...increasing trade and market integration contributed to cross-country convergence of energy intensity levels by accelerating knowledge diffusion and/or equalisation of factor prices, for example via high-tech imports or increasing international competition" – (Mulder, 2015)

However, Le Pen and Sévi (2010) shows opposing results to the hypothesis of global convergence. According to Le Pen and Sévi (2010), previous work had found convergence among developed countries, but not with a sample also containing developing countries. Therefore, with a sample of 97 countries, the study shows no industry convergence across countries.

Regarding the studies examining structural changes of industries, what they all have in common is that each approach is restricted to the limited amount of data that can be used to explain differences in the industry's energy intensity. While the approaches in the first instance were considered promising, with just more data or different data, other studies find opposing results like Le Pen and Sévi (2010) did. Hence, although Miketa and Mulder (2005); Mulder and De Groot (2007); Mulder et al. (2014); Taylor et al. (2010) see the benefits of using different approaches in finding structural changes in energy savings, others argue that the energy-saving effects of structural changes in the industry's energy intensity may be overstressed (Henriques and Kander, 2010; Kander, 2005; Stern, 2011, 2012a). In the study Kander (2005), the argument goes that shifts to a service economy are an illusion in terms of real production because

they are generated by reductions in prices of industrial goods relative to services. Since these price differences are caused by the more rapidly increased productivity of the manufacturing industry relative to the service industry, the structural changes might be exaggerated. Further evidence from decomposition studies exhibits that the role of structural change in decreasing energy intensity is small in countries like Sweden between 1800 and 2000 (Kander, 2002), and respectively the world between 1971 and 2007 (Stern, 2012a).

Despite the contrary views, there is one study that shows different results using a disaggregated decomposition approach. In the study of Sue Wing (2008), it is discovered that changes in the composition mix of industries explained most of the decline in energy intensity in the United States between 1958 and 2000, and especially before 1980. Although this study has been noticed by opposing sides such as Stern (2020), the empirical verification of other studies remains unresolved. Therefore, while Sue Wing (2008) may have decomposed the structural changes of the energy intensity of industries, it might be that the study is insignificant in other countries, different periods, or even other data. Hence, the literature has not yet filled the gap in whether or not structural change explains differences in energy intensity. Therefore, by using the theory of comparative advantage and the differences in industries among countries, I hope to shed some light on whether composition effects explain inter-country differences in the energy intensity of industries.

2.3.2 | The role of international trade

In theory, international trade and energy intensity can be mutually compatible and, possibly, even reinforcing (Gallagher, 2009). According to international trade theories and energy economics studies, trade can induce economic benefits that can be assigned to changing energy intensity levels. According to Gallagher (2009), the impact of international trade on energy intensity can be segregated through direct effects and indirect effects.

Direct effects are studied minimally but can bring impactful change in the short term (Gallagher, 2009). For international trade, transportation through channels such as aviation, shipping, and trucking are necessary. Since these transportation forms require energy, more energy consumption is indispensable.

Indirect effects can be identified through the helpful framework of Grossman and Krueger (1991). In this model, the role of trade on energy intensity can be isolated through three mechanisms: scale effects, technique effects, and composition effects. Although these mechanisms are similar to those described in the section before, the effects here are described in relation to international trade.

Scale effects. Scale effects occur when international trade causes change in the overall activity of industry, therefore, resulting in changes in the sector energy intensity (Werner Antweiler and Taylor, 2001). When the scale is growing but the nature of the activity remains the same, then energy consumption and resource depletion will grow along with its output.

Technique effects. Technique effects reflect the changes in energy consumption due to trade induced changes in energy intensities of each industry (Cherniwchan et al., 2017). There are many ways how this technique effect can be formed by trade. For example, international trade can encourage knowledge diffusion to other countries, which may lead to improved production efficiencies abroad (Wan et al., 2015). Moreover, international trade can encourage adopting common environmental regulation causing energy intensity reductions (Wan et al., 2015). In a similar manner, trade increases real income, which raises demand for cleaner environmental standards (Cherniwchan et al., 2017). With a progressive government, the right amount of stimulant against firms' R&D budget constraints (Rubashkina et al., 2015), and properly designed environmental standards, innovation may be triggered, offsetting reductions in energy intensity.

Composition effects. Composition effects reflect changes in the composition of economic activity across industries causing differences in energy intensity. The role of international trade herein is driven by countries that specialise in sectors in which they have a comparative advantage. Important drivers of the composition effects are the relative costs of production and the ratio of labour and capital that contribute to the changes in the economic structure. Essential ingredients of changes in these drivers are trade liberalisation and investments. For example, if a country imposes stringent environmental regulations, it may cause the offshoring of energy-intensive industries abroad. In this case, industries will look for nations with relatively lax regulations. The reasoning of this example is in line with the pollution haven hypothesis[4] (Cherniwchan et al., 2017; Taylor, 2005). An example related to investments is if foreign countries subsidise specific sectors, promoting offshoring to those nations.

[4]The pollution haven hypothesis foretells that trade liberalisation in goods will lead to the offshoring of pollution-intensive production from developed and environmental regulatory countries to nations that are characterised by "low" income and lax environmental stringency (Taylor, 2005).

Motivation There are many ways in which international trade changes the energy intensity of industries. Trade affects policies, laws, subsidies, taxes, and behaviours, but also it facilitates access to knowledge, techniques, investments, and resources. Although the role of international trade has a rather complex relationship with energy intensity, it can bring some light at the end of the tunnel around the discussion of whether technique effects or composition effects cause changes in the energy intensity of industries. Using disaggregated product-level trade flow data to explain changes in energy intensity of industries, the issue can be illuminated. The results thereof could show whether the changes attribute with respect to the technique effect or the changes are associated with trading specialisation shifts among different products (i.e. composition effects).

2.4 | Conceptual framework

The simplest way to show the impact of international trade on changes in energy intensity of industries is to conceive it in a simplified description that relates to the 2x2x2 model (2 countries, 2 commodities, 2 factors) of Heckscher-Ohlin:

Imagine the world trade consists of two countries (A and B), each having an open economy with a small population of N agents. They both produce two goods (X and Y) in the same industry. The primary factors of production are labour (L) and capital (K). For the production of good Y, labour is the primary form of production, which is not energy-intensive. Whereas, for good X, the industry is capital intensive, and therefore, preoccupied with energy consumption. For simplicity, production is assumed to be constant returns to scale. Therefore, the production trade-off applies, in which the choice of production for good X sacrifices the production of good Y.

From the theory of comparative advantage, it is known that countries face different costs to produce the same product. Therefore, it can be that country A has a comparative advantage on the export of product X because of low-income labour forces, while country B has a comparative advantage on the export of product Y because of capital abundance. Accordingly, the share of product X over Y in the industry export of country A differs from the share of product X over Y in the industry export of country B. The share of product X in the production of the industry for each country composes as follows:

$$\tau_{A,X} = \frac{X_A}{X_A + Y_A}, \qquad \tau_{B,X} = \frac{X_B}{X_B + Y_B}, \tag{2.2}$$

where ($\tau_{A,X}$) is the share of product X in the industry of country A and ($\tau_{B,X}$) the share of product X in the industry of country B. Accordingly, the share of product X in the world

production ($\tau_{W,X}$) is:

$$\tau_{W,X} = \frac{X_A + X_B}{(X_A + Y_A) + (X_B + Y_B)} \tag{2.3}$$

To measure the degree of specialisation within a countries export, Bela Balassa's created the concept of Revealed Comparative Advantage (RCA) (Balassa, 1965). For a specific country of a given product produced in an industry, the concept measures relatively against a group of countries (e.g. the world) also exporting the product. The RCA is a fraction of equation 2.2 and 2.3 at a specific moment in time. For country A the following RCA for product X is as follows:

$$RCA_{A,X} = \frac{\tau_{A,X}}{\tau_{W,X}} = \frac{X_A/(X_A + Y_A)}{(X_A + X_B)/((X_A + Y_A) + (X_B + Y_B))} \tag{2.4}$$

By deriving equation 2.4 for both countries equations in 2.5 results for product X. The derivation of equation 2.4 can be found in appendix A.

$$RCA_{A,X} = \frac{X_A * Y_B}{X_B * Y_A}, \qquad RCA_{B,X} = \frac{X_B * Y_A}{X_A * Y_B}, \tag{2.5}$$

Equation 2.5 shows that the comparative advantage of product X in either one of the countries is dependent on the production of product X and Y from both countries. In other words, the composition of an exporting industry is not only affected by the production of the products within a country but also by the production of the products in other countries. Therefore, when a country's industry specialises in a product that is meant for export, it means that they affect not only the structure of their own industry but also that of other countries' industries. It is this interdependency across countries' industries that should partly explain inter-country composition differences in the energy intensity of industries. Hence, an industry's energy intensity should increase when it develops a comparative advantage in goods whose production demands lots of energy, ceteris paribus, and decrease when it develops a comparative advantage in goods whose production requires little energy. From this explanation, the following hypothesis is derived:

H_0: **Changes in comparative advantage in energy-intensive products has no effect on the energy intensity of industries**

H_A: **An increase in comparative advantage in energy-intensive products has a positive (i.e. upward) effect on the energy intensity of industries**

CHAPTER 3

Methodology

The problem sketched in this thesis is that it is unknown whether structural changes drive the energy intensity of industries. Normally, the effect is decomposed into composition effects and technique effects. However, with only industry-level energy data, the disaggregation is not detailed enough to show structural changes in the energy intensity of industries. By using product-level trade flows, the issue can be illuminated. In this chapter, I promote how a regression method can contribute to solving the issue. The chapter begins with why a regression model should fit with the data and hypothesis. Next, the used equations are explained. Lastly, the regression formula, settings, and assumptions are discussed.

3.1 | Why a regression model

From the conceptual framework, a hypothesis is formed (See chapter 2.4). The goal of this hypothesis is to show whether trade specialisation in energy-intensive products *explains* a positive (upward) effect on the energy intensity of industries. With the goal to *explain effects*, the statistical method of examination then depends on the measurement level of the dependent variable (Ross, 2010). Since the measurement level of the dependent variable is ratio/interval, a regression analysis would be the right fit.

Since the model has to measure the changes of both the independent and the dependent variables, the time variation has to be included. Since a single cross-sectional or single time series model would underestimate the results, a more realistic linear panel data regression would be more appropriate to use (Verbeek, 2017). A panel data regression measures multi-dimensional data of an observation that is measured repeatedly over time (Verbeek, 2017).

There are multiple forms of panel data regressions. Often used are the Pooled OLS, fixed effects-, or random effects panel data regression (Verbeek, 2017). This thesis makes use of a

Pooled OLS because of its simplicity and because there is not enough in this thesis to compare the different models.

3.2 | Compiling equations

3.2.1 | Independent variable

As described in section 2.4, the amount of trade-specialisation can be represented by the change in RCA of products. Therefore, the independent variable is the change in the Balassa (1965) RCA index:

$$\Delta RCA_{c,i,p} = \frac{\Delta \tau_c}{\Delta \tau_w} = \frac{\Delta X_{c,i,p} / \Delta \overline{X}_{c,i}}{\Delta \overline{X}_{w,i,p} / \Delta \overline{X}_{w,i}} \tag{3.1}$$

where the $\Delta RCA_{c,i,p}$ represents the exports from country c index, industry i index, product p with $\Delta \overline{X}_{c,i}$ denoting the change in total exports from a country c index, industry i index, and the subscript w serves as a symbol for the world exports.

3.2.2 | Dependent variable

From the proposition, it is clear that the changes in the energy intensity of industries are the dependent variable. The change in energy intensity of industries can be compiled in different ways. In this thesis, the numerator is always the energy use per industry. However, for the denominator, multiple values can be used. Although many studies such as (Miketa and Mulder, 2005; Mulder, 2015; Wan et al., 2015) compute the energy intensity with gross output or value-added, a more accurate way to measure changes in the energy intensity is with Index of Industrial Production (IIP). The IIP as composed by (UNIDO, 2010), measures the volume changes in industrial production of an economy. The benefit of using the IIP is that it is unaffected by price fluctuations (UNIDO, 2010). Since the energy intensity is normally affected by prices (See chapter 2.1.6), measuring the changes without price fluctuations could improve the predictability of the outcome. For this method, the index energy intensity expresses like:

$$EII_{it} = \frac{\sum_i E_{it}}{\sum_i Y_{IIP,i}} \tag{3.2}$$

where $Y_{IIP,t}$ is the IIP at industry i, and E_t is the total energy consumption at industry i, time t.

However, the problem with using the IIP is that it cannot measure the cross-country level differences in energy intensity because the level cannot be interpreted. Therefore, to solve this

problem, it is necessary to add an additional explanatory variable to the regression. In this case, the energy intensity measured by gross output would satisfy as the additional explanatory variable (See formula 3.3).

The aggregate energy intensity level is the weighted sum of industry-level energy intensities in which the weights represent the industry share in aggregate output. The country (c) aggregate energy intensity at a time (t) expresses like:

$$I_t = \frac{\sum_i E_t}{\sum_i Y_t} = \frac{E_t}{Y_t} = \sum_i \frac{Y_{i,t} * E_i}{Y_t * Y_i} = \sum_i S_i * I_i \tag{3.3}$$

where I_t is the total aggregate energy intensity (kToe/Mil.\$), E_t is the total energy consumption (kToe), $E_{i,t}$ is the energy consumption in industrial sector i (kToe), Y_t is the total industrial output (Mil. \$), $Y_{i,t}$ is the total industrial output of sector i (Mil.\$), and $S_{i,t}$ is the total industrial output share of sector i ($= Y_{i,t}/Y_t$).

However, the variable of energy intensity level that measures gross output fluctuates as a result of exchanges rate variations and differs in price levels across countries (i.e. one dollar buys more/less in another country). Therefore, to measure the "real" output (i.e. the quantity of output) that can be interpreted across countries, it is necessary to adjust for Purchasing Power Parities (PPP) to market exchange rates. The next formula describes the country (c) aggregate "real" energy intensity adjusted by market exchange rates at time (t):

$$I_t = \frac{\sum_i E_t}{\sum_i (Y_t / Z_t)} = \frac{E_t}{(Y_t / Z_t)} \tag{3.4}$$

where Z_t is the price level ratio of PPP conversion factor to the market exchange rate, the other variables are the same as described before at equation 3.3.

3.3 | Regression

3.3.1 | Regression formula

To compose the regression formula, changes in energy intensity are regressed on changes in revealed comparative advantage and other explanatory (control) variables:

$$log(\Delta I_{ct}) = \alpha + \alpha_t + \beta_p * \Delta RCA_{pct} + \gamma * log(ControlVariables) + \mu_{ct} \tag{3.5}$$

α denotes the intercept, α_t time-specific fixed effects, ΔI_{ct} the *log* of the change in energy intensity (For an explanation why a log-transformation is chosen, see section 3.3.3), ΔRCA_{pct} a vector of the change in revealed comparative advantage in products, and u the unobserved error term. $C = 1, 2, \ldots, N$ index countries, $t = 1, 2, \ldots, T$ indexes time, and $p = 1, 2, \ldots, P$ indexes products. Δ denotes the annualised change of a variable between τ and t, so $\Delta I_{ct} = (I_{ct} - I_{CT})/(t - \tau)$ and $\Delta RCA_{pct} = (RCA_{pct} - RCA_{PCT})/(t - \tau)$.

3.3.2 | Panel data regression model

When doing a regression, there are basically four assumptions for a (simple) linear OLS regression model:

1. **Linear in parameters;** the stochastic process of the regression follows a linear model (Wooldridge, 2019)
2. **No perfect collinearity;** in the sample, there is no constant independent variable nor a perfect linear relationship among them (Wooldridge, 2019)
3. **Zero Conditional Mean;** the expected value of error μ_t is zero, (Wooldridge, 2019)
4. **Homoskedasticity and non-autocorrelation;** respectively, the error terms should have same variance and zero correlation between different error terms (Verbeek, 2017)

In appendix G, the assumptions of homoskedasticity and non-autocorrelation are tested. From the results thereof, no violation of the assumptions was noticed.

3.3.3 | Initial settings

It takes time for effects to take place. Hence, it is necessary to measure the effects over a longer period than a year. Therefore, the index energy intensity variables and the RCA variables are transformed to long annualised differences of five years. The calculation of the annualised differences are as follows:

$$\delta y_{t5} = \frac{(y_t - y_{t-5})}{5} \tag{3.6}$$

Where y_{t5} is the long annualised difference for the dependent variable, and t is the time. For the additional explanatory variable, the five-year lag has been taken.

Moreover, the regressions have been tested both on a normal and natural log transformation scale. By using the natural log transformation for index energy intensity and the energy intensity level, the results improved significantly. The log transformation showed significant products in every industry, whereas for the normal scale, there were nearly no significant product regressions. According to the literature of Wooldridge (2019), a log transformation of the dependent variable increases the chance of linearity, homoscedasticity, and normality. However, it has to be noted that using a log transformation requires a different interpretation of the change. According to (Wooldridge, 2019), the change in the dependent variable can be interpreted by:

$$\Delta\hat{y} = \hat{\alpha}_0 * exp(\widehat{log(\Delta y)}) \tag{3.7}$$

where $\Delta\hat{y}$ is the change in the dependent variable, $\hat{\alpha}_0$ is the smearing estimate (labelled as SM.Est. in the regression), and $\widehat{log(y)}$ is the outcome of the prediction. The computation of the Duan smearing estimate is as follows:

$$\hat{\alpha}_0 = n^{-1} * \sum_{i=1}^{n} * exp(\hat{u}_i) \tag{3.8}$$

where $exp(\hat{u}_i)$ is the OLS residuals and n is the count.

3.3.4 | What to expect of the results

In this thesis, for every product on a higher aggregation level a regression is made to examine how a comparative advantage in a product can change the energy intensity of industries. To display these results in a comparative manner, each regression is put inside a row in a table for each industry. Since one row can only take up a part of the information of a total regression, there are a few core variables to look out for. Firstly, the *r-square* measures the proportion of variance in the dependent variable that can be explained by the independent variable (Wooldridge, 2019). A higher variance means a better goodness-of-fit. Since the goodness-of-fit is explained by different countries' industries, a high r-square indicates there are relatively more countries' industries that adhere to the trends explained.

Secondly, the number of observations represent the sample size. With a larger sample size, estimations of parameters get more precise: the standard errors relative to the coefficients decrease, which usually results in statistical significance (Wooldridge, 2019). Therefore, some researchers insist on using lower significance levels as the number of observations increases. Since this research uses a large sample size across multiple countries a higher significance level of 99% is chosen to offset the standard errors getting smaller. For a 99% range, the t-stat threshold must be above an absolute of 2.575.

Thirdly, the standard error of any estimate gives an idea of the precision of the estimator (Wooldridge, 2019). Therefore, a high standard error is often indicative of inaccurate results.

CHAPTER 4

Data and exploratory analysis

In this chapter, the variables are examined and explored. The chapter is divided into four parts. In the first part, the variables, units, units of observation, and summary statistics of each data source are described. Consequently, the variables are merged and converged to create a harmonious data set. After that, the missing values and zero's are investigated. Finally, in the last part, the data is explored.

4.1 | Variables

The collection of data contains cross-country, time-series data from multiple sources. Overall there are four essential data sources. Herein, units of observation are vital, as well as the categories per data type. Since the data sources are extensive in size, they need to be handled with extra care. The following four data sources are included:

- IEA World Energy Balances 2019 (IEA, 2021)
- INDSTAT2, Rev. 3 (UNIDO, 2020)
- BACI (based on UN Comtrade) (CEPII, 2020)
- Penn World Table version 10.0 (Rijksuniversiteit Groningen, 2021)

4.1.1 | Dependent variable

The numerator of the energy intensity is composed of the energy consumption data from the IEA World Balances Database IEA (2021). The IEA balances are published annually between a collaboration of the IEA and Organisation for Economic Co-operation and Development (OECD) in Paris. The IEA database consists of sector-specific energy supply and demand

data from 186 countries in the time frame of 1960 to 2018 (IEA, 2021). The energy demand is usually broken down into four sectors: industrial, residential, service, and transportation (Ramírez et al., 2005). In this thesis, only the total final energy use per industry from the manufacturing sector is used. Final energy use excludes the energy consumed by economic sectors producing primary energy carriers (e.g. oil & gas exploitation) or primary energy transformation by oil refineries (IEA, 2019a). The production industry only includes the following productive sectors: (1) Iron and steel; (2) Chemical and petrochemical; (3) Non-Ferrous Metals, (4) Non-metallic minerals; (5) Transport Equipment; (6) Machinery; (7) Food and tobacco; (8) Paper, pulp and printing; (9) Wood and wood products, (10) Textile and leather; (11) Non-specified. The industry data is the lowest level of aggregation for the energy consumption data per country. In appendix B it is illustrated within a typical energy balance data-sheet what data exactly is taken from each country.

The initial IEA data of total final energy consumption is arranged by country, industry, and year. Table 4.1, shows the statistics of the initial IEA data per industry. The table is adjusted between the range of 1995 to 2017. From this table, several things stand out. Firstly, if the number of countries (186) is multiplied by the number of years (23), then the count per industry should result in 4278. However, the count of each industry only results in 4114. Therefore, this means that there are exactly 164 years missing compromised over all countries varying across every industry. Secondly, the columns indicating "min" and "25%" levels both show zeros. This means that many instances are coded zero. In section 4.3 it is showed how many instances are coded zero.

	count	mean	std	min	25%	50%	75%	max
IRONSTL	4114.00	15739.83	55950.79	0.00	0.00	78.49	2389.31	505623.36
MACHINE	4114.00	5525.15	17750.30	0.00	0.00	0.00	374.39	134641.57
CHEMICAL	4114.00	17077.55	55218.07	0.00	0.00	104.14	2767.91	475248.67
NONFERR	4114.00	4838.73	16022.40	0.00	0.00	0.07	716.07	143155.92
NONMET	4114.00	13214.77	47087.63	0.00	0.00	125.28	2072.83	396063.21
TRANSEQ	4114.00	1963.14	6353.19	0.00	0.00	0.00	91.00	46538.69
FOODPRO	4114.00	7141.48	22194.57	0.00	0.00	44.35	1128.86	177521.38
PAPERPRO	4114.00	7791.44	25270.29	0.00	0.00	1.55	936.00	166985.80
WOODPRO	4114.00	1524.04	4849.13	0.00	0.00	0.09	140.46	34820.61
TEXTILES	4114.00	2590.99	9080.73	0.00	0.00	6.18	261.28	63971.91
INONSPEC	4114.00	19650.79	64912.33	0.00	187.50	946.38	6370.43	612233.87

Table 4.1: Summary statistics of total energy-use per industry for 186 countries (1995-2017)

Index of Industrial Production & industry output. For the denominator of the energy intensity the either the IIP or the gross output of an industry is used. To get these variables, the database of the United Nation Industrial Development Organisation (UNIDO) is consulted.

UNIDO maintains a variety of databases containing statistics on industrial growth, business structure, and industrial performance (UNIDO, 2020). Among these databases is the Industrial Statistics Database (INDSTAT) version 2, which compromises historical time series data on the manufacturing sector's activity for 164 countries from 1968-2013 (UNIDO, 2020). From this data, the following variables are included in the analysis:

1. Industrial output (at current dollar prices) [in dataset under ctable = 14]
2. Employment (count) [in dataset under ctable = 04]
3. Value added (at current dollar prices) [in dataset under ctable = 20]
4. IIP (-) [in dataset under ctable = 51]

The initial INDSTAT2 data is arranged by country and year and embody a 2-digit level of the International Standard Industrial Classification of All Economic Activities (ISIC) Rev. 3 classification. In table 4.2 the summary statistics are displayed of the initial INDSTAT2 data. The table is adjusted between the range of 1995 to 2017. What stands out in the table is that the IIP has the highest count or the least amount of missing variables. Moreover, maximum values of 85,2 million employed seem a little low.

	count	mean	std	min	25%	50%	75%	max
Industrial Output	3.44e+04	3.41e+10	2.71e+11	0.00e+00	2.94e+08	1.95e+09	1.08e+10	1.58e+13
Value Added	3.28e+04	1.09e+10	8.19e+10	-1.28e+09	1.13e+08	6.83e+08	3.39e+09	3.25e+12
Employment	3.32e+04	2.11e+05	1.69e+06	0.00e+00	4.85e+03	2.20e+04	9.26e+04	8.52e+07
IndexNr	3.44e+04	1.17e+02	2.72e+02	0.00e+00	7.70e+01	9.80e+01	1.11e+02	1.51e+04

Table 4.2: Summary statistics of the initial INDSTAT2 data for 164 countries (1995-2017) (UNIDO, 2020)

4.1.2 | Independent variable

For the independent variable, the disaggregated bilateral trade flow data is necessary. Although the data originally comes from Comtrade database (United Nations, 2020), Centre d'Études Prospectives et d'Informations Internationales (CEPII) built it more product-specific for every industry. The collection of this data from CEPII (2020) is called Base pour L'Analyse du Commerce International (BACI). In total, the database encompasses trade flows of more than 5000 products and 200 countries from 1995 to 2017 (CEPII, 2020). The product data has been coded in thousand current USD value and quantity (in metric tons) and embodies a 6-digit Harmonised System (HS), rev. 0 (1992) classification.

4.1.3 | Additional variables for analysis

For additional data exploration the Penn World Tables are consulted. This database encompasses the national-accounts data to measure the real GDP across countries over time (Rijksuniversiteit Groningen, 2021). The data is developed and maintained by scholars at the University of Groningen and the University of California, Davis. In this database, the currency-dominated variables are coded in US dollars and have been converted using PPP. To generate the output-side GDP per capita: the output-side real GDP at chained PPP (i.e. Rgdpo) and population (i.e. pop) are necessary. The summary statistics of these variables can be found in appendix table E.3.

4.2 | Conversion and matching

The initial data is not in the structure that is necessary to make an analysis. Therefore, to align the data sources, conversion and matching are needed. Firstly, it is necessary to match the relating sources of data based on similar countries and years. There are exactly 117 countries that match in all data sources. Therefore, every data set is adjusted to these 117 countries. Furthermore, since the BACI data has the smallest time range (i.e. from 1995 to 2017), this will serve as the range for all data sets. For further conversion, matching, and computations, the next list of tables is necessary (the tables are arranged in the order in which they are used in the text):

1. INDSTAT2 country codes to alpha-3 correspondence tables (From UNIDO (2021))
2. ISIC rev.4 product division per industry from the World Energy Balances 2019 statistics rapport (From IEA (2019b))
3. ISIC rev.3 to ISIC rev.4 concordance list from the INDSTAT2 manual (From UNIDO (2021))
4. PPP conversion factor to market exchange rate (From Worldbank (2021))
5. BACI country code correspondence tables (From CEPII (2020))
6. the ISIC rev. 4 to HS0 (1992) conversion keys (From OECD (2018))

4.2.1 | Dependent variable

The numerator of the energy intensity is the energy consumption. This data is already grouped per country (in Alpha-3 code), per industry (label), and per year. Therefore, for this data, no conversion is necessary.

The denominator is grouped per country (in ISO 3-digit), per industry (in ISIC rev. 3), and per year. Hence, for the denominator, it is necessary (1) to transform the country codes to match with the IEA data and (2) to classify the industry ISIC under an industry label that conforms to the label of the IEA data. These steps are described in the paragraphs below.

Firstly, it is necessary to transform the ISO 3-digit codes to Alpha-3 code. This step can be done with the correspondence table from ISO 3-digit codes to Alpha-3 codes from the INDSTAT2-manual (UNIDO, 2021). After conversion, each country has the same Alpha-3 code as the IEA data.

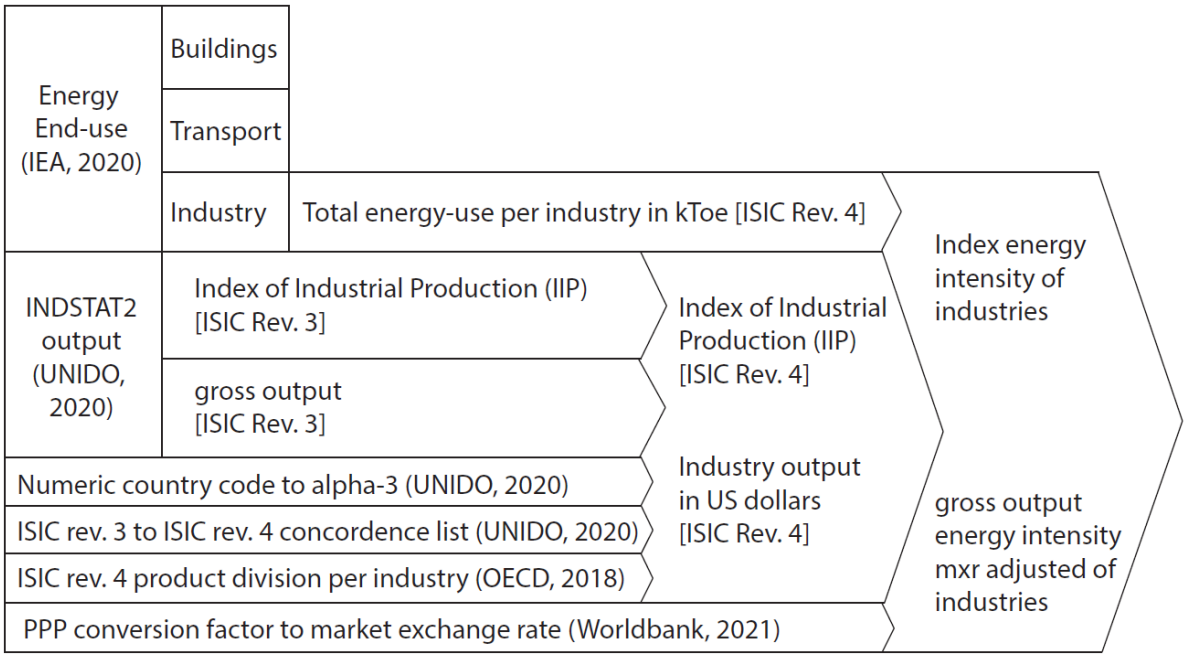

Figure 4.1: Illustrative flowchart for conversion and matching of the dependent variable

Secondly, it is required to classify the industry ISIC rev. 3 codes under an industry that matches with the IEA industry labels. To make this step, it is first necessary to know what products fall under the industry labels of the IEA data. In the World Energy Balances Statistics book written by IEA (2019b), the classification per industry label is stated. The classification is conform ISIC rev. 4. However, the chemical industry is excluding petrochemical feedstocks IEA (2019b). Therefore, the classification per industry label as written in the World Energy Balances Statistics book is used. The next step is to classify the industry codes that are stated in the ISIC rev. 3 to the ISIC rev. 4 that fall under the industry label of the IEA. For this step the ISIC rev.3 to ISIC rev.4 concordance list from the INDSTAT2 manual is necessary (See UNIDO

(2021)). To show the relation per industry, both these tables are merged and put together in appendix C.2. Figure 4.1 exhibits an illustrative flow-chart of the steps taken to transform and classify the data.

With the classification under an industry label, the problem comes to exists that ISIC rev. 3 does not make a clear distinction between the iron-steel and non-ferrous industries. Therefore, to not lose the data of either one of these industries, it is necessary to aggregate these two industries into the metal-steel industry.

Summary statistics. After aggregation and categorisation, the data of the IIP and gross output give the following summary statistics (See tables 4.3 and 4.4). In these tables, the missing observations per category (i.e. IIP, gross output, et cetera) have been dropped before they were aggregated per industry. Since the INDSTAT2 data set makes a distinction between zeros and missing observations, there were no problems in including the zeros in the aggregation. In appendix E.1, the summary statistics per industry of the employment and value-added are displayed.

	count	mean	std	min	25%	50%	75%	max
METALSTL	1765.0	98.1	41.4	3.0	82.0	100.0	110.0	735.0
MACHINE	1808.0	633.9	1546.5	42.0	309.0	536.0	631.2	40584.0
CHEMICAL	1776.0	87.3	31.2	2.0	70.0	91.0	101.0	346.0
NONMET	1874.0	101.1	47.8	1.0	78.0	98.0	111.8	480.0
TRANSEQ	1680.0	178.2	118.8	1.0	114.0	176.0	208.0	1538.0
FOODPRO	1852.0	177.0	120.4	9.0	101.0	166.0	200.0	1573.0
PAPERPRO	1812.0	183.9	65.4	12.0	149.0	197.0	215.0	474.0
WOODPRO	1738.0	117.5	126.7	3.0	86.0	100.0	120.0	3886.0
TEXTILES	1827.0	578.2	1108.6	44.0	288.0	328.0	497.5	17814.0
INONSPEC	1817.0	189.5	86.1	17.0	147.0	192.0	215.0	1173.0

Table 4.3: Summary statistics of IIP for 164 countries [1995-2017] (UNIDO, 2020)

What stands out from tables 4.3 and 4.4 is that the amount of data per industry is only half complete. In other words, normally, if there are no missing observations, the data sets per industry should contain $164 * 23 = 3772$ values. Another prominent observation is the high maximum values of the IIP machine industry and textile industry, indicating outliers.

Computation. With the INDSTAT2 data being in a similar structure as the IEA data, both these sets merge. Accordingly, the index energy intensity and the energy intensity based on "real" output are computed with the formulas described in chapter 3.2.2. For the energy intensity based on "real" output, the PPP conversion factor to the market exchange rate from the (Worldbank, 2021) database is necessary.

	count	mean	std	min	25%	50%	75%	max
METALSTL	2319.00	2.17e+10	1.15e+11	3.21e+03	1.94e+08	1.68e+09	1.01e+10	2.05e+12
MACHINE	2450.00	6.73e+10	2.84e+11	2.65e+05	2.22e+08	2.89e+09	3.09e+10	4.66e+12
CHEMICAL	2376.00	2.94e+10	1.19e+11	1.44e+05	1.92e+08	2.17e+09	1.51e+10	1.92e+12
NONMET	2450.00	9.47e+09	4.92e+10	5.76e+05	2.29e+08	1.26e+09	5.24e+09	9.45e+11
TRANSEQ	2266.00	3.43e+10	1.22e+11	5.43e+03	4.35e+07	1.02e+09	1.53e+10	1.52e+12
FOODPRO	2494.00	3.60e+10	1.20e+11	2.99e+06	9.52e+08	5.50e+09	2.30e+10	1.81e+12
PAPERPRO	2463.00	1.12e+10	3.64e+10	3.06e+04	1.17e+08	9.38e+08	6.56e+09	3.64e+11
WOODPRO	2411.00	4.15e+09	1.50e+10	4.80e+04	4.09e+07	3.96e+08	3.00e+09	2.38e+11
TEXTILES	2482.00	1.20e+10	6.61e+10	3.37e+05	2.00e+08	1.10e+09	5.10e+09	1.25e+12
INONSPEC	2474.00	1.65e+10	6.12e+10	1.27e+05	1.87e+08	1.44e+09	7.99e+09	9.18e+11

Table 4.4: Summary statistics of industry output for 164 countries (1995-2017)

4.2.2 | Independent variable (Product level)

For the independent variable, the BACI trade flows data is necessary. The trade flows are grouped per country (in ISO 3-digit), per year, and per product (in HS-6digit rev. 0 1992). Therefore, to match with the IEA data, it is necessary to (1) transform the country codes and (2) categorise the products under an industry label.

Firstly, it is required to label the BACI data per country to Alpha-3 code. This step is similar as described before with the INDSTAT2 data. However, to prevent mismatching of country labels, the country correspondence tables from the original BACI database are used (See CEPII (2020)).

Secondly, it is necessary to categorise BACI trade flow products under an industry label. Since the products are coded in HS, rev. 0 (1992), matching to ISIC rev. 4 is required. To match the variables, the table from OECD (2018) is used. After matching, the categorisation per industry is still necessary. Therefore, the same ISIC rev. 4 product division per industry of the World Energy Balances Statistics book is used IEA (2019b). The final result is a data set that compromises 218 countries, ten industries, 23 years, and thousands of products. A representation of these steps of conversion is illustrated in figure 4.2.

Aggregation. There are too many products to analyse. Therefore, an aggregation from the HS 6-digit to the HS 2-digit is necessary. Since the first two digits of the HS 6-digit code represent the aggregation, it is simple to aggregate them.

The aggregation to HS 2-digit can show strange labelling because the production of products is differently categorised than products for consumption. For example, one instance in the chemical industry is "Beverages, spirits and vinegar," which is usually attributed to the food and beverages industry. However, in this case, the product of ethanol (ethyl alcohol) is produced in the chemical industry but typically consumed in the food & beverages industry.

Therefore, this label may appear to be misplaced. However, beneath the aggregation, some products are produced in these specific industries. Hence, it can be that the same label may refer to different products, which explains why some labels are in multiple industries.

Computation. After the matching, it is necessary to compose the Balassa RCA index from chapter 3.2.1. The export values from the HS 2-digit trade flows per country represent the $X_{c,i,p}$ variables. Furthermore, $\overline{X}_{c,i}$ is an aggregation per industry of all the products export values that are exported per country. Moreover, for the world's export per product $\overline{X}_{w,i,p}$, the data has been aggregated for the export value of every product of all the 218 countries in the data set. To form the world export per industry (i.e. $\overline{X}_{w,i,p}$), all the product export values for all countries are aggregated per industry.

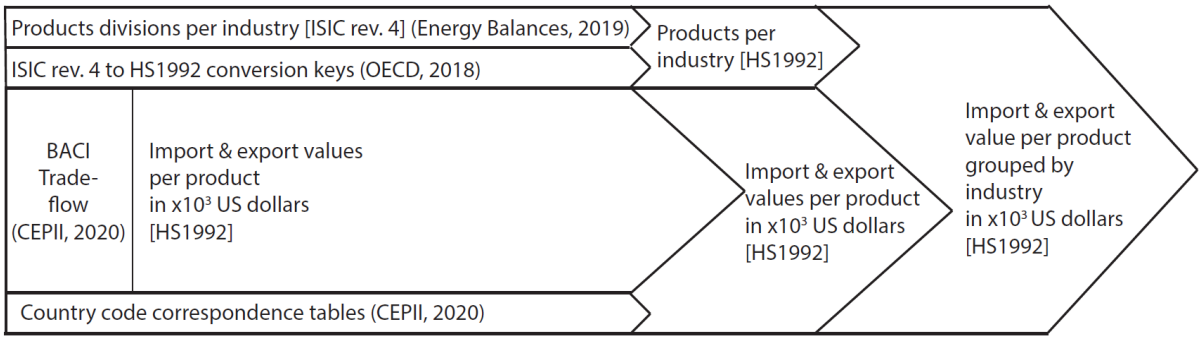

Figure 4.2: Illustrative flowchart for conversion and matching of the independent variable

4.3 | Missing Values

While it is clear that 117 countries match between the different sources, it is yet unclear what are the number of missing values and zeros. Therefore, in this section, the missing values and zeros of the dependent variable are explored per country. The independent variable is left out of this missing value analysis because the trade flows are often coded for what is traded and not for what is not. Therefore, one can assume that a country does not trade the product when there is no data present.

The dependable variable is composed of the data set of energy consumption and IIP. Therefore, if either of these data sets has missing values or zeros, then they will prevent the construction of the index energy intensity. From examining both of these data sets, it was concluded that the energy consumption data contains coded zeros and missing values, whereas the IIP data set only accommodate missing values. Therefore, in this section, first, the zeroes problem was examined and thereafter, the number of missing values.

Amount of zeros. To analyse how many coded zeros there are in the energy consumption data set, one can compare the summary statistics table of 4.1 with one in which all zeros are replaced with NAN-values (see the table 4.5 below). As can be seen, almost half of the data in the old data set were coded zeros. Since it is almost impossible to separate a real zero from a coded one, the zeros are replaced with missing observations.

	count	mean	std	min	25%	50%	75%	max
IRONSTL	2595.0	24953.2	68801.6	0.0	135.6	1004.6	8770.1	505623.4
MACHINE	1995.0	11393.7	24145.4	0.1	74.5	404.5	8672.1	134641.6
CHEMICAL	2632.0	26693.4	67154.5	0.0	162.4	1287.8	8178.8	475248.7
NONFERR	2060.0	9663.4	21590.9	0.1	134.8	711.8	8347.6	143155.9
NONMET	2766.0	19654.9	56316.7	0.1	118.2	875.9	6672.2	396063.2
TRANSEQ	1745.0	4628.3	9102.1	0.0	21.9	183.6	5059.7	46538.7
FOODPRO	2443.0	12026.2	27765.1	0.1	112.5	627.3	5815.3	177521.4
PAPERPRO	2175.0	14737.5	33252.6	0.0	73.9	713.0	6810.6	166985.8
WOODPRO	2063.0	3039.2	6503.5	0.0	29.9	140.1	1294.5	34820.6
TEXTILES	2336.0	4563.1	11672.5	0.1	24.8	172.1	2069.0	63971.9
INONSPEC	4052.0	19951.5	65361.3	0.2	201.8	1007.4	6497.5	612233.9

Table 4.5: Summary statistics of total energy-use per industry for 186 countries [1995-2017]

Amount of missing values. After computation of the index energy intensity, the number of missing observations were examined. The data shows that countries missing observations in four or fewer industries are somewhat close to complete, whereas countries with missing observations in five or more industries were often very incomplete (i.e. countries often had all observations missing in the industries). Therefore, it was decided to leave out the countries with missing data in five or more industries (See the list of countries in appendix D.1)). After dropping these 68 nations, 49 countries were left in the data set. To see what data is missing in these 49 countries, appendix D.2 can be consulted. For a detailed view of the included 49 countries, the map in figure 4.3 can be used.

Figure 4.3: Map of the 49 countries ready for the regression analysis

4.4 | Data exploration

In this section, the results of data exploration are displayed. The section is divided into (1) a description of summary statistics, (2) information on the top five traded products around the world, (3) a comparison between China and the US, and (4) an exploration of GDP concerning energy use and energy intensity.

4.4.1 | Summary statistics of compiled data

After conversion and matching in chapter 4, the remaining data frame consists of 49 countries, ten industries per country, and 23 years of data per industry (1995-2017). To gain insights into the remaining dataframe, summary statistics have been compiled. In appendix E.2 these statistics are displayed. The dependent variable summary statistics (i.e. index energy intensity) are displayed in table 4.6 below.

Table 4.6 shows that compiled index energy intensity has around a thousand variables per industry. If the mean values are compared to the fraction per industry of the tables 4.1 and 4.2, it shows that the 49 countries in this table use more than half of the index energy intensity of the total 164 countries. Hence, the used dataset is not only close to complete in terms of a balanced data set, but it also covers the most energy-intensive countries. However, it has to be said that the countries which are not included are also very incomplete. The most energy-intensive

industries in this data set in order of magnitude are the metal-steel, chemical, non-metallic minerals, and non-specified industries. Industries that are "lighter" in energy intensity in order of magnitude are food&beverages, pulp&paper, machine, transport&equipment, and wood and wood products.

	count	mean	std	min	25%	50%	75%	max
METALSTL	1032.000	109.712	437.400	0.000	4.861	16.939	57.493	4648.199
MACHINE	1031.000	5.343	18.755	0.001	0.220	0.811	2.259	208.735
CHEMICAL	994.000	89.207	322.838	0.019	4.775	17.731	58.945	4056.461
NONMET	1061.000	70.333	385.033	0.096	3.665	11.959	47.110	6023.878
TRANSEQ	832.000	6.353	17.239	0.000	0.120	1.033	3.367	165.583
FOODPRO	1033.000	17.558	41.866	0.031	1.844	5.713	13.474	464.008
PAPERPRO	1060.000	16.060	37.726	0.002	0.851	3.393	10.605	299.836
WOODPRO	957.000	7.591	23.395	0.001	0.531	1.534	4.268	234.687
TEXTILES	1019.000	3.725	20.338	0.000	0.101	0.402	1.934	272.695
INONSPEC	1059.000	39.464	117.307	0.016	0.820	3.381	20.827	1153.676

Table 4.6: Summary Statistics of the computed index energy intensity per industry (kToe / IIP) for 49 countries between 1995-2017

The additional explanatory variable computed with market exchange rate adjusted gross output is shown in the appendix table E.6. Although the order of industries by magnitude is slightly different from the one from the index energy intensity, they can be distinguished in a similar matter of "'heavy" and "light" industries. However, what is unusual is that the maximum value of the non-specified industry indicates that there are some outliers. After close inspection, the data shows that China and India use large quantities of energy in the non-specified industry. These values are apparently less corrected than with the index energy intensity.

To examine the outliers, the data can be equalised with the population of a country. Hence, the summary statistics table of energy use per capita is present in appendix table E.7. This table shows that in terms of energy use that is unadjusted for industry size, the pulp&paper industry is now amongst the large energy-using industries. Furthermore, the tables show that the earlier China and India outliers in energy-use are also equalised by population in this table.

The remaining two summary statistics tables of the export values (See E.4) and export quantities (See E.5) show that while the export value has similarities with sector output, quantities differ. What is striking is that, even though the metal-steel industry often trades heavier products, the food and chemical sectors are amongst the highest when it comes to export quantities. In other words, these results show that the product in the metal-steel industry is not that heavily exported to other countries.

4.4.2 | Global top-5 statistics

In table 4.7 and table 4.8, the top five products based on respectively total value and total quantity traded are displayed. The tables contain HS 2-digit products that are exported across the 218 countries represented in the BACI dataset. To prevent yearly distortions, the mean over the period from 2015 to 2017 has been taken.

The results of table 4.7 exhibit the top five products in respective order that are traded for the highest value. These products are traded relatively low in quantities in comparison to their value. Examining the product labels in the table suggest that these products can be categorised under "finished goods", "complex to make", and "(patent) protected" articles. Therefore, the labels imply that a large part of the value comes either from the process of making it or the process of inventing it.

Table 4.8 shows that globally the greatest quantity-based traded product does not sell for a high value. From a closer examination of the labels, these products could be categorised under "raw materials", "semi-finished goods", "large density materials" and "country-specific resources". These labels suggest that these products can be handled in large quantities with a process that is not so expensive.

The relationship between value, quantity, and product labels show that while raw materials and half-fabricates are often traded in the most significant quantities in these results, the more fabricated, complicated, and protected products trade for the highest value. The former indicates there are inexpensive processes present that can harvest and fabricate those resources. The resulting products embody relatively much weight compared to their value, signalling the increased costs of transportation. The latter specifies the comparative advantage where countries with characteristics of better efficiency, knowledge, and regulation know how to produce specific products at lower opportunity costs. The products that stem from these manufacturing processes symbolise higher value relative to their weight.

label	industry	Value ($x10^3$ \$) ↑	Quantity ($x10^3$ kg)
Nuclear reactors, boilers, machinery and mecha...	MACHINE	1.60e+09	1.42e+06
Electrical machinery and equipment and parts t...	MACHINE	1.58e+09	5.75e+05
Vehicles; other than railway or tramway rollin...	TRANSEQ	1.33e+09	8.14e+05
Pharmaceutical products	CHEMICAL	4.38e+08	4.51e+04
Optical, photographic, cinematographic, measur...	MACHINE	3.81e+08	3.72e+04

Table 4.7: Global top five export products based on export **value** between 2015-2017.

label	industry	Value ($x10^3$ \$)	Quantity ($x10^3$ kg) ↑
Salt; sulphur; earths, stone; plastering mater...	NONMET	1.19e+07	2.46e+07
Organic chemicals	CHEMICAL	3.65e+08	1.77e+07
Iron and steel	METALSTL	2.97e+08	1.43e+07
Wood and articles of wood; wood charcoal	WOODPRO	1.01e+08	1.03e+07
Inorganic chemicals; organic and inorganic com...	CHEMICAL	1.09e+08	9.38e+06

Table 4.8: Global top five export products based on export **quantity** between 2015-2017.

4.4.3 | Findings between US and China

In this section, the data is explored on a detailed level in the US and China. The results herein should answer how these countries compare to each other in relation to international trade and comparative advantage. China and the US are chosen because of their similar size, large absolute energy intensity levels, data completeness, and their contrary trade balance deviations.

Export by industry. Table 4.9 describes a comparison of the export value and growth of each industry between the US and China in two different periods. In the table, a few things stand out. Firstly, in nearly every industry, China shows tremendous growth rates between these periods, whereas the US relatively only marginally increases. Secondly, based on average value output in the period of 2015-2017, China shows dominance over the US in the industries of the machine, textiles, and non-specified, while the US is stronger in the chemical and transport equipment industries; for all other industries, these countries are somewhat equally strong in exports.

	China			**United States**		
	Export Value ($x10^3$ \$)			**Export Value ($x10^3$ \$)**		
Industry ↑	**1995-1997**	**2015-2017**	**Growth**	**1995-1997**	**2015-2017**	**Growth**
CHEMICAL	1.15e+07	1.44e+08	1150.56 %	7.29e+07	2.09e+08	185.80 %
FOODPRO	1.06e+07	4.41e+07	313.36 %	3.69e+07	7.82e+07	111.61 %
INONSPEC	2.47e+07	2.33e+08	846.14 %	2.63e+07	8.74e+07	231.97 %
MACHINE	6.24e+07	1.17e+09	1787.46 %	1.96e+08	3.20e+08	62.65 %
METALSTL	7.09e+06	8.61e+07	1114.25 %	2.01e+07	5.37e+07	166.76 %
PAPERPRO	1.35e+06	1.90e+07	1300.64 %	1.48e+07	2.06e+07	39.48 %
NONMET	4.01e+06	3.93e+07	881.99 %	4.96e+06	1.17e+07	135.96 %
TEXTILES	7.51e+07	3.20e+08	326.50 %	1.684e+07	1.62e+07	-3.64 %
TRANSEQ	3.50e+06	9.34e+07	2563.47 %	9.29e+07	2.51e+08	170.25 %
WOODPRO	2.59e+06	1.40e+07	441.32 %	5.21e+06	6.17e+06	18.42 %

Table 4.9: The export values for China and the United States aggragated by industry. Each timeframe equals the mean of those years to prevent yearly distortions.

Top five export products. In appendix F.1 the top 5 product tables sorted by value, quantity, and RCA are shown for the US and China. Although the US often trades machinery and transport equipment, China focuses their mass production efforts for export more on machinery and textiles. Of these products, what is a prominent finding is the differences in value and quantity. To clarify, the product group of "vehicles; other than railway or tramway rolling..." is traded in the US and China. While in China, it is placed on rank five in value, it has rank two in the US. What really strikes is the difference in quantity between these two nations in this product group. While the US trades only 4875.7 metric tons in this particular product group, China trades 24 times as much with a total of 118323 metric tons.

From examining the quantity tables, the first thing that is noticed is that both the US and China export fertilisers as one of their top export products in quantity. While China trades only somewhat to one-third of the quantity in fertilisers of the US, their value sold is three times as much. Therefore, it shows that China sells higher quality fertilisers. Moreover, as noted earlier in section 4.4.2, it can be seen from these tables it is often high-density products that are traded by each country that make up the top five products traded by quantity.

Furthermore, from examining the table of export products sorted by RCA from China and the US, it can be highlighted that the comparative advantage can often be found in products that are traded mostly by just one country on a world scale but that have a relatively small industry trade value compared to that of the world. These findings are in line with the theory of comparative advantage.

RCA graphically displayed. In figure 4.4, the HS 2-digit products of the metal-steel industry are displayed with their RCA values for the US and China. The arithmetic mean has been taken between 2015 to 2017 to prevent yearly distortions. Furthermore, the RCA data points are sorted by the values from the US to give a clear comparative overview between the two countries.

The results of figure 4.4 show that when the RCA > 1, there is a comparative advantage relative to the rest of the world. For the US, this means that they have a comparative advantage on metals & cement (=2.77), iron or steel articles (=1.69), and pearls&precious stones (=1.14). While for China, it means that they have a comparative advantage on metals&cement (=4.62), iron or steel articles (=1.05), aluminium (=2.55), and copper (=1.08) production. Although both China and the US show a comparative advantage on some similar products, they often do not appear to be in the same magnitude. Therefore, the industries of non-specified, machine, transport & equipment, and the pulp & paper industry show perpendicular results (See graphs in appendix J).

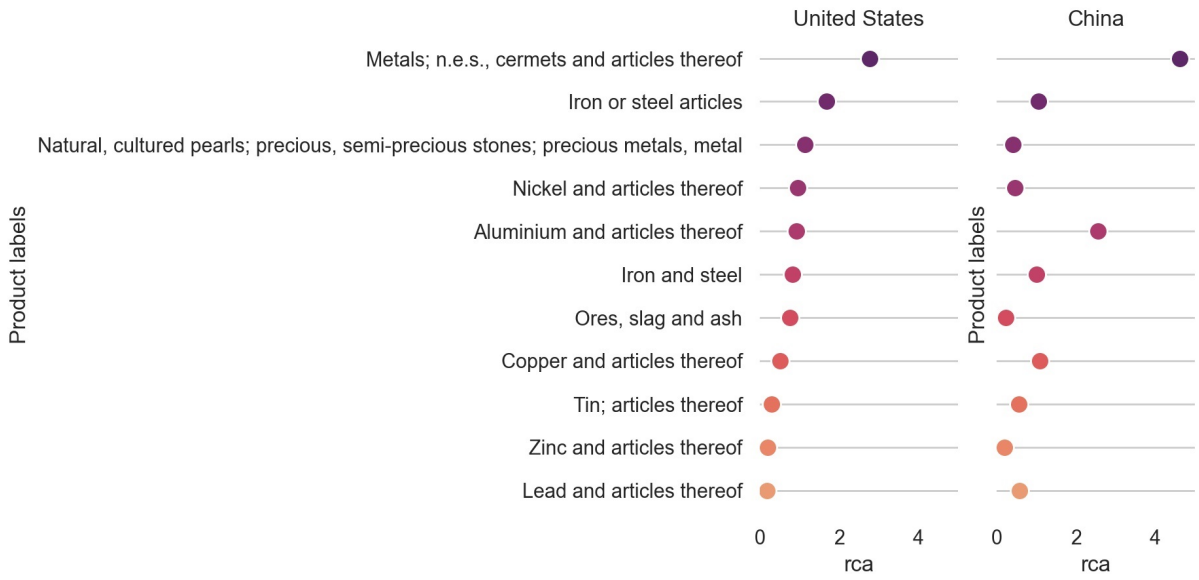

Figure 4.4: A comparison of the aggregated 2-digit RCA products of the metal-steel industry between the United States and China. The graph is a cut of version from the one in the appendix J.10 because of portrait page dimensions in this rapport.

Energy intensity. In figure F.1 and figure F.2, the energy intensity levels of the US and China are delineated over time. The first figure of F.1 shows that the energy intensity levels of both these countries have converged towards each other. In relation to the growth rates as illustrated in table 4.9, initially, China used much more energy to sustain a high level of output and growth, while at the end of the designated period, the energy use is as intensive as the US. The second graph of F.2 shows the market exchange rate adjusted energy intensity of both countries. As can be seen in this graph, China has surpassed the US in lower energy intensity when the energy intensity remains unequalised for the exchange rate variations and differences in price levels across countries.

Substantiation of exploration between US and China. The findings between the two largest economies of the world reveal that China has preceded in massive economic growth compared to the US. As of 2017, China has surpassed the US in export in the machine, metal-steel, non-metallic minerals, textiles, wood and wood products, and non-specified industries. Although an absolute value difference describes the current state of China's economy relative to the US, it does not so much portray where it came from and how the internal economy holds. Therefore, the growth rates as shown in table 4.9 depict more on how disruptive the economy of China has been in these past decades.

Particularly impressive growth industries in China in respective order were the growth

rates of the industries of transport & equipment, machine, and pulp & paper. What is especially striking in these three industries is that China notably specialised in the products where the US did not, therefore, maximising the exploitation of the comparative advantage (See figures J.4, J.8, J.9).

Moreover, while China has grown relatively faster in exports, they have converged towards the US in terms of economy-wide energy intensity measured in gross output. When compared to the energy intensity that is adjusted for market exchange rate gross output, then China has already surpassed the levels of the US.

4.4.4 | Exploration between the GDP per capita and energy intensity

Figure 4.5 shows two timeframes in which energy intensity decreases with the GDP per capita. The data represents the aggregated mean for both the 1995-1998 and the 2015-2017 timeframes. Although the figure looks a bit hectic, the results thereof show an interesting trend that is contrary to the findings of (Csereklyei et al., 2016). According to Csereklyei et al. (2016), the relationship should not change and has been fairly consistent over the past forty years with little change in slope. Although the data and methods used here are dissimilar, figure 4.5, shows different results. The slope of both timeframes show that the energy intensity relatively has decreased from -1.066% to -0,487% while keeping the GDP per capita constant. In other words, the trend shows flattening behaviour caused by the many developing and low-income countries that catch up with the frontier. Hence, indicating a form of convergence that is in accordance of the findings of (Eichhammer and Mannsbart, 1997; Miketa and Mulder, 2005; Mulder and De Groot, 2007; Mulder and de Groot, 2012; Mulder et al., 2014; Wan et al., 2015). However, it should be noted that these trend changes are not officially tested in σ-convergence and β-convergence. In appendix F.2 similar findings were made with GDP per capita versus energy-use per capita.

In the figure of 4.5, the large blue circle on the left and the largest orange bubble indicate China. Moreover, the somewhat smaller blue and orange circles behind China on the left side are from India. The bubbles in the top right below the slopes are from the European countries and the United States (i.e. largest bubble below the slope on the right).

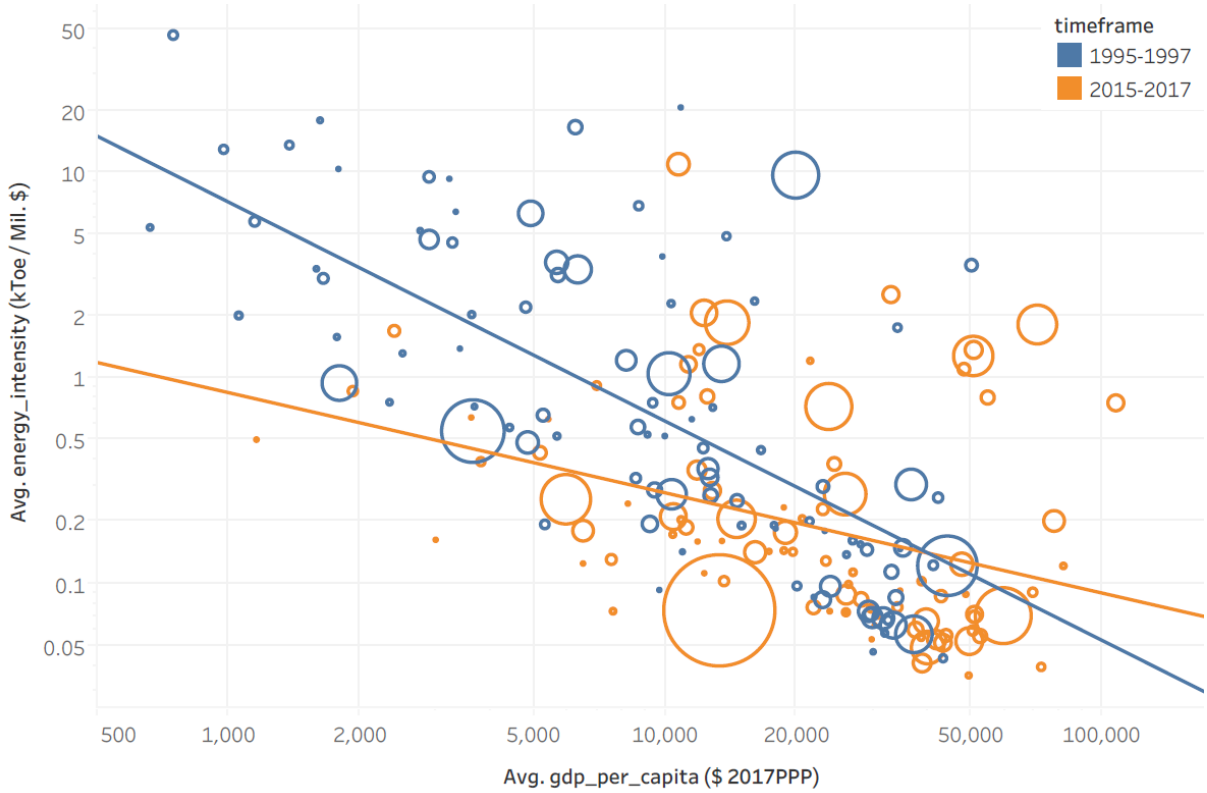

Figure 4.5: A comparison of the avg. GDP per capita vs the avg. energy intensity of two timeframes (1995-1997) and (2015-2017) (117 countries). The circles are made proportional to total energy use (this is not accounted for in the country's position or coefficient change!).

CHAPTER 5

Results and Discussion

This thesis's primary goal is to explain the effect of trade specialisation on inter-country differences in the energy intensity of industries. The method relies on individual Pooled OLS regressions per product that utilises the change is revealed comparative advantage as predictors to explain inter-country differences in the energy intensity of industries (i.e. the Y variable). Each Pooled OLS regression per product serves to ensure that the effect of every individual product is isolated. The goal thereof is to show if energy-intensive products explain positive (upward) effects in the energy intensity of industries. Since the dependent variable cannot interpret the energy intensity level, each regression has an additional explanatory variable of energy intensity based on a market exchange rate adjusted gross output. The regression uses the data of 49 countries, each containing ten industries and 23 years of data per industry. Since an analysis of all industries cannot be done in the time range of the thesis, only the chemical industry and pulp & paper industry are analysed. The chapter begins with the reasoning why these two industries are of interest. Thereafter, the results are discussed of the industries. Lastly, the chapter ends with the substandiation of the findings.

5.1 | General findings

On the HS-2digit level, there are 118 products divided over ten industries. Of these 118 products, only 10 reach 99% significance. Two of them have a high share in the total industry export. Moreover, for all the HS-2digit regressions, the intercept is negative. This means that the energy intensity of that industry tends to decrease when the RCA of that product equals zero.

On the HS-4digit level, there are 1074 products divided over ten industries. Of these 1074

products, 117 products reach 99% significance. However, not all these products have a large export share in the industry.

Of the ten industries in the data set, two industries get more than 50% of their total value added from export (textiles and transport & equipment), three industries more than 40% (metal-steel, chemical, machine), one more than 30% (non-specified), and four more than 10% (wood&wood products, food&beverages, pulp&paper, and non-metallic minerals).

Some products are placed among multiple industries. The lower aggregate products are produced in the industry where it is placed but got an HS description of another industry. For example, the HS-2digit description of "Nuclear reactors, boilers, machinery, and mec.." can be found in the industries of chemical, pulp&paper, machine, transport & equipment, and non-specified. Originally, this product stems from the machine industry. However, it often produces one or multiple products that are specific for that industry in the other industries. For example, turbo-jets are produced in the transport & equipment industry but are normally consumed under the HS-2digit label of "Nuclear reactors, biolers, machinery, and mec.." in the machine industry. Since the production values are the guideline, the turbo-jet products are placed in the transport & equipment industry.

5.2 | Selection criteria

There are too many industries to assess. Therefore, to choose the most prominent results, the HS-2digit products of all ten industries are assessed based on the following criteria:

- The r-square needs to be larger than 10%
- The product explains a minimum of the significance of 99%
- The share of the product in the industry is larger than 10%

Of all the HS-2digit products in all ten industries, two products comply with the selection criteria. These products are "pharmaceutical products" and "vehicles; other than railway or tramway roll.." of the chemical industry and transport & equipment industry. In table 5.1, the regression results of these two products are given. The results presented in the tables are discussed at the beginning of each chapter.

	parameter	std_errors	t-stat
Chemical industry			
const (r-square=0.2549; NOBS=926; Sm.Est.=1.0213)	-0.05721	0.03891	-1.47020

(continued...)

d5_Pharmaceutical products	-1.10200	0.23782	-4.63382
lag5_ln_intensity	-0.02702	0.01481	-1.82435
Transport & equipment			
const (r-square=0.1733; NOBS=735; Sm.Est.=1.0373)	-0.20972	0.11129	-1.88456
d5_Vehicles; other than railway or tramway roll...	2.55815	0.83145	3.07674
lag5_ln_intensity	-0.04096	0.02295	-1.78527

Table 5.1: Regression results of the HS-2digit products that comply to the criteria

Although these results appear to be promising, it would be helpful to explain opposing effects within an industry. For both industries, the products that show opposing results are stated in table 5.2. The products with a marginal share in the total industry export are left out of the table. In the chemical industry, the "plastics and articles thereof" shows the most promising t-stat. Therefore, it can be that most products underneath explain positive changes in the energy intensity of industries. For the transport & equipment industry, the "Ships, boats and floating structures" seem to have the most promising results.

	parameter	std_errors	t-stat
Chemical industry			
const (r-square=0.063; NOBS=927; Sm.Est.=1.0276)	-0.10324	0.04404	-2.34408
d5_Plastics and articles thereof	0.53758	0.34960	1.53769
lag5_ln_intensity	-0.04461	0.01645	-2.71248
const (r-square=0.0284; NOBS=927; Sm.Est.=1.0285)	-0.09687	0.04352	-2.22576
d5_Organic chemicals	0.13035	0.17062	0.76398
lag5_ln_intensity	-0.04173	0.01700	-2.45428
Transport & equipment			
const (r-square=0.0375; NOBS=735; Sm.Est.=1.0463)	-0.17928	0.12176	-1.47247
d5_Aircraft, spacecraft and parts thereof	-0.27081	0.16483	-1.64295
lag5_ln_intensity	-0.03670	0.02489	-1.47439
const (r-square=0.1108; NOBS=735; Sm.Est.=1.0388)	-0.18375	0.11277	-1.62936
d5_Ships, boats and floating structures	-0.15318	0.07555	-2.02753
lag5_ln_intensity	-0.03750	0.02379	-1.57626

Table 5.2: Panel data regression results of products explaining opposing changes

However, from examining literature to verify the results, little is known about energy-intensity values of the production of vehicles, ships, boats, or aircraft. Therefore, it has been decided to not assess the products of the transport & equipment industry. Instead, the literature backed "Chemical wood pulp, soda or sulphate, other..." of the pulp & paper industry

are examined because that product has a 13.4% export share in the total pulp & paper industry and it shows significant results on lower disaggregate levels.

5.3 | Chemical industry

In this section, the results of the pharmaceutical and plastic products are discussed and compared from multiple levels of disaggregation. In general, the results show that if a country increases the comparative advantage in pharmaceutical products their industry's energy intensity tend to increase, whereas if a country trade-specialises into the significant products underneath the plastic sub-industry, their energy intensity tends to decrease. As around 41.4% of the total value added comes from the export value, the results of the two product groups in this section can be helpful to form policy around the energy efficiency potential of specific export products.

5.3.1 | Pharmaceutical products

Pharmaceutical products make up to 20.6% of the total global exports in the chemical industry. The export is divided into six product groups. In table 5.3, these six product categories are displayed with their disaggregated products. The top three traded products are "Medicaments packaged for retail sale" (83.7% export share), the blood of humans and animals (8.8% export share), and "Medicaments not packaged for retail sale" (3.0% export share).

HS-4digit label	Export share in sub-industry	HS-6digit label	Export share in product
- Glands, organs (extracts, secretions thereof)	0.9	Glands; extracts of glands, other organs or of... Glands; heparin and its salts; other human or ...	8.9 91.1
- Blood, human or animal; prepared for therapeu...	8.8	Vaccines; for human medicine Vaccines; for veterinary medicine, for other u... Toxins, cultures of micro-organisms (excluding...	50.7 8.9 40.5
- Medicaments; not packaged for retail sale	3.0	Medicaments; containing penicillins, streptomy... Medicaments; containing antibiotics other than... Medicaments; containing insulin (but not conta... Medicaments; containing hormones (excluding in... Medicaments; containing alkaloids or their der... Medicaments; (not containing antibiotics, horm...	10.6 12.5 1.4 8.5 1.6 65.3
- Medicaments; packaged for retail sale	83.7	Medicaments; containing penicillins, streptomy... Medicaments; containing antibiotics (other tha... Medicaments; containing insulin (but not conta... Medicaments; containing adrenal cortex hormone... Medicaments; containing hormones (but not insu...	1.3 5.1 2.7 2.1 6.4

(continued...)

		Medicaments; containing alkaloids or their der...	1.6
		Medicaments; containing vitamins or their deri...	1.5
		Medicaments; consisting of mixed or unmixed pr...	79.4
- Wadding, gauze, bandages (dressings, adhesi...	1.8	Dressings, adhesive; and other articles having...	47.0
		Wadding, gauze, bandages and similar articles;...	53.0
- Pharmaceutical goods	1.8	Pharmaceutical goods; blood-grouping reagents	7.0
		Pharmaceutical goods; opacifying preparations ...	45.5
		Pharmaceutical goods; chemical contraceptive p...	47.5

Table 5.3: Products the pharmaceutical industry

The regression results of the pharmaceutical products at HS-2digit level, show a negative coefficient of 1.1 (See table 5.1). This means that trade-specialisation in the pharmaceutical products is correlated with a logarithmic decrease in the industry's energy intensity of 1.1, while keeping cross-country level differences in energy intensity constant. Calculated in percentages it is -69.3% ($1.0373 * (e^{-1.102} - 1) * 100\%$). The change is explained with an r-square of 25.5%. Relative to other products at the HS-2digit level, this is the largest explained variance across all industries. With a relatively low standard error, this product reaches a significance above 99%.

Table 5.4 portrays the regression results of the HS-4digit pharmaceutical products. While only three products are significant, all products show a negative correlation coefficient. The three significant products are non-packaged and packaged medicaments and "wadding, gauze, bandages ...". The r-square of these three products are 11.9%, 28.8%, and 12.3%, respectively. The non-packaged medicaments and "wadding, gauze, bandages ..." have an irrelevant export share in the whole industry (See table 5.3); therefore, they do not have to be discussed.

Notable is the regression of packaged medicaments in table 5.4. Increasing the comparative advantage in this product with one unit is correlated with a logarithmic decrease of 1.18 in the energy intensity of industries while keeping cross-country level differences in energy intensity constant. With a total export share of 83.7% in the pharmaceutical industry, this product has a vital role in explaining the negative changes in the energy intensity of industries. Since the packaged medicaments are mainly dominated by a product that is an amalgamation of different articles (i.e. "medicaments; consisting of mixed or unmixed products"), it is hard to see what exactly changes the energy intensity of industries underneath this product group.

Although the results look promising for pharmaceutical products, there is little literature to verify these results. Nevertheless, according to K. Blok (personal communication, August 12, 2021), there is little heat necessary to upkeep the production processes of pharmaceutical products; therefore, the energy intensity of these products is small compared to other chemical

	parameter	std_errors	t-stat
const (r-square=0.0655; NOBS=848; Sm.Est.=1.0344)	-0.14459	0.04909	-2.94519
d5_Glands, organs (extracts, secretions thereof...	-0.17298	0.11024	-1.56916
lag5_ln_intensity	-0.05768	0.01977	-2.91772
const (r-square=0.0519; NOBS=921; Sm.Est.=1.0374)	-0.14587	0.04420	-3.30050
d5_Blood, human or animal; prepared for therape...	-0.09180	0.08677	-1.05801
lag5_ln_intensity	-0.05942	0.01827	-3.25327
const (r-square=0.1189; NOBS=906; Sm.Est.=1.0338)	-0.13587	0.04032	-3.37018
d5_Medicaments; not packaged for retail sale	-0.26665	0.09645	-2.76472
lag5_ln_intensity	-0.05620	0.01596	-3.52053
const (r-square=0.2876; NOBS=923; Sm.Est.=1.0279)	-0.09114	0.03428	-2.65889
d5_Medicaments; packaged for retail sale	-1.18093	0.23383	-5.05033
lag5_ln_intensity	-0.04085	0.01376	-2.96967
const (r-square=0.1226; NOBS=908; Sm.Est.=1.0354)	-0.13879	0.04359	-3.18409
d5_Wadding, gauze, bandages (dressings, adhesiv...	-0.28607	0.08031	-3.56228
lag5_ln_intensity	-0.05621	0.01861	-3.01995
const (r-square=0.0368; NOBS=895; Sm.Est.=1.0374)	-0.15320	0.04771	-3.21114
d5_Pharmaceutical goods	-0.00341	0.07522	-0.04533
lag5_ln_intensity	-0.06226	0.01943	-3.20412

Table 5.4: Panel data regression results of the 4-digit medicament's products [1995-2017]

products. Thus, according to these results, if a country trade-specialises in pharmaceutical products, and especially medicaments, the energy intensity of the country's chemical industry tends to decrease.

5.3.2 | Plastic products

Plastic products do not explain significance on a higher 2-digit aggregate level (See table 5.2). Also, the r-square of plastics with 6.3% is relatively low compared to 25.5% explained by pharmaceutical products. However, unlike pharmaceutical products, some plastic products' energy intensity production values are backed by literature. Therefore, using a more disaggregate approach, the regression results can be verified with corresponding production energy intensity values.

Plastic products represent 16.9% of the total worldwide chemical industry export. The export of plastics is divided into fifteen different categories (See table 5.5). On HS-4digit, the top five traded plastics are "Polymers of ethylene", "Polyacetal, other polyethers and epoxide", "Articles of plastic", "Polymers of propylene or of other olefins", "polymers of styrene". The global sub-industry share of each of these five products in the global export of the plastics industry is 21.4%, 16.2%, 16.0%, 11.9%, 6.9%, respectively.

Moreover, on HS-6digit level, the top five products are "Plastics; other articles n.e.s.", "Ethylene polymers; low density <0.94 specific gravity", "Ethylene polymers; high density

>0.94 specific gravity", "Polypropylene in primary forms", and "Acrylic polymers; (other than polymethyl metha...". Respectively, these products have an share of 16.0%, 8.5%, 8.0%, 7.2%, and 4.0% in the worldwide plastic export.

In table 5.5, fifteen HS-4digit product groups and their HS-6digit products are displayed. In the table, the energy intensity values are added if the literature mentioned them. Since all energy intensity values noted in the table are from the US, converting from Btu/lb to GJ/tonne was necessary. Moreover, since the table has limited page space, the sources of the energy intensity values are shortened to numbers. These numbers represent the sources of: [1] Brueske et al. (2015), [2] Beaver et al. (2000), and [3] Cresko and Carpenter (2017).

Furthermore, in table 5.5, multiple products are highlighted to show what direction of change they explain in the energy intensity of industries. There are twelve *green* products that explains positive hanges in the energy intensity of industries with a 99% confidence interval, seven *blue* products that explain positive changes with a 95% confidence interval, and one *red* product that describes negative changes with significance.

The significant regressions of the products are given in table 5.6. Since the plastics industry is divided among many products, only the results of the products that are backed by the found literature and which have an export share larger than 2% in the total plastics industry export are discussed in this section. The products that verify this description are polyethylene, acrylonitrile-butadiene-styrene, polycarbonates, polyethers, and polyamides. In appendix table K.2 all the HS-6digit plastics products regressions can be found.

HS-4digit label	Export share sub-industry	HS-6digit label	Export share in product	Energy intensity (GJ/t)
Polymers of ethylene, in primary forms	21.4	-Ethylene polymers; low density <0.94 specific gravity	39.6	2.66[1]
		-Ethylene polymers; high density >0.94 specific gravity	37.4	2.41[1]
		-Ethylene-vinyl acetate copolymers	4.6	
		-Ethylene polymers; in primary forms, n.e.s.	18.3	2.7[2]
Polymers of propylene or of other olefins,	11.9	-Polypropylene in primary forms	60.5	1.19[2]
		-Polyisobutylene in primary forms	2.5	
		-Propylene copolymers in primary forms	30.4	3.14[1]
		-Propylene, other olefin polymers; n.e.s.	6.7	
Polymers of styrene, in primary forms	6.9	-Expansible polystyrene, in primary forms	17.4	5.27[2]
		-Styrene polymers; (other than expansible polys...	28.5	
		-Styrene-acrylonitrile (SAN) copolymers, in pri...	4.1	7.32[1] [1]
		-Acrylonitrile-butadiene-styrene (ABS) copolymers....	30.1	9.4[3]
		-Styrene polymers; in primary forms, n.e.s. in ...	20.0	

(continued...)

[1]The energy intensity value is a calculation of the energy intensity values of styrene (i.e. 3777 Btu/lb) and acrylonitrile (i.e. 626 Btu/lb) from (Brueske et al., 2015). The weighted factors of both products are calculated in accordance to the findings of (Chadwick, 1988) that showed that styrene-acrylonitrile (SAN) often exists of 80% styrene and 20% acrylonitrile

Polymers of vinyl chloride or of other hal...	6.1	-Polyvinyl chloride, in primary forms	57.7	3.40[1]
		-Non-plasticised polyvinyl chloride	7.7	
		-Plasticised polyvinyl chloride	10.2	
		-Vinyl chloride-vinyl acetate copolymers,...	2.1	
		-Vinyl chloride copolymers, in primary forms	2.0	4.89[1]
		-Vinylidene chloride polymers, in primary forms...	1.6	
		-Fluoro-polymers, polytetrafluoroethylene	5.9	
		--Fluoro-polymers (other than polytetrafluoroethylene)	10.3	
		-Vinyl chloride, other halogenated olefin polym...	2.5	
Polymers of vinyl acetate or of other vinyl...	1.6	-Vinyl acetate polymers; in aqueous dispersion,...	21.7	8.40 [1]
		-Vinyl acetate polymers; (other than in aqueous...	19.0	
		-Polyvinyl alcohol; whether or not containing u...	22.2	
		-Vinyl acetate, vinyl ester polymers, vinyl pol...	37.1	
Acrylic polymers in primary forms	4.5	-Acrylic polymers; polymethyl methacrylate, in ...	10.2	
		-Acrylic polymers; (other than polymethyl metha...	89.8	
Polyacetals, other polyethers and epoxide	16.2	-Polyacetals; in primary forms	4.0	
		-Polyethers; in primary forms, excluding polyac...	21.1	
		-Epoxide resins; in primary forms	12.2	
		-Polycarbonates; in primary forms	19.3	15.6[1]
		-Alkyd resins; in primary forms	2.2	
		-Polyethylene terephthalate; in primary forms	21.0	5.33[1]
		-Polyesters; n.e.s. in heading no. 3907, unsatu...	5.1	
		-Polyesters; n.e.s. in heading no. 3907, satura...	15.1	28.21[1]
Polyamides in primary forms	4.1	-Polyamides; polyamide-6, -11, -12, -6,6, -6,9,...	79.0	26.7[2] [2]
		-Polyamides; n.e.s. in heading no. 3908, in pri...	21.0	
Amino-resins, phenolic resins and polyurethanes	4.2	-Amino-resins; urea and thiourea resins, in pri...	9.4	
		-Amino-resins; melamine resins, in primary forms	6.1	
		-Amino-resins; n.e.s. in heading no. 3909, in p...	24.4	
		-Phenolic resins; in primary forms	15.9	
		-Polyurethanes; in primary forms	44.3	0.32[1]
Silicones in primary forms	2.2	-Silicones; in primary forms	100.0	
Petroleum resins, coumarone-indene resins...	2.0	-Petroleum resins, coumarone, indene or coumaro...	25.6	
		-Polysulphides, polysulphones and similar produ...	74.4	
Cellulose and its chemical derivatives, n.e.s.	1.8	-Cellulose acetates; non-plasticised, in primar...	14.8	
		-Cellulose acetates; plasticised, in primary forms	1.7	
		-Cellulose nitrates (including collodions); in ...	8.1	
		-Cellulose ethers; carboxymethylcellulose and i...	15.8	
		-Cellulose ethers; (other than carboxymethylcel...	42.9	
		-Cellulose and its chemical derivatives; n.e.s....	16.8	
Natural polymers (eg alginic acid) and mod...	0.7	-Polymers, natural; alginic acid, its salts and...	17.2	
		-Polymers, natural and modified natural; in pri...	82.8	
Ion-exchangers; based on polymers of headi...	0.5	-Ion-exchangers; based on polymers of heading n...	100.0	
Articles of plastics	16.0	-Plastics; other articles n.e.s. in chapter 39	100.0	

(continued...)

[2]The energy intensity depends on the type of polyamide. According to Beaver et al. (2000), the production of Nylon-6 was 26.7 GJ/tonne and the production of Nylon-6,6 was 39.9 GJ/tonne.

and articles of other

Table 5.5: Products of plastics and their share in the sub-industry

	parameter	std_errors	t-stat
const (r-square=0.0633; NOBS=802; Sm.Est.=1.0231)	-0.08959	0.04583	-1.95484
d5_Ethylene-vinyl acetate copolymers	0.23415	0.08238	2.84247
lag5_ln_intensity	-0.03540	0.01680	-2.10784
const (r-square=0.0548; NOBS=885; Sm.Est.=1.0244)	-0.09395	0.04423	-2.12407
d5_Ethylene polymers; in primary forms, n.e.s.	0.20797	0.09022	2.30503
lag5_ln_intensity	-0.03856	0.01702	-2.26598
const (r-square=0.1289; NOBS=858; Sm.Est.=1.0223)	-0.09762	0.04816	-2.02707
d5_Propylene, other olefin polymers; n.e.s.	0.59861	0.14986	3.99438
lag5_ln_intensity	-0.03997	0.01819	-2.19750
const (r-square=0.0592; NOBS=759; Sm.Est.=1.0206)	-0.09715	0.04474	-2.17157
d5_Styrene-acrylonitrile (SAN) copolymers, in pri..	0.13666	0.06412	2.13132
lag5_ln_intensity	-0.04069	0.01602	-2.53958
const (r-square=0.1248; NOBS=863; Sm.Est.=1.0216)	-0.11522	0.04830	-2.38531
d5_Acrylonitrile-butadiene-styrene (ABS) copolym...	0.28982	0.06028	4.80787
lag5_ln_intensity	-0.04846	0.01856	-2.61027
const (r-square=0.0854; NOBS=711; Sm.Est.=1.0165)	-0.11396	0.05254	-2.16897
d5_Vinyl chloride copolymers, in primary forms	0.14728	0.07434	1.98116
lag5_ln_intensity	-0.04473	0.01886	-2.37171
const (r-square=0.0815; NOBS=687; Sm.Est.=1.0189)	-0.05025	0.04998	-1.00546
d5_Fluoro-polymers, polytetrafluoroethylene	0.22308	0.06957	3.20668
lag5_ln_intensity	-0.02012	0.01912	-1.05251
const (r-square=0.0599; NOBS=655; Sm.Est.=1.0168)	-0.07974	0.05021	-1.58824
d5_Fluoro-polymers (other than polytetrafluoroet...	0.34242	0.17010	2.01303
lag5_ln_intensity	-0.03260	0.01871	-1.74254
const (r-square=0.1061; NOBS=730; Sm.Est.=1.0174)	-0.08135	0.04389	-1.85367
d5_Polyvinyl alcohol; whether or not containing...	0.43859	0.18212	2.40828
lag5_ln_intensity	-0.03058	0.01632	-1.87378
const (r-square=0.1408; NOBS=835; Sm.Est.=1.0221)	-0.09702	0.04413	-2.19848
d5_Vinyl acetate, vinyl ester polymers, vinyl p...	0.73862	0.21812	3.38636
lag5_ln_intensity	-0.03700	0.01641	-2.25386
const (r-square=0.145; NOBS=905; Sm.Est.=1.0232)	-0.11047	0.04378	-2.52322
d5_Acrylic polymers; (other than polymethyl met...	0.87279	0.28901	3.01997
lag5_ln_intensity	-0.04401	0.01680	-2.61881
const (r-square=0.0949; NOBS=827; Sm.Est.=1.0196)	-0.08983	0.04309	-2.08487
d5_Polyacetals; in primary forms	0.34220	0.12270	2.78905

(continued...)

lag5_ln_intensity	-0.03376	0.01570	-2.14980
const (r-square=0.1156; NOBS=896; Sm.Est.=1.0236)	-0.10983	0.04345	-2.52760
d5_Epoxide resins; in primary forms	0.56702	0.21694	2.61370
lag5_ln_intensity	-0.04523	0.01551	-2.91510
const (r-square=0.0964; NOBS=859; Sm.Est.=1.0221)	-0.11195	0.04877	-2.29571
d5_Polycarbonates; in primary forms	0.28763	0.12988	2.21451
lag5_ln_intensity	-0.04766	0.01919	-2.48352
const (r-square=0.0844; NOBS=872; Sm.Est.=1.0231)	-0.12007	0.04714	-2.54741
d5_Alkyd resins; in primary forms	-0.10719	0.02929	-3.66009
lag5_ln_intensity	-0.04833	0.01791	-2.69868
const (r-square=0.1045; NOBS=888; Sm.Est.=1.0243)	-0.12064	0.04959	-2.43276
d5_Polyesters; n.e.s. in heading no. 3907, satu...	0.51301	0.17941	2.85937
lag5_ln_intensity	-0.04868	0.01850	-2.63089
const (r-square=0.1015; NOBS=888; Sm.Est.=1.0249)	-0.11582	0.04472	-2.58994
d5_Polyamides; polyamide-6, -11, -12, -6,6, -6,...	0.47670	0.19069	2.49983
lag5_ln_intensity	-0.04811	0.01782	-2.69956
const (r-square=0.1556; NOBS=896; Sm.Est.=1.0222)	-0.08873	0.04217	-2.10421
d5_Silicones; in primary forms	0.79274	0.27920	2.83934
lag5_ln_intensity	-0.03532	0.01594	-2.21567
const (r-square=0.1628; NOBS=860; Sm.Est.=1.0221)	-0.10502	0.04845	-2.16759
d5_Polysulphides, polysulphones and similar pro...	0.87042	0.28296	3.07607
lag5_ln_intensity	-0.04162	0.01952	-2.13264
const (r-square=0.1896; NOBS=849; Sm.Est.=1.0217)	-0.11051	0.04239	-2.60673
d5_Cellulose ethers; (other than carboxymethylc...	0.83848	0.20946	4.00309
lag5_ln_intensity	-0.04463	0.01653	-2.70006

Table 5.6: The significant panel data regression results of the 6-digit products in the plastic sub-industry [1995-2017]

Polyethylene. With a share of 0.183*21.4%=3.9%, "ethylene polymers in primary forms, n.e.s.", is the sixth most traded products in the total plastics export. The regression results of ethylene polymers exhibit that the development of one unit in the production of ethylene polymers is associated with an increase of 23.7% ($1.0244 * (e^{0.20797} - 1) * 100\%$) while keeping the energy intensity level differences constant. In these results, only 5.5% of the variance in the dependent variable is explained, and the t-stat is at 95% confidence.

The direction explained by trade-specialisation in polyethylene does not seem to fit the literature. According to Beaver et al. (2000), of all the products produced from ethylene, the production of ethylene polymers requires the least processing energy. In the year 2000, the

energy intensity of polyethylene was accounted at 2.7 GJ/tonne (Beaver et al., 2000). However, with the low explained r-square, it is not strange that this result is offbeat.

Acrylonitrile-butadiene-styrene (ABS). ABS has a total export share of 0.301*6.9%=2.1% in the total plastic industry export. The regression results of ABS in table 5.6 shows an explained variance of 12.5% in the dependent variable and a relatively low standard error. The coefficient can be interpreted as: by increasing the RCA in ABS with one unit, the industry's energy intensity tends to increase with 34% ($1.0216 * (e^{0.28982} - 1) * 100\%$), while keeping cross-country level differences in energy intensity constant.

That the direction of change explained by ABS is positive does not come unexpected. According to Cresko and Carpenter (2017), the energy intensity of producing ABS in the US in 2017 was 9.4 GJ/tonne. Compared to other plastics, this energy intensity value is relatively high (See table 5.5).

Polycarbonates. With a share of 0.193*16.2%=3.13%, polycarbonates are amongst the top ten most traded HS-6digit products in the plastics industry. The regression results of polycarbonates show a relatively high standard error compared to other products. As a result, the t-stat is at 95% significance. When a country trade-specialises in polycarbonates, their industry's energy intensity tends to increase by 34.1% (coeff=0.288) while keeping the energy intensity level constant. Polycarbonates explain this change with a variance of 9.6% in the dependent variable. While these results appear to be less promising than other regression results, the positive direction explained by polycarbonates is harmonious with its production energy intensity in the literature. In the US, the energy intensity of polycarbonates was estimated at 15.6 GJ/tonne in 2015 (Brueske et al., 2015).

Polyesters. Saturated polyesters have a 0.151*16.2%=2.44% share in the global export of plastics. An increase of RCA in polyester with one unit is associated with an increase of 68% (coeff=0.513) in the industry's energy intensity. The regression has a relatively low standard error for which the t-stat is in 99% significance region. The variance explained by saturated polyester in the dependent variable is 10.5%.

The regression results of saturated polyesters are in line with the literature. According to Beaver et al. (2000); Brueske et al. (2015), the production of polyester is energy-intensive. In the US, the production of polyesters was estimated to be 28.21 GJ/tonne. To put that energy intensity value into perspective, the worlds best iron-steel plants use 18.2 GJ/tonne of produced steel (Worrell et al., 2007), and the worst 40 GJ/tonne (Blok and Nieuwlaar, 2021). Therefore, the direction of change explained by the regression results of polyester is in line with the literature.

Polyamides. The share of the polyamides in the worldwide plastic industry export is 0.79*4.1%=3.2%. The polyamide regression results show that industries' energy intensity tends to increase by 62.6% (coeff=0.4767) when a country develops a revealed comparative advantage of one unit in the product. The change is explained with an r-square of 10.2%.

The positive explained direction by the regression results of polyamides corresponds to the literature. According to (Beaver et al., 2000), the energy intensity of two commonly produced polyamides: Nylon-6 and Nylon-6,6 is respectively 26.7 GJ/tonne and 39.9 GJ/tonne.

Striking in the results of plastic products is that the direction of change explained by polymers is often right. Even with low explained variance in the dependent variable and a higher standard error, the results correspond with the literature. Only ethylene polymers do not seem to fit the literature, but this is not strange given its relatively low r-square.

5.4 | Pulp & paper industry

The results of this thesis show that the pulp & paper industry is *not* trade-intensive. Around 11.6% of the total value added comes from the export value. On HS-2digit aggregation, the export consists of five products. In respective order of magnitude share of the industry: (1) "Paper and paperboard; articles of paper pulp, ...", (2) "Pulp of wood or other fibrous cellulosic mater...", (3) "Printed books, newspapers, pictures and other ...", (4) "Nuclear reactors, boilers, machinery and mecha...", (5)" Textile fabrics; impregnated, coated, covered .." (See appendix table H.4). The global share of each of these five products in the global export of the pulp & paper industry is respectively 79.3%, 16.9%, 3.2%, 0.56%, and 0.052%.

On a 2-digit level, there are no significant regressions in the pulp&paper industry because of opposing effects in products underneath the aggregation. Therefore, it is necessary to analyse this industry on a lower aggregation level. On the HS-4digit level, no product strictly follows the criteria stated earlier in section 5.2. However, the "chemical wood pulp, soda or sulphate, other than dissolving grades" is close to following the criteria; therefore, it has been decided to examine this product.

HS-2digit label	Export share in sub-industry	HS-4digit label	Export share in sub-industry
Pulp of wood or other fibrous cellulosic mat...	16.9	- Wood pulp, mechanical wood pulp	1.7
		- Chemical wood pulp, dissolving grades	8.7
		- Chemical wood pulp, soda or sulphate, other ...	79.3
		- Chemical wood pulp, sulphite, other than dis...	3.4
		- Semi-chemical wood pulp	4.5

(continued...)

		- Pulps of other fibrous cellulosic material	2.4
Paper and paperboard; articles of paper pulp...	79.3	- Newsprint, in rolls or sheets	7.2
		- Uncoated paper and paperboard, used for writ...	8.6
		- Tissue, towel, napkin stock or similar; for ...	1.9
		- Uncoated kraft paper and paperboard, in roll...	7.7
		- Uncoated paper and paperboard n.e.s., in rol...	4.1
		- Vegetable parchment, greaseproof papers, tra...	0.9
		- Composite paper and paperboard, (made by sti...	0.5
		- Paper and paperboard, corrugated (with or wi...	1.0
		- Carbon paper, self copy paper and the like (...	0.8
		- Paper and paperboard, one or both sides coat...	19.5
		- Paper, paperboard, cellulose wadding and web...	10.1
		- Filter blocks, slabs and plates of paper pulp	0.1
		- Cigarette paper, whether or not cut to size ...	1.2
		- Wallpaper and similar wall coverings; window...	1.1
		- Carbon paper, self-copy paper and other copy...	0.4
		- Envelopes, letter cards, plain postcards and...	0.7
		- Paper towels, toilet paper, tissues, handker...	12.5
		- Cartons, boxes, cases, bags and the like, of...	11.2
		- Registers, account books, diaries and simila...	2.8
		- Paper or paperboard labels of all kinds, whe...	2.7
		- Bobbins, spools, cops and similar supports o...	0.2
		- Paper, paperboard, cellulose wadding and web...	4.6
Printed books, newspapers, pictures and othe...	3.2	- Unused postage, revenue or similar stamps of...	47.8
		- Printed matter, n.e.s., including printed pi...	52.2
Textile fabrics; impregnated, coated, covere..	0.05	- Textile wall coverings	100.0
Nuclear reactors, boilers, machinery and mec...	0.6	- Machinery and apparatus; for type founding o...	100.0

Table 5.7: Products pulp & paper industry

"chemical wood pulp, soda or sulphate, other than dissolving grades" is part of the product group "pulp of wood or other fibrous cellulosic materials" (See table 5.7). The product has a share of 79.3% in the product group that represents 16.9% of the total export of the pulp % paper industry. Therefore, the export of "chemical wood pulp, soda or sulphate, other than dissolving grades" is 13.4% in the worldwide pulp&paper export, making it the second-largest exported product in the industry.

The regression results of "chemical wood pulp, soda or sulphate, other than dissolving grades" explain 12.3% variance in the dependent variable with 95% confidence (See table 5.8). An increase of one unit in the RCA of the product is associated with a rise of the energy intensity of 50% ($1.0314 * (e^{0.39421} - 1) * 100\%$), while keeping cross-country level differences in

energy intensity constant. In appendix table **??**, all the pulp & paper products regressions on HS-6digit can be found.

	parameter	std_errors	t-stat
const (r-square=0.1229; NOBS=911; Sm.Est.=1.0314)	-0.17701	0.07640	-2.31702
d5_ Chemical wood pulp, soda or sulphate, other...	0.39421	0.16250	2.42594
lag5_ln_intensity	-0.06981	0.02880	-2.42428

Table 5.8: Pulp & paper industry 4-digit regressions

The direction of change and large export share described by the results of "chemical wood pulp, soda or sulphate, other than dissolving grades" seem to fit the literature. According to Ayres et al. (2004), of the three methods (i.e. chemical, heat, mechanical) to produce pulp, the chemical method uses the most energy and resources, but also produces the highest quality paper. According to Francis et al. (2002); Worrell et al. (2007), the standard Kraft system that processes wood pulp uses 11.1 GJ/ADt (ADt = air-dried metric tonne of pulp). The Kraft process is linked with the product description of "chemical wood pulp, soda or sulphate, other than dissolving grades" because it produces black liquor as a by-product which contains a mixture of lignin and Na2SO4 (Sodium Sulphate) (Shrotri et al., 2017).

5.5 | Substantiation of findings

One of the main topics in this study was to show whether changes in energy intensity of industries attribute to changes in industry's composition. From the theory of comparative advantage, it was conceptualised that the industry's composition changes with trade specialisation in products. By regressing the changes in the comparative advantage of specific sector products against the energy intensity of industries, it could be shown that composition changes affect the industry's energy intensity. The results of this study support this idea. In general, it was predicted that the energy intensity of industries tend to increase when it develops a comparative advantage in products whose production requires lots of energy, ceteris paribus, and decrease when it develops a comparative advantage in products whose production demands little energy.

Previous decomposition studies conflict with the presented results: it was commonly showed that the effects explained sectoral composition changes were insignificant on industry-level energy intensity (Stern, 2012a; Zhang et al., 2015). However, in this study, while not all of the results were significant, overall, the direction explained by products showed trends that structural changes on sector level are present and explain changes in industries' energy intensity.

The results of the chemical industry showed trends in support of the hypothesis. What made the results of the chemical industry especially compelling is that the differences in energy intensity of industry are associated with downward changes when comparative advantage is developed in pharmaceutical products. In contrast, it is associated with upward changes when the comparative advantage is developed in plastic products that are defined as significant. It is this discrepancy between these two sub-industries that shows that there are composition effects present.

Pharmaceutical products show highly significant results. On all different levels of aggregation, different pharmaceutical products explain negative changes in the energy intensity of industries with a large explained variance in the dependent variable. They explain these changes with a relatively low standard error. The most prominent product is packaged medicaments. An increase in comparative advantage in this product will likely decrease the energy intensity of industries. Although the pharmaceutical industry does not have much literature to verify the results, energy experts say that the energy intensity of the production of pharmaceutical products is relatively low, therefore, confirming the presented results.

Unlike pharmaceutical products, the results of plastic products were not as significant on the surface. However, at lower levels of aggregation, trade-specialisation in nineteen significantly regressed plastic products is associated with an increasing energy intensity of industries. In contrast, only one polymer product explained negative changes in the energy intensity of industries. What made the results of polymers especially compelling was that some of the

regressions could be verified with the detailed production energy intensity values.

Although the results in the pulp&paper industry did not appear to be as promising, there was one product at HS-4digit level that nearly passed all the regression criteria, and the literature also backed that as being energy-intensive. Therefore, if a country trade-specialises in "chemical wood pulp, soda or sulphate", it is associated with an increase in the energy intensity of industries.

While for the examined industries, the direction of change explained by products corresponds to the energy intensity values in the literature, the magnitude of the explained change does not seem to reassemble the literature energy intensity values. However, with only a relatively small variance explained in the dependent variable, it is not unique that there are differing magnitudes.

The presented results in this study show that some products explain inter-country variations in the energy intensity of industries. As these inter-country variations in energy intensity of industries are seen as evidence of energy efficiency potential, these results can help determine where to be more efficient. With the largest production growth in the chemical industry being centred around plastics (IEA, 2018), it is vital to know where and how to save energy with the production of polymers. Although this research does not tell how to save energy, it can tell where countries need to focus their efficiency potential.

Conclusions and Evaluation

Achieved Aims and Objectives

In this thesis, I have illustrated a new approach to explaining changes in the energy intensity of industries based on the theory of comparative advantage and trade flow data of 49 countries around the world. The methodology used shows how a disaggregate approach can recognise inter-country differences in energy intensity of industries that attribute changes in the comparative advantage of products. Since the theory of comparative advantage explains the interdependency of industry's compositions across various nations, it was predicted that trade-specialisation in products would affect the inter-country differences in energy intensity of industries. Given that there is a distinction between energy-intensive and non-energy-intensive produced products, it could be showed that there are composition effects present at different levels of aggregation. The results presented in this thesis support this idea. While not all product results explain the significance or high variance, there are products with a large industry export share that support the hypothesis presented in this thesis.

By presenting each product in an individual regression, their effects could be isolated. From each regression, the variance, significance, and change were interpreted. Because there were too many products to assess on different levels of aggregation, the products with a relatively low r-square, insignificance, or minor share in the total industry export were omitted from the analysis. The results of two sub-industries of the chemical industries were analysed and one of the pulp and paper industries.

In the chemical industry, the results show that, on average, the sector-level energy intensity tends to increase when a country trade-specialises into plastics, ceteris paribus, and decrease when comparative advantage is developed into pharmaceutical products. Moreover, in the pulp & paper industry, trade-specialisation in the production of chemical wood pulp, would

on average, increase the energy intensity of industries.

While it remains uncertain to what degree of the changes explained truly adhere to composition effects, there is a strong suspicion that a significant part of these changes explained by trade specialisation in products on the energy intensity of industries is from composition effects. There is one reason for this suspicion. According to the theory of comparative advantage, a country's industries are interdependent on one another. Therefore, if one country's industry trade-specialises in an energy-intensive product, another country's industry structure might also change. It is this interdependency among different country's industries that shows there are composition effects present.

In theory, it is possible to predict the composition effects explained by products on the differences in energy intensity of industries; however, the means to do so remains uncertain. This is because there are also insignificant products in every industry that explain unobserved changes in the energy intensity of industries. Since the effects of these products cannot be taken into account to estimate composition effects, the prediction remains less accurate. Furthermore, some products have a relatively low r-square. Therefore, while the effect explained by a product might be true in one country, it might not be true for another country, complicating the issue of estimating the composition effects.

Although the achieved objectives belong to the main body of the thesis, the exploratory analysis of the data also gave some interesting findings. What is especially striking is that the most significant growth industries in China are the industries that mainly exploited the comparative advantage relative to the United States. Moreover, other results exhibit that there has been a trend change in GDP per capita versus energy intensity. The change measured in this trend shows flattening behaviour caused by the many developing and low-income countries that catch up with the frontier.

Limitations of study

Of course, there are limitations to this study. Therefore, these limitations are explored and categorised under data stringency and econometrics/statistics limitations in this section. There is also the time limitation, but this is accessed in the evaluation section.

Data stringency

Numerous limitations can be observed in the data that is used. Firstly, over time reporting countries have sometimes delivered inconsistent and differentiating energy data. While the sources such as the IEA tried hard enough to produce consistent, standardised information, it has not always succeeded with many developing and low-income countries (IEA, 2019a). However, with a nearly complete data set of 49 countries, this problem was mostly avoided.

Secondly, as described earlier in chapter 2.1.3, energy consists of different qualities which cannot be aggregated that easily. Therefore, when reporting countries aggregated the different types of energy consumption for every industry, it causes industry comparison problems. However, due to the limited available data, one has to take this limitation for granted.

A third problem with the data that is used is its limited predictability. When a country produces products, it often does so because it needs to fulfil its own economic needs. Therefore, initially, production is not meant for exports. Hence, when the inter-country differences in energy intensity within industries have to be explained, there are limitations on whether this can be done with export data. In addition, this study tried to explain the energy intensity of industries with product-level trade statistics. By having a discrepancy between product-level data explaining industry-level data, there will be unexplained variance. Better would have been to explain the energy intensity on the product level; however, this limitation has to be acknowledged as this data is unavailable.

Fourthly, the range selected for the time-series data consists of a heavy impacting externality of the credit crisis in 2008-2009. This externality has struck economies worldwide and changed the energy intensities of industries to a certain degree due to the bankruptcy of production facilities. As this event has been so impactful, it is hard to correct for it. Hence, it poses a limitation.

Lastly, in this study, there is the problem of conversion and aggregation. When one converges a set of variables, there will be some variables that are left behind. For example, placing HS 2-digit codes under an industry has caused some products to go unrecognised. Furthermore, aggregation of some of the variables caused some explanatory variance to be lost. However, to make the data analysis manageable, aggregation was necessary.

Econometric limitations

When modelling a regression, numerous econometric limitations could explain differences in the results. For example, when two or more completely unrelated variables are trending over time, they will appear to be correlated simply because of mutual directionality (Stern, 2011). To prevent these kinds of problems, an examination of methods and procedures must be checked if assumptions such as homoskedasticity or non-autocorrelation are violated.

While the homoskedasticity and non-autocorrelation assumptions were tested, I was unable to compare different panel regression models, accurately test other assumptions, and look if I can add more control variables. The main reason why these steps were skipped is that there was simply not enough time in this thesis to do all these additional comparisons and testings. Another reason is my partial lack of knowledge on econometric testing and comparing. Nevertheless, by regressing through panel data regression methods, I think many problems were avoided.

Recommendations & policy strategies

Although international trade is a much-debated topic among countries, its use to change energy policy has not been envisioned by many. Trade encourages industries to seek a comparative advantage in their products. Through specialisation, factors like capital and labour move from one product to another. These effects cause structural changes within and between different sectors. Although some scientists have noticed these effects, they have not been concealed in energy policy. With energy policy being concentrated on energy efficiency effects, changes in energy policies might be ineffective because they leave out other mechanisms that can explain the change in the energy intensity of industries. Therefore, it may be considered powerful to include international trade and structural changes into the debate on both a centralised multilateral level and a decentralised industry policy level.

While the inclusion of international trade and structural changes in industrial policy in an individual country might be a simple task, it is quite an assignment to integrate these changes on a multilateral level in the trade agreements. Currently, there are two mechanisms at work at the World Trade Organisation (WTO) (UNEP, 2014). Firstly, there are specific trade obligations that are set out in the Multilateral Environmental Agreements (MEA). These obligations are undefined but often represent the banning or restricting of environmentally damaging products or processes such as CFC gasses (UNEP, 2014).

Secondly, there is the reduction or eradication of trade barriers of environmental goods and services (EGS). This EGS consist of goods & services which have (1) better environmental performance (e.g. LED-bulb), (2) directly address environmental issues, or (3) are produced in

an environmentally preferable way. Although trade liberalisation in EGS has been recognised as a triple win (i.e. for the environment, trade, and economy), there has been a minimal effort in employing these measures (UNEP, 2014). The majority of green industrial policy by EGS that is currently in use is of the first type (focus on efficiency) (UNEP, 2014). However, in the light of the results presented in this thesis, more focus has to shift to the third type. The third type can improve production processes of "clean" non-energy-intensive goods worldwide without causing large offshoring behaviours of energy-intensive products. Since the trade barriers are lifted for non-energy-intensive goods, the relative trade barriers of energy-intensive goods are increased. Therefore, it is more costly to reallocate energy-intensive industries.

In light of the above, it is necessary to properly acknowledge and better harness the potential of trade and the trading systems to contribute to climate action positively (Brandi, 2017). By pleading preferential trade agreements to be more climate-friendly, it can be guaranteed that regional, bilateral, and multilateral agreements should incorporate the differences caused by composition changes in the energy intensity of industries to more accurately direct on efficiency effects of industries. This should prevent the major offshoring of energy-intensive industries from reaching the collaborative goal of global climate change protection.

Once the environmental stringency in trade agreements are in place, change can happen through countries' tools such as subsidies, policy, regulations, and taxes. Although these tools can cause restructuring of industries and offshoring of polluting sectors, the focus should not lie on reorganising to cleaner industries. Instead, the tools should be used to promote cleaner production techniques for both polluting products and cleaner products without causing major structural changes in the industry.

The theories and findings presented in this thesis might help in reorganising the tools that mitigate climate change. With the knowledge of what products have positive effects on the energy intensity of industries, the policy might be adjusted to promote technique effects without causing major offshoring. However, if offshoring happens after policy changes are implemented, countries should encourage the exchange of knowledge, techniques, investments, and resources to support the overall goal of climate change reduction.

Future research

In this research, I was unable to explore the results of every industry because of time limitations. Gaining knowledge in the other industries can give further insights into how much trade-specialisation in products explain changes in the energy intensity of industries.

Furthermore, I have not been able to add additional control variables to the study. With added control variables, the model could have been more accurate to a certain extent. Therefore, it could reassemble a better regression, an enhanced understanding of the problem, and a theoretical improvement in future energy studies.

Variables that need further exploration are the value-added and employment. Unfortunately, there was too little time to explore these variables. For future research, they could improve the models.

For future research, it is essential to recognise the effect of composition and technique for different countries. By identifying the effects to a deeper understanding, policy and trade can be adjusted. What can help to explore these effects and improve the future prediction is to use product-level energy consumption data or increase to an even larger data set (i.e. > 49 countries).

Evaluation

For the evaluation of this thesis project, I have one central question: "What would I have done differently if I started the project all over again?". To answer this question, I start from the beginning. First and foremost, I would have prepared my knowledge to a much larger extent. Before I began this journey, my knowledge of international trade and energy economics was basically zero. Although I usually prepare my projects to a larger extend, I had little time in December 2020 and January 2021 to prepare my thesis because of the 27 ETC I had committed to. Therefore, the preparation was minimal.

Secondly, I would have divided my time differently throughout the project. Although on the data side of the project started prosperous, on the literature side, it lagged. The reason for this was that there was only relatively little literature on the specifics of the topic that I had chosen, but relatively much literature around the topic that I had selected. It was like finding a needle in a haystack.

While the literature research took much time, even more time went into the data handling. So much time even that the actual writing, literature research, and finalising of the thesis were harmed. If I knew beforehand that this much time went into precise data handling, I would have focused on one industry earlier. This would have given me more time to handle other thesis tasks, such as doing literature research about that single industry. Furthermore, the ad-

ditional time could have been used to access and compare the effect increasing the revealed comparative advantage of the kilograms of product traded on the energy intensity of industries.

Thirdly, while data exploration verified the rightness of my data handling, it went past the actual goal. I could have used this time much better to explain the results of the actual regressions than to explore the data as detailed like I did.

Fourthly, if I had planned an actual mid-term meeting, the final thesis results would probably looked much different. The problem was my insecurity. I had not managed to write the thesis until the beginning of June because of the large amount of time I spent on data handling. However, if I had planned a meeting in July, it would have probably not have been that much of a problem.

Lastly, I would have liked to have a follow-up meeting with Peter Mulder. Although the encounter with Peter Mulder was fascinating, I could not schedule a follow-up due to the time limitation at the end of the thesis. A follow-up would probably have elevated the thesis to a higher level. Nevertheless, I am still planning to send him a follow-up on the results.

Al in all, it was an informative experience that I would not quickly forget.

Final Remarks

This thesis research began with the aim of exploring whether trade specialisation in certain products has an effect on inter-country differences in the energy intensity of industries. The major finding of the research shows that trade specialisation in energy-intensive products explains positive (upward) inter-country changes in the energy intensity of industries. This is a highly significant contribution to the empirical knowledge because it means that within industries, trade-specialisation shifts among products imply composition effects are present. By acknowledging that composition effects are present, policy and trade agreements can take those effects into account. As a result, decision-makers take an evidence-based stance in which they consider the consequences of their choices.

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Appendix A

Derivation of RCA

$$
\begin{aligned}
RCA &= \frac{X_A/(X_A+Y_A)}{(X_A+X_B)/((X_A+Y_A)+(X_B+Y_B))} \\
&= \frac{X_A*((X_A+Y_A)+(X_B+Y_B))}{(X_A+Y_A)*(X_A+X_B)} \\
&= \frac{X_A^2+X_A*Y_A+X_A*X_B+X_A*Y_B}{X_A^2+X_A*Y_A+X_A*X_B+X_B*Y_A} \\
&= \frac{X_A*Y_B}{X_B*Y_A}
\end{aligned}
$$

APPENDIX B

Energy balance

The appendix shows a typical energy balance and the selected data therefrom.

Germany

2017

Million tonnes of oil equivalent

SUPPLY AND CONSUMPTION	Coal	Crude oil*	Oil products	Natural gas	Nuclear	Hydro	Geotherm./ Solar/ etc.	Biofuels/ Waste	Electricity	Heat	Total
Production	39.44	3.53	-	6.03	19.89	1.73	13.41	30.92	-	-	114.95
Imports	33.80	92.12	41.77	95.74	-	-	-	2.04	2.39	-	267.87
Exports	-1.50	-	-23.42	-26.90	-	-	-	-1.95	-6.90	-0.00	-60.68
Intl. marine bunkers	-	-	-2.27	-	-	-	-	-	-	-	-2.27
Intl. aviation bunkers	-	-	-9.57	-	-	-	-	-	-	-	-9.57
Stock changes	-0.33	0.25	0.55	0.47	-	-	-	-	-	-	0.94
TPES	**71.41**	**95.90**	**7.06**	**75.34**	**19.89**	**1.73**	**13.41**	**31.01**	**-4.51**	**-0.00**	**311.25**
Transfers	-	3.31	-2.56	-	-	-	-	-	-	-	0.76
Statistical differences	-0.53	-0.01	-0.61	-0.30	-	-	-	-0.00	-	-	-1.46
Electricity plants	-48.92	-	-0.83	-3.45	-19.89	-1.73	-12.62	-5.07	44.25	-	-48.24
CHP plants	-6.88	-	-0.42	-12.67	-	-	-	-8.77	11.44	8.13	-9.16
Heat plants	-0.34	-	-0.12	-2.19	-	-	-0.03	-1.40	-	3.09	-0.99
Blast furnaces	-5.63	-	-0.03	-	-	-	-	-	-	-	-5.65
Gas works	-	-	-	-	-	-	-	-	-	-	-
Coke/pat. fuel/BKB/PB plants	-0.56	-	-0.40	-	-	-	-	-	-	-	-0.96
Oil refineries	-	-105.33	103.79	-	-	-	-	-	-	-	-1.54
Petrochemical plants	-	6.12	-6.30	-	-	-	-	-	-	-	-0.18
Liquefaction plants	-	-	-	-	-	-	-	-	-	-	-
Other transformation	-	-	-	-	-	-	-	-0.01	-	-	-0.01
Energy industry own use	-0.83	-	-5.48	-1.37	-	-	-	-0.54	-4.24	-0.34	-12.80
Losses	-0.56	-	-	-	-	-	-	-0.07	-2.32	-1.07	-4.03
TFC	**7.16**	**-**	**94.11**	**55.35**	**-**	**-**	**0.76**	**15.17**	**44.62**	**9.81**	**226.98**
INDUSTRY	**6.22**	**-**	**2.16**	**20.36**	**-**	**-**	**-**	**3.89**	**19.61**	**4.11**	**56.36**
Iron and steel	3.03	-	0.03	2.24	-	-	-	0.00	2.30	0.03	7.63
Chemical and petrochemical	0.89	-	1.10	5.87	-	-	-	0.32	4.66	2.37	15.20
Non-ferrous metals	0.03	-	0.06	0.83	-	-	-	0.01	1.40	0.02	2.35
Non-metallic minerals	1.42	-	0.33	2.54	-	-	-	1.30	1.10	0.02	6.71
Transport equipment	0.22	-	0.04	0.93	-	-	-	0.01	1.53	0.30	3.03
Machinery	0.05	-	0.23	1.80	-	-	-	0.04	2.92	0.26	5.30
Mining and quarrying	0.06	-	0.03	0.10	-	-	-	0.01	0.15	0.00	0.36
Food and tobacco	0.21	-	0.15	2.82	-	-	-	0.06	1.60	0.26	5.10
Paper, pulp and printing	0.31	-	0.04	2.08	-	-	-	0.80	1.84	0.62	5.69
Wood and wood products	-	-	0.02	0.14	-	-	-	1.24	0.41	0.06	1.87
Construction	-	-	-	-	-	-	-	-	-	-	-
Textile and leather	0.00	-	0.02	0.24	-	-	-	0.00	0.19	0.02	0.47
Non-specified	0.00	-	0.11	0.76	-	-	-	0.11	1.52	0.15	2.65
TRANSPORT	**-**	**-**	**53.61**	**0.46**	**-**	**-**	**-**	**2.60**	**1.03**	**-**	**57.70**
Domestic aviation	-	-	0.68	-	-	-	-	-	-	-	0.68
Road	-	-	52.29	0.14	-	-	-	2.59	0.01	-	55.03
Rail	-	-	0.27	-	-	-	-	0.01	1.01	-	1.30
Pipeline transport	-	-	-	0.31	-	-	-	-	-	-	0.31
Domestic navigation	-	-	0.24	-	-	-	-	-	-	-	0.24
Non-specified	-	-	0.14	-	-	-	-	-	-	-	0.14
OTHER	**0.52**	**-**	**18.36**	**31.95**	**-**	**-**	**0.76**	**8.68**	**23.98**	**5.70**	**89.95**
Residential	0.50	-	11.30	21.60	-	-	0.67	5.99	11.02	4.43	55.52
Comm. and public services	0.02	-	6.97	10.36	-	-	0.09	2.69	12.96	1.27	34.35
Agriculture/forestry	-	-	-	-	-	-	-	-	-	-	-
Fishing	-	-	-	-	-	-	-	-	-	-	-
Non-specified	-	-	0.09	-	-	-	-	-	-	-	0.09
NON-ENERGY USE	**0.42**	**-**	**19.97**	**2.58**	**-**	**-**	**-**	**-**	**-**	**-**	**22.98**
in industry/transf./energy	0.42	-	19.65	2.58	-	-	-	-	-	-	22.65
of which: chem./petrochem.	*0.02*	-	*16.12*	2.58	-	-	-	-	-	-	*18.72*
in transport	-	-	0.32	-	-	-	-	-	-	-	0.32
in other	-	-	0.01	-	-	-	-	-	-	-	0.01
Electricity and Heat Output											
Electr. generated - TWh	**252.82**	**-**	**5.57**	**87.69**	**76.32**	**20.15**	**146.96**	**58.22**	**-**	**-**	**647.73**
Electricity plants	228.02	-	3.12	21.01	76.32	20.15	146.06	19.98	-	-	514.66
CHP plants	24.80	-	2.46	66.67	-	-	0.90	38.24	-	-	133.07
Heat generated - PJ	**131.46**	**-**	**4.56**	**219.45**	**-**	**-**	**8.14**	**106.19**	**-**	**-**	**469.80**
CHP plants	120.76	-	0.86	144.55	-	-	4.92	69.18	-	-	340.27
Heat plants	10.70	-	3.70	74.90	-	-	3.22	37.01	-	-	129.54

1. Includes crude oil, NGL, refinery feedstocks, additives and other hydrocarbons.

Figure B.1: Typical energy balance of Germany in 2017 (IEA, 2019b)

APPENDIX C

Conversion and matching

C.1 | Country matching

MATCHING COUNTRIES LIST	COUNTRIES
MATCHING COUNTRIES IN ALL FOUR DATABASES → 117 COUNTRIES	ALGERIA ; ARGENTINA ; AUSTRALIA ; AUSTRIA ; BAHRAIN ; BANGLADESH ; ARMENIA ; BELGIUM-LUXEMBOURG ; BOLIVIA (PLURINATIONAL STATE OF) ; BOSNIA HERZEGOVINA ; BRAZIL ; BRUNEI DARUSSALAM ; BULGARIA ; MYANMAR ; BELARUS ; CAMBODIA ; CAMEROON ; CANADA ; SRI LANKA ; CHILE ; CHINA ; COLOMBIA ; CONGO ; COSTA RICA ; CROATIA ; CYPRUS ; CZECHIA ; DENMARK ; ECUADOR ; EL SALVADOR ; ETHIOPIA ; ESTONIA ; FINLAND ; FRANCE ; GABON ; GEORGIA ; STATE OF PALESTINE ; GERMANY ; GHANA ; GREECE ; GUATEMALA ; HAITI ; HONDURAS ; CHINA-HONG KONG SAR ; HUNGARY ; ICELAND ; INDONESIA ; IRAN ; IRAQ ; IRELAND ; ISRAEL ; ITALY ; JAPAN ; KAZAKHSTAN ; JORDAN ; KENYA ; REP. OF KOREA ; KUWAIT ; KYRGYZSTAN ; LAO PEOPLE'S DEM. REP. ; LEBANON ; LATVIA ; LITHUANIA ; MADAGASCAR ; MALAYSIA ; MALTA ; MAURITIUS ; MEXICO ; REP. OF MOLDOVA ; MONTENEGRO ; MOROCCO ; MOZAMBIQUE ; OMAN ; NEPAL ; NETHERLANDS ; NEW ZEALAND ; NIGER ; NIGERIA ; NORWAY ; PAKISTAN ; PARAGUAY ; PERU ; PHILIPPINES ; POLAND ; PORTUGAL ; QATAR ; ROMANIA ; RUSSIAN FEDERATION ; SAUDI ARABIA ; SENEGAL ; INDIA ; SINGAPORE ; SLOVAKIA ; VIET NAM ; SLOVENIA ; SO. AFRICAN CUSTOMS UNION ; ZIMBABWE ; SPAIN ; SURINAME ; SWEDEN ; SWITZERLAND ; SYRIA ; TAJIKISTAN ; THAILAND ; TRINIDAD AND TOBAGO ; UNITED ARAB EMIRATES ; TUNISIA ; TURKEY ; UKRAINE ; EGYPT ; UNITED KINGDOM ; UNITED REP. OF TANZANIA ; USA ; URUGUAY ; UZBEKISTAN ; VENEZUELA ; YEMEN ;

Figure C.1: Lists of countries that match in all data sources

NOT SIMILAR DATABASES	COUNTRIES
IN IEA DATASET BUT NO MATCH WITH ONE OF THE OTHER DATABASES → 69 DATASETS	AFRICA ; AFRICA TOTAL ; ALBANIA ; AMERICA ; ANGOLA ; ASIA ; ASIA TOTAL ; AZERBAIJAN ; BOTSWANA ; BENIN ; DEM. REP. OF THE CONGO ; CÔTE D'IVOIRE ; CUBA ; DOMINICAN REP. ; EU27 ; EU28 ; EQUATORIAL GUINEA ; ERITREA ; EUROPE ; FORMER SOVIET UNION ; POST-SOVIET STATES ; FORMER YUGOSLAVIA ; G20 ; G7 ; G8 ; GREENLAND ; GUYANA ; GIBRALTAR ; IEA FAMILY ; IEA TOTAL ; JAMAICA ; DEM. PEOPLE'S REP. OF KOREA ; KOSOVO ; LIBYA ; NON-OECD AMERICAS ; LUXEMBOURG ; MASEAN ; MALI ; MIDDLE EAST ; MONGOLIA ; NICARAGUA ; NON-OECD TOTAL ; NON-OECD EUROPE AND ASIA ; NORTH-AMERICA ; OCEANIA ; OECD AMERICAS ; OECD ASIA OCEANIA ; OECD EUROPE ; OPEC ; OTHER AFRICA ; OTHER ASIA ; OTHER LATIN AMERICA ; OECD TOTAL ; PANAMA ; SERBIA ; SOUTH SUDAN ; SUDAN ; FMR SUDAN ; TAIWAN ; TOGO ; TURKMENISTAN ; UGANDA ; WORLD ; WORLD AVIATION BUNKERS ; WORLD MARINE BUNKERS ; ZAMBIA ;
IN BACI DATASET BUT NO MATCH WITH ONE OF THE OTHER DATABASES → 102 COUNTRIES	AFGHANISTAN ; ALBANIA ; AMERICAN SAMOA ; ANDORRA ; ANGOLA ; ANTIGUA AND BARBUDA ; AZERBAIJAN ; BAHAMAS ; BARBADOS ; BERMUDA ; BHUTAN ; BELIZE ; BR. INDIAN OCEAN TERR. ; SOLOMON ISDS ; BR. VIRGIN ISDS ; BURUNDI ; CABO VERDE ; CAYMAN ISDS ; CENTRAL AFRICAN REP. ; CHAD ; CHRISTMAS ISDS ; COCOS ISDS ; COMOROS ; DEM. REP. OF THE CONGO ; COOK ISDS ; CUBA ; BENIN ; DOMINICA ; DOMINICAN REP. ; EQUATORIAL GUINEA ; ERITREA ; FALKLAND ISDS (MALVINAS) ; FIJI ; FRENCH POLYNESIA ; FR. SOUTH ANTARCTIC TERR. ; DJIBOUTI ; GAMBIA ; GIBRALTAR ; KIRIBATI ; GREENLAND ; GRENADA ; GUAM ; GUINEA ; GUYANA ; JAMAICA ; DEM. PEOPLE'S REP. OF KOREA ; LIBERIA ; LIBYA ; CHINA-MACAO SAR ; MALAWI ; MALDIVES ; MALI ; MAURITANIA ; MONGOLIA ; MONTSERRAT ; NAURU ; NETH. ANTILLES ; ARUBA ; SAINT MAARTEN ; BONAIRE ; NEW CALEDONIA ; VANUATU ; NICARAGUA ; NIUE ; NORFOLK ISDS ; N. MARIANA ISDS ; FS MICRONESIA ; MARSHALL ISDS ; PALAU ; PANAMA ; PAPUA NEW GUINEA ; PITCAIRN ; GUINEA-BISSAU ; TIMOR-LESTE ; RWANDA ; SAINT HELENA ; SAINT KITTS AND NEVIS ; ANGUILLA ; SAINT LUCIA ; SAINT PIERRE AND MIQUELON ; SAINT VINCENT AND THE GRENADINES ; SAN MARINO ; SAO TOME AND PRINCIPE ; SERBIA ; SEYCHELLES ; SIERRA LEONE ; SOMALIA ; SOUTH SUDAN ; SUDAN ; FMR SUDAN ; TOGO ; TOKELAU ; TONGA ; TURKMENISTAN ; TURKS AND CAICOS ISDS ; TUVALU ; UGANDA ; TFYR OF MACEDONIA ; BURKINA FASO ; WALLIS AND FUTUNA ISDS ; SAMOA ; SERBIA AND MONTENEGRO ;
IN INDSTAT2 DATASET BUT NO MATCH WITH ONE OF THE OTHER DATABASES → 47 COUNTRIES	AFGHANISTAN ; ALBANIA ; ANGOLA ; AZERBAIJAN ; BAHAMAS ; BARBADOS ; BERMUDA ; BELIZE ; BURUNDI ; BOTSWANA ; BURKINA FASO ; CABO VERDE ; CENTRAL AFRICAN REP. ; COOK ISDS ; CUBA ; CURACAU ; BENIN ; DOMINICAN REP. ; ERITREA ; FIJI ; GAMBIA ; IVORY COAST ; JAMAICA ; LESOTHO ; LIBERIA ; LIBYA ; LIECHENSTEIN ; LUXEMBOURG ; CHINA-MACAO SAR ; NAMIBIA ; MALAWI ; MALDIVES ; MONGOLIA ; PEURTO RICO ; ARUBA ; NICARAGUA ; PAPUA NEW GUINEA ; RWANDA ; SAINT LUCIA ; SERBIA ; SOMALIA ; SWAZILAND ; TONGA ; TAIWAN ; UGANDA ; TFYR OF MACEDONIA ; ZAMBIA ;
IN PENN WORLD DATA BUT NO MATCH WITH ONE OF THE OTHER DATABASES → 58 COUNTRIES	ALBANIA ; ANGOLA ; AZERBAIJAN ; BAHAMAS ; BARBADOS ; BERMUDA ; BHUTAN ; BELIZE ; BR. VIRGIN ISDS ; BURUNDI ; CABO VERDE ; CAYMAN ISDS ; CENTRAL AFRICAN REP. ; CHAD ; COMOROS ; DEM. REP. OF THE CONGO ; BENIN ; DOMINICA ; DOMINICAN REP. ; EQUATORIAL GUINEA ; FIJI ; DJIBOUTI ; GAMBIA ; GRENADA ; GUINEA ; GUYANA ; JAMAICA ; LIBERIA ; CHINA-MACAO SAR ; MALAWI ; MALDIVES ; MALI ; MAURITANIA ; MONGOLIA ; MONTSERRAT ; ARUBA ; SAINT MAARTEN ; NICARAGUA ; PANAMA ; GUINEA-BISSAU ; RWANDA ; SAINT KITTS AND NEVIS ; ANGUILLA ; SAINT LUCIA ; SAINT VINCENT AND THE GRENADINES ; SAO TOME AND PRINCIPE ; SERBIA ; SEYCHELLES ; SIERRA LEONE ; SUDAN ; FMR SUDAN ; TOGO ; TURKMENISTAN ; TURKS AND CAICOS ISDS ; UGANDA ; TFYR OF MACEDONIA ; BURKINA FASO ; ZAMBIA ;

Figure C.2: Lists of countries that do *not* match with either one of the data sources

C.2 | ISIC classification table per industry

Industry	ISIC rev.3	ISIC rev. 4
IRON-STEEL	27	241T31
NON-FERROUS	27	242T32
MACHINE	28, 29, 30, 31, 32, 33	25X, 252, 26, 261, 262, 263, 264, 265, 266, 267, 268, 27, 28
CHEMICAL	24	20, 21
NON-METALLURGIC	26	23
TRANSEQ	34, 35	29, 30, 301, 303, 304, 302A9
FOODPRO	15, 16	10, 11, 12
PAPERPRO	21, 22	17, 18, 181
WOODPRO	20	16
TEXTILES	17, 18, 19	13, 14, 15
INONSPEC	26, 36	22, 31, 32, 32X, 325

Figure C.3: Concordance code list in ISIC rev. 3 from (UNIDO, 2021) merged with the classification table for every industry in ISIC rev. 4 (IEA, 2019b).

APPENDIX D

Missing values

AMOUNT OF MISSING INDUSTRIES	COUNTRIES : COUNT OF INDUSTRIES
INDUSTRIES MISSING PER COUNTRY → 68 COUNTRIES	REP. OF MOLDOVA : 5 ; QATAR : 6 ; IRAN : 7 ; JORDAN : 7 ; KENYA : 7 ; MOROCCO : 7 ; BAHRAIN : 8 ; EGYPT : 8 ; KUWAIT : 8 ; OMAN : 8 ; PERU : 8 ; SINGAPORE : 8 ; ECUADOR : 9 ; KYRGYZSTAN : 9 ; MALTA : 9 ; MAURITIUS : 9 ; MALAYSIA : 9 ; SO. AFRICAN CUSTOMS UNION : 9 ; UNITED ARAB EMIRATES : 10 ; MONTENEGRO : 10 ; ARGENTINA : 10 ; BANGLADESH : 10 ; BOSNIA HERZEGOVINA : 10 ; BELARUS : 10 ; BOLIVIA (PLURINATIONAL STATE OF) : 10 ; BRUNEI DARUSSALAM : 10 ; CHILE : 10 ; CAMEROON : 10 ; CONGO : 10 ; ALGERIA : 10 ; ETHIOPIA : 10 ; GABON : 10 ; GEORGIA : 10 ; GHANA : 10 ; GUATEMALA : 10 ; CHINA-HONG KONG SAR : 10 ; HONDURAS : 10 ; HAITI : 10 ; IRAQ : 10 ; ICELAND : 10 ; CAMBODIA : 10 ; LAO PEOPLE'S DEM. REP. : 10 ; LEBANON : 10 ; SRI LANKA : 10 ; MADAGASCAR : 10 ; MYANMAR : 10 ; MOZAMBIQUE : 10 ; NIGER : 10 ; NIGERIA : 10 ; NEPAL : 10 ; PAKISTAN : 10 ; PARAGUAY : 10 ; STATE OF PALESTINE : 10 ; SAUDI ARABIA : 10 ; SENEGAL : 10 ; EL SALVADOR : 10 ; SURINAME : 10 ; SYRIA : 10 ; TAJIKISTAN : 10 ; TRINIDAD AND TOBAGO : 10 ; TUNISIA : 10 ; UNITED REP. OF TANZANIA : 10 ; VENEZUELA : 10 ; URUGUAY : 10 ; UZBEKISTAN : 10 ; VIET NAM : 10 ; YEMEN : 10 ; ZIMBABWE : 10 ;

Figure D.1: Abandoning country list that contain four or more missing industries (often all years are missing in each industry)

AMOUNT OF MISSING INDUSTRIES	**COUNTRY : [INDUSTRY] : (YEARS MISSING)**
INDUSTRIES MISSING PER COUNTRY → 23 COUNTRIES	ARMENIA : [TRANSEQ] (20) ; COLOMBIA : [TRANSEQ] (16) ; UNITED KINGDOM : [WOODPRO] (5) ; CROATIA : [TRANSEQ] (11) ; IRELAND : [CHEMICAL] (3) ; NORWAY : [CHEMICAL] (2) ; NEW ZEALAND : [TEXTILES] (8) ; PHILIPPINES : [TRANSEQ] (3) ; PORTUGAL : [CHEMICAL] (2) ; ROMANIA : [TRANSEQ] (4) ; RUSSIAN FEDERATION : [TRANSEQ] (10) ; THAILAND : [TRANSEQ] (23) ; SLOVENIA : [CHEMCAL] (3) ; AUSTRALIA : [TRANSEQ] (16) & [INONSPEC] (6) ; CYPRUS : [CHEMCAL] (3) & [METALSTL] (10) ; INDIA : [TRANSEQ] (13) & [WOODPRO] (13) ; ISRAEL : [CHEMCAL] (7) & [NONMET] (4) ; MEXICO : [TEXTILES] (14) & [WOORDPO] (8) ; BRAZIL : [MACHINE] (23) & [TRANSEQ] (23) & [WOORDPO] (23) ; INDONESIA : [PAPERPRO] (5) & [TRANSEQ] (23) & [WOORDPO] (23) ; CANADA : [FOODPRO] (10) & [MACHINE] (10) & [TRANSEQ] (10) & [TEXTILES] (10) ; SWITZERLAND : [CHEMICAL] (3) & [WOODPRO] (19) & [NONMET] (3) & [TRANSEQ] (23); COSTA RICA : [MACHINE] (22) & [METALSTL] (23) & [NONMET] (6) & [TRANSEQ] (23);

Figure D.2: Countries in the final data set that have missing values.

APPENDIX E

Summary statistics

E.1 | Summary statistics tables not included in the text

	count	mean	std	min	25%	50%	75%	max
METALSTL	2243.0	104721.8	511148.2	5.0	1927.0	9533.0	60403.0	6156554.0
MACHINE	2388.0	506626.6	2118574.5	18.0	8385.2	56799.0	259317.2	28041098.0
CHEMICAL	2314.0	131896.8	622574.7	7.0	3972.5	17962.5	68622.0	7742250.0
NONMET	2383.0	110987.9	532941.5	24.0	5223.5	16026.0	62561.0	8085000.0
TRANSEQ	2220.0	153172.8	515389.9	2.0	1479.5	12708.5	100334.8	6561700.0
FOODPRO	2395.0	242448.9	663774.1	65.0	17765.0	56786.0	173812.0	7951376.0
PAPERPRO	2405.0	88115.4	279424.4	19.0	3357.0	15040.0	56605.0	3057700.0
WOODPRO	2352.0	45959.2	131016.2	5.0	1904.2	10544.0	36632.5	1533872.0
TEXTILES	2404.0	272243.8	1194299.2	13.0	10986.5	32703.0	153188.5	15840700.0
INONSPEC	2368.0	172152.6	592386.4	9.0	6788.5	26152.5	110185.2	7307886.0

Table E.1: Summary statistics of employment per industry of 164 countries [1995-2017]

	count	mean	std	min	25%	50%	75%	max
METALSTL	2.16e+03	5.77e+09	2.87e+10	-9.13e+07	6.53e+07	4.40e+08	2.72e+09	5.09e+11
MACHINE	2.29e+03	2.46e+10	8.98e+10	-5.84e+07	1.15e+08	1.30e+09	1.11e+10	1.00e+12
CHEMICAL	2.19e+03	1.06e+10	3.98e+10	-1.64e+08	9.99e+07	9.21e+08	6.06e+09	4.08e+11
NONMET	2.27e+03	3.41e+09	1.17e+10	-2.16e+04	1.05e+08	5.36e+08	2.17e+09	1.78e+11
TRANSEQ	2.13e+03	9.76e+09	3.47e+10	-9.88e+07	2.37e+07	4.23e+08	4.04e+09	3.50e+11
FOODPRO	2.32e+03	1.13e+10	3.93e+10	-7.68e+08	3.39e+08	1.84e+09	6.27e+09	4.21e+11
PAPERPRO	2.30e+03	4.71e+09	1.71e+10	-3.06e+05	5.57e+07	3.69e+08	2.50e+09	2.08e+11
WOODPRO	2.25e+03	1.39e+09	4.48e+09	1.50e+03	2.11e+07	1.49e+08	9.48e+08	4.71e+10
TEXTILES	2.33e+03	3.96e+09	1.93e+10	1.80e+04	9.75e+07	4.69e+08	1.91e+09	3.56e+11
INONSPEC	2.32e+03	6.18e+09	2.29e+10	-4.86e+06	8.15e+07	5.34e+08	3.09e+09	2.57e+11

Table E.2: Summary statistics of value added of 164 countries [1995-2017] (UNIDO, 2020)

	count	mean	std	min	25%	50%	75%	max
Output-side real GDP (mil. 2017US$)	1.04e+04	9.34e+15	2.80e+17	9.38e-05	3.55e+02	5.83e+03	8.53e+04	1.27e+19
Population (mil.)	1.04e+04	3.10e+01	1.16e+02	4.43e-03	1.58e+00	6.15e+00	1.99e+01	1.43e+03
GDP per capita (mil. 2017US$)	1.04e+04	1.75e+14	4.90e+15	3.29e-06	9.81e+01	2.36e+03	1.75e+04	2.26e+17

Table E.3: Summary statistics of Penn World Tables variables 175 countries [1995-2017]

E.2 | Summary statistics for the final 49 countries

	count	mean	std	min	25%	50%	75%	max
METALSTL	1.13e+03	1.18e+07	1.69e+07	1.16e+02	1.02e+06	5.05e+06	1.51e+07	1.31e+08
MACHINE	1.13e+03	5.38e+07	1.22e+08	1.23e+03	3.24e+06	1.57e+07	4.59e+07	1.35e+09
CHEMICAL	1.13e+03	2.27e+07	3.76e+07	6.58e+02	1.79e+06	6.11e+06	2.51e+07	2.25e+08
NONMET	1.13e+03	2.18e+06	4.14e+06	6.33e+01	2.97e+05	7.61e+05	2.46e+06	4.27e+07
TRANSEQ	1.13e+03	2.66e+07	5.07e+07	1.75e+02	1.04e+06	4.83e+06	2.58e+07	3.48e+08
FOODPRO	1.13e+03	1.08e+07	1.46e+07	5.56e+02	1.42e+06	4.39e+06	1.43e+07	8.72e+07
PAPERPRO	1.13e+03	3.10e+06	4.67e+06	2.41e+00	2.52e+05	1.09e+06	3.73e+06	2.48e+07
WOODPRO	1.13e+03	1.45e+06	2.23e+06	4.22e+01	2.21e+05	5.90e+05	1.64e+06	1.47e+07
TEXTILES	1.13e+03	1.04e+07	3.26e+07	1.99e+03	9.43e+05	2.82e+06	9.00e+06	3.49e+08
INONSPEC	1.13e+03	1.14e+07	2.43e+07	6.34e+01	9.31e+05	3.66e+06	1.25e+07	2.56e+08

Table E.4: Summary statistics of industry export value in 10^3 US$ of 49 countries [1995-2017]

	count	mean	std	min	25%	50%	75%	max
METALSTL	1.13e+03	9.13e+06	1.32e+07	8.05e+01	8.56e+05	4.26e+06	1.26e+07	1.18e+08
MACHINE	1.13e+03	4.05e+06	8.92e+06	1.47e+02	4.33e+05	1.39e+06	4.11e+06	1.01e+08
CHEMICAL	1.13e+03	1.21e+07	1.67e+07	8.70e+01	2.01e+06	4.94e+06	1.46e+07	9.14e+07
NONMET	1.13e+03	4.91e+06	9.10e+06	1.53e+01	8.63e+05	2.33e+06	6.06e+06	1.86e+08
TRANSEQ	1.13e+03	3.06e+06	5.45e+06	5.15e+00	1.86e+05	8.73e+05	3.23e+06	3.58e+07
FOODPRO	1.13e+03	1.58e+07	6.48e+07	9.31e+01	1.42e+06	3.05e+06	1.14e+07	8.13e+08
PAPERPRO	1.13e+03	3.08e+06	4.90e+06	2.81e+00	1.87e+05	1.09e+06	3.58e+06	2.66e+07
WOODPRO	1.13e+03	2.82e+06	4.51e+06	8.50e+01	3.42e+05	1.13e+06	3.68e+06	3.87e+07
TEXTILES	1.13e+03	9.28e+05	2.96e+06	7.81e+01	8.12e+04	2.16e+05	7.63e+05	3.23e+07
INONSPEC	1.13e+03	1.94e+06	4.75e+06	6.76e+00	1.95e+05	6.85e+05	2.05e+06	6.49e+07

Table E.5: Summary statistics of industry export quantity in metric tons of 49 countries [1995-2017]

	count	mean	std	min	25%	50%	75%	max
METALSTL	1094.000	0.224	0.835	0.001	0.074	0.128	0.235	19.418
MACHINE	1072.000	0.018	0.039	0.000	0.006	0.010	0.016	0.555
CHEMICAL	1103.000	0.120	0.122	0.004	0.045	0.079	0.147	0.955
NONMET	1114.000	0.203	0.128	0.003	0.126	0.178	0.245	1.048
TRANSEQ	888.000	0.022	0.078	0.000	0.006	0.010	0.017	1.238
FOODPRO	1114.000	0.033	0.021	0.000	0.019	0.028	0.041	0.176
PAPERPRO	1122.000	0.089	0.092	0.001	0.032	0.062	0.104	0.695
WOODPRO	1034.000	0.069	0.128	0.000	0.026	0.046	0.070	1.849
TEXTILES	1095.000	0.033	0.026	0.000	0.018	0.028	0.041	0.260
INONSPEC	1121.000	0.474	2.425	0.001	0.025	0.057	0.152	38.093

Table E.6: Summary statistics of the energy intensity market exchange rate adjusted (kToe / Mil. mxr adj. USD) per industry of 49 countries [1995-2017]

	count	mean	std	min	25%	50%	75%	max
METALSTL	1094.000	121.297	127.302	0.116	23.388	90.526	165.520	668.697
MACHINE	1072.000	31.152	27.034	0.096	9.204	25.233	48.809	158.785
CHEMICAL	1122.000	95.370	90.651	0.969	31.501	72.369	129.956	503.419
NONMET	1117.000	72.417	48.315	0.528	40.284	65.577	99.901	370.303
TRANSEQ	899.000	12.837	11.940	0.002	3.571	8.439	19.012	62.277
FOODPRO	1117.000	56.772	36.965	0.010	32.010	51.074	71.574	209.637
PAPERPRO	1122.000	83.379	186.220	0.081	6.866	31.330	63.261	1351.831
WOODPRO	1036.000	19.466	27.932	0.012	3.095	8.976	24.367	238.242
TEXTILES	1103.000	12.893	12.361	0.030	4.797	9.151	16.959	89.285
INONSPEC	1121.000	77.334	110.678	0.380	19.015	39.143	86.338	905.421

Table E.7: Summary statistics of total energy use per capita (kToe / Mil. people) for each industry for a total of 49 countries [1995-2017]

Appendix F

Data exploration

F.1 | Country Statistics

The tables below show the top five products traded in China and the United States based on value, quantity, and RCA in the period 2015-2017. The arithmetic mean is taken over this three year period to prevent yearly distortions. The products are aggregated to HS-2digit. The value total is in $x10^3$ current US dollars and the quantity total is in metric tons.

F.1.1 | China

label	industry	value_total	quantity_total	rca
Electrical machinery and equipment and parts th...	MACHINE	5.49e+08	10120.95	1.38
Nuclear reactors, boilers, machinery and mechan...	MACHINE	3.90e+08	37640.91	0.86
Apparel and clothing accessories; not knitted o...	TEXTILES	7.67e+07	3658.44	0.98
Apparel and clothing accessories; knitted or cr...	TEXTILES	7.44e+07	1610.76	0.97
Vehicles; other than railway or tramway rolling...	TRANSEQ	6.03e+07	118322.99	0.96

Table F.1: Top five products traded in the China based on **value**.

label	industry	value_total	quantity_total	rca
Iron and steel	METALSTL	5.09e+07	606819.71	0.99
Vehicles; other than railway or tramway rolling...	TRANSEQ	6.03e+07	118322.99	0.96
Fertilizers	CHEMICAL	1.08e+07	66630.70	2.06
Railway, tramway locomotives, rolling-stock and...	TRANSEQ	6.41e+06	43450.88	3.92
Nuclear reactors, boilers, machinery and mechan...	MACHINE	3.90e+08	37640.91	0.86

Table F.2: Top five products traded in the China based on **quantity**.

label	industry	value_total	quantity_total	rca
Vegetables and certain roots and tubers; edible	FOODPRO	2.65e+06	2507.61	6.37
Animal originated products; not elsewhere speci...	FOODPRO	1.61e+06	86.47	5.19
Manufactures of straw, esparto or other plaitin...	WOODPRO	1.17e+06	37.08	4.76
Metals; n.e.s., cermets and articles thereof	METALSTL	3.43e+06	1429.34	4.62
Railway, tramway locomotives, rolling-stock and...	TRANSEQ	6.41e+06	43450.88	3.92

Table F.3: Top five products traded in the China based on **RCA**.

F.1.2 | United States

label	industry	value_total	quantity_total	rca
Nuclear reactors, boilers, machinery and mechan...	MACHINE	1.52e+08	21468.93	1.12
Vehicles; other than railway or tramway rolling...	TRANSEQ	1.18e+08	4875.66	0.68
Aircraft, spacecraft and parts thereof	TRANSEQ	8.91e+07	218.99	2.44
Electrical machinery and equipment and parts th...	MACHINE	7.90e+07	8104.56	0.66
Optical, photographic, cinematographic, measuri...	MACHINE	6.26e+07	133.30	2.00

Table F.4: Top five products traded in the US based on **value**.

label	industry	value_total	quantity_total	rca
Organic chemicals	CHEMICAL	3.93e+07	329412.22	0.89
Fertilizers	CHEMICAL	3.67e+06	181277.53	0.46
Food industries, residues and wastes thereof; p...	FOODPRO	1.22e+07	69580.64	1.98
Wood and articles of wood; wood charcoal	WOODPRO	6.62e+06	66954.52	1.12
Inorganic chemicals; organic and inorganic comp...	CHEMICAL	1.20e+07	51516.86	0.91

Table F.5: Top five products traded in the US based on **quantity**.

label	industry	value_total	quantity_total	rca
Aircraft, spacecraft and parts thereof	TEXTILES	8.96e+04	2.79	16.24
Glass and glassware	TEXTILES	2.90e+05	0.01	7.11
Wadding, felt and nonwovens, special yarns; twi...	TEXTILES	2.23e+06	25.17	5.28
Textile fabrics; impregnated, coated, covered o...	TEXTILES	1.71e+06	70.94	4.80
Nickel and articles thereof	MACHINE	5.01e+05	0.004	4.53

Table F.6: Top five products traded in the US based on **RCA**.

F.1.3 | Energy intensity

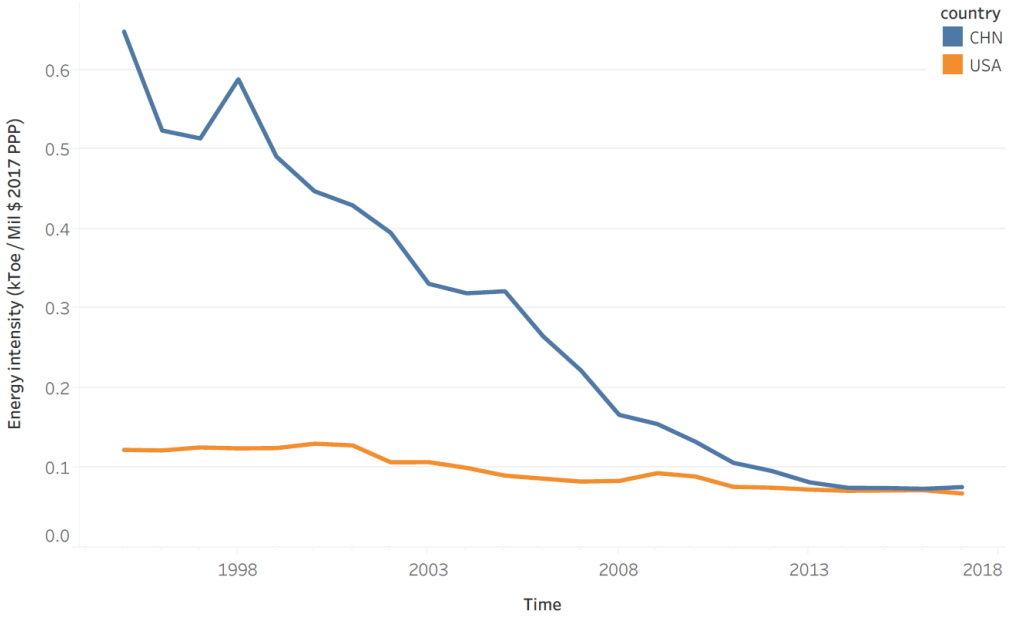

Figure F.1: A comparison of energy intensity level (kToe/Mil.$) of the US and China over time.

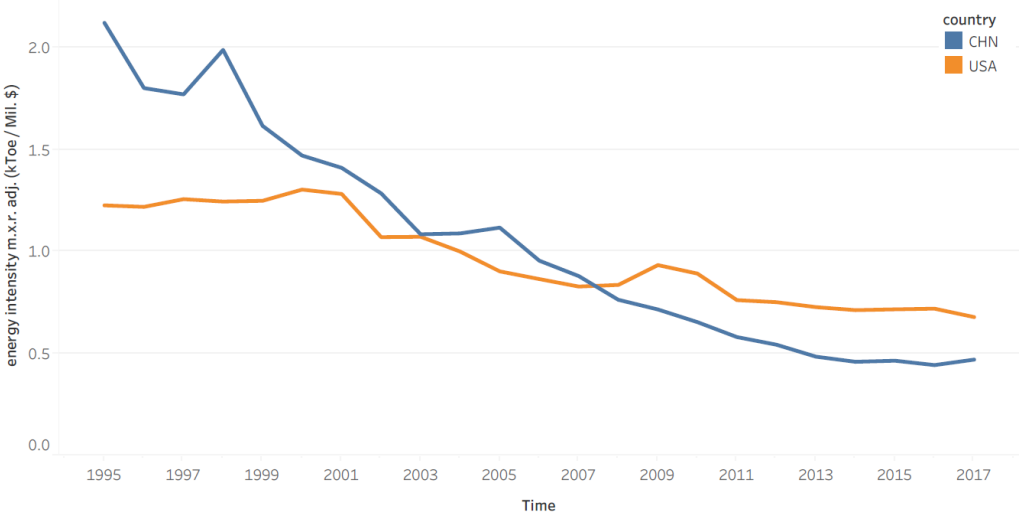

Figure F.2: A comparison of market exchange rate adjusted energy intensity level (kToe/Mil.$) of the US and China over time

F.2 | Exploration between the GDP per capita and energy use

Figure F.3 demonstrates that the energy use per capita increases with the GDP per capita. The data shows the aggregate mean of two timeframes of 1995 to 1997 and 2015 to 2017 for 117 countries. The data has been averaged over these timeframes to prevent yearly distortions. The logarithmic slope of the figure indicates that a 1% increase in GDP per capita is associated with a 0.65% rise in energy use in 1995-1997 and a 0.81% growth in energy use in 2015-2017. While these growth rates are somewhat similar to the constant growth rate of 0.7% in the study of Csereklyei et al. (2016), they have changed quite significantly. However, it could be that if the same method and variables are used as in the study (Csereklyei et al., 2016), the results are similar. Nevertheless, these timeframe slopes show a trend change in that energy use has decreased relatively for smaller GDP per capita countries. In the figure, China is indicated by the largest blue and orange bubbles in the middle of the figure. Moreover, the US is marked by the largest bubbles at the upper right of the slopes. In the top right corner are the OPEC countries, except for Russia, which has a larger circle close to the slopes. India is marked by the largest blue and orange circles in the lower left part.

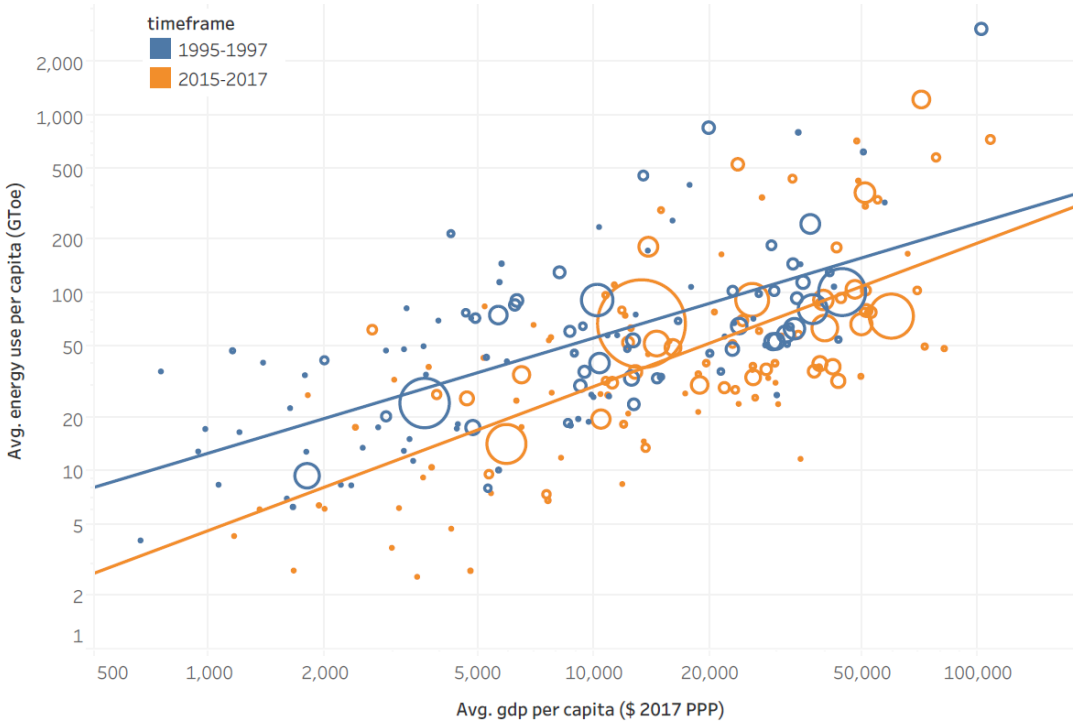

Figure F.3: The avg. GDP per capita vs the avg. energy use per capita over the period from 1995 to 2017 (117 countries). The circles are proportional to total energy use (this is not accounted for in the country's position or coefficient change!).

APPENDIX G

Assumption tests

It should be noted that because so many regressions have to be made, the violation tests cannot be applied to every individual regression. Therefore, the assumption test results presented are just from three industry regressions and their first product in the order. In this case, the products "Essential oils and resinoids; perfumery, cos..", "Copper and articles thereof", and "meat and edible meat offal" of respectively the chemical, machine, and food&beverages industry are tested.

To test for assumptions (3a) and (3b), a few steps have to be taken. The first step is to make a separate PooledOLS regression of each of these three industries. From this regression, the residuals, constants, and independent variables will be used to test for (3a) and (3b).

The second step is to test for assumption (3a) through the White- and the Breusch-Pagan-Tests (Verbeek, 2017). The function of these tests is to show whether errors are normally distributed. In simple terms, the results are heteroskedastic if $p < 0.05$. For the results of these three industries, only in the White-test for the machine industry there is significance found. Therefore, one could say that for that product, there is heteroskedasticity. However, the terms are contradicted by the Breusch-Pagan test. Hence, there is no violation of the assumption and homoskedasticity can be assumed.

	Breusch-Pagan			**White test**		
	Chemical	**Machine**	**Food&Beverages**	**Chemical**	**Machine**	**Food&Beverages**
LM-Stat	4.027	3.066	4.529	4.451	12.024	7.633
LM p-val	0.134	0.216	0.104	0.486	0.034	0.178
F-Stat	2.016	1.533	2.268	0.889	2.420	1.529
F p-val	0.134	0.216	0.104	0.488	0.034	0.178

Table G.1: Breusch-Pagan-Test and White-Test on the regressions of three industries their first product in order

The third step is to test for the autocorrelation assumption (3b) with the Durbin-Watson test (Verbeek, 2017). The test generates an output between 0 – 4. In general, if the output is less than 1.5 or greater than 2.5, then there is potentially a serious autocorrelation. However, according to Verbeek (2017) one cannot use the test if the dependent variable is lagged. The regression uses long annualised differences in the dependent variable. Therefore, the alternative is to test autocorrelation without these long annualised differences. The results in table G.2 show that there is a negligible form of negative autocorrelation. Therefore, from the results, no autocorrelation is assumed.

	Chemical	Machine	Food&Beverages
Durbin watson	2.011	2.045	2.058

Table G.2: Durbin-Watson test on the regressions of three industries and their first product in order

APPENDIX H

Disaggregated product tables

Chemical

HS-2digit label	Export share in industry	HS-4digit label	Export share in product
Animal or vegetable fats and oils and their ...	0.5	- Animal or vegetable fats, oils, fractions, m...	21.6
		- Industrial monocarboxylic fatty acids; acid ...	63.7
		- Glycerol (glycerine); whether or not pure, g...	14.7
Beverages, spirits and vinegar	0.4	- Ethyl alcohol, undenatured; of an alcoholic ...	100.0
Ores, slag and ash	0.007	- Iron ores and concentrates; including roaste...	100.0
Mineral fuels, mineral oils and products of ...	1.1	- Oils and other products of the distillation ...	94.9
		- Pitch and pitch coke; obtained from coal tar...	5.1
Inorganic chemicals; organic and inorganic c...	6.7	- Fluorine, chlorine, bromine and iodine	1.1
		- Sulphur; sublimed or precipitated, colloidal...	0.2
		- Carbon; carbon blacks and other forms of car...	3.2
		- Hydrogen, rare gases and other non-metals	9.2
		- Alkali or alkaline-earth metals; rare-earth ...	0.7
		- Hydrogen chloride (hydrochloric acid); chlor...	0.2
		- Sulphuric acid; oleum	0.9
		- Nitric acid; sulphonitric acids	0.3
		- Diphosphorus pentoxide; phosphoric acid and ...	3.8
		- Oxides of boron; boric acids	0.5
		- Inorganic acids and other inorganic oxygen c...	3.5
		- Halides and halide oxides of non-metals	0.6
		- Sulphides of non-metals; commercial phosphor...	0.2
		- Ammonia; anhydrous or in aqueous solution	6.7
		- Sodium hydroxide (caustic soda); potassium h...	4.0
		- Hydroxide and peroxide of magnesium; oxides,...	0.2
		- Zinc; oxide and peroxide	1.0
		- Aluminium oxide (including artificial corund...	12.8
		- Chromium oxides and hydroxides	0.5
		- Manganese oxides	0.4
		- Iron oxides and hydroxides; earth colours co...	1.0

(continued...)

		- Cobalt oxides and hydroxides; commercial cob...	0.7
		- Titanium oxides	1.1
		- Lead oxides; red lead and orange lead	0.2
		- Hydrazine and hydroxylamine and their inorga...	3.3
		- Fluorides; fluorosilicates, fluoroaluminates...	1.0
		- Chlorides; chloride oxides and chloride hydr...	1.9
		- Hypochlorites; commercial calcium hypochlori...	0.5
		- Chlorates and perchlorates; bromates and per...	0.7
		- Sulphides; polysulphides	0.5
		- Dithionites and sulphoxylates	0.2
		- Sulphites; thiosulphates	0.3
		- Sulphates; alums; peroxosulphates (persulpha...	2.5
		- Nitrites; nitrates	1.0
		- Phosphinates (hypophosphites), phosphonates ...	3.4
		- Carbonates; peroxocarbonates (percarbonates)...	5.0
		- Cyanides, cyanide oxides and complex cyanides	0.8
		- Silicates; commercial alkali metal silicates	0.7
		- Borates; peroxoborates (perborates)	0.8
		- Salts of oxometallic or peroxometallic acids	1.4
		- Salts of inorganic acids or peroxoacids, exc...	0.5
		- Colloidal precious metals; inorganic or orga...	4.4
		- Radioactive chemical elements and radioactiv...	13.4
		- Isotopes other than those of heading no. 284...	0.2
		- Compounds, inorganic or organic, of rare-ear...	1.0
		- Hydrogen peroxide; whether or not solidified...	0.6
		- Carbides, whether or not chemically defined	1.9
		- Hydrides, nitrides, azides, silicides and bo...	0.6
		- Inorganic compounds n.e.s. (including distil...	0.5
Organic chemicals	23.3	- Acyclic hydrocarbons	5.4
		- Cyclic hydrocarbons	10.4
		- Halogenated derivatives of hydrocarbons	2.5
		- Sulphonated, nitrated or nitrosated derivati...	0.3
		- Acyclic alcohols and their halogenated, sulp...	7.5
		- Alcohols; cyclic, and their halogenated, sul...	0.4
		- Phenols; phenol-alcohols	1.6
		- Phenols or phenol-alcohols; halogenated, sul...	0.2
		- Ethers, ether-alcohols, ether-phenols, ether...	3.4
		- Epoxides, epoxyalcohols, epoxyphenols and ep...	1.0
		- Acetals and hemiacetals; whether or not with...	0.0
		- Aldehydes, whether or not with other oxygen ...	0.5
		- Aldehydes; halogenated, sulphonated, nitrate...	0.0
		- Ketones and quinones; whether or not with ot...	1.6
		- Acids; saturated acyclic monocarboxylic acid...	3.0
		- Acids; unsaturated acyclic monocarboxylic, c...	2.3
		- Acids; polycarboxylic acids, their anhydride...	3.9
		- Acids; carboxylic acid with additional oxyge...	2.1
		- Esters; phosphoric, and their salts, includi...	0.2
		- Esters of other inorganic acids (not esters ...	0.4
		- Amine-function compounds	2.7
		- Oxygen-function amino-compounds	4.2
		- Quaternary ammonium salts and hydroxides; le...	0.5
		- Carboxyamide-function compounds; amide-funct...	2.0
		- Carboxyimide-function compounds (including s...	0.3
		- Nitrile-function compounds	1.4
		- Diazo-, azo- or azoxy-compounds	0.1
		- Organic derivatives of hydrazine or of hydro...	0.3
		- Nitrogen-function compounds, n.e.s. in chapt...	1.5

(continued...)

		- Organo-sulphur compounds	2.0
		- Organo-inorganic compounds; n.e.s. in headin...	1.6
		- Heterocyclic compounds with oxygen hetero-at...	2.1
		- Heterocyclic compounds with nitrogen hetero-...	16.7
		- Heterocyclic compounds; n.e.s. in chapter 29	5.9
		- Sulphonamides	1.9
		- Provitamins, vitamins; natural or reproduced...	1.9
		- Hormones, natural or reproduced by synthesis...	2.8
		- Glycosides, natural or reproduced by synthes...	0.2
		- Alkaloids, vegetable; natural or reproduced ...	0.7
		- Sugars, chemically pure, other than sucrose,...	0.2
		- Antibiotics	3.9
		- Organic compounds; n.e.s. in chapter 29	0.3
Pharmaceutical products	20.6	- Glands, organs (extracts, secretions thereof...	0.9
		- Blood, human or animal; prepared for therape...	8.8
		- Medicaments; not packaged for retail sale	3.0
		- Medicaments; packaged for retail sale	83.7
		- Wadding, gauze, bandages (dressings, adhesiv...	1.8
		- Pharmaceutical goods	1.8
Fertilizers	3.4	- Fertilizers; mineral or chemical, nitrogenous	37.9
		- Fertilizers; mineral or chemical, phosphatic	3.7
		- Fertilizers; mineral or chemical, potassic	25.0
		- Fertilizers; mineral or chemical, containing...	33.4
Tanning or dyeing extracts; tannins and thei...	4.4	- Tanning extracts of vegetable origin; tannin...	0.5
		- Tanning substances; synthetic organic or ino...	1.2
		- Colouring matter of vegetable or animal orig...	1.4
		- Synthetic organic colouring matter and prepa...	20.2
		- Colour lakes; preparations based on colour l...	0.3
		- Colouring matter and preparations thereof n....	16.1
		- Pigments, prepared; opacifiers, colours, vit...	5.1
		- Paints, varnishes; (enamels and lacquers) ba...	17.2
		- Paints and varnishes (including enamels and ...	7.0
		- Paints and varnishes (including enamels, lac...	1.2
		- Driers; prepared	0.3
		- Pigments (metallic powders and flakes) dispe...	3.3
		- Colours; artists, students, or signboard pai...	0.8
		- Glaziers' putty, grafting putty, resin cemen...	9.1
		- Ink; printing, writing or drawing ink and ot...	16.2
Essential oils and resinoids; perfumery, cos...	5.3	- Oils; essential (concretes, absolutes); conc...	4.0
		- Odoriferous substances and mixtures (includi...	20.3
		- Perfumes and toilet waters	15.5
		- Cosmetic and toilet preparations; beauty, ma...	31.7
		- Hair preparations; for use on the hair	12.2
		- Oral or dental hygiene preparations; includi...	4.9
		- Perfumery, cosmetic or toilet preparations; ...	11.3
Soap, organic surface-active agents; washing...	2.7	- Soap; organic surface-active products and pr...	13.3
		- Organic surface-active agents (not soap); su...	59.4
		- Lubricating preparations and those used in o...	16.1
		- Waxes; artificial, prepared	5.2
		- Polishes, creams, scouring pastes, powders a...	4.8
		- Modelling pastes, including those for childr...	1.3
Albuminoidal substances; modified starches ...	1.1	- Casein, caseinates and other casein derivati...	6.1
		- Albumins; albuminates and other albumin deri...	4.1
		- Gelatin (including gelatin in rectangular sh...	9.0

(continued...)

		- Peptones and their derivatives; other protei...	10.9
		- Dextrins and other modified starches (eg pre...	1.1
		- Prepared glues and other prepared adhesives,...	44.8
		- Enzymes; prepared enzymes not elsewhere spec...	23.9
Explosives; pyrotechnic products; matches; p...	0.2	- Explosives; propellent powders	9.7
		- Prepared explosives, other than propellent p...	21.4
		- Safety fuses; detonating fuses; percussion o...	32.8
		- Fireworks, signalling flares, rain rockets, ...	29.4
		- Matches; other than pyrotechnic articles of ...	6.7
Photographic or cinematographic goods	1.3	- Photographic plates and film in the flat, se...	29.4
		- Photographic film in rolls, sensitised, unex...	26.1
		- Photographic paper, paperboard and textiles;...	11.0
		- Chemical preparations for photographic uses ...	33.5
Chemical products n.e.s.	8.4	- Activated carbon; activated natural mineral ...	1.5
		- Tall oil, whether or not refined	0.2
		- Residual lyes from the manufacture of wood p...	0.3
		- Gum, wood or sulphate turpentine, other turp...	0.1
		- Rosin and resin acids and derivatives thereo...	1.2
		- Wood tar; wood tar oils; wood creosote; wood...	0.1
		- Insecticides, rodenticides, fungicides, herb...	19.7
		- Finishing agents, dye carriers to accelerate...	2.8
		- Metal-pickling preparations; fluxes etc for ...	1.1
		- Anti-knock preparations, oxidation and gum i...	7.8
		- Prepared rubber accelerators; compound plast...	2.9
		- Preparations and charges for fire extinguish...	0.2
		- Organic composite solvents and thinners, not...	1.4
		- Reaction initiators, reaction accelerators a...	9.2
		- Mixed alkylbenzenes and mixed alkylnaphthale...	1.6
		- Chemical elements doped for use in electroni...	7.7
		- Hydraulic brake fluids and other prepared li...	0.5
		- Anti-freezing preparations and prepared de-i...	0.8
		- Prepared culture media for development of mi...	0.9
		- Composite diagnostic or laboratory reagents,...	13.6
		- Prepared binders for foundry moulds or cores...	26.4
Plastics and articles thereof	17.0	- Polymers of ethylene, in primary forms	21.4
		- Polymers of propylene or of other olefins, i...	11.9
		- Polymers of styrene, in primary forms	6.9
		- Polymers of vinyl chloride or of other halog...	6.1
		- Polymers of vinyl acetate or of other vinyl ...	1.6
		- Acrylic polymers in primary forms	4.5
		- Polyacetals, other polyethers and epoxide re...	16.2
		- Polyamides in primary forms	4.1
		- Amino-resins, phenolic resins and polyuretha...	4.2
		- Silicones in primary forms	2.2
		- Petroleum resins, coumarone-indene resins, p...	2.0
		- Cellulose and its chemical derivatives, n.e....	1.8
		- Natural polymers (eg alginic acid) and modif...	0.7
		- Ion-exchangers; based on polymers of heading...	0.5
		- Articles of plastics and articles of other m...	16.0
Rubber and articles thereof	1.2	- Synthetic rubber and factice derived from oi...	100.0
Wood and articles of wood; wood	0.05	- Wood charcoal (including shell or nut charco...	100.0

(continued...)

charcoal...			
Man-made filaments	1.2	- Synthetic filament yarn (other than sewing t... - Artificial filament yarn (other than sewing ... - Synthetic monofilament of 67 decitex or more... - Artificial monofilament of 67 decitex or mor...	84.3 8.0 7.4 0.2
Man-made staple fibres	0.8	- Synthetic filament tow - Artificial filament tow - Synthetic staple fibres, not carded, combed ... - Artificial staple fibres, not carded, combed...	11.1 18.2 53.1 17.5
Nuclear reactors, boilers, machinery and mec...	0.2	- Nuclear reactors; fuel elements (cartridges)...	100.0

Table H.1: Products and their export share in the chemical industry

Metal-steel

HS-2digit label	Export share in industry	HS-4digit label	Export share in product
Ores, slag and ash	0.6	- Granulated slag (slag sand) from the manufacture of iron or steel	8.3
		- Slag, dross; (other than granulated slag), scalings and other waste from the manufacture of iron or steel	10.3
		- Ash and residues (not from the manufacture of iron or steel) containing metals or metallic compounds	81.4
Natural, cultured pearls; precious, semi-pre...	26.1	- Silver (including silver plated with gold or...	6.7
		- Base metals clad with silver; not further wo...	0.0
		- Gold (including gold plated with platinum) u...	83.0
		- Base metals or silver, clad with gold, not f...	0.0
		- Platinum; unwrought or in semi-manufactured ...	9.9
		- Base metals, silver or gold, clad with plati...	0.1
		- Articles of precious metal or of metal clad ...	0.2
Iron and steel	34.6	- Pig iron and spiegeleisen in pigs, blocks or...	1.6
		- Ferro-alloys	8.1
		- Ferrous products obtained by direct reductio...	0.8
		- Granules and powders, of pig iron, spiegelei...	0.6
		- Iron and non-alloy steel in ingots or other ...	0.5
		- Iron or non-alloy steel; semi-finished produ...	8.8
		- Iron or non-alloy steel; flat-rolled product...	15.8
		- Iron or non-alloy steel; flat-rolled product...	5.7
		- Iron or non-alloy steel; flat-rolled product...	12.9
		- Iron or non-alloy steel; flat-rolled product...	1.4
		- Iron or non-alloy steel; flat-rolled product...	1.3
		- Iron or non-alloy steel; bars and rods, hot-...	3.7
		- Iron or non-alloy steel; bars and rods, not ...	5.6
		- Iron or non-alloy steel; bars and rods, n.e....	0.6
		- Iron or non-alloy steel, angles, shapes and ...	4.5
		- Wire of iron or non-alloy steel	1.5
		- Stainless steel in ingots or other primary f...	0.9
		- Stainless steel; flat-rolled products of wid...	8.3
		- Stainless steel; flat-rolled products of wid...	1.4
		- Stainless steel bars and rods, hot-rolled, i...	0.5
		- Stainless steel bars and rods, angles, shape...	1.7
		- Stainless steel wire	0.6
		- Alloy steel in ingots or other primary forms...	1.0
		- Alloy steel flat-rolled products, of a width...	6.0
		- Alloy steel flat-rolled products, of a width...	1.1
		- Steel, alloy; bars and rods, hot-rolled, in ...	1.1
		- Alloy steel bars, rods, shapes and sections;...	3.5
		- Wire of other alloy steel	0.6
Iron or steel articles	8.9	- Iron or steel sheet piling, whether or not d...	2.3
		- Railway or tramway track constructions of ir...	4.7
		- Tubes, pipes and hollow profiles, of cast iron	2.3
		- Tubes, pipes and hollow profiles, seamless, ...	34.3
		- Tubes and pipes (eg welded, riveted or simil...	12.5
		- Tubes, pipes and hollow profiles (eg open se...	24.9
		- Tube or pipe fittings (eg couplings, elbows,...	19.0

(continued...)

Copper and articles thereof	10.8	- Copper mattes; cement copper (precipitated c...	0.7
		- Copper; unrefined, copper anodes for electro...	5.7
		- Copper; refined and copper alloys, unwrought	48.8
		- Copper; master alloys	0.2
		- Copper; powders and flakes	0.7
		- Copper; bars, rods and profiles	5.4
		- Copper wire	16.8
		- Copper plates, sheets and strip; of a thickn...	7.5
		- Copper foil (whether or not printed or backe...	4.4
		- Copper tubes and pipes	6.4
		- Copper; tube or pipe fittings (eg couplings,...	3.5
Nickel and articles thereof	3.0	- Nickel mattes; nickel oxide sinters and othe...	24.9
		- Nickel; unwrought	55.5
		- Nickel; powders and flakes	3.2
		- Nickel; bars, rods, profiles and wire	8.3
		- Nickel; plates, sheets, strip and foil	5.2
		- Nickel; tubes, pipes and tube or pipe fittin...	2.9
Aluminium and articles thereof	11.6	- Aluminium; unwrought	47.1
		- Aluminium; powders and flakes	0.5
		- Aluminium; bars, rods and profiles	12.5
		- Aluminium wire	3.1
		- Aluminium; plates, sheets and strip, thickne...	24.1
		- Aluminium foil (whether or not printed or ba...	10.1
		- Aluminium; tubes and pipes	2.0
		- Aluminium; tube or pipe fittings (eg couplin...	0.6
Lead and articles thereof	0.6	- Lead; unwrought	93.4
		- Lead; plates, sheets, strip and foil, lead p...	6.6
Zinc and articles thereof	1.4	- Zinc; unwrought	88.9
		- Zinc; dust, powders and flakes	3.4
		- Zinc; bars, rods, profiles and wire	2.2
		- Zinc; plates, sheets, strip and foil	5.5
Tin; articles thereof	0.5	- Tin; unwrought	89.6
		- Tin; bars, rods, profiles and wire	10.4
Metals; n.e.s., cermets and articles thereof	1.8	- Tungsten (wolfram); articles thereof, includ...	6.0
		- Molybdenum; articles thereof, including wast...	5.6
		- Tantalum; articles thereof, including waste ...	6.6
		- Magnesium; articles thereof, including waste...	11.1
		- Cobalt; mattes and other intermediate produc...	18.1
		- Bismuth; articles thereof, including waste a...	1.3
		- Cadmium; articles thereof, including waste a...	0.4
		- Titanium; articles thereof, including waste ...	27.3
		- Zirconium; articles thereof, including waste...	2.9
		- Antimony; articles thereof, including waste ...	2.2
		- Manganese; articles thereof, including waste...	5.6
		- Beryllium, chromium, germanium, vanadium...	9.7
		- Cermets; articles thereof, including waste a...	3.3

Table H.2: Products and their export share in the metal-steel industry

Non-metallic minerals

HS-2digit label	Export share in industry	HS-4digit label	Export share in product
Salt; sulphur; earths, stone; plastering mat...	8.3	- Pebbles, gravel, crushed stone for concrete ...	0.4
		- Dolomite, whether or not calcined; dolomite ...	1.7
		- Gypsum; anhydrite; plasters (consisting of c...	4.2
		- Quicklime, slaked lime and hydraulic lime; o...	6.2
		- Portland cement, aluminous cement ("ciment f...	87.5
Mineral fuels, mineral oils and products of	1.0	- Bituminous mixtures based on natural asphalt...	100.0
Chemical products n.e.s.	2.9	- Artificial graphite; colloidal or semi-collo...	38.8
		- Refractory cements, mortars, concretes and s...	44.5
		- Prepared binders for foundry moulds or cores...	16.7
Stone, plaster, cement, asbestos, mica or si	25.9	- Stone; setts, curbstones and flagstones, of ...	2.1
		- Monumental or building stone, worked (except...	25.1
		- Slate, worked; and articles of slate or of a...	1.9
		- Millstones, grindstones, grinding wheels, et...	9.5
		- Abrasive powder or grain; natural or artific...	9.5
		- Slag, rock wool and similar mineral wools; e...	9.2
		- Asphalt or similar material; articles (eg pe...	5.0
		- Panels, boards, tiles, blocks and the like; ...	0.9
		- Plaster or compositions based on plaster; ar...	4.7
		- Cement, concrete or artificial stone; whethe...	13.8
		- Asbestos-cement, cellulose fibre-cement or t...	2.4
		- Asbestos fibres, fabricated; mixtures with a...	0.5
		- Friction material and articles thereof (eg s...	3.6
		- Mica; worked, articles of, including agglome...	0.7
		- Stone or other mineral substances; articles ...	11.0
Ceramic products	19.8	- Bricks, blocks, tiles and other ceramic good...	0.6
		- Refractory bricks, blocks, tiles and similar...	13.3
		- Ceramic goods; (eg retorts, crucibles, muffl...	6.6
		- Ceramic building bricks, floor blocks, suppo...	2.8
		- Roofing tiles, chimney-pots, cowls, chimney ...	2.5
		- Ceramic pipes, conduits, guttering and pipe ...	0.7
		- Ceramic flags and paving, hearth or wall til...	13.1
		- Ceramic ware for laboratory, chemical, other...	10.6
		- Ceramic sinks, wash basins, wash basin pedes...	16.2
		- Tableware, kitchenware, other household arti...	13.6
		- Ceramic tableware, kitchenware, other househ...	8.1
		- Statuettes and other ornamental ceramic arti...	7.8
		- Ceramic articles; n.e.s. in chapter 69	4.1
Glass and glassware	39.5	- Glass; cullet and other waste and scrap of g...	0.6
		- Glass in balls (other than microspheres of h...	2.9
		- Cast glass and rolled glass in sheets or pro...	2.1
		- Glass; drawn and blown, in sheets, whether o...	2.6
		- Glass; float glass and surface ground or pol...	9.5
		- Glass of heading no. 7003, 7004 or 7005, ben...	3.1
		- Safety glass, consisting of toughened (tempe...	15.0
		- Glass; multiple-walled insulating units of g...	2.0
		- Glass mirrors; whether or not framed, includ...	7.5
		- Carboys, bottles, flasks, jars, pots, phials...	12.9
		- Glass envelopes (including bulbs and tubes),...	3.0

(continued...)

		- Glassware of a kind used for table, kitchen,...	14.0
		- Signalling glassware and optical elements of...	1.2
		- Clock, watch and similar glasses, glasses fo...	0.4
		- Glass; paving blocks, slabs, bricks, tiles e...	1.6
		- Laboratory, hygienic or pharmaceutical glass...	1.6
		- Glass beads, imitation pearls, precious or s...	3.0
		- Glass fibres (including glass wool) and arti...	13.3
		- Glass; articles n.e.s. in chapter 70	3.7
Natural, cultured pearls; precious, semi-pre	0.17	- Synthetic, reconstructed precious, semi-prec...	100.0
Electrical machinery and equipment and parts	2.0	- Electro-magnets; permanent magnets, intended...	46.3
		- Electrical insulators of any material	37.7
		- Insulating fittings; for electrical machines...	16.0
Furniture; bedding, mattresses, mattress sup	0.4	- Lamps, light fittings; including searchlight...	100.0

Table H.3: Products and their export share in the non-metallic minerals industry

Pulp&paper

HS-2digit label	Export share in industry	HS-4digit label	Export share in product
Pulp of wood or other fibrous cellulosic mat...	16.9	- Wood pulp, mechanical wood pulp	1.7
		- Chemical wood pulp, dissolving grades	8.7
		- Chemical wood pulp, soda or sulphate, other ...	79.3
		- Chemical wood pulp, sulphite, other than dis...	3.4
		- Semi-chemical wood pulp	4.5
		- Pulps of other fibrous cellulosic material	2.4
Paper and paperboard; articles of paper pulp...	79.3	- Newsprint, in rolls or sheets	7.2
		- Uncoated paper and paperboard, used for writ...	8.6
		- Tissue, towel, napkin stock or similar; for ...	1.9
		- Uncoated kraft paper and paperboard, in roll...	7.7
		- Uncoated paper and paperboard n.e.s., in rol...	4.1
		- Vegetable parchment, greaseproof papers, tra...	0.9
		- Composite paper and paperboard, (made by sti...	0.5
		- Paper and paperboard, corrugated (with or wi...	1.0
		- Carbon paper, self copy paper and the like (...	0.8
		- Paper and paperboard, one or both sides coat...	19.5
		- Paper, paperboard, cellulose wadding and web...	10.1
		- Filter blocks, slabs and plates of paper pulp	0.1
		- Cigarette paper, whether or not cut to size ...	1.2
		- Wallpaper and similar wall coverings; window...	1.1
		- Carbon paper, self-copy paper and other copy...	0.4
		- Envelopes, letter cards, plain postcards and...	0.7
		- Paper towels, toilet paper, tissues, handker...	12.5
		- Cartons, boxes, cases, bags and the like, of...	11.2
		- Registers, account books, diaries and simila...	2.8
		- Paper or paperboard labels of all kinds, whe...	2.7
		- Bobbins, spools, cops and similar supports o...	0.2
		- Paper, paperboard, cellulose wadding and web...	4.6
Printed books, newspapers, pictures and othe...	3.2	- Unused postage, revenue or similar stamps of...	47.8
		- Printed matter, n.e.s., including printed pi...	52.2
Textile fabrics; impregnated, coated, covere..	0.05	- Textile wall coverings	100.0
Nuclear reactors, boilers, machinery and mec...	0.6	- Machinery and apparatus; for type founding o...	100.0

Table H.4: Products and their export share in the pulp & paper industry

Food products

HS-2digit label	Export share in industry	HS-4digit label	Export share in product
Meat and edible meat offal	11.8	- Meat of bovine animals; fresh or chilled	19.3
		- Meat of bovine animals; frozen	15.4
		- Meat of swine; fresh, chilled or frozen	26.1
		- Meat of sheep or goats; fresh, chilled or fr...	5.7
		- Meat of horses, asses, mules or hinnies; fre...	0.6
		- Edible offal of bovine animals, swine, sheep...	5.6
		- Meat and edible offal of poultry; of the pou...	21.4
		- Meat and edible meat offal, n.e.s. in chapte...	1.0
		- Pig fat, free of lean meat, and poultry fat,...	0.7
		- Meat and edible meat offal; salted, in brine...	4.3
Fish and crustaceans, molluscs and other aqu...	3.3	- Fish; fresh or chilled (excluding fish fille...	0.1
		- Fish; frozen (excluding fish fillets and oth...	27.6
		- Fish fillets and other fish meat (whether or...	26.5
		- Fish; dried, salted or in brine, smoked fish...	8.1
		- Crustaceans, in shell or not, live, fresh, c...	26.7
		- Molluscs, whether in shell or not, live, fre...	11.0
Dairy produce; birds' eggs; natural honey; e...	3.0	- Milk and cream; not concentrated nor contain...	1.2
		- Milk and cream; concentrated or containing a...	30.6
		- Buttermilk, curdled milk and cream, yoghurt,...	6.4
		- Whey and products consisting of natural milk...	6.2
		- Butter and other fats and oils derived from ...	11.5
		- Cheese and curd	42.6
		- Birds' eggs, not in shell; egg yolks, fresh,...	1.4
Animal originated products; not elsewhere sp...	1.1	- Pigs', hogs' or boars' bristles and hair; an...	2.8
		- Guts, bladders and stomachs of animals (othe...	59.4
		- Skins and other parts of birds with feathers...	18.5
		- Bones and horn-cores, unworked, defatted, si...	5.1
		- Ivory, tortoise-shell, whalebone and whalebo...	2.1
		- Ambergris, castoreum, civet and musk; cantha...	3.1
		- Animal products not elsewhere specified or i...	9.0
Vegetables and certain roots and tubers; edi...	0.8	- Vegetables (uncooked or cooked by steaming o...	63.0
		- Vegetables provisionally preserved; (eg by s...	7.9
		- Vegetables, dried; whole, cut, sliced, broke...	29.1
Fruit and nuts, edible; peel of citrus fruit	0.9	- Nuts, edible; coconuts, Brazil nuts and cash...	21.9
		- Nuts (excluding coconuts, Brazils and cashew...	35.4
		- Grapes; fresh or dried	8.9
		- Fruit and nuts; uncooked or cooked by steami...	20.4
		- Fruit and nuts provisionally preserved; (eg ...	1.6
		- Fruit, dried, other than that of heading no....	11.2
		- Peel of citrus fruit or melons (including wa...	0.5
Coffee, tea, mate and spices	0.2	- Coffee, whether or not roasted or decaffeina...	70.7
		- Tea	25.0
		- Pepper of the genus piper; dried or crushed ...	3.7
		- Cinnamon and cinnamon-tree flowers	0.7
Cereals		- Rice	100.0
Products of the milling industry; malt, star...	12.6	- Wheat or meslin flour	27.4
		- Cereal flours; other than of wheat or meslin	3.8

(continued...)

		- Cereal groats; meal and pellets	6.3
		- Cereal grains otherwise worked (eg hulled, r...	8.4
		- Flour, meal, and flakes of potatoes	3.7
		- Flour and meal; of the dried leguminous vege...	2.3
		- Malt; whether or not roasted	23.0
		- Starches; inulin	18.8
		- Wheat gluten; whether or not dried	6.3
Oil seeds and oleaginous fruits; miscellaneo...	1.2	- Ground-nuts; not roasted or otherwise cooked...	60.0
		- Flours and meals of oil seeds or oleaginous ...	29.7
		- Swedes, mangolds, fodder roots, hay, lucerne...	10.2
Lac; gums, resins and other vegetable saps a...	0.06	- Vegetable saps and extracts; pectic substanc...	100.0
Vegetable plaiting . materials; vegetable prod..	0.5	- Vegetable products not elsewhere specified o...	100.0
Animal or vegetable fats and oils and their...	11.6	- Lard; other pig fat and poultry fat, rendere...	0.6
		- Fats of bovine animals, sheep or goats; raw ...	2.0
		- Lard stearin, lard oil, oleostearin, oleo-oi...	0.1
		- Fats and oils and their fractions of fish or...	1.8
		- Wool grease and fatty substances derived the...	0.3
		- Animal fats and oils and their fractions; wh...	0.3
		- Soya-bean oil and its fractions; whether or ...	12.8
		- Ground nut oil and its fractions; whether or...	0.6
		- Olive oil and its fractions; whether or not ...	8.5
		- Oils and their fractions n.e.s. in chapter 1...	0.4
		- Palm oil and its fractions; whether or not r...	33.2
		- Sun-flower seed, safflower or cotton-seed oi...	9.8
		- Coconut (copra), palm kernel or babassu oil ...	6.7
		- Rape, colza or mustard oil and their fractio...	7.1
		- Fixed vegetable fats and oils (including joj...	4.7
		- Animal or vegetable fats and oils and their ...	4.7
		- Margarine; edible mixtures or preparations o...	6.0
		- Vegetable waxes (other than triglycerides), ...	0.2
		- Degras; residues resulting from the treatmen...	0.2
Meat, fish or crustaceans, molluscs or other...	1.0	- Sausages and similar products of meat, meat ...	9.7
		- Prepared or preserved meat, meat offal or blood	32.2
		- Extracts and juices of meat, fish or crustac...	0.6
		- Prepared or preserved fish; caviar and cavia...	35.1
		- Crustaceans, molluscs and other aquatic inve...	22.4
Sugars and sugar confectionery	18.0	- Cane or beet sugar and chemically pure sucro...	62.8
		- Sugars, including lactose, maltose, glucose ...	12.7
		- Molasses; resulting from the extraction or r...	2.6
		- Sugar confectionery (including white chocola...	21.8
Cocoa and cocoa preparations	0.8	- Cocoa; shells, husks, skins and other cocoa ...	0.2
		- Cocoa; paste; whether or not defatted	6.4
		- Cocoa; butter, fat and oil	13.4
		- Cocoa; powder, not containing added sugar or...	6.6
		- Chocolate and other food preparations contai...	73.4
Preparations of cereals, flour, starch or mi...	1.3	- Malt extract; flour, meal, starch or malt ex...	26.8
		- Pasta; whether or not cooked or stuffed with...	14.1
		- Tapioca and substitutes therefor prepared fr...	0.1
		- Prepared foods obtained by swelling, roastin...	10.0
		- Bread, pastry, cakes, biscuits, other bakers...	49.0

(continued...)

Preparations of vegetables, fruit, nuts or o...	2.7	- Vegetables, fruit, nuts and other edible par...	3.5
		- Tomatoes; prepared or preserved otherwise th...	7.8
		- Mushrooms and truffles, prepared or preserve...	2.2
		- Vegetable preparations n.e.s.; prepared or p...	11.5
		- Vegetable preparations n.e.s.; prepared or p...	17.7
		- Fruit, nuts, fruit-peel and other parts of p...	0.7
		- Jams, fruit jellies, marmalades, fruit or nu...	4.5
		- Fruit, nuts and other edible parts of plants...	23.0
		- Fruit juices (including grape must) and vege...	29.1
Miscellaneous edible preparations	1.0	- Extracts, essences, concentrates of coffee, ...	12.6
		- Yeasts (active or inactive); other single-ce...	3.7
		- Sauces and preparations therefor; mixed cond...	17.2
		- Soups and broths and preparations therefor; ...	5.5
		- Ice cream and other edible ice; whether or n...	6.1
		- Food preparations not elsewhere specified or...	54.9
Beverages, spirits and vinegar	7.4	- Waters, including natural or artificial mine...	3.8
		- Waters, including mineral and aerated waters...	14.9
		- Beer made from malt	13.5
		- Wine of fresh grapes, including fortified wi...	35.4
		- Vermouth and other wine of fresh grapes, fla...	0.7
		- Fermented beverages, n.e.s. in chapter 22; (...	1.2
		- Ethyl alcohol, undenatured; of an alcoholic ...	29.9
		- Vinegar and substitutes for vinegar obtained...	0.6
Food industries, residues and wastes thereof	22.4	- Flours, meal and pellets, of meat or meat of...	9.2
		- Bran, sharps and other residues; whether or ...	2.4
		- Residues of starch manufacture, similar resi...	6.5
		- Oil-cake and other solid residues; whether o...	37.7
		- Oil-cake and other solid residues; whether o...	0.1
		- Oil-cake and other solid residues; whether o...	7.8
		- Wine lees; argol	0.0
		- Vegetable materials and vegetable waste, veg...	1.4
		- Preparations of a kind used in animal feeding	34.8
Tobacco and manufactured tobacco substitutes	0.9	- Tobacco, unmanufactured; tobacco refuse	25.0
		- Cigars, cheroots, cigarillos and cigarettes;...	63.2
		- Manufactured tobacco and manufactured tobacc...	11.8
Albuminoidal substances; modified starches;	0.1	- Casein, caseinates and other casein derivati...	31.5
		- Albumins; albuminates and other albumin deri...	6.8
		- Dextrins and other modified starches (eg pre...	61.7
Raw hides and skins (other than furskins) an...	0.6	- Raw hides and skins of bovine or equine anim...	4.1
		- Raw skins of sheep or lambs (fresh, salted, ...	29.1
		- Raw hides and skins n.e.s in headings no. 41...	7.9
		- Leather of bovine or equine animals, without...	47.8
		- Leather; of animals n.e.s. in chapter 41, wi...	11.1

Table H.5: Products and their export share in the food & beverages industry

Machine

HS-2digit label	Export share in industry	HS-4digit label	Export share in product
Plastics and articles thereof	1.2	- Articles of plastics and articles of other m...	100.0
Textiles, made up articles; sets; worn cloth	0.03	- Blankets and travelling rugs	100.0
Iron or steel articles	2.3	- Structures of iron or steel and parts thereo...	21.4
		- Reservoirs, tanks, vats and similar containe...	2.0
		- Tanks, casks, drums, cans, boxes and similar...	3.4
		- Containers for compressed or liquefied gas, ...	1.7
		- Stranded wire, ropes, cables, plaited bands,...	3.6
		- Barbed wire of iron or steel; twisted hoop o...	0.1
		- Cloth (including endless bands), grill, nett...	2.5
		- Chain and parts thereof, of iron or steel	2.5
		- Anchors, grapnels and parts thereof, of iron...	0.2
		- Nails, tacks, drawing pins, corrugated nails...	1.4
		- Screws, bolts, nuts, coach screws, screw hoo...	16.4
		- Sewing and knitting needles, bodkins, croche...	0.2
		- Springs and leaves for springs, of iron or s...	3.6
		- Stoves, ranges, grates, cookers (those with ...	5.2
		- Radiators for central heating, not electrica...	2.2
		- Table, kitchen, other household articles and...	5.7
		- Sanitary ware and parts thereof, of iron or ...	1.5
		- Iron or steel; cast articles	3.5
		- Iron or steel; articles, n.e.s. in chapter 73	22.8
Copper and articles thereof	0.42	- Copper; stranded wire, cables, plaited bands...	23.5
		- Nails, tacks, drawing pins, staples (not tho...	13.8
		- Table, kitchen or other household articles a...	11.6
		- Copper; articles thereof n.e.s.	51.1
Nickel and articles thereof	0.03	- Nickel; other articles thereof n.e.s.	100.0
Aluminium and articles thereof	2.0	- Aluminium; structures (excluding prefabricat...	26.7
		- Aluminium; reservoirs, tanks, vats and the l...	0.6
		- Aluminium casks, drums, cans, boxes etc (inc...	14.4
		- Aluminium; containers for compressed or liqu...	1.1
		- Aluminium; stranded wire, cables, plaited ba...	3.8
		- Aluminium; table, kitchen or other household...	12.6
		- Aluminium; articles n.e.s. in chapter 76	40.8
Lead and articles thereof	0.14	- Lead; articles n.e.s. in chapter 78	100.0
Zinc and articles thereof	0.12	- Zinc; articles n.e.s. in chapter 79	100.0
Tin; articles thereof	0.06	- Tin; articles n.e.s. in chapter 80	100.0
Tools, implements, cutlery, spoons and forks	1.1	- Tools, hand; spades, shovels, mattocks, pick...	2.5
		- Tools, hand; blades for saws of all kinds (i...	7.0
		- Tools, hand; files, rasps, pliers (including...	3.5
		- Tools, hand; hand-operated spanners and wren...	3.4
		- Tools, hand; (including glaziers' diamonds) ...	11.1
		- Tools, hand; two or more of heading no. 8202...	1.5
		- Tools, interchangeable; for hand tools, whet...	34.2

(continued...)

		- Knives and cutting blades, for machines or f...	4.8
		- Tools; plates, sticks, tips and the like for...	10.9
		- Tools; hand-operated mechanical appliances, ...	0.8
		- Knives; with cutting blades, serrated or not...	4.2
		- Razors and razor blades; (including razor bl...	8.7
		- Scissors; tailors' shears and similar shears...	1.2
		- Cutlery; other articles, (eg hair clippers, ...	1.6
		- Cutlery; spoons, forks, ladles, skimmers, ca...	4.6
Metal; miscellaneous products of base metal	2.3	- Padlocks and locks (key, combination, electr...	19.3
		- Base metal mountings, fittings and similar a...	46.8
		- Safes; armoured or reinforced, strong-boxes,...	1.9
		- Office equipment; filing cabinets, card-inde...	0.5
		- Stationery; fittings for loose-leaf binders ...	2.0
		- Bells, gongs and the like; non-electric, sta...	4.0
		- Tubing; flexible, with or without fittings, ...	3.7
		- Clasps; frames with clasps, buckles, hooks, ...	4.7
		- Stoppers, caps, lids (including crown corks,...	10.1
		- Sign plates, name plates, address plates and...	1.2
		- Wires, rods, tubes, plates, electrodes of ba...	5.7
Nuclear reactors, boilers , machinery and mec...	46.0	- Nuclear reactors; fuel elements (cartridges)...	0.1
		- Boilers; steam or other vapour generating (o...	0.3
		- Central heating boilers; excluding those of ...	0.4
		- Auxiliary plant for use with boilers of head...	0.1
		- Generators for producer or water gas with or...	0.1
		- Turbines; steam and other vapour turbines	0.4
		- Reciprocating or rotary internal combustion ...	0.4
		- Compression-ignition internal combustion pis...	1.0
		- Turbines; hydraulic water wheels and regulat...	0.1
		- Turbo-jets, turbo-propellers and other gas t...	1.7
		- Engines and motors; n.e.s. (eg reaction engi...	0.9
		- Pumps; for liquids, whether or not fitted wi...	3.4
		- Air or vacuum pumps, air or other gas compre...	3.8
		- Air conditioning machines; comprising a moto...	2.2
		- Furnace burners for liquid fuel, for pulveri...	0.2
		- Furnaces and ovens; industrial or laboratory...	0.3
		- Refrigerators, freezers and other refrigerat...	2.4
		- Machinery, plant or laboratory equipment for...	2.1
		- Machines; calendering or other rolling machi...	0.1
		- Centrifuges, including centrifugal dryers; f...	3.0
		- Dish washing machines; machinery for cleanin...	1.6
		- Weighing machines; excluding balances of a s...	0.2
		- Mechanical appliances for projecting, disper...	1.0
		- Pulley tackle and hoists other than skip hoi...	0.4
		- Derricks, cranes, including cable cranes, mo...	0.9
		- Fork-lift and other works trucks; fitted wit...	0.9
		- Lifting, handling, loading or unloading mach...	1.5
		- Bulldozers, graders, levellers, scrapers, an...	2.7
		- Moving, grading, levelling, scraping, excava...	0.7
		- Machinery parts; used solely or principally ...	3.4
		- Agricultural, horticultural or forestry mach...	0.4
		- Harvesting and threshing machinery, straw an...	1.1
		- Milking machines and dairy machinery	0.1
		- Presses, crushers and similar machinery; use...	0.0
		- Agricultural, horticultural, forestry, poult...	0.3
		- Machines for cleaning, sorting, grading seed...	0.1
		- Machinery n.e.s. in this chapter, for the in...	0.7

(continued...)

		- Machinery; for making pulp of fibrous cellul...	0.4
		- Book-binding machinery; including book-sewin...	0.1
		- Machines; for making up paper pulp, paper or...	0.4
		- Machinery and apparatus; for type founding o...	0.1
		- Printing machinery; machines for uses ancill...	3.9
		- Textile machinery; for extruding, drawing, t...	0.1
		- Textile machinery; spinning, doubling, twist...	0.3
		- Weaving machines (looms)	0.2
		- Knitting machines, stitch-bonding machines a...	0.2
		- Machinery, auxiliary; for use with machines ...	0.4
		- Machinery; for manufacture or finishing felt...	0.0
		- Household or laundry-type washing machines; ...	0.8
		- Machinery (not of heading no. 8450) for wash...	0.5
		- Sewing machines; other than book-sewing mach...	0.3
		- Machinery for preparing, tanning or working ...	0.1
		- Converters, ladles, ingot moulds and casting...	0.2
		- Metal-rolling mills and rolls therefor	0.4
		- Machine-tools; for working any material by r...	0.5
		- Machining centres, unit construction machine...	0.6
		- Lathes for removing metal	0.4
		- Machine-tools; (including way-type unit head...	0.3
		- Machine-tools; for deburring, sharpening, gr...	0.3
		- Machine-tools; for planing, shaping, slottin...	0.2
		- Machine-tools; (including presses) for worki...	0.6
		- Machine-tools; n.e.s. for working metal, sin...	0.1
		- Machine-tools; for working stone, ceramics, ...	0.2
		- Machine-tools; (including machines for naili...	0.5
		- Machine-tools; parts suitable for use with t...	1.0
		- Tools for working in the hand, pneumatic or ...	0.5
		- Machinery and apparatus for soldering, brazi...	0.1
		- Calculating machines, accounting machines, c...	0.3
		- Automatic data processing machines and units...	17.6
		- Office machines n.e.s.; hectograph, stencil ...	0.4
		- Machinery; parts and accessories (not covers...	10.0
		- Machinery for sorting, screening, separating...	1.0
		- Machines; for assembling electric or electro...	0.2
		- Automatic goods-vending machines (eg postage...	0.1
		- Machinery; for working rubber or plastics or...	1.5
		- Machinery; for preparing or making up tobacc...	0.1
		- Machinery and mechanical appliances; having ...	5.4
		- Moulding boxes for metal foundry, moulding p...	1.0
		- Taps, cocks, valves and similar appliances f...	4.3
		- Ball or roller bearings	1.8
		- Transmission shafts (including cam and crank...	2.8
		- Gaskets and similar joints of metal sheeting...	0.2
		- Machinery parts; not containing electrical c...	0.5
Electrical machinery and equipment and parts	19.4	- Electric motors and generators (excluding ge...	3.1
		- Electric generating sets and rotary converters	1.6
		- Electric motors and generators; parts suitab...	1.1
		- Electric transformers, static converters (eg...	5.2
		- Electro-magnets; permanent magnets, intended...	0.4
		- Cells and batteries; primary	0.6
		- Electric accumulators, including separators ...	2.0
		- Electro-mechanical tools; for working in the...	0.9
		- Electro-mechanical domestic appliances; with...	1.2
		- Shavers and hair clippers; with self-contain...	0.2
		- Lighting or visual signalling equipment (exc...	1.1

(continued...)

		- Lamps; portable, electric, designed to funct...	0.2
		- Industrial or laboratory electric (including...	0.4
		- Electric (electrically heated gas) soldering...	0.7
		- Electric water, space, soil heaters; electro...	2.7
		- Line telephony or line telegraphy apparatus;...	5.4
		- Microphones and stands therefor; loudspeaker...	1.9
		- Turntables, record players, cassette-players...	0.0
		- Magnetic tape recorders and other sound reco...	0.1
		- Video recording or reproducing apparatus	2.7
		- Sound or video recording apparatus; parts th...	0.7
		- Media, unrecorded; prepared, for sound recor...	1.0
		- Transmission apparatus for radio-telephony, ...	13.1
		- Radar apparatus, radio navigational aid appa...	1.0
		- Radio-telephony, radio-telegraphy or radio-b...	1.7
		- Television receivers (including video monito...	5.5
		- Transmission apparatus; parts suitable for u...	4.6
		- Signalling, safety or traffic control equipm...	0.2
		- Signalling apparatus; electric sound or visu...	1.2
		- Electrical capacitors; fixed, variable or ad...	1.5
		- Electrical resistors (including rheostats an...	0.6
		- Circuits; printed	2.1
		- Electrical apparatus for switching, protecti...	0.6
		- Electrical apparatus for switching, protecti...	5.7
		- Boards, panels, consoles, desks, cabinets, b...	2.6
		- Electrical apparatus; parts suitable for use...	1.8
		- Lamps; electric filament or discharge lamps,...	1.2
		- Thermionic, cold cathode or photo-cathode va...	0.9
		- Diodes, transistors, similar semiconductor d...	4.6
		- Electronic integrated circuits and microasse...	12.1
		- Electrical machines and apparatus; having in...	2.0
		- Insulated wire, cable and other electric con...	3.0
		- Carbon electrodes, carbon brushes, lamp carb...	0.4
		- Electrical insulators of any material	0.1
		- Insulating fittings; for electrical machines...	0.1
		- Electrical parts; of machinery or apparatus,...	0.3
Vehicles; other than railway or tramway roll...	0.8	- Tractors; (other than tractors of heading no...	68.3
		- Vehicles; for the transport of goods	25.9
		- Works trucks, self-propelled, (not fitted wi...	4.1
		- Trailers and semi-trailers; other vehicles, ...	1.7
Aircraft, spacecraft and parts thereof	0.015	- Aircraft launching gear, deck-arrestor or si...	100.0
Optical, photographic, cinematographic, meas...	0.8	- Optical fibres and optical fibre bundles; op...	6.5
		- Lenses, prisms, mirrors and other optical el...	2.8
		- Binoculars, monoculars, other optical telesc...	0.4
		- Cameras, photographic (excluding cinematogra...	1.9
		- Cinematographic cameras and projectors, whet...	0.3
		- Image projectors, other than cinematographic...	0.2
		- Photo-copying apparatus; incorporating an op...	1.1
		- Photographic (including cinematographic) lab...	4.4
		- Microscopes, compound optical; including tho...	1.0
		- Microscopes (excluding optical microscopes) ...	0.5
		- Liquid crystal devices not constituting arti...	12.5
		- Navigational instruments and appliances; dir...	2.3
		- Surveying (including photogrammetrical surve...	2.5
		- Balances; of a sensitivity of 5cg or better,...	0.1
		- Drawing, marking-out, mathematical calculati...	0.7

(continued...)

		- Instruments and appliances used in medical, ...	5.2
		- Orthopaedic appliances; including crutches, ...	5.2
		- X-ray, alpha, beta, gamma radiation apparatu...	5.9
		- Machines and appliances for testing the hard...	0.7
		- Hydrometers and similar floating instruments...	1.2
		- Instruments, apparatus for measuring or chec...	5.0
		- Instruments and apparatus; for physical or c...	9.6
		- Gas, liquid or electricity supply or product...	1.6
		- Revolution counter, production counters, tax...	1.9
		- Instruments, apparatus for measuring, checki...	6.6
		- Measuring or checking instruments, appliance...	9.7
		- Regulating or controlling instruments and ap...	9.2
		- Machines and appliances, instruments or appa...	0.8
Clocks and watches and parts thereof	0.2	- Wrist-watches, pocket-watches, stop-watches ...	26.3
		- Wrist-watches, pocket-watches, stop-watches ...	54.2
		- Clocks; with watch movements, excluding cloc...	0.3
		- Instrument panel clocks and clocks of a simi...	0.4
		- Clocks, other, n.e.s.	3.8
		- Time of day recording apparatus and apparatu...	1.0
		- Time switches; with clock, watch movement or...	1.7
		- Watch movements; complete and assembled	4.2
		- Clock movements; complete and assembled	0.2
		- Watch or clock movements, complete, unassemb...	0.8
		- Watch cases and parts thereof	2.5
		- Clock cases and cases of a similar type for ...	0.1
		- Clock or watch parts; n.e.s. in chapter 91	4.4
Arms and ammunition; parts and accessories t...	0.4	- Military weapons; other than revolvers, pist...	9.8
		- Revolvers and pistols; other than those of h...	8.1
		- Firearms; other similar devices (eg sporting...	13.7
		- Firearms; (eg spring, air or gas guns and pi...	5.6
		- Firearms; parts and accessories of articles ...	16.0
		- Bombs, grenades, torpedoes, mines, missiles ...	45.9
		- Arms; swords, cutlasses, bayonets, lances an...	1.1
Furniture; bedding, mattresses, mattress sup...	1.6	- Lamps, light fittings; including searchlight...	82.0
		- Buildings; prefabricated	18.0
Toys, games and sports requisites; parts and ...	0.1	- Games; funfair, table or parlour, articles t...	90.9
		- Roundabouts, swings, shooting galleries, oth...	9.1

Table H.6: Products and their export share in the machine industry

Transport & equipment

HS-2digit label	Export share in industry	HS-4digit label	Export share in product
Nuclear reactors, boilers, machinery and mec	11.1	- Reciprocating or rotary internal combustion ...	19.8
		- Compression-ignition internal combustion pis...	14.2
		- Parts suitable for use solely or principally...	30.1
		- Turbo-jets, turbo-propellers and other gas t...	35.7
		- Engines and motors; n.e.s. (eg reaction engi...	0.3
Electrical machinery and equipment and parts	2.6	- Ignition or starting equipment; used for spa...	36.4
		- Lighting or visual signalling equipment (exc...	4.3
		- Insulated wire, cable and other electric con...	59.4
Railway, tramway locomotives, rolling -stock	1.6	- Rail locomotives; powered from an external s...	3.7
		- Rail locomotives; (other than those of headi...	6.3
		- Railway or tramway coaches, vans and trucks;...	17.1
		- Railway or tramway maintenance or service ve...	3.8
		- Railway or tramway coaches; passenger coache...	5.3
		- Railway or tramway goods vans and wagons; no...	13.4
		- Railway or tramway locomotives or rolling st...	36.5
		- Railway or tramway track fixtures and fittin...	2.9
		- Containers; (including containers for transp...	11.0
Vehicles; other than railway or tramway roll..	66.4	- Tractors; (other than tractors of heading no...	2.1
		- Vehicles; public transport passenger type	1.3
		- Motor cars and other motor vehicles; princip...	54.5
		- Vehicles; for the transport of goods	9.4
		- Special purpose motor vehicles; not those fo...	1.0
		- Chassis; fitted with engines, for the motor ...	0.4
		- Bodies; (including cabs) for the motor vehic...	0.7
		- Motor vehicles; parts and accessories, of he...	25.2
		- Tanks and other armoured fighting vehicles; ...	0.2
		- Motorcycles (including mopeds) and cycles; f...	1.6
		- Bicycles and other cycles; including deliver...	0.5
		- Invalid carriages; whether or not motorised ...	0.1
		- Vehicles; parts and accessories of heading n...	1.1
		- Baby carriages and parts thereof	0.2
		- Trailers and semi-trailers; other vehicles, ...	1.7
Aircraft, spacecraft and parts thereof	12.0	- Aircraft, non-powered; balloons, dirigibles,...	0.0
		- Aircraft; (eg helicopters, aeroplanes), spac...	67.2
		- Aircraft; parts of heading no. 8801 or 8802	32.7
Ships, boats and floating structures	6.1	- Cruise ships, excursion boats, ferry-boats, ...	62.7
		- Fishing vessels, factory ships and other ves...	1.2
		- Yachts and other vessels; for pleasure or sp...	11.2
		- Tugs and pusher craft	3.2
		- Light-vessels, fire-floats, dredgers, floati...	17.6
		- Vessels; other, including warships and lifeb...	3.2
		- Boats, floating structures, other (for eg ra...	1.0
Furniture; bedding, mattresses, mattress sup...	0.2	- Seats (not those of heading no. 9402), wheth...	100.0

Table H.7: Products and their export share in the transport & equipment industry

Wood and wood products

HS-2digit	share in industry	label	share (\%)
Wood and articles of wood; wood charcoal	96.1	- Fuel wood, in logs, billets, twigs, faggots ...	5.8
		- Wood in the rough, whether or not stripped o...	0.4
		- Hoopwood; split poles; piles, pickets, stake...	0.3
		- Wood wool; wood flour	0.1
		- Railway or tramway sleepers (cross-ties) of ...	0.3
		- Wood sawn or chipped lengthwise, sliced, pee...	33.5
		- Veneer sheets and sheets for plywood (splice...	3.2
		- Wood (including strips, friezes for parquet ...	5.0
		- Particle board and similar board; of wood or...	7.7
		- Fibreboard of wood or other ligneous materia...	4.3
		- Plywood, veneered panels and similar laminat...	13.2
		- Densified wood, in blocks, plates, strips or...	0.4
		- Wooden frames; for paintings, photographs, m...	1.1
		- Packing cases, boxes, crates, drums and simi...	2.7
		- Casks, barrels, vats, tubs and other coopers...	0.7
		- Tools, tool bodies, tool handles, broom or b...	0.3
		- Builders' joinery and carpentry of wood, inc...	12.9
		- Tableware and kitchenware, of wood	1.0
		- Wood marquetry and inlaid wood; caskets and ...	1.6
		- Wooden articles n.e.s. in heading no. 4414 t...	5.5
Cork and articles of cork	1.8	- Natural cork, raw or simply prepared; waste ...	4.6
		- Natural cork, debacked or roughly squared, o...	2.7
		- Cork; articles of natural cork	50.1
		- Agglomerated cork (with or without a binding...	42.7
Manufactures of straw, esparto or other plai...	2.1	- Plaits and similar products of plaiting mate...	22.1
		- Basketwork, wickerwork and other articles, m...	77.9

Table H.8: Products and their export share in the wood and wood products industry

Non-specified

HS-2digit label	Export share in industry	HS-4digit label	Export share in product
Animal originated products; not elsewhere sp...	0.01	- Human hair; unworked, whether or not washed ...	100.0
Pharmaceutical products	0.6	- Pharmaceutical goods	100.0
Soap, organic surface-active agents; washing	0.3	- Candles, tapers and the like	100.0
Explosives; pyrotechnic products; matches; p..	0.05	- Ferro-cerium and other pyrophoric alloys in ...	100.0
Plastics and articles thereof	28.4	- Monofilament of which any cross-sectional di...	2.1
		- Tubes, pipes and hoses and fittings thereof ...	8.1
		- Floor coverings of plastics, self-adhesive o...	2.1
		- Self-adhesive plates, sheets, film, foil, ta...	6.6
		- Plastic plates, sheets, film, foil and strip...	19.7
		- Plastic plates, sheets, film, foil and strip...	8.7
		- Sanitary ware; baths, shower-baths, wash-bas...	1.5
		- Plastic articles for the conveyance or packi...	18.1
		- Tableware, kitchenware, other household arti...	5.5
		- Plastics; builders' wares n.e.s. or included	3.6
		- Articles of plastics and articles of other m...	24.1
Rubber and articles thereof	14.9	- Compounded rubber, unvulcanised, in primary ...	5.2
		- Unvulcanised rubber in other forms (eg rods,...	0.4
		- Vulcanised rubber thread and cord	0.5
		- Plates, sheets, strip, rods and profile shap...	3.1
		- Tubes, pipes and hoses, of vulcanised rubber...	7.2
		- Conveyor or transmission belts or belting, o...	3.3
		- New pneumatic tyres, of rubber	54.6
		- Retreaded or used pneumatic tyres of rubber;...	1.4
		- Inner tubes, of rubber	0.9
		- Hygienic or pharmaceutical articles (includi...	1.0
		- Articles of apparel and clothing accessories...	4.7
		- Articles of vulcanised rubber other than har...	17.5
		- Hard rubber (eg ebonite) in all forms, inclu...	0.2
Articles of leather; saddlery and harness; t	0.08	- Articles of apparel and clothing accessories...	93.5
		- Articles of gut (other than silk-worm gut), ...	6.5
Printed books, newspapers, pictures and othe...	0.006	- Maps and hydrographic or similar charts of a...	100.0
Textile fabrics; impregnated, coated, covere...	0.2	- Linoleum, whether or not cut to shape; floor...	22.2
		- Textile fabrics, rubberised; other than thos...	77.8
Footwear; gaiters and the like; parts of suc...	0.1	- Footwear; with outer soles and uppers of rub...	90.2
		- Footwear; with outer soles of rubber, plasti...	9.8
Headgear and parts thereof	0.3	- Headgear; n.e.s. in chapter 65, whether or n...	100.0
Umbrellas, sun umbrellas, walking-sticks, se...	0.4	- Umbrellas; sun umbrellas (including walking ...	88.3
		- Walking-sticks, seat-sticks, whips, riding-c...	3.6

(continued...)

		- Trimmings, parts and accessories of articles...	8.1
Feathers and down, prepared; and articles ma	0.6	- Skin and other parts of birds with their fea...	2.5
		- Flowers, foliage and fruit, artificial, and ...	48.7
		- Human hair, dressed, thinned, bleached or ot...	9.2
		- Wigs, false beards, eyebrows and eyelashes, ...	39.6
Natural, cultured pearls; precious, semi-pre...	10.5	- Pearls; natural or cultured, whether or not ...	1.2
		- Diamonds, whether or not worked, but not mou...	26.6
		- Precious (excluding diamond) and semi-precio...	2.6
		- Synthetic, reconstructed precious, semi-prec...	0.6
		- Dust and powder of natural or synthetic prec...	0.6
		- Jewellery articles and parts thereof, of pre...	55.7
		- Articles of goldsmiths' or silversmiths' war...	1.8
		- Articles of precious metal or of metal clad ...	3.0
		- Articles of natural or cultured pearls, prec...	1.1
		- Imitation jewellery	6.4
		- Coin	0.5
Nuclear reactors, boilers, machinery and mec...	0.1	- Machinery, plant or laboratory equipment for...	100.0
Electrical machinery and equipment and parts	0.4	- Insulating fittings; for electrical machines...	100.0
Optical, photographic, cinematographic, meas...	13.1	- Frames and mountings; for spectacles, goggle...	5.0
		- Spectacles, goggles and the like; corrective...	6.2
		- Instruments and appliances used in medical, ...	60.1
		- Mechano-therapy, massage appliances; psychol...	7.5
		- Breathing appliances and gas masks; excludin...	1.1
		- Orthopaedic appliances; including crutches, ...	17.9
		- Instruments, apparatus and models, designed ...	2.2
Clocks and watches and parts thereof	0.1	- Watch cases and parts thereof	27.7
		- Clock cases and cases of a similar type for ...	1.0
		- Watch straps, watch bands, watch bracelets a...	71.4
Musical instruments; parts and accessories o...	0.8	- Pianos; including automatic pianos, harpsich...	14.6
		- Musical instruments; string, n.e.s. in headi...	12.0
		- Musical instruments; wind, (eg clarinets, tr...	11.0
		- Musical instruments; percussion (eg drums, x...	6.3
		- Musical instruments; the sound of which is p...	34.0
		- Musical boxes, fairground and mechanical str...	2.1
		- Musical instrument parts (eg mechanisms for ...	20.0
Furniture; bedding, mattresses, mattress sup...	16.4	- Seats (not those of heading no. 9402), wheth...	42.3
		- Furniture; medical, surgical, dental or vete...	2.1
		- Furniture and parts thereof, n.e.s. in chapt...	52.5
		- Mattress supports; articles of bedding (eg m...	2.7
		- Lamps, light fittings; including searchlight...	0.4
Toys, games and sports requisites; parts and	9.0	- Toys, other; reduced-size ("scale") models a...	36.6
		- Games; funfair, table or parlour, articles t...	21.1
		- Festive, carnival or other entertainment art...	9.3
		- Gymnastics, athletics, other sports (includi...	29.2
		- Fishing rods, fish-hooks and other line fish...	3.8
Miscellaneous manufactured articles	3.4	- Ivory, bone, tortoise-shell, horn, antlers, ...	0.5
		- Vegetable, mineral carving material and arti...	2.8
		- Brooms, brushes (including parts of machines...	24.0
		- Hand sieves and hand riddles	0.1
		- Buttons, press-fasteners, snap-fasteners and...	6.6

(continued...)

	- Slide fasteners and parts thereof	8.0
	- Pens; ball-point, felt tipped, other porous ...	21.5
	- Pencils (not of heading no. 9608), crayons, ...	4.8
	- Slates and boards, with writing or drawing s...	1.5
	- Stamps; date, numbering, sealing stamps and ...	1.1
	- Typewriter, similar ribbons, inked, otherwis...	7.9
	- Cigarette lighters and other lighters, wheth...	6.5
	- Smoking pipes (including pipe bowls) and cig...	0.1
	- Combs, hair-slides and similar; hairpins, cu...	4.5
	- Scent sprays and similar toilet sprays and m...	3.6
	- Vacuum flasks and other vacuum vessels, comp...	4.5
	- Tailors' dummies and other lay figures; auto...	1.9

Table H.9: Products and their export share in the non-specified industry

HS-2digit regression results

Chemical

	parameter	std_errors	t-stat
const (r-square=0.0237; NOBS=925; Sm.Est.=1.0286)	-0.09784	0.04614	-2.12037
d5_Essential oils and resinoids; perfumery, cos...	-0.04697	0.23170	-0.20270
lag5_ln_intensity	-0.04182	0.01800	-2.32395
const (r-square=0.0233; NOBS=926; Sm.Est.=1.0285)	-0.09923	0.04310	-2.30207
d5_Soap, organic surface-active agents; washing...	-0.00668	0.18959	-0.03523
lag5_ln_intensity	-0.04241	0.01647	-2.57500
const (r-square=0.0267; NOBS=926; Sm.Est.=1.0284)	-0.09413	0.04222	-2.22942
d5_Chemical products n.e.s.	-0.18025	0.35743	-0.50430
lag5_ln_intensity	-0.04027	0.01613	-2.49637
const (r-square=0.063; NOBS=927; Sm.Est.=1.0276)	-0.10324	0.04404	-2.34408
d5_Plastics and articles thereof	0.53758	0.34960	1.53769
lag5_ln_intensity	-0.04461	0.01645	-2.71248
const (r-square=0.0462; NOBS=896; Sm.Est.=1.0252)	-0.09848	0.04675	-2.10664
d5_Mineral fuels, mineral oils and products of ...	-0.05007	0.02371	-2.11157
lag5_ln_intensity	-0.03981	0.01831	-2.17433
const (r-square=0.0422; NOBS=927; Sm.Est.=1.0282)	-0.10777	0.04461	-2.41599
d5_Inorganic chemicals; organic and inorganic c...	-0.07260	0.04236	-1.71391
lag5_ln_intensity	-0.04505	0.01702	-2.64656
const (r-square=0.0284; NOBS=927; Sm.Est.=1.0285)	-0.09687	0.04352	-2.22576
d5_Organic chemicals	0.13035	0.17062	0.76398
lag5_ln_intensity	-0.04173	0.01700	-2.45428
const (r-square=0.2549; NOBS=926; Sm.Est.=1.0213)	-0.05721	0.03891	-1.47020
d5_Pharmaceutical products	-1.10200	0.23782	-4.63382
lag5_ln_intensity	-0.02702	0.01481	-1.82435
const (r-square=0.0251; NOBS=926; Sm.Est.=1.0284)	-0.09531	0.04558	-2.09087
d5_Tanning or dyeing extracts; tannins and thei...	-0.08882	0.16814	-0.52827

(continued...)

lag5_ln_intensity	-0.04106	0.01728	-2.37666
const (r-square=0.0555; NOBS=926; Sm.Est.=1.0275)	-0.07631	0.04289	-1.77917
d5_Albuminoidal substances; modified starches; ...	-0.10452	0.05501	-1.90016
lag5_ln_intensity	-0.03418	0.01627	-2.10034
const (r-square=0.0353; NOBS=913; Sm.Est.=1.0285)	-0.09642	0.04305	-2.23981
d5_Explosives; pyrotechnic products; matches; p...	-0.04458	0.02421	-1.84138
lag5_ln_intensity	-0.04099	0.01646	-2.49014
const (r-square=0.0588; NOBS=920; Sm.Est.=1.027)	-0.10260	0.04382	-2.34114
d5_Photographic or cinematographic goods	0.23410	0.15481	1.51211
lag5_ln_intensity	-0.04289	0.01670	-2.56870
const (r-square=0.0238; NOBS=912; Sm.Est.=1.026)	-0.10112	0.04420	-2.28792
d5_Rubber and articles thereof	0.00025	0.00028	0.89424
lag5_ln_intensity	-0.04124	0.01713	-2.40717
const (r-square=0.0393; NOBS=909; Sm.Est.=1.0272)	-0.10703	0.04448	-2.40612
d5_Man-made filaments	-0.09745	0.06592	-1.47841
lag5_ln_intensity	-0.04444	0.01730	-2.56871
const (r-square=0.0184; NOBS=910; Sm.Est.=1.0281)	-0.08949	0.04071	-2.19812
d5_Man-made staple fibres	0.01262	0.10097	0.12496
lag5_ln_intensity	-0.03762	0.01497	-2.51412
const (r-square=0.0281; NOBS=908; Sm.Est.=1.0262)	-0.10035	0.04452	-2.25417
d5_Animal or vegetable fats and oils and their ...	-0.01943	0.01610	-1.20729
lag5_ln_intensity	-0.04073	0.01731	-2.35327
const (r-square=0.0469; NOBS=901; Sm.Est.=1.0277)	-0.09604	0.04602	-2.08694
d5_Beverages, spirits and vinegar	-0.03725	0.03446	-1.08110
lag5_ln_intensity	-0.04151	0.01779	-2.33371
const (r-square=0.0344; NOBS=919; Sm.Est.=1.0268)	-0.10631	0.04624	-2.29890
d5_Fertilizers	-0.04056	0.04078	-0.99479
lag5_ln_intensity	-0.04396	0.01769	-2.48566
const (r-square=0.052; NOBS=882; Sm.Est.=1.0266)	-0.10398	0.04599	-2.26072
d5_Wood and articles of wood; wood charcoal	-0.02563	0.01404	-1.82534
lag5_ln_intensity	-0.04349	0.01782	-2.44063
const (r-square=0.0507; NOBS=387; Sm.Est.=1.0096)	-0.05310	0.04302	-1.23425
d5_Nuclear reactors, boilers, machinery and mec...	0.06725	0.02583	2.60331
lag5_ln_intensity	-0.02029	0.01650	-1.22912
const (r-square=0.0324; NOBS=307; Sm.Est.=1.0131)	-0.07154	0.06199	-1.15400
d5_Ores, slag and ash	-0.00552	0.00303	-1.82352
lag5_ln_intensity	-0.02855	0.02245	-1.27186

Table I.1: Regression results of HS-2digit products in the chemical industry [1995-2017]

Metal-steel

	parameter	std_errors	t-stat
const (r-square=0.147; NOBS=985; Sm.Est.=1.0408)	-0.23067	0.05745	-4.01527
d5_Iron or steel articles	-0.35235	0.15051	-2.34101
lag5_ln_intensity	-0.11307	0.02964	-3.81450
const (r-square=0.1097; NOBS=986; Sm.Est.=1.0433)	-0.25632	0.06461	-3.96695
d5_Iron and steel	0.00333	0.00332	1.00553
lag5_ln_intensity	-0.12622	0.03331	-3.78904
const (r-square=0.138; NOBS=962; Sm.Est.=1.04)	-0.26478	0.06865	-3.85723
d5_Ores, slag and ash	-0.08698	0.02951	-2.94772
lag5_ln_intensity	-0.13170	0.03497	-3.76590
const (r-square=0.1095; NOBS=986; Sm.Est.=1.0434)	-0.25643	0.06464	-3.96687
d5_Copper and articles thereof	0.00438	0.00969	0.45215
lag5_ln_intensity	-0.12628	0.03328	-3.79467
const (r-square=0.1159; NOBS=966; Sm.Est.=1.0426)	-0.27119	0.06980	-3.88503
d5_Nickel and articles thereof	-0.00399	0.08415	-0.04743
lag5_ln_intensity	-0.13409	0.03628	-3.69603
const (r-square=0.1124; NOBS=986; Sm.Est.=1.0432)	-0.25657	0.06476	-3.96203
d5_Aluminium and articles thereof	-0.10697	0.16879	-0.63375
lag5_ln_intensity	-0.12635	0.03358	-3.76259
const (r-square=0.1994; NOBS=963; Sm.Est.=1.0371)	-0.23360	0.06419	-3.63938
d5_Zinc and articles thereof	0.29593	0.09223	3.20848
lag5_ln_intensity	-0.11564	0.03354	-3.44746
const (r-square=0.1559; NOBS=985; Sm.Est.=1.0413)	-0.25505	0.06316	-4.03828
d5_Metals; n.e.s., cermets and articles thereof	-0.06113	0.03332	-1.83445
lag5_ln_intensity	-0.12509	0.03218	-3.88776
const (r-square=0.1185; NOBS=970; Sm.Est.=1.0428)	-0.26823	0.06873	-3.90239
d5_Lead and articles thereof	-0.02899	0.04117	-0.70421
lag5_ln_intensity	-0.13268	0.03513	-3.77741
const (r-square=0.1365; NOBS=972; Sm.Est.=1.0385)	-0.23623	0.05743	-4.11330
d5_Natural, cultured pearls; precious, semi-pre...	-0.29985	0.23363	-1.28344
lag5_ln_intensity	-0.12087	0.03037	-3.97937
const (r-square=0.1065; NOBS=944; Sm.Est.=1.0411)	-0.27150	0.06983	-3.88821
d5_Tin; articles thereof	-0.00313	0.04026	-0.07785
lag5_ln_intensity	-0.13352	0.03618	-3.69054

Table I.2: Regression results of HS-2digit products in the metal-steel industry [1995-2017]

Non-metallic minerals

	parameter	std_errors	t-stat
const (r-square=0.047; NOBS=1016; Sm.Est.=1.0181)	-0.12481	0.03397	-3.67380
d5_Glass and glassware	0.00095	0.00306	0.31204
lag5_ln_intensity	-0.07427	0.01862	-3.98861
const (r-square=0.0671; NOBS=1015; Sm.Est.=1.0176)	-0.14317	0.03395	-4.21716
d5_Salt; sulphur; earths, stone; plastering mat...	-0.06460	0.04821	-1.33986
lag5_ln_intensity	-0.08401	0.01895	-4.43250
const (r-square=0.0567; NOBS=977; Sm.Est.=1.0178)	-0.12288	0.03469	-3.54176
d5_Mineral fuels, mineral oils and products of ...	-0.00987	0.00332	-2.97284
lag5_ln_intensity	-0.07090	0.01953	-3.62984
const (r-square=0.0582; NOBS=1005; Sm.Est.=1.0179)	-0.13153	0.03450	-3.81246
d5_Chemical products n.e.s.	0.09540	0.08609	1.10819
lag5_ln_intensity	-0.07818	0.01904	-4.10632
const (r-square=0.0474; NOBS=1015; Sm.Est.=1.0181)	-0.12470	0.03390	-3.67853
d5_Stone, plaster, cement, asbestos, mica or si...	0.02555	0.16152	0.15819
lag5_ln_intensity	-0.07420	0.01864	-3.98078
const (r-square=0.0623; NOBS=1015; Sm.Est.=1.0178)	-0.12883	0.03285	-3.92188
d5_Ceramic products	0.29622	0.24378	1.21512
lag5_ln_intensity	-0.07700	0.01803	-4.27136
const (r-square=0.0502; NOBS=991; Sm.Est.=1.0168)	-0.13085	0.03471	-3.76995
d5_Electrical machinery and equipment and parts...	0.02649	0.08861	0.29896
lag5_ln_intensity	-0.07524	0.01952	-3.85439
const (r-square=0.0335; NOBS=985; Sm.Est.=1.017)	-0.11163	0.04020	-2.77713
d5_Furniture; bedding, mattresses, mattress sup...	-0.02738	0.03171	-0.86340
lag5_ln_intensity	-0.06497	0.02252	-2.88512
const (r-square=0.1622; NOBS=446; Sm.Est.=1.0018)	-0.09346	0.03762	-2.48422
d5_Natural, cultured pearls; precious, semi-pre...	-0.00363	0.00800	-0.45370
lag5_ln_intensity	-0.05252	0.02123	-2.47395

Table I.3: Regression results of HS-2digit products in the non-metallic minerals industry [1995-2017]

Pulp&paper

	parameter	std_errors	t-stat
const (r-square=0.0749; NOBS=1015; Sm.Est.=1.035)	-0.18678	0.07097	-2.63185
d5_Paper and paperboard; articles of paper pulp...	0.00165	0.00855	0.19306
lag5_ln_intensity	-0.07235	0.02596	-2.78724
const (r-square=0.0654; NOBS=985; Sm.Est.=1.0321)	-0.17292	0.07357	-2.35034
d5_Pulp of wood or other fibrous cellulosic mat...	-0.01451	0.02272	-0.63865
lag5_ln_intensity	-0.06641	0.02714	-2.44661
const (r-square=0.0865; NOBS=1013; Sm.Est.=1.0345)	-0.18595	0.07045	-2.63942
d5_Printed books, newspapers, pictures and othe...	-0.03005	0.02901	-1.03567
lag5_ln_intensity	-0.07168	0.02572	-2.78709
const (r-square=0.0737; NOBS=991; Sm.Est.=1.0334)	-0.18522	0.07423	-2.49528
d5_Nuclear reactors, boilers, machinery and mec...	-0.03237	0.06373	-0.50794
lag5_ln_intensity	-0.07113	0.02743	-2.59297
const (r-square=0.0816; NOBS=840; Sm.Est.=1.0292)	-0.17975	0.08405	-2.13859
d5_Textile fabrics; impregnated, coated, covere...	-0.03887	0.02120	-1.83362
lag5_ln_intensity	-0.07132	0.03123	-2.28370

Table I.4: Regression results of HS-2digit products in the pulp & paper industry [1995-2017]

Food products

	parameter	std_errors	t-stat
const (r-square=0.0187; NOBS=984; Sm.Est.=1.0196)	-0.09239	0.04078	-2.26565
d5_Meat and edible meat offal	0.10996	0.12080	0.91029
lag5_ln_intensity	-0.02841	0.01014	-2.80171
const (r-square=0.0132; NOBS=982; Sm.Est.=1.0197)	-0.09510	0.04257	-2.23375
d5_Food industries, residues and wastes thereof...	0.00044	0.10846	0.00402
lag5_ln_intensity	-0.02927	0.01061	-2.75860
const (r-square=0.0873; NOBS=982; Sm.Est.=1.0182)	-0.09388	0.04096	-2.29185
d5_Tobacco and manufactured tobacco substitutes	-0.14747	0.06130	-2.40560
lag5_ln_intensity	-0.02878	0.01034	-2.78492
const (r-square=0.0142; NOBS=981; Sm.Est.=1.0197)	-0.09802	0.04329	-2.26405
d5_Animal or vegetable fats and oils and their ...	0.01743	0.08605	0.20251
lag5_ln_intensity	-0.03020	0.01076	-2.80745
const (r-square=0.0321; NOBS=983; Sm.Est.=1.0192)	-0.09727	0.04124	-2.35863
d5_Fish and crustaceans, molluscs and other aqu...	0.11262	0.09170	1.22814
lag5_ln_intensity	-0.02998	0.01013	-2.96115
const (r-square=0.0362; NOBS=982; Sm.Est.=1.0192)	-0.11459	0.04782	-2.39612
d5_Dairy produce; birds' eggs; natural honey; e...	-0.17813	0.12499	-1.42517
lag5_ln_intensity	-0.03490	0.01247	-2.79832
const (r-square=0.0143; NOBS=981; Sm.Est.=1.0197)	-0.09764	0.04426	-2.20589
d5_Coffee, tea, mate and spices	-0.01122	0.06155	-0.18225
lag5_ln_intensity	-0.03013	0.01108	-2.71903
const (r-square=0.0156; NOBS=980; Sm.Est.=1.0197)	-0.10027	0.04361	-2.29905
d5_Products of the milling industry; malt, star...	-0.01445	0.02108	-0.68540
lag5_ln_intensity	-0.03069	0.01085	-2.82789
const (r-square=0.0143; NOBS=971; Sm.Est.=1.0196)	-0.10126	0.04683	-2.16218
d5_Lac; gums, resins and other vegetable saps a...	-0.00594	0.05940	-0.10004
lag5_ln_intensity	-0.03078	0.01190	-2.58722
const (r-square=0.0144; NOBS=984; Sm.Est.=1.0196)	-0.09694	0.04222	-2.29614
d5_Meat, fish or crustaceans, molluscs or other...	-0.03941	0.11640	-0.33854
lag5_ln_intensity	-0.02969	0.01056	-2.81290
const (r-square=0.0189; NOBS=984; Sm.Est.=1.0194)	-0.09639	0.04205	-2.29237
d5_Sugars and sugar confectionery	0.09003	0.17732	0.50774
lag5_ln_intensity	-0.02949	0.01062	-2.77650
const (r-square=0.0145; NOBS=982; Sm.Est.=1.0197)	-0.09676	0.04285	-2.25822
d5_Cocoa and cocoa preparations	-0.03463	0.15475	-0.22380
lag5_ln_intensity	-0.02984	0.01069	-2.78990
const (r-square=0.062; NOBS=984; Sm.Est.=1.0185)	-0.09609	0.04398	-2.18501
d5_Preparations of cereals, flour, starch or mi...	0.49547	0.27700	1.78872
lag5_ln_intensity	-0.02923	0.01091	-2.67997
const (r-square=0.0245; NOBS=984; Sm.Est.=1.0193)	-0.08877	0.04216	-2.10563
d5_Preparations of vegetables, fruit, nuts or o...	-0.12268	0.14935	-0.82138

(continued...)

lag5_ln_intensity	-0.02725	0.01039	-2.62326
const (r-square=0.0181; NOBS=984; Sm.Est.=1.0195)	-0.10067	0.04348	-2.31529
d5_Miscellaneous edible preparations	-0.09490	0.13738	-0.69081
lag5_ln_intensity	-0.03096	0.01098	-2.81812
const (r-square=0.0131; NOBS=985; Sm.Est.=1.0197)	-0.09413	0.04386	-2.14615
d5_Beverages, spirits and vinegar	-0.00455	0.10086	-0.04509
lag5_ln_intensity	-0.02893	0.01090	-2.65342
const (r-square=0.033; NOBS=984; Sm.Est.=1.0192)	-0.08021	0.04217	-1.90200
d5_Fruit and nuts, edible; peel of citrus fruit...	-0.08007	0.03427	-2.33629
lag5_ln_intensity	-0.02533	0.01028	-2.46288
const (r-square=0.0179; NOBS=962; Sm.Est.=1.0181)	-0.08543	0.04166	-2.05088
d5_Albuminoidal substances; modified starches; ...	0.05200	0.06921	0.75139
lag5_ln_intensity	-0.02601	0.01032	-2.51999
const (r-square=0.0161; NOBS=977; Sm.Est.=1.0194)	-0.09929	0.04407	-2.25302
d5_Animal originated products; not elsewhere sp...	0.06099	0.12027	0.50710
lag5_ln_intensity	-0.03029	0.01101	-2.75110
const (r-square=0.0139; NOBS=982; Sm.Est.=1.0197)	-0.09781	0.04351	-2.24805
d5_Vegetables and certain roots and tubers; edible	0.01067	0.12971	0.08229
lag5_ln_intensity	-0.03009	0.01083	-2.77812
const (r-square=0.0144; NOBS=963; Sm.Est.=1.0182)	-0.09864	0.04328	-2.27891
d5_Cereals	-0.01544	0.06132	-0.25186
lag5_ln_intensity	-0.02910	0.01086	-2.67919
const (r-square=0.0274; NOBS=954; Sm.Est.=1.0183)	-0.09117	0.04480	-2.03486
d5_Oil seeds and oleaginous fruits; miscellaneo...	-0.10830	0.06832	-1.58527
lag5_ln_intensity	-0.02785	0.01121	-2.48291
const (r-square=0.0212; NOBS=426; Sm.Est.=1.0127)	-0.08680	0.04155	-2.08920
d5_Vegetable plaiting materials; vegetable prod...	0.00373	0.01886	0.19772
lag5_ln_intensity	-0.02270	0.00975	-2.32834
const (r-square=0.0142; NOBS=980; Sm.Est.=1.0195)	-0.09558	0.04221	-2.26440
d5_Raw hides and skins (other than furskins) an...	0.00431	0.00812	0.53060
lag5_ln_intensity	-0.02929	0.01054	-2.77893

Table I.5: Regression results of HS-2digit products in the food & beverages industry [1995-2017]

Machine

	parameter	std_errors	t-stat
const (r-square=0.0334; NOBS=982; Sm.Est.=1.0345)	-0.22799	0.09022	-2.52701
d5_Copper and articles thereof	-0.03197	0.04321	-0.73977
lag5_ln_intensity	-0.05057	0.01853	-2.72957
const (r-square=0.0451; NOBS=984; Sm.Est.=1.0339)	-0.19683	0.09177	-2.14477
d5_Nuclear reactors, boilers, machinery and mec...	0.75119	0.50594	1.48473
lag5_ln_intensity	-0.04404	0.01876	-2.34728
const (r-square=0.0385; NOBS=984; Sm.Est.=1.034)	-0.21869	0.09085	-2.40718
d5_Electrical machinery and equipment and parts...	-0.29873	0.27337	-1.09279
lag5_ln_intensity	-0.04827	0.01846	-2.61543
const (r-square=0.0312; NOBS=984; Sm.Est.=1.0345)	-0.22325	0.09041	-2.46947
d5_Optical, photographic, cinematographic, meas...	0.03599	0.06866	0.52417
lag5_ln_intensity	-0.04959	0.01857	-2.67095
const (r-square=0.0516; NOBS=983; Sm.Est.=1.0338)	-0.22807	0.08935	-2.55254
d5_Furniture; bedding, mattresses, mattress sup...	-0.10712	0.06394	-1.67519
lag5_ln_intensity	-0.05044	0.01846	-2.73278
const (r-square=0.0306; NOBS=984; Sm.Est.=1.0345)	-0.22560	0.08858	-2.54693
d5_Iron or steel articles	0.00464	0.20886	0.02224
lag5_ln_intensity	-0.05007	0.01800	-2.78184
const (r-square=0.0786; NOBS=983; Sm.Est.=1.0338)	-0.20672	0.08799	-2.34940
d5_Aluminium and articles thereof	-0.22525	0.10726	-2.10003
lag5_ln_intensity	-0.04629	0.01859	-2.48974
const (r-square=0.0302; NOBS=981; Sm.Est.=1.0346)	-0.22430	0.09070	-2.47292
d5_Plastics and articles thereof	-0.01524	0.36822	-0.04140
lag5_ln_intensity	-0.04984	0.01873	-2.66057
const (r-square=0.038; NOBS=909; Sm.Est.=1.0242)	-0.21201	0.08021	-2.64299
d5_Nickel and articles thereof	0.03343	0.04547	0.73514
lag5_ln_intensity	-0.04442	0.01603	-2.77131
const (r-square=0.033; NOBS=932; Sm.Est.=1.0258)	-0.21929	0.08406	-2.60877
d5_Lead and articles thereof	-0.00114	0.00894	-0.12803
lag5_ln_intensity	-0.04652	0.01684	-2.76170
const (r-square=0.034; NOBS=953; Sm.Est.=1.0333)	-0.23775	0.09227	-2.57674
d5_Zinc and articles thereof	0.00361	0.03785	0.09537
lag5_ln_intensity	-0.05228	0.01922	-2.72024
const (r-square=0.0572; NOBS=984; Sm.Est.=1.0336)	-0.23144	0.09219	-2.51050
d5_Tools, implements, cutlery, spoons and forks...	-0.16538	0.11839	-1.39699
lag5_ln_intensity	-0.05126	0.01914	-2.67846
const (r-square=0.0479; NOBS=983; Sm.Est.=1.0342)	-0.23264	0.08985	-2.58921
d5_Metal; miscellaneous products of base metal	-0.23884	0.23865	-1.00077
lag5_ln_intensity	-0.05160	0.01852	-2.78592
const (r-square=0.0787; NOBS=979; Sm.Est.=1.0327)	-0.19532	0.08819	-2.21469
d5_Vehicles; other than railway or tramway roll...	0.29871	0.13650	2.18839

(continued...)

lag5_ln_intensity	-0.04312	0.01772	-2.43383
const (r-square=0.0331; NOBS=971; Sm.Est.=1.0339)	-0.22649	0.09061	-2.49966
d5_Arms and ammunition; parts and accessories t...	-0.00848	0.01808	-0.46900
lag5_ln_intensity	-0.05036	0.01856	-2.71336
const (r-square=0.0302; NOBS=980; Sm.Est.=1.0346)	-0.22223	0.09054	-2.45442
d5_Toys, games and sports requisites; parts and...	0.02688	0.06251	0.43006
lag5_ln_intensity	-0.04944	0.01854	-2.66645
const (r-square=0.0684; NOBS=728; Sm.Est.=1.019)	-0.30021	0.10659	-2.81639
d5_Textiles, made up articles; sets; worn cloth...	-0.00493	0.00177	-2.79302
lag5_ln_intensity	-0.06024	0.02247	-2.68050
const (r-square=0.0555; NOBS=865; Sm.Est.=1.0215)	-0.27435	0.08505	-3.22586
d5_Tin; articles thereof	-0.02479	0.01600	-1.54942
lag5_ln_intensity	-0.05588	0.01735	-3.22183
const (r-square=0.0472; NOBS=775; Sm.Est.=1.0235)	-0.20890	0.08846	-2.36147
d5_Aircraft, spacecraft and parts thereof	0.03225	0.01684	1.91498
lag5_ln_intensity	-0.04488	0.01760	-2.55068
const (r-square=0.1015; NOBS=641; Sm.Est.=1.0086)	-0.21500	0.06386	-3.36666
d5_Clocks and watches and parts thereof	-0.02791	0.03292	-0.84797
lag5_ln_intensity	-0.04409	0.01365	-3.23041

Table I.6: Regression results of HS-2digit products in the machine industry [1995-2017]

Transport & equipment

	parameter	std_errors	t-stat
const (r-square=0.0088; NOBS=735; Sm.Est.=1.0479)	-0.15657	0.12118	-1.29199
d5_Nuclear reactors, boilers, machinery and mec...	0.03176	0.26553	0.11962
lag5_ln_intensity	-0.03231	0.02501	-1.29154
const (r-square=0.1733; NOBS=735; Sm.Est.=1.0373)	-0.20972	0.11129	-1.88456
d5_Vehicles; other than railway or tramway roll...	2.55815	0.83145	3.07674
lag5_ln_intensity	-0.04096	0.02295	-1.78527
const (r-square=0.044; NOBS=735; Sm.Est.=1.047)	-0.12970	0.11988	-1.08190
d5_Electrical machinery and equipment and parts...	-0.12590	0.07157	-1.75913
lag5_ln_intensity	-0.02656	0.02480	-1.07091
const (r-square=0.0234; NOBS=735; Sm.Est.=1.0484)	-0.18318	0.12459	-1.47024
d5_Railway, tramway locomotives, rolling-stock ...	-0.05673	0.05930	-0.95666
lag5_ln_intensity	-0.03692	0.02502	-1.47575
const (r-square=0.0375; NOBS=735; Sm.Est.=1.0463)	-0.17928	0.12176	-1.47247
d5_Aircraft, spacecraft and parts thereof	-0.27081	0.16483	-1.64295
lag5_ln_intensity	-0.03670	0.02489	-1.47439
const (r-square=0.1108; NOBS=735; Sm.Est.=1.0388)	-0.18375	0.11277	-1.62936
d5_Ships, boats and floating structures	-0.15318	0.07555	-2.02753
lag5_ln_intensity	-0.03750	0.02379	-1.57626
const (r-square=0.0104; NOBS=731; Sm.Est.=1.0481)	-0.15576	0.12117	-1.28548
d5_Furniture; bedding, mattresses, mattress sup...	-0.02158	0.03384	-0.63773
lag5_ln_intensity	-0.03217	0.02492	-1.29089

Table I.7: Regression results of HS-2digit products in the transport & equipment industry [1995-2017]

Wood and wood products

	parameter	std_errors	t-stat
const (r-square=0.1079; NOBS=893; Sm.Est.=1.0311)	-0.24198	0.06052	-3.99859
d5_Wood and articles of wood; wood charcoal	-0.15754	0.22115	-0.71238
lag5_ln_intensity	-0.08165	0.02084	-3.91907
const (r-square=0.1317; NOBS=870; Sm.Est.=1.0302)	-0.24183	0.05765	-4.19506
d5_Cork and articles of cork	-0.03503	0.01520	-2.30395
lag5_ln_intensity	-0.08228	0.01992	-4.13048
const (r-square=0.1101; NOBS=864; Sm.Est.=1.0273)	-0.23583	0.05964	-3.95415
d5_Manufactures of straw, esparto or other plai...	-0.04611	0.12636	-0.36487
lag5_ln_intensity	-0.07808	0.01949	-4.00575

Table I.8: Regression results of HS-2digit products in the wood and wood products industry [1995-2017]

Non-specified

	parameter	std_errors	t-stat
const (r-square=0.107; NOBS=1014; Sm.Est.=1.0415)	-0.19795	0.05340	-3.70697
d5_Plastics and articles thereof	-0.18153	0.14667	-1.23765
lag5_ln_intensity	-0.07182	0.01539	-4.66632
const (r-square=0.105; NOBS=1013; Sm.Est.=1.0417)	-0.19878	0.05410	-3.67407
d5_Miscellaneous manufactured articles	-0.02810	0.01651	-1.70183
lag5_ln_intensity	-0.07204	0.01559	-4.62194
const (r-square=0.1102; NOBS=1002; Sm.Est.=1.0417)	-0.21248	0.05727	-3.71002
d5_Pharmaceutical products	0.06077	0.14370	0.42286
lag5_ln_intensity	-0.07606	0.01656	-4.59449
const (r-square=0.1157; NOBS=1013; Sm.Est.=1.0411)	-0.18446	0.05287	-3.48910
d5_Rubber and articles thereof	0.51494	0.41777	1.23261
lag5_ln_intensity	-0.06741	0.01541	-4.37497
const (r-square=0.0969; NOBS=915; Sm.Est.=1.0397)	-0.20517	0.07385	-2.77818
d5_Articles of leather; saddlery and harness; t...	-0.00515	0.07387	-0.06975
lag5_ln_intensity	-0.07551	0.02112	-3.57549
const (r-square=0.1051; NOBS=993; Sm.Est.=1.0412)	-0.21435	0.06311	-3.39648
d5_Textile fabrics; impregnated, coated, covere...	-0.00908	0.16486	-0.05506
lag5_ln_intensity	-0.07716	0.01830	-4.21569
const (r-square=0.1077; NOBS=996; Sm.Est.=1.041)	-0.20650	0.06069	-3.40279
d5_Headgear and parts thereof	0.23880	0.19316	1.23625
lag5_ln_intensity	-0.07461	0.01759	-4.24155
const (r-square=0.1061; NOBS=997; Sm.Est.=1.0413)	-0.21096	0.06182	-3.41234
d5_Umbrellas, sun umbrellas, walking-sticks, se...	0.03752	0.25402	0.14772
lag5_ln_intensity	-0.07597	0.01774	-4.28272
const (r-square=0.1058; NOBS=988; Sm.Est.=1.0415)	-0.20721	0.06307	-3.28522
d5_Feathers and down, prepared; and articles ma...	0.31843	0.62116	0.51264
lag5_ln_intensity	-0.07544	0.01867	-4.04120
const (r-square=0.1133; NOBS=975; Sm.Est.=1.0415)	-0.20565	0.06121	-3.35970
d5_Nuclear reactors, boilers, machinery and mec...	0.19142	0.10962	1.74613
lag5_ln_intensity	-0.07411	0.01778	-4.16904
const (r-square=0.1327; NOBS=986; Sm.Est.=1.0393)	-0.21428	0.06037	-3.54973
d5_Electrical machinery and equipment and parts...	-0.34742	0.16271	-2.13518
lag5_ln_intensity	-0.07701	0.01736	-4.43620
const (r-square=0.1067; NOBS=1014; Sm.Est.=1.0418)	-0.19325	0.04972	-3.88690
d5_Optical, photographic, cinematographic, meas...	-0.20619	0.52944	-0.38945
lag5_ln_intensity	-0.07036	0.01436	-4.89968
const (r-square=0.1046; NOBS=1010; Sm.Est.=1.0415)	-0.19846	0.05481	-3.62056
d5_Musical instruments; parts and accessories o...	0.00420	0.02277	0.18420
lag5_ln_intensity	-0.07193	0.01576	-4.56359
const (r-square=0.1461; NOBS=1013; Sm.Est.=1.0389)	-0.20319	0.05327	-3.81417
d5_Furniture; bedding, mattresses, mattress sup...	-0.78392	0.41334	-1.89654

(continued...)

lag5_ln_intensity	-0.07288	0.01542	-4.72767
const (r-square=0.1068; NOBS=1013; Sm.Est.=1.0415)	-0.19799	0.05324	-3.71854
d5_Toys, games and sports requisites; parts and...	-0.32445	0.83606	-0.38807
lag5_ln_intensity	-0.07139	0.01523	-4.68682
const (r-square=0.1855; NOBS=992; Sm.Est.=1.0358)	-0.20357	0.06288	-3.23735
d5_Soap, organic surface-active agents; washing...	-0.43089	0.11438	-3.76727
lag5_ln_intensity	-0.07327	0.01867	-3.92461
const (r-square=0.1126; NOBS=928; Sm.Est.=1.0372)	-0.21513	0.06853	-3.13918
d5_Explosives; pyrotechnic products; matches; p...	-0.05942	0.06346	-0.93632
lag5_ln_intensity	-0.07629	0.01969	-3.87533
const (r-square=0.0768; NOBS=716; Sm.Est.=1.0359)	-0.18019	0.07013	-2.56937
d5_Printed books, newspapers, pictures and othe...	-0.01356	0.19406	-0.06987
lag5_ln_intensity	-0.06292	0.02007	-3.13532
const (r-square=0.1304; NOBS=915; Sm.Est.=1.0356)	-0.20874	0.07010	-2.97783
d5_Footwear; gaiters and the like; parts of suc...	-0.06033	0.02734	-2.20695
lag5_ln_intensity	-0.07512	0.02042	-3.67944
const (r-square=0.1401; NOBS=457; Sm.Est.=1.0214)	-0.17922	0.07832	-2.28822
d5_Animal originated products; not elsewhere sp...	0.01341	0.01332	1.00666
lag5_ln_intensity	-0.06709	0.02524	-2.65799
const (r-square=0.1114; NOBS=962; Sm.Est.=1.037)	-0.18484	0.05134	-3.59995
d5_Natural, cultured pearls; precious, semi-pre...	0.06269	0.08649	0.72486
lag5_ln_intensity	-0.06750	0.01493	-4.52262

Table I.9: Regression results of HS-2digit products in the non-specified industry [1995-2017]

APPENDIX J

HS-2digit industry RCA plots

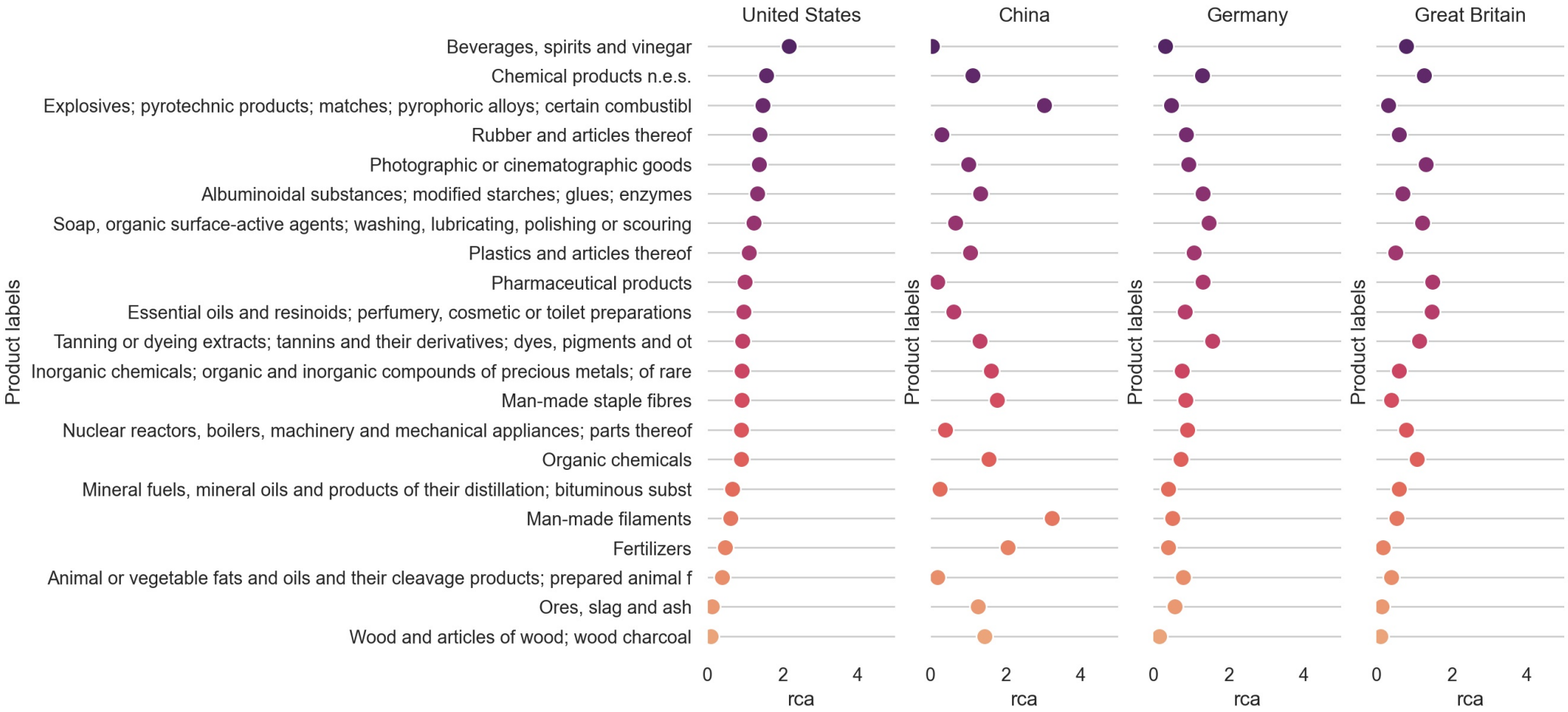

Figure J.1: A RCA value comparison of the aggregated 2-digit products from the *chemical* industry between four developed countries. The values represent the mean between 2015-2017.

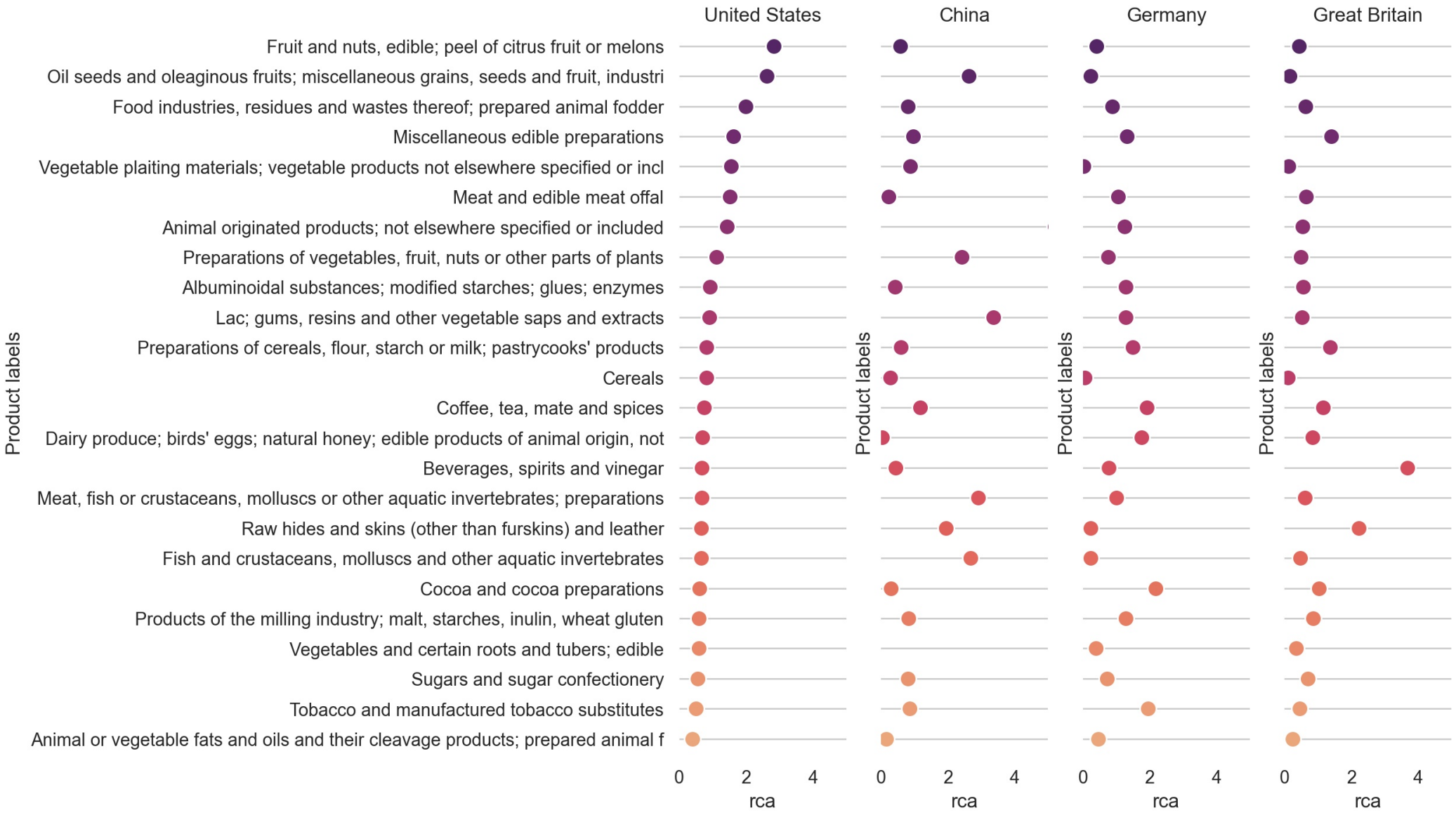

Figure J.2: A RCA value comparison of the aggregated 2-digit products from the *food & beverages* industry between four developed countries. The values represent the mean between 2015-2017.

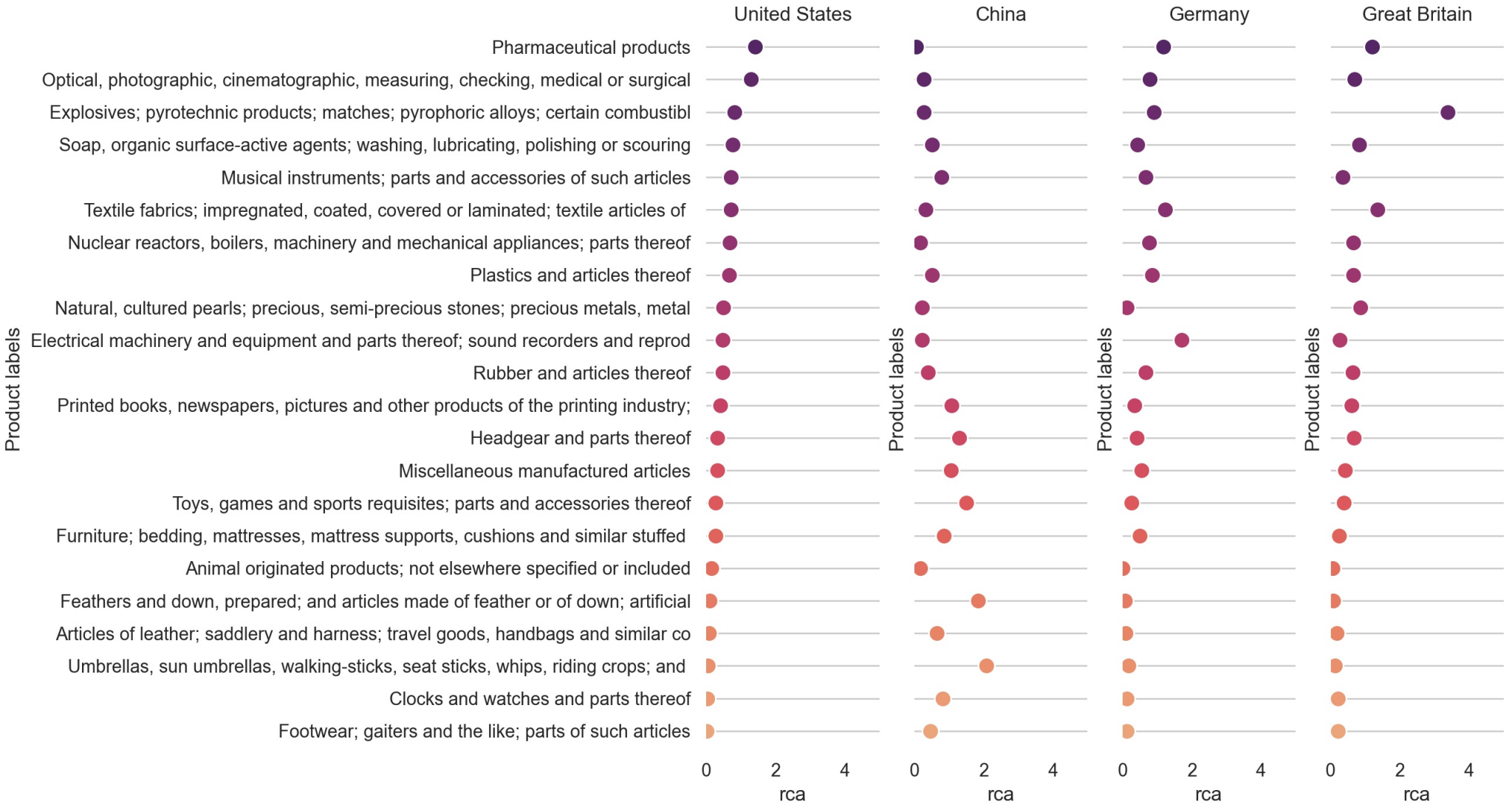

Figure J.3: A RCA value comparison of the aggregated 2-digit products from the *non-specified* industry between four developed countries. The values represent the mean between 2015-2017.

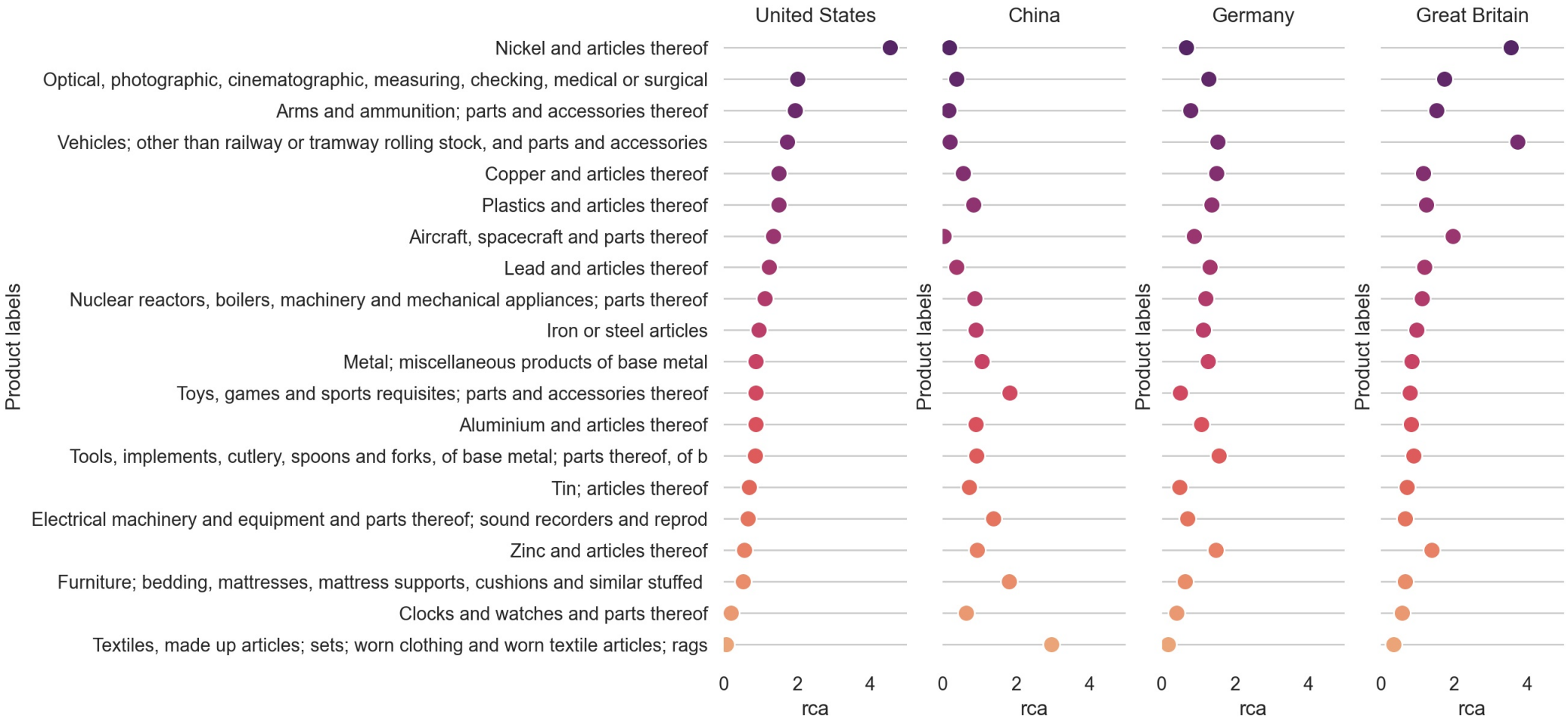

Figure J.4: A RCA value comparison of the aggregated 2-digit products from the *machine* industry between four developed countries. The values represent the mean between 2015-2017.

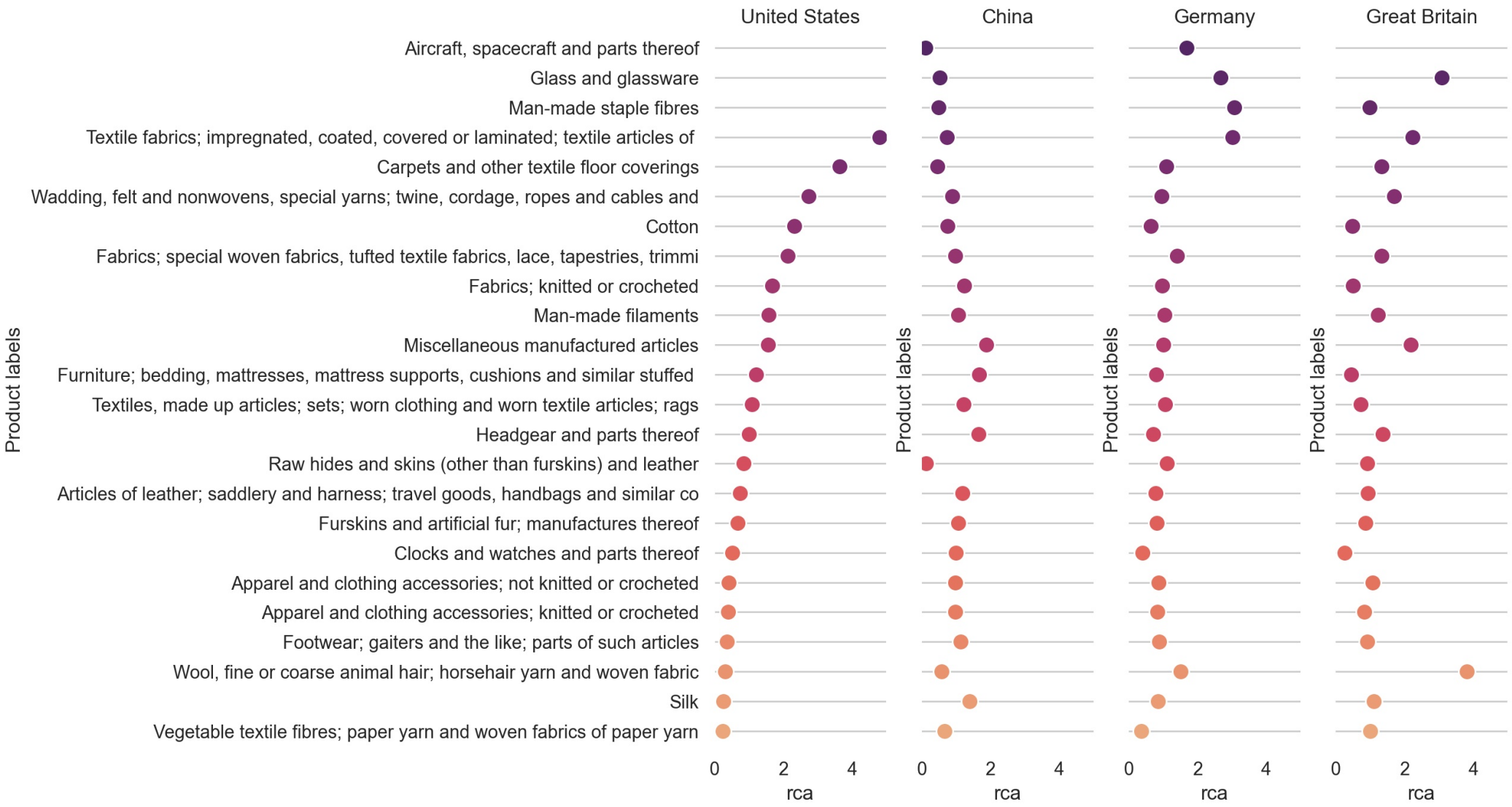

Figure J.5: A RCA value comparison of the aggregated 2-digit products from the *textile* industry between four developed countries. The values represent the mean between 2015-2017.

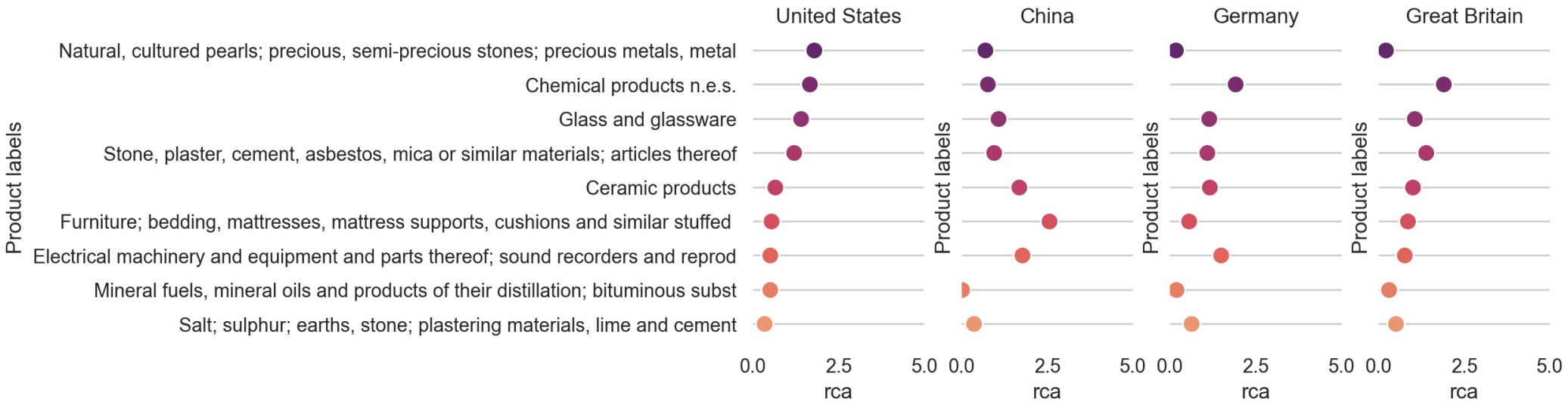

Figure J.6: A RCA value comparison of the aggregated 2-digit products from the *non-metallic minerals* industry between four developed countries. The values represent the mean between 2015-2017.

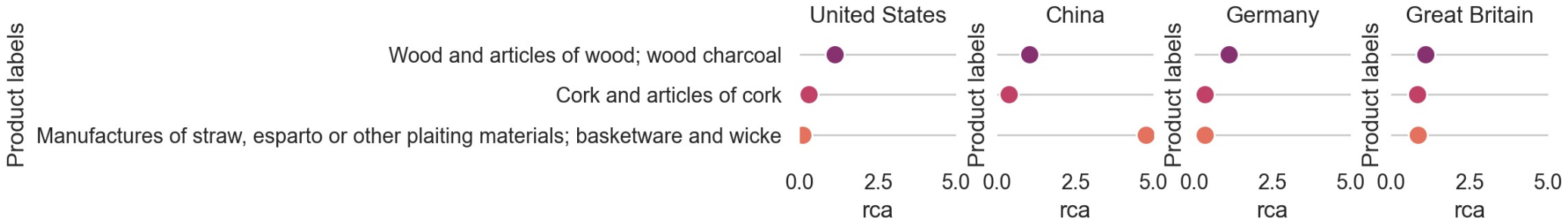

Figure J.7: A RCA value comparison of the aggregated 2-digit products from the *wood & wood products* industry between four developed countries. The values represent the mean between 2015-2017.

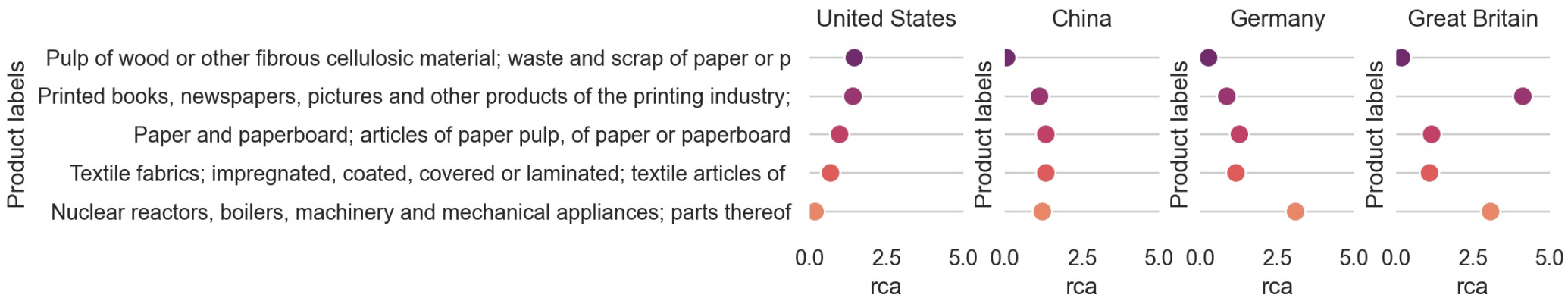

Figure J.8: A RCA value comparison of the aggregated 2-digit products from the *pulp & paper* industry between four developed countries. The values represent the mean between 2015-2017.

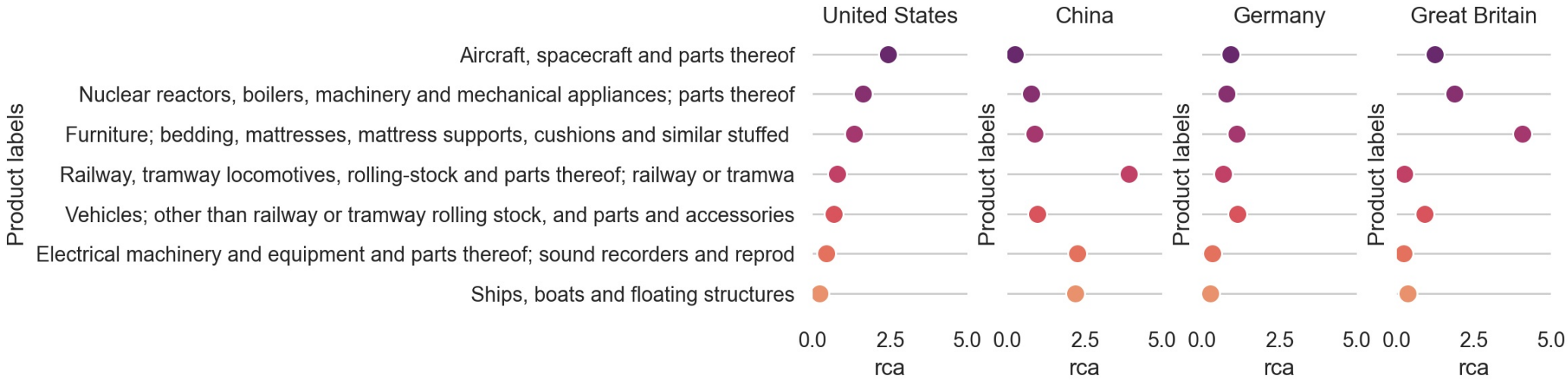

Figure J.9: A RCA value comparison of the aggregated 2-digit products from the *transport & equipment* industry between four developed countries. The values represent the mean between 2015-2017.

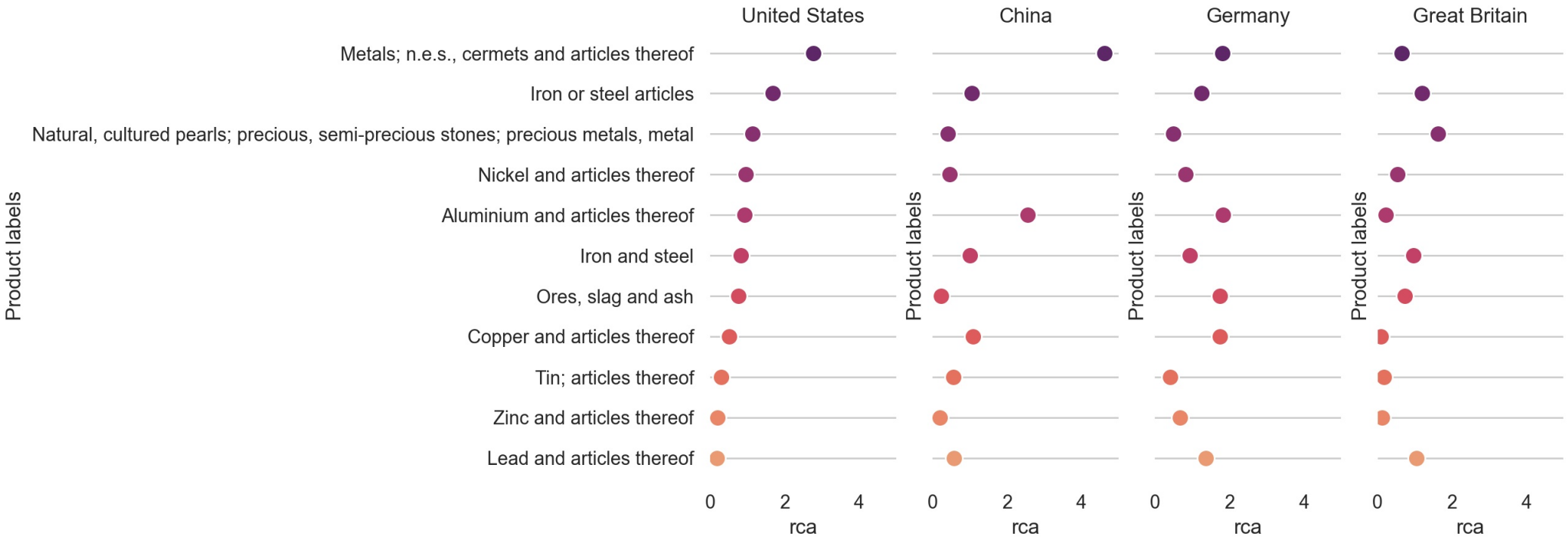

Figure J.10: A RCA value comparison of the aggregated 2-digit products from the *metal-steel* industry between four developed countries. The values represent the mean between 2015-2017.

Appendix K

HS-6digit regression results

K.1 | pharmaceutical products

	parameter	std_errors	t-stat
const (r-square=0.019; NOBS=679; Sm.Est.=1.0243)	-0.09369	0.05217	-1.79594
d5_Glands; extracts of glands, other organs or ...	0.00780	0.02577	0.30287
lag5_ln_intensity	-0.03930	0.01967	-1.99762
const (r-square=0.0335; NOBS=807; Sm.Est.=1.0275)	-0.12565	0.05233	-2.40099
d5_Glands; heparin and its salts; other human o...	0.02604	0.05095	0.51104
lag5_ln_intensity	-0.04951	0.02046	-2.42059
const (r-square=0.0324; NOBS=880; Sm.Est.=1.0268)	-0.10904	0.04808	-2.26784
d5_Vaccines; for human medicine	0.09916	0.05752	1.72407
lag5_ln_intensity	-0.04447	0.01872	-2.37612
const (r-square=0.0678; NOBS=906; Sm.Est.=1.0269)	-0.08967	0.04429	-2.02487
d5_Vaccines; for veterinary medicine, for other...	-0.03393	0.01688	-2.01002
lag5_ln_intensity	-0.03872	0.01692	-2.28878
const (r-square=0.0445; NOBS=913; Sm.Est.=1.0283)	-0.10189	0.04622	-2.20445
d5_Toxins, cultures of micro-organisms (excludi...	-0.14571	0.09253	-1.57464
lag5_ln_intensity	-0.04397	0.01802	-2.44057
const (r-square=0.0268; NOBS=776; Sm.Est.=1.0222)	-0.09839	0.04585	-2.14562
d5_Medicaments; containing penicillins, strepto...	-0.02643	0.02476	-1.06769
lag5_ln_intensity	-0.03911	0.01666	-2.34740
const (r-square=0.0414; NOBS=854; Sm.Est.=1.0243)	-0.10813	0.04590	-2.35562
d5_Medicaments; containing antibiotics other th...	-0.05342	0.01891	-2.82507
lag5_ln_intensity	-0.04244	0.01777	-2.38842
const (r-square=0.2013; NOBS=374; Sm.Est.=1.0177)	-0.12550	0.05808	-2.16074
d5_Medicaments; containing insulin (but not con...	-0.04044	0.00611	-6.61458
lag5_ln_intensity	-0.04402	0.02199	-2.00218
const (r-square=0.0543; NOBS=789; Sm.Est.=1.0258)	-0.10527	0.04680	-2.24957
d5_Medicaments; containing hormones (excluding ...	-0.04898	0.02419	-2.02496

(continued...)

lag5_ln_intensity	-0.03975	0.01781	-2.23184
const (r-square=0.0414; NOBS=575; Sm.Est.=1.0243)	-0.15292	0.04636	-3.29873
d5_Medicaments; containing alkaloids or their d...	-0.02015	0.02208	-0.91265
lag5_ln_intensity	-0.05617	0.01755	-3.20120
const (r-square=0.0449; NOBS=904; Sm.Est.=1.0256)	-0.10666	0.04338	-2.45852
d5_Medicaments; (not containing antibiotics, ho...	-0.09547	0.05078	-1.88006
lag5_ln_intensity	-0.04387	0.01680	-2.61156
const (r-square=0.0459; NOBS=911; Sm.Est.=1.0261)	-0.09072	0.04198	-2.16119
d5_Medicaments; containing penicillins, strepto...	-0.05603	0.03766	-1.48764
lag5_ln_intensity	-0.03796	0.01589	-2.38855
const (r-square=0.0945; NOBS=917; Sm.Est.=1.0269)	-0.09890	0.04022	-2.45867
d5_Medicaments; containing antibiotics (other t...	-0.19944	0.07074	-2.81911
lag5_ln_intensity	-0.04252	0.01473	-2.88602
const (r-square=0.113; NOBS=780; Sm.Est.=1.0244)	-0.09960	0.05624	-1.77101
d5_Medicaments; containing insulin (but not con...	-0.05775	0.00469	-12.31637
lag5_ln_intensity	-0.03996	0.02165	-1.84565
const (r-square=0.0257; NOBS=900; Sm.Est.=1.029)	-0.10453	0.04457	-2.34542
d5_Medicaments; containing adrenal cortex hormo...	0.03020	0.06561	0.46023
lag5_ln_intensity	-0.04453	0.01711	-2.60204
const (r-square=0.0604; NOBS=915; Sm.Est.=1.0284)	-0.09265	0.04321	-2.14410
d5_Medicaments; containing hormones (but not in...	-0.13775	0.03891	-3.53991
lag5_ln_intensity	-0.03956	0.01676	-2.36049
const (r-square=0.0444; NOBS=912; Sm.Est.=1.0274)	-0.09586	0.04312	-2.22301
d5_Medicaments; containing alkaloids or their d...	-0.07980	0.04462	-1.78856
lag5_ln_intensity	-0.04078	0.01661	-2.45505
const (r-square=0.1559; NOBS=926; Sm.Est.=1.0243)	-0.08155	0.04216	-1.93441
d5_Medicaments; containing vitamins or their de...	-0.17767	0.05755	-3.08721
lag5_ln_intensity	-0.03563	0.01649	-2.16116
const (r-square=0.161; NOBS=926; Sm.Est.=1.0239)	-0.07490	0.04039	-1.85449
d5_Medicaments; consisting of mixed or unmixed ...	-0.76741	0.20713	-3.70502
lag5_ln_intensity	-0.03429	0.01569	-2.18600
const (r-square=0.0455; NOBS=894; Sm.Est.=1.0268)	-0.10125	0.04400	-2.30125
d5_Dressings, adhesive; and other articles havi...	-0.12041	0.05048	-2.38512
lag5_ln_intensity	-0.04180	0.01727	-2.42040
const (r-square=0.0783; NOBS=904; Sm.Est.=1.027)	-0.11047	0.04380	-2.52230
d5_Wadding, gauze, bandages and similar article...	-0.13491	0.07891	-1.70965
lag5_ln_intensity	-0.04530	0.01765	-2.56667
const (r-square=0.015; NOBS=734; Sm.Est.=1.0255)	-0.09334	0.05301	-1.76094
d5_Pharmaceutical goods; blood-grouping reagents	-0.01821	0.02588	-0.70346
lag5_ln_intensity	-0.03497	0.01993	-1.75442
const (r-square=0.0256; NOBS=866; Sm.Est.=1.0276)	-0.11138	0.04954	-2.24837
d5_Pharmaceutical goods; opacifying preparation...	-0.02773	0.09782	-0.28352
lag5_ln_intensity	-0.04555	0.01936	-2.35328
const (r-square=0.0237; NOBS=795; Sm.Est.=1.0255)	-0.10678	0.04704	-2.26998

(continued...)

d5_Pharmaceutical goods; chemical contraceptive...	0.01007	0.04297	0.23438
lag5_ln_intensity	-0.04405	0.01832	-2.40495

Table K.1: The panel data regression results of the 6-digit pharmaceutical products [1995-2017]

K.2 | Plastics products

	parameter	std_errors	t-stat
const (r-square=0.0234; NOBS=903; Sm.Est.=1.0269)	-0.09722	0.04502	-2.15951
d5_Ethylene polymers; low density <0.94 specifi...	0.02457	0.06074	0.40453
lag5_ln_intensity	-0.04027	0.01745	-2.30713
const (r-square=0.0391; NOBS=903; Sm.Est.=1.0256)	-0.09814	0.04321	-2.27118
d5_Ethylene polymers; high density >0.94 specifi...	0.15928	0.12105	1.31580
lag5_ln_intensity	-0.04031	0.01668	-2.41636
const (r-square=0.0633; NOBS=802; Sm.Est.=1.0231)	-0.08959	0.04583	-1.95484
d5_Ethylene-vinyl acetate copolymers	0.23415	0.08238	2.84247
lag5_ln_intensity	-0.03540	0.01680	-2.10784
const (r-square=0.0548; NOBS=885; Sm.Est.=1.0244)	-0.09395	0.04423	-2.12407
d5_Ethylene polymers; in primary forms, n.e.s.	0.20797	0.09022	2.30503
lag5_ln_intensity	-0.03856	0.01702	-2.26598
const (r-square=0.0316; NOBS=899; Sm.Est.=1.0256)	-0.10128	0.04489	-2.25621
d5_Polypropylene in primary forms	0.08828	0.09000	0.98079
lag5_ln_intensity	-0.04189	0.01735	-2.41499
const (r-square=0.0646; NOBS=677; Sm.Est.=1.019)	-0.07812	0.03914	-1.99585
d5_Polyisobutylene in primary forms	0.22165	0.13960	1.58772
lag5_ln_intensity	-0.03182	0.01382	-2.30308
const (r-square=0.0266; NOBS=860; Sm.Est.=1.0252)	-0.11189	0.05020	-2.22882
d5_Propylene copolymers in primary forms	0.02391	0.12713	0.18805
lag5_ln_intensity	-0.04586	0.01960	-2.34040
const (r-square=0.1289; NOBS=858; Sm.Est.=1.0223)	-0.09762	0.04816	-2.02707
d5_Propylene, other olefin polymers; n.e.s.	0.59861	0.14986	3.99438
lag5_ln_intensity	-0.03997	0.01819	-2.19750
const (r-square=0.0233; NOBS=872; Sm.Est.=1.0248)	-0.10466	0.04681	-2.23562
d5_Expansible polystyrene, in primary forms	0.00105	0.05956	0.01765
lag5_ln_intensity	-0.04240	0.01811	-2.34109
const (r-square=0.0274; NOBS=891; Sm.Est.=1.0254)	-0.10977	0.04635	-2.36805
d5_Styrene polymers; (other than expansible polys....	0.01585	0.06021	0.26332
lag5_ln_intensity	-0.04397	0.01788	-2.45957

(continued...)

const (r-square=0.0592; NOBS=759; Sm.Est.=1.0206)	-0.09715	0.04474	-2.17157
d5_Styrene-acrylonitrile (SAN) copolymers, in pri...	0.13666	0.06412	2.13132
lag5_ln_intensity	-0.04069	0.01602	-2.53958
const (r-square=0.1248; NOBS=863; Sm.Est.=1.0216)	-0.11522	0.04830	-2.38531
d5_Acrylonitrile-butadiene-styrene (ABS) copolymers...	0.28982	0.06028	4.80787
lag5_ln_intensity	-0.04846	0.01856	-2.61027
const (r-square=0.0547; NOBS=879; Sm.Est.=1.025)	-0.11425	0.04899	-2.33193
d5_Styrene polymers; in primary forms, n.e.s. in...	0.19464	0.10912	1.78369
lag5_ln_intensity	-0.04638	0.01910	-2.42782
const (r-square=0.0243; NOBS=889; Sm.Est.=1.0258)	-0.08607	0.04451	-1.93378
d5_Polyvinyl chloride, in primary forms	0.03629	0.06919	0.52442
lag5_ln_intensity	-0.03702	0.01672	-2.21394
const (r-square=0.0378; NOBS=859; Sm.Est.=1.0246)	-0.10072	0.04524	-2.22615
d5_Non-plasticised polyvinyl chloride	0.10756	0.06478	1.66044
lag5_ln_intensity	-0.04106	0.01669	-2.46057
const (r-square=0.0341; NOBS=877; Sm.Est.=1.025)	-0.09555	0.04293	-2.22587
d5_Plasticised polyvinyl chloride	-0.07677	0.05331	-1.44007
lag5_ln_intensity	-0.03886	0.01614	-2.40703
const (r-square=0.032; NOBS=649; Sm.Est.=1.019)	-0.12898	0.05362	-2.40564
d5_Vinyl chloride-vinyl acetate copolymers,...	0.01674	0.01020	1.64113
lag5_ln_intensity	-0.04436	0.01958	-2.26573
const (r-square=0.0854; NOBS=711; Sm.Est.=1.0165)	-0.11396	0.05254	-2.16897
d5_Vinyl chloride copolymers, in primary forms	0.14728	0.07434	1.98116
lag5_ln_intensity	-0.04473	0.01886	-2.37171
const (r-square=0.0308; NOBS=618; Sm.Est.=1.018)	-0.09572	0.05301	-1.80553
d5_Vinylidene chloride polymers, in primary forms...	-0.08608	0.08129	-1.05898
lag5_ln_intensity	-0.03515	0.01927	-1.82379
const (r-square=0.0815; NOBS=687; Sm.Est.=1.0189)	-0.05025	0.04998	-1.00546
d5_Fluoro-polymers, polytetrafluoroethylene	0.22308	0.06957	3.20668
lag5_ln_intensity	-0.02012	0.01912	-1.05251
const (r-square=0.0599; NOBS=655; Sm.Est.=1.0168)	-0.07974	0.05021	-1.58824
d5_-Fluoro-polymers (other than polytetrafluoroe...	0.34242	0.17010	2.01303
lag5_ln_intensity	-0.03260	0.01871	-1.74254
const (r-square=0.0242; NOBS=801; Sm.Est.=1.022)	-0.09718	0.04457	-2.18054
d5_Vinyl chloride, other halogenated olefin polym...	0.03028	0.02850	1.06219
lag5_ln_intensity	-0.03841	0.01627	-2.36037
const (r-square=0.0878; NOBS=899; Sm.Est.=1.0252)	-0.09192	0.04076	-2.25536
d5_Vinyl acetate polymers; in aqueous dispersion,...	-0.07701	0.03810	-2.02124
lag5_ln_intensity	-0.03772	0.01498	-2.51744
const (r-square=0.0454; NOBS=849; Sm.Est.=1.0241)	-0.09474	0.03993	-2.37283
d5_Vinyl acetate polymers; (other than in aqueo...	0.26426	0.20363	1.29776
lag5_ln_intensity	-0.03754	0.01418	-2.64655
const (r-square=0.1061; NOBS=730; Sm.Est.=1.0174)	-0.08135	0.04389	-1.85367
d5_Polyvinyl alcohol; whether or not containing...	0.43859	0.18212	2.40828

(continued...)

lag5_ln_intensity	-0.03058	0.01632	-1.87378
const (r-square=0.1408; NOBS=835; Sm.Est.=1.0221)	-0.09702	0.04413	-2.19848
d5_Vinyl acetate, vinyl ester polymers, vinyl p...	0.73862	0.21812	3.38636
lag5_ln_intensity	-0.03700	0.01641	-2.25386
const (r-square=0.027; NOBS=861; Sm.Est.=1.0254)	-0.10560	0.04704	-2.24498
d5_Acrylic polymers; polymethyl methacrylate, i...	0.03385	0.12765	0.26515
lag5_ln_intensity	-0.04576	0.01804	-2.53740
const (r-square=0.145; NOBS=905; Sm.Est.=1.0232)	-0.11047	0.04378	-2.52322
d5_Acrylic polymers; (other than polymethyl met...	0.87279	0.28901	3.01997
lag5_ln_intensity	-0.04401	0.01680	-2.61881
const (r-square=0.0949; NOBS=827; Sm.Est.=1.0196)	-0.08983	0.04309	-2.08487
d5_Polyacetals; in primary forms	0.34220	0.12270	2.78905
lag5_ln_intensity	-0.03376	0.01570	-2.14980
const (r-square=0.0668; NOBS=893; Sm.Est.=1.0245)	-0.09845	0.04575	-2.15199
d5_Polyethers; in primary forms, excluding poly...	0.22576	0.14796	1.52577
lag5_ln_intensity	-0.04031	0.01749	-2.30494
const (r-square=0.1156; NOBS=896; Sm.Est.=1.0236)	-0.10983	0.04345	-2.52760
d5_Epoxide resins; in primary forms	0.56702	0.21694	2.61370
lag5_ln_intensity	-0.04523	0.01551	-2.91510
const (r-square=0.0964; NOBS=859; Sm.Est.=1.0221)	-0.11195	0.04877	-2.29571
d5_Polycarbonates; in primary forms	0.28763	0.12988	2.21451
lag5_ln_intensity	-0.04766	0.01919	-2.48352
const (r-square=0.0844; NOBS=872; Sm.Est.=1.0231)	-0.12007	0.04714	-2.54741
d5_Alkyd resins; in primary forms	-0.10719	0.02929	-3.66009
lag5_ln_intensity	-0.04833	0.01791	-2.69868
const (r-square=0.023; NOBS=897; Sm.Est.=1.0279)	-0.09390	0.04444	-2.11320
d5_Polyethylene terephthalate; in primary forms	-0.00661	0.03675	-0.17983
lag5_ln_intensity	-0.04145	0.01694	-2.44780
const (r-square=0.0236; NOBS=874; Sm.Est.=1.0239)	-0.08944	0.04456	-2.00705
d5_Polyesters; n.e.s. in heading no. 3907, unsa...	-0.04645	0.06045	-0.76828
lag5_ln_intensity	-0.03688	0.01683	-2.19138
const (r-square=0.1045; NOBS=888; Sm.Est.=1.0243)	-0.12064	0.04959	-2.43276
d5_Polyesters; n.e.s. in heading no. 3907, satu...	0.51301	0.17941	2.85937
lag5_ln_intensity	-0.04868	0.01850	-2.63089
const (r-square=0.1015; NOBS=888; Sm.Est.=1.0249)	-0.11582	0.04472	-2.58994
d5_Polyamides; polyamide-6, -11, -12, -6,6, -6,...	0.47670	0.19069	2.49983
lag5_ln_intensity	-0.04811	0.01782	-2.69956
const (r-square=0.0508; NOBS=869; Sm.Est.=1.023)	-0.10081	0.04295	-2.34722
d5_Polyamides; n.e.s. in heading no. 3908, in p...	0.22624	0.13580	1.66596
lag5_ln_intensity	-0.03792	0.01545	-2.45351
const (r-square=0.0303; NOBS=873; Sm.Est.=1.0246)	-0.11347	0.04694	-2.41714
d5_Amino-resins; urea and thiourea resins, in p...	-0.02717	0.03877	-0.70091
lag5_ln_intensity	-0.04451	0.01790	-2.48651
const (r-square=0.0463; NOBS=838; Sm.Est.=1.0215)	-0.09194	0.04270	-2.15344

(continued...)

d5_Amino-resins; melamine resins, in primary forms	-0.06083	0.03447	-1.76491
lag5_ln_intensity	-0.03756	0.01519	-2.47291
const (r-square=0.0214; NOBS=807; Sm.Est.=1.0244)	-0.09289	0.04868	-1.90810
d5_Amino-resins; n.e.s. in heading no. 3909, in...	0.01486	0.02681	0.55436
lag5_ln_intensity	-0.03978	0.01830	-2.17334
const (r-square=0.0193; NOBS=862; Sm.Est.=1.0228)	-0.09127	0.04250	-2.14782
d5_Phenolic resins; in primary forms	0.04886	0.07677	0.63641
lag5_ln_intensity	-0.03403	0.01553	-2.19144
const (r-square=0.0374; NOBS=907; Sm.Est.=1.0281)	-0.11156	0.04864	-2.29378
d5_Polyurethanes; in primary forms	0.13600	0.09394	1.44769
lag5_ln_intensity	-0.04666	0.01842	-2.53327
const (r-square=0.1556; NOBS=896; Sm.Est.=1.0222)	-0.08873	0.04217	-2.10421
d5_Silicones; in primary forms	0.79274	0.27920	2.83934
lag5_ln_intensity	-0.03532	0.01594	-2.21567
const (r-square=0.0268; NOBS=773; Sm.Est.=1.0226)	-0.09639	0.04486	-2.14867
d5_Petroleum resins, coumarone, indene or couma...	0.11109	0.15517	0.71594
lag5_ln_intensity	-0.03552	0.01651	-2.15112
const (r-square=0.1628; NOBS=860; Sm.Est.=1.0221)	-0.10502	0.04845	-2.16759
d5_Polysulphides, polysulphones and similar pro...	0.87042	0.28296	3.07607
lag5_ln_intensity	-0.04162	0.01952	-2.13264
const (r-square=0.0157; NOBS=513; Sm.Est.=1.0205)	-0.07208	0.05031	-1.43271
d5_Cellulose acetates; non-plasticised, in prim...	0.03299	0.03282	1.00531
lag5_ln_intensity	-0.02886	0.01918	-1.50465
const (r-square=0.0864; NOBS=536; Sm.Est.=1.0161)	-0.07875	0.06055	-1.30072
d5_Cellulose acetates; plasticised, in primary ...	-0.11711	0.06594	-1.77584
lag5_ln_intensity	-0.02816	0.02120	-1.32847
const (r-square=0.0209; NOBS=678; Sm.Est.=1.0222)	-0.09483	0.05585	-1.69797
d5_Cellulose nitrates (including collodions); i...	0.02295	0.02892	0.79361
lag5_ln_intensity	-0.03551	0.02011	-1.76544
const (r-square=0.0364; NOBS=860; Sm.Est.=1.0244)	-0.10166	0.04819	-2.10958
d5_Cellulose ethers; carboxymethylcellulose and...	-0.07355	0.06836	-1.07587
lag5_ln_intensity	-0.04298	0.01853	-2.31913
const (r-square=0.1896; NOBS=849; Sm.Est.=1.0217)	-0.11051	0.04239	-2.60673
d5_Cellulose ethers; (other than carboxymethylc...	0.83848	0.20946	4.00309
lag5_ln_intensity	-0.04463	0.01653	-2.70006
const (r-square=0.0267; NOBS=826; Sm.Est.=1.0242)	-0.08696	0.04563	-1.90550
d5_Cellulose and its chemical derivatives; n.e....	-0.05745	0.05583	-1.02907
lag5_ln_intensity	-0.03719	0.01688	-2.20303
const (r-square=0.0367; NOBS=709; Sm.Est.=1.0217)	-0.11464	0.05938	-1.93041
d5_Polymers, natural; alginic acid, its salts a...	-0.02358	0.01918	-1.22949
lag5_ln_intensity	-0.04589	0.02207	-2.07964
const (r-square=0.0243; NOBS=861; Sm.Est.=1.0247)	-0.09647	0.04644	-2.07749
d5_Polymers, natural and modified natural; in p...	-0.03730	0.18640	-0.20011
lag5_ln_intensity	-0.04068	0.01838	-2.21381

(continued...)

const (r-square=0.0203; NOBS=840; Sm.Est.=1.0237)	-0.07743	0.03715	-2.08429
d5_Ion-exchangers; based on polymers of heading...	-0.03210	0.04995	-0.64266
lag5_ln_intensity	-0.03249	0.01339	-2.42701
const (r-square=0.0464; NOBS=924; Sm.Est.=1.0274)	-0.11307	0.05264	-2.14773
d5_Plastics; other articles n.e.s. in chapter 39	0.29071	0.30796	0.94400
lag5_ln_intensity	-0.04849	0.02037	-2.38042

Table K.2: Panel data regression results of the 6-digit plastics products [1995-2017]

K.3 | Pulp&paper

	parameter	std_errors	t-stat
const (r-square=0.0528; NOBS=671; Sm.Est.=1.0251)	-0.13153	0.07263	-1.81092
d5_Wood pulp; mechanical wood pulp	-0.00838	0.00983	-0.85211
lag5_ln_intensity	-0.05492	0.02741	-2.00371
const (r-square=0.049; NOBS=642; Sm.Est.=1.0234)	-0.12807	0.06982	-1.83438
d5_Wood pulp; chemical wood pulp, dissolving gr...	0.02941	0.04984	0.59004
lag5_ln_intensity	-0.05187	0.02698	-1.92286
const (r-square=0.0653; NOBS=525; Sm.Est.=1.0218)	-0.15433	0.06294	-2.45198
d5_Wood pulp; chemical wood pulp, soda or sulph...	0.03118	0.04199	0.74264
lag5_ln_intensity	-0.06517	0.02325	-2.80261
const (r-square=0.042; NOBS=385; Sm.Est.=1.0179)	-0.09012	0.06277	-1.43580
d5_Wood pulp; chemical wood pulp, soda or sulph...	0.03986	0.02669	1.49321
lag5_ln_intensity	-0.03194	0.02593	-1.23191
const (r-square=0.148; NOBS=836; Sm.Est.=1.0278)	-0.19343	0.06807	-2.84150
d5_Wood pulp; chemical wood pulp, soda or sulph...	0.54338	0.18238	2.97939
lag5_ln_intensity	-0.07682	0.02651	-2.89825
const (r-square=0.0992; NOBS=813; Sm.Est.=1.0304)	-0.18575	0.07899	-2.35143
d5_Wood pulp; chemical wood pulp, soda or sulph...	0.13040	0.09092	1.43421
lag5_ln_intensity	-0.07575	0.02906	-2.60714
const (r-square=0.115; NOBS=279; Sm.Est.=1.0164)	-0.18240	0.09052	-2.01510
d5_Wood pulp; chemical wood pulp, sulphite, (ot...	-0.00796	0.00180	-4.40950
lag5_ln_intensity	-0.07890	0.03617	-2.18114
const (r-square=0.1523; NOBS=187; Sm.Est.=1.0061)	-0.11687	0.05633	-2.07471
d5_Wood pulp; chemical wood pulp, sulphite, (ot...	-0.01449	0.00610	-2.37624
lag5_ln_intensity	-0.05392	0.02540	-2.12237
const (r-square=0.0337; NOBS=583; Sm.Est.=1.0158)	-0.11313	0.04561	-2.48051
d5_Wood pulp; chemical wood pulp, sulphite, (ot...	0.00045	0.01174	0.03800

(continued...)

lag5_ln_intensity	-0.04050	0.01789	-2.26410
const (r-square=0.0479; NOBS=670; Sm.Est.=1.0228)	-0.13819	0.06098	-2.26635
d5_Wood pulp; chemical wood pulp, sulphite, (ot...	0.00887	0.04765	0.18620
lag5_ln_intensity	-0.05367	0.02183	-2.45871
const (r-square=0.1142; NOBS=582; Sm.Est.=1.021)	-0.15509	0.07690	-2.01679
d5_Wood pulp; semi-chemical	-0.06831	0.05068	-1.34768
lag5_ln_intensity	-0.06861	0.02720	-2.52293
const (r-square=0.0893; NOBS=505; Sm.Est.=1.0268)	-0.19267	0.10599	-1.81788
d5_Pulp; cotton linters pulp	-0.00574	0.02648	-0.21697
lag5_ln_intensity	-0.07892	0.04080	-1.93463
const (r-square=0.0578; NOBS=574; Sm.Est.=1.0211)	-0.11576	0.06701	-1.72756
d5_Pulp; of fibrous cellulosic material (other ...	-0.01500	0.01034	-1.45028
lag5_ln_intensity	-0.04651	0.02245	-2.07181
const (r-square=0.0466; NOBS=640; Sm.Est.=1.0232)	-0.11917	0.07758	-1.53604
d5_Pulp; of fibrous cellulosic material (other ...	-0.00318	0.00595	-0.53547
lag5_ln_intensity	-0.05167	0.02794	-1.84944
const (r-square=0.0697; NOBS=719; Sm.Est.=1.0277)	-0.15230	0.07785	-1.95625
d5_Pulp; of fibrous cellulosic material (other ...	-0.00483	0.00205	-2.36199
lag5_ln_intensity	-0.06216	0.02924	-2.12582
const (r-square=0.0734; NOBS=975; Sm.Est.=1.032)	-0.17405	0.07355	-2.36654
d5_Newsprint; in rolls or sheets	0.08338	0.09906	0.84177
lag5_ln_intensity	-0.06619	0.02759	-2.39896
const (r-square=0.0628; NOBS=858; Sm.Est.=1.0293)	-0.16572	0.07908	-2.09556
d5_Paper and paperboard; hand-made	0.00993	0.01940	0.51168
lag5_ln_intensity	-0.06474	0.02992	-2.16367
const (r-square=0.0783; NOBS=901; Sm.Est.=1.0318)	-0.18464	0.08040	-2.29654
d5_Paper and paperboard; uncoated, of a kind us...	-0.01673	0.01322	-1.26521
lag5_ln_intensity	-0.07255	0.02999	-2.41880
const (r-square=0.0518; NOBS=846; Sm.Est.=1.0292)	-0.14908	0.06677	-2.23258
d5_Paper and paperboard; wallpaper base, uncoat...	-0.00751	0.00744	-1.00892
lag5_ln_intensity	-0.05674	0.02445	-2.32104
const (r-square=0.0985; NOBS=997; Sm.Est.=1.0323)	-0.16991	0.07449	-2.28103
d5_Paper and paperboard; uncoated, containing n...	0.23883	0.13087	1.82489
lag5_ln_intensity	-0.06654	0.02739	-2.42932
const (r-square=0.0916; NOBS=992; Sm.Est.=1.0319)	-0.17222	0.07312	-2.35534
d5_Tissue, towel, napkin stock or similar; for ...	-0.09987	0.05772	-1.73019
lag5_ln_intensity	-0.06619	0.02713	-2.43974
const (r-square=0.0751; NOBS=948; Sm.Est.=1.0321)	-0.18472	0.07771	-2.37717
d5_Kraft paper and paperboard; kraftliner, unco...	0.06183	0.04945	1.25051
lag5_ln_intensity	-0.07029	0.02915	-2.41170
const (r-square=0.0928; NOBS=922; Sm.Est.=1.0297)	-0.17635	0.08006	-2.20265
d5_Kraft paper and paperboard; kraftliner, unco...	0.21966	0.09890	2.22106
lag5_ln_intensity	-0.06639	0.03085	-2.15209
const (r-square=0.0701; NOBS=908; Sm.Est.=1.0294)	-0.15298	0.06643	-2.30279

(continued...)

d5_Kraft paper and paperboard; sack kraft paper...	-0.03842	0.02809	-1.36767
lag5_ln_intensity	-0.05819	0.02521	-2.30796
const (r-square=0.0521; NOBS=863; Sm.Est.=1.0283)	-0.15499	0.07467	-2.07576
d5_Kraft paper and paperboard; sack kraft paper...	-0.02771	0.02708	-1.02355
lag5_ln_intensity	-0.05826	0.02799	-2.08159
const (r-square=0.0739; NOBS=937; Sm.Est.=1.0323)	-0.19239	0.08199	-2.34636
d5_Kraft paper and paperboard; uncoated, unblea...	0.04579	0.05485	0.83481
lag5_ln_intensity	-0.07386	0.03091	-2.38949
const (r-square=0.0886; NOBS=936; Sm.Est.=1.0304)	-0.18814	0.07951	-2.36622
d5_Kraft paper and paperboard; uncoated, bleach...	0.10601	0.10321	1.02706
lag5_ln_intensity	-0.07202	0.03009	-2.39333
const (r-square=0.0908; NOBS=736; Sm.Est.=1.0232)	-0.19654	0.08474	-2.31942
d5_Kraft paper and paperboard; uncoated, unblea...	0.00182	0.01415	0.12855
lag5_ln_intensity	-0.07688	0.03231	-2.37907
const (r-square=0.0843; NOBS=582; Sm.Est.=1.0214)	-0.16635	0.09158	-1.81652
d5_Kraft paper and paperboard; uncoated, weight...	-0.03845	0.07673	-0.50109
lag5_ln_intensity	-0.06671	0.03665	-1.82010
const (r-square=0.0613; NOBS=656; Sm.Est.=1.0194)	-0.14829	0.06413	-2.31214
d5_Kraft paper and paperboard; uncoated, weight...	0.06755	0.03918	1.72414
lag5_ln_intensity	-0.05446	0.02262	-2.40742
const (r-square=0.0612; NOBS=773; Sm.Est.=1.0231)	-0.15750	0.05531	-2.84751
d5_Kraft paper and paperboard; uncoated, unblea...	-0.02021	0.01140	-1.77345
lag5_ln_intensity	-0.06097	0.02018	-3.02107
const (r-square=0.0439; NOBS=527; Sm.Est.=1.0191)	-0.12250	0.06040	-2.02820
d5_Kraft paper and paperboard; uncoated, weight...	0.06250	0.05406	1.15617
lag5_ln_intensity	-0.04649	0.02099	-2.21512
const (r-square=0.0921; NOBS=829; Sm.Est.=1.03)	-0.20462	0.08428	-2.42773
d5_Kraft paper and paperboard; uncoated, weight...	0.09273	0.06539	1.41822
lag5_ln_intensity	-0.07921	0.03195	-2.47943
const (r-square=0.0624; NOBS=932; Sm.Est.=1.0317)	-0.17397	0.07560	-2.30113
d5_Paper and paperboard; semi-chemical fluting ...	0.00967	0.01631	0.59308
lag5_ln_intensity	-0.06628	0.02801	-2.36638
const (r-square=0.0947; NOBS=186; Sm.Est.=1.0264)	-0.20439	0.08454	-2.41784
d5_Paper and paperboard; uncoated, multi-ply, w...	-0.00580	0.00232	-2.50617
lag5_ln_intensity	-0.08526	0.03171	-2.68862
const (r-square=0.0769; NOBS=910; Sm.Est.=1.0294)	-0.18000	0.07531	-2.39020
d5_Paper and paperboard; sulphite wrapping pape...	-0.04839	0.03649	-1.32609
lag5_ln_intensity	-0.06857	0.02765	-2.47992
const (r-square=0.0779; NOBS=909; Sm.Est.=1.0319)	-0.17169	0.07563	-2.27016
d5_Paper and paperboard; filter paper and paper...	0.02506	0.05351	0.46833
lag5_ln_intensity	-0.07006	0.02796	-2.50560
const (r-square=0.0872; NOBS=697; Sm.Est.=1.0248)	-0.18807	0.07758	-2.42428
d5_Paper and paperboard; felt paper and paperbo...	-0.03000	0.04180	-0.71777
lag5_ln_intensity	-0.07806	0.02715	-2.87494

(continued...)

const (r-square=0.0669; NOBS=990; Sm.Est.=1.0324)	-0.17605	0.07340	-2.39844
d5_Paper and paperboard; uncoated, weight 150g/...	-0.01203	0.04002	-0.30062
lag5_ln_intensity	-0.06745	0.02718	-2.48157
const (r-square=0.0625; NOBS=964; Sm.Est.=1.0323)	-0.17396	0.07572	-2.29753
d5_Paper and paperboard; uncoated, weight 225/m...	0.00310	0.08281	0.03746
lag5_ln_intensity	-0.06602	0.02834	-2.32974
const (r-square=0.0811; NOBS=751; Sm.Est.=1.0296)	-0.20083	0.08963	-2.24069
d5_Paper; vegetable parchment, in rolls or sheets	0.00167	0.03021	0.05528
lag5_ln_intensity	-0.07658	0.03356	-2.28194
const (r-square=0.0727; NOBS=920; Sm.Est.=1.0309)	-0.17414	0.07855	-2.21700
d5_Paper; greaseproof papers, in rolls or sheets	0.02091	0.02348	0.89065
lag5_ln_intensity	-0.06796	0.02935	-2.31546
const (r-square=0.0657; NOBS=852; Sm.Est.=1.0283)	-0.16794	0.08300	-2.02352
d5_Paper; tracing papers, in rolls or sheets	0.04526	0.11435	0.39578
lag5_ln_intensity	-0.06442	0.03105	-2.07441
const (r-square=0.0661; NOBS=934; Sm.Est.=1.0297)	-0.17631	0.07836	-2.25015
d5_Paper; glassine and other glazed transparent...	0.02282	0.05179	0.44050
lag5_ln_intensity	-0.06666	0.02926	-2.27846
const (r-square=0.0608; NOBS=967; Sm.Est.=1.0316)	-0.17131	0.07525	-2.27666
d5_Paper and paperboard; composite, not surface...	-0.00782	0.03547	-0.22047
lag5_ln_intensity	-0.06438	0.02809	-2.29215
const (r-square=0.0933; NOBS=972; Sm.Est.=1.0342)	-0.19852	0.07917	-2.50731
d5_Paper and paperboard; corrugated (with or wi...	-0.04684	0.03596	-1.30234
lag5_ln_intensity	-0.07746	0.02943	-2.63230
const (r-square=0.0681; NOBS=857; Sm.Est.=1.0284)	-0.15236	0.07484	-2.03573
d5_Paper and paperboard; kraft paper (other tha...	-0.08275	0.06190	-1.33687
lag5_ln_intensity	-0.05905	0.02900	-2.03649
const (r-square=0.0656; NOBS=966; Sm.Est.=1.0315)	-0.17848	0.07853	-2.27283
d5_Paper and paperboard; (other than kraft pape...	-0.01389	0.03315	-0.41908
lag5_ln_intensity	-0.06832	0.02934	-2.32883
const (r-square=0.0578; NOBS=938; Sm.Est.=1.0315)	-0.16332	0.07228	-2.25962
d5_Paper; self-copy paper, whether or not print...	0.07355	0.10871	0.67655
lag5_ln_intensity	-0.06256	0.02665	-2.34783
const (r-square=0.0897; NOBS=904; Sm.Est.=1.0299)	-0.17832	0.08090	-2.20426
d5_Paper; copying and transfer paper (including...	0.10531	0.05491	1.91793
lag5_ln_intensity	-0.06814	0.03017	-2.25887
const (r-square=0.0846; NOBS=991; Sm.Est.=1.0322)	-0.17049	0.07329	-2.32629
d5_Paper and paperboard; coated with inorganic ...	0.22361	0.20909	1.06944
lag5_ln_intensity	-0.06529	0.02723	-2.39788
const (r-square=0.0764; NOBS=913; Sm.Est.=1.0306)	-0.18107	0.08066	-2.24474
d5_Paper and paperboard; light-weight coated pa...	0.08375	0.10400	0.80525
lag5_ln_intensity	-0.06922	0.03058	-2.26381
const (r-square=0.0942; NOBS=972; Sm.Est.=1.0311)	-0.17038	0.07544	-2.25855
d5_Paper and paperboard; coated with kaolin or ...	0.23520	0.13242	1.77615

(continued...)

lag5_ln_intensity	-0.06459	0.02807	-2.30114
const (r-square=0.0515; NOBS=782; Sm.Est.=1.0272)	-0.13329	0.06399	-2.08293
d5_Kraft paper and paperboard; uniformly bleach...	-0.04487	0.02456	-1.82716
lag5_ln_intensity	-0.05251	0.02429	-2.16200
const (r-square=0.0607; NOBS=769; Sm.Est.=1.0266)	-0.15517	0.08107	-1.91402
d5_Kraft paper and paperboard; uniformly bleach...	0.08164	0.06856	1.19080
lag5_ln_intensity	-0.05838	0.03082	-1.89446
const (r-square=0.1109; NOBS=871; Sm.Est.=1.027)	-0.14698	0.07123	-2.06355
d5_Kraft paper and paperboard; coated with kaol...	0.32696	0.14800	2.20928
lag5_ln_intensity	-0.05489	0.02704	-2.03006
const (r-square=0.0969; NOBS=972; Sm.Est.=1.0328)	-0.18889	0.07483	-2.52414
d5_Paper and paperboard; multi-ply, coated with...	0.23446	0.13895	1.68741
lag5_ln_intensity	-0.07265	0.02773	-2.62004
const (r-square=0.066; NOBS=978; Sm.Est.=1.0323)	-0.17427	0.07406	-2.35304
d5_Paper and paperboard; coated with inorganic ...	0.02089	0.04401	0.47457
lag5_ln_intensity	-0.06658	0.02743	-2.42754
const (r-square=0.0559; NOBS=922; Sm.Est.=1.0301)	-0.15600	0.07016	-2.22347
d5_Paper and paperboard; tarred, bituminised or...	-0.04090	0.02032	-2.01297
lag5_ln_intensity	-0.05786	0.02632	-2.19846
const (r-square=0.0772; NOBS=841; Sm.Est.=1.0236)	-0.15310	0.06249	-2.45003
d5_Paper and paperboard; self-adhesive, in roll...	-0.05393	0.02106	-2.56075
lag5_ln_intensity	-0.05180	0.02342	-2.21200
const (r-square=0.0641; NOBS=776; Sm.Est.=1.0212)	-0.13245	0.05747	-2.30488
d5_Paper and paperboard; gummed or adhesive pap...	-0.03353	0.02010	-1.66794
lag5_ln_intensity	-0.04316	0.02233	-1.93270
const (r-square=0.073; NOBS=945; Sm.Est.=1.031)	-0.17161	0.07823	-2.19367
d5_Paper and paperboard; coated, impregnated or...	0.08532	0.04316	1.97661
lag5_ln_intensity	-0.06649	0.02921	-2.27626
const (r-square=0.0675; NOBS=987; Sm.Est.=1.0335)	-0.17954	0.07428	-2.41703
d5_Paper and paperboard; coated, impregnated or...	-0.00253	0.14567	-0.01737
lag5_ln_intensity	-0.06959	0.02734	-2.54540
const (r-square=0.0726; NOBS=953; Sm.Est.=1.0309)	-0.17852	0.07904	-2.25868
d5_Paper and paperboard; coated or impregnated ...	0.07952	0.06084	1.30703
lag5_ln_intensity	-0.06791	0.02963	-2.29195
const (r-square=0.0954; NOBS=993; Sm.Est.=1.0323)	-0.17537	0.07317	-2.39663
d5_Paper, paperboard, cellulose wadding and web...	0.23636	0.14180	1.66685
lag5_ln_intensity	-0.06724	0.02695	-2.49467
const (r-square=0.0883; NOBS=937; Sm.Est.=1.0296)	-0.16817	0.07717	-2.17910
d5_Paper pulp; filter blocks, slabs and plates ...	-0.06870	0.02805	-2.44901
lag5_ln_intensity	-0.06579	0.02894	-2.27290
const (r-square=0.0783; NOBS=783; Sm.Est.=1.0276)	-0.16455	0.08476	-1.94148
d5_Paper, cigarette; in the form of booklets or...	-0.06756	0.04616	-1.46359
lag5_ln_intensity	-0.06513	0.03163	-2.05893
const (r-square=0.0825; NOBS=841; Sm.Est.=1.0306)	-0.20832	0.07476	-2.78651

(continued...)

d5_Paper, cigarette; in rolls of a width not ex...	-0.01804	0.01865	-0.96708
lag5_ln_intensity	-0.08180	0.02662	-3.07232
const (r-square=0.1011; NOBS=895; Sm.Est.=1.0332)	-0.21656	0.08431	-2.56869
d5_Paper, cigarette; (other than in rolls of a ...	-0.03140	0.01950	-1.61051
lag5_ln_intensity	-0.08677	0.03084	-2.81303
const (r-square=0.0916; NOBS=955; Sm.Est.=1.0329)	-0.18421	0.07879	-2.33807
d5_Wallpaper and similar wall coverings; coated...	-0.02800	0.02234	-1.25326
lag5_ln_intensity	-0.07115	0.02906	-2.44853
const (r-square=0.085; NOBS=969; Sm.Est.=1.0332)	-0.19235	0.07872	-2.44349
d5_Wallpaper and similar wall coverings and win...	-0.04597	0.03651	-1.25892
lag5_ln_intensity	-0.07456	0.02942	-2.53466
const (r-square=0.0625; NOBS=883; Sm.Est.=1.0309)	-0.15754	0.06974	-2.25895
d5_Paper; self-copy paper (other than those of ...	0.10081	0.06103	1.65194
lag5_ln_intensity	-0.05919	0.02639	-2.24295
const (r-square=0.0695; NOBS=931; Sm.Est.=1.0309)	-0.18228	0.08102	-2.24969
d5_Paper; carbon paper and other copying or tra...	0.00925	0.00841	1.09980
lag5_ln_intensity	-0.07053	0.03054	-2.30987
const (r-square=0.0967; NOBS=992; Sm.Est.=1.0336)	-0.17048	0.07708	-2.21178
d5_Paper and paperboard; envelopes	-0.10274	0.05496	-1.86928
lag5_ln_intensity	-0.06749	0.02875	-2.34697
const (r-square=0.0589; NOBS=914; Sm.Est.=1.0322)	-0.16371	0.07806	-2.09721
d5_Paper and paperboard; letter cards, plain po...	-0.02002	0.01859	-1.07690
lag5_ln_intensity	-0.06224	0.02914	-2.13622
const (r-square=0.0566; NOBS=950; Sm.Est.=1.032)	-0.16902	0.07796	-2.16800
d5_Paper and paperboard; boxes, pouches, wallet...	0.00236	0.04073	0.05789
lag5_ln_intensity	-0.06371	0.02894	-2.20126
const (r-square=0.0695; NOBS=993; Sm.Est.=1.0331)	-0.18043	0.06855	-2.63204
d5_Paper; toilet paper	-0.02562	0.15983	-0.16026
lag5_ln_intensity	-0.06892	0.02523	-2.73128
const (r-square=0.0778; NOBS=992; Sm.Est.=1.0347)	-0.18719	0.07426	-2.52071
d5_Paper articles; handkerchiefs, cleansing or ...	-0.06147	0.06751	-0.91050
lag5_ln_intensity	-0.07308	0.02728	-2.67878
const (r-square=0.1101; NOBS=996; Sm.Est.=1.0334)	-0.19068	0.07410	-2.57319
d5_Paper articles; tablecloths and serviettes, ...	-0.21637	0.08285	-2.61158
lag5_ln_intensity	-0.07417	0.02723	-2.72367
const (r-square=0.0804; NOBS=1000; Sm.Est.=1.0329)	-0.16660	0.07194	-2.31598
d5_Paper articles; sanitary towels and tampons,...	-0.11234	0.09004	-1.24762
lag5_ln_intensity	-0.06449	0.02647	-2.43643
const (r-square=0.0619; NOBS=888; Sm.Est.=1.0308)	-0.17455	0.08373	-2.08467
d5_Paper articles; apparel and clothing accesso...	0.00686	0.02447	0.28037
lag5_ln_intensity	-0.06711	0.03187	-2.10560
const (r-square=0.0968; NOBS=987; Sm.Est.=1.0319)	-0.16613	0.07341	-2.26316
d5_Paper articles; articles of paper, cellulose...	-0.11470	0.04888	-2.34644
lag5_ln_intensity	-0.06451	0.02711	-2.37999

(continued...)

const (r-square=0.1254; NOBS=1013; Sm.Est.=1.0333)	-0.17036	0.06814	-2.50006
d5_Paper and paperboard; cartons, boxes and cas...	-0.33416	0.12290	-2.71903
lag5_ln_intensity	-0.06632	0.02524	-2.62690
const (r-square=0.0886; NOBS=1014; Sm.Est.=1.0346)	-0.17558	0.07314	-2.40040
d5_Paper and paperboard; folding cartons, boxes...	-0.12452	0.10008	-1.24424
lag5_ln_intensity	-0.06778	0.02710	-2.50101
const (r-square=0.0877; NOBS=987; Sm.Est.=1.0347)	-0.19298	0.07708	-2.50363
d5_Paper and paperboard; sacks and bags of pape...	-0.07846	0.05235	-1.49895
lag5_ln_intensity	-0.07516	0.02872	-2.61685
const (r-square=0.0771; NOBS=1001; Sm.Est.=1.0351)	-0.18694	0.07331	-2.55015
d5_Paper and paperboard; sacks and bags, includ...	-0.07111	0.11575	-0.61432
lag5_ln_intensity	-0.07277	0.02725	-2.67013
const (r-square=0.0713; NOBS=992; Sm.Est.=1.0349)	-0.18527	0.07569	-2.44769
d5_Paper and paperboard; packing containers, in...	-0.00386	0.02622	-0.14736
lag5_ln_intensity	-0.07218	0.02814	-2.56542
const (r-square=0.0647; NOBS=984; Sm.Est.=1.0329)	-0.17507	0.07491	-2.33716
d5_Paper and paperboard; box files, letter tray...	0.00288	0.01619	0.17790
lag5_ln_intensity	-0.06765	0.02781	-2.43299
const (r-square=0.0806; NOBS=997; Sm.Est.=1.0337)	-0.17604	0.07252	-2.42753
d5_Paper and paperboard; registers, account boo...	0.12821	0.11538	1.11123
lag5_ln_intensity	-0.06921	0.02646	-2.61580
const (r-square=0.1138; NOBS=976; Sm.Est.=1.0316)	-0.18997	0.07616	-2.49430
d5_Paper and paperboard; exercise books	-0.06101	0.02424	-2.51699
lag5_ln_intensity	-0.07285	0.02876	-2.53247
const (r-square=0.0816; NOBS=992; Sm.Est.=1.0319)	-0.16850	0.07086	-2.37782
d5_Paper and paperboard; binders, folders and f...	0.05963	0.06199	0.96196
lag5_ln_intensity	-0.06513	0.02583	-2.52174
const (r-square=0.0732; NOBS=961; Sm.Est.=1.0299)	-0.14741	0.06505	-2.26628
d5_Paper and paperboard; manifold business form...	-0.07694	0.02462	-3.12577
lag5_ln_intensity	-0.05566	0.02413	-2.30634
const (r-square=0.0662; NOBS=969; Sm.Est.=1.0307)	-0.17165	0.07323	-2.34411
d5_Paper and paperboard; albums for samples or ...	-0.03226	0.04518	-0.71409
lag5_ln_intensity	-0.06489	0.02698	-2.40483
const (r-square=0.0688; NOBS=983; Sm.Est.=1.0318)	-0.16724	0.07216	-2.31783
d5_Paper or paperboard; stationery n.e.s. in he...	0.03564	0.04167	0.85547
lag5_ln_intensity	-0.06398	0.02658	-2.40736
const (r-square=0.1054; NOBS=1013; Sm.Est.=1.034)	-0.17240	0.07240	-2.38113
d5_Paper and paperboard; labels or all kinds, p...	-0.15000	0.10801	-1.38886
lag5_ln_intensity	-0.06732	0.02671	-2.52077
const (r-square=0.0839; NOBS=1005; Sm.Est.=1.0337)	-0.17814	0.06936	-2.56853
d5_Paper and paperboard; labels of all kinds, u...	-0.07809	0.05790	-1.34860
lag5_ln_intensity	-0.06968	0.02540	-2.74331

Table K.3: The panel data regression results of the 6-digit pharmaceutical products [1995-2017]

APPENDIX L

HS-4digit regression results

Chemical industry

	parameter	std_errors	t-stat
const (r-square=0.0443; NOBS=875; Sm.Est.=1.0327)	-0.15881	0.05009	-3.17026
d5_Animal or vegetable fats, oils, fractions, m...	0.00029	0.02748	0.01066
lag5_ln_intensity	-0.06486	0.02005	-3.23488
const (r-square=0.041; NOBS=887; Sm.Est.=1.0353)	-0.16277	0.04974	-3.27213
d5_Industrial monocarboxylic fatty acids; acid ...	0.01156	0.01526	0.75758
lag5_ln_intensity	-0.06427	0.01998	-3.21734
const (r-square=0.0281; NOBS=851; Sm.Est.=1.0296)	-0.12459	0.05453	-2.28481
d5_Glycerol (glycerine); whether or not pure, g...	-0.00208	0.03115	-0.06680
lag5_ln_intensity	-0.05090	0.02170	-2.34611
const (r-square=0.0473; NOBS=899; Sm.Est.=1.0364)	-0.15474	0.04750	-3.25744
d5_Ethyl alcohol, undenatured; of an alcoholic ...	-0.02239	0.03938	-0.56857
lag5_ln_intensity	-0.06370	0.01912	-3.33074
const (r-square=0.0352; NOBS=314; Sm.Est.=1.012)	-0.07425	0.05125	-1.44878
d5_Iron ores and concentrates; including roaste...	-0.00588	0.00321	-1.82913
lag5_ln_intensity	-0.02922	0.01935	-1.50967
const (r-square=0.0472; NOBS=889; Sm.Est.=1.0323)	-0.13754	0.04923	-2.79411
d5_Oils and other products of the distillation ...	-0.03838	0.02167	-1.77117
lag5_ln_intensity	-0.05520	0.01970	-2.80204
const (r-square=0.0331; NOBS=655; Sm.Est.=1.0227)	-0.09636	0.05286	-1.82295
d5_Pitch and pitch coke; obtained from coal tar...	-0.00772	0.00559	-1.37972
lag5_ln_intensity	-0.03916	0.01994	-1.96405
const (r-square=0.0473; NOBS=826; Sm.Est.=1.0314)	-0.13617	0.04417	-3.08290
d5_Fluorine, chlorine, bromine and iodine	0.03629	0.01148	3.16152
lag5_ln_intensity	-0.05193	0.01672	-3.10532
const (r-square=0.038; NOBS=632; Sm.Est.=1.0224)	-0.14941	0.07117	-2.09950
d5_Sulphur; sublimed or precipitated, colloidal...	0.00848	0.02638	0.32148

(continued...)

lag5_ln_intensity	-0.05626	0.02655	-2.11898
const (r-square=0.036; NOBS=869; Sm.Est.=1.032)	-0.13274	0.04392	-3.02204
d5_Carbon; carbon blacks and other forms of car...	0.05670	0.07336	0.77295
lag5_ln_intensity	-0.05272	0.01732	-3.04381
const (r-square=0.0367; NOBS=903; Sm.Est.=1.0368)	-0.14086	0.04584	-3.07254
d5_Hydrogen, rare gases and other non-metals	0.03080	0.05321	0.57890
lag5_ln_intensity	-0.05701	0.01867	-3.05405
const (r-square=0.036; NOBS=791; Sm.Est.=1.0285)	-0.13621	0.04831	-2.81986
d5_Alkali or alkaline-earth metals; rare-earth ...	-0.00732	0.00566	-1.29312
lag5_ln_intensity	-0.05252	0.01809	-2.90380
const (r-square=0.0223; NOBS=845; Sm.Est.=1.0279)	-0.11353	0.04679	-2.42615
d5_Hydrogen chloride (hydrochloric acid); chlor...	0.01963	0.04888	0.40157
lag5_ln_intensity	-0.04270	0.01736	-2.45971
const (r-square=0.0444; NOBS=849; Sm.Est.=1.0317)	-0.15636	0.05002	-3.12616
d5_Sulphuric acid; oleum	0.00255	0.02013	0.12663
lag5_ln_intensity	-0.06578	0.02010	-3.27316
const (r-square=0.0344; NOBS=817; Sm.Est.=1.0275)	-0.12323	0.05317	-2.31762
d5_Nitric acid; sulphonitric acids	-0.02513	0.02745	-0.91553
lag5_ln_intensity	-0.05087	0.02176	-2.33740
const (r-square=0.0488; NOBS=849; Sm.Est.=1.0309)	-0.16520	0.04944	-3.34141
d5_Diphosphorus pentoxide; phosphoric acid and ...	0.05838	0.03152	1.85235
lag5_ln_intensity	-0.06682	0.01955	-3.41754
const (r-square=0.0245; NOBS=722; Sm.Est.=1.0278)	-0.10522	0.05893	-1.78543
d5_Oxides of boron; boric acids	0.01943	0.02617	0.74259
lag5_ln_intensity	-0.04192	0.02280	-1.83856
const (r-square=0.0466; NOBS=901; Sm.Est.=1.0368)	-0.15059	0.04824	-3.12141
d5_Inorganic acids and other inorganic oxygen c...	-0.05209	0.07919	-0.65777
lag5_ln_intensity	-0.06246	0.01964	-3.18113
const (r-square=0.0742; NOBS=695; Sm.Est.=1.0217)	-0.10157	0.04768	-2.13040
d5_Halides and halide oxides of non-metals	0.26326	0.13346	1.97264
lag5_ln_intensity	-0.04153	0.01724	-2.40853
const (r-square=0.0417; NOBS=539; Sm.Est.=1.0197)	-0.13191	0.05355	-2.46315
d5_Sulphides of non-metals; commercial phosphor...	0.00537	0.01661	0.32352
lag5_ln_intensity	-0.05226	0.02143	-2.43894
const (r-square=0.1082; NOBS=851; Sm.Est.=1.03)	-0.14954	0.05299	-2.82211
d5_Ammonia; anhydrous or in aqueous solution	-0.06201	0.01598	-3.87969
lag5_ln_intensity	-0.05801	0.01986	-2.92137
const (r-square=0.0674; NOBS=908; Sm.Est.=1.0359)	-0.13454	0.04295	-3.13266
d5_Sodium hydroxide (caustic soda); potassium h...	0.10053	0.03740	2.68780
lag5_ln_intensity	-0.05574	0.01765	-3.15751
const (r-square=0.0091; NOBS=616; Sm.Est.=1.0213)	-0.07136	0.04955	-1.44029
d5_Hydroxide and peroxide of magnesium; oxides,...	0.00049	0.01836	0.02677
lag5_ln_intensity	-0.02626	0.01861	-1.41110
const (r-square=0.0437; NOBS=863; Sm.Est.=1.0309)	-0.14012	0.04966	-2.82173

(continued...)

d5_Zinc; oxide and peroxide	0.05053	0.06187	0.81671
lag5_ln_intensity	-0.05735	0.02023	-2.83427
const (r-square=0.0435; NOBS=892; Sm.Est.=1.0369)	-0.14953	0.04590	-3.25759
d5_Aluminium oxide (including artificial corund...	0.01929	0.01946	0.99114
lag5_ln_intensity	-0.06114	0.01828	-3.34362
const (r-square=0.0252; NOBS=780; Sm.Est.=1.0233)	-0.10581	0.04881	-2.16757
d5_Chromium oxides and hydroxides	-0.00481	0.00345	-1.39172
lag5_ln_intensity	-0.03937	0.01825	-2.15756
const (r-square=0.036; NOBS=666; Sm.Est.=1.0173)	-0.09272	0.05001	-1.85417
d5_Manganese oxides	-0.01489	0.00687	-2.16667
lag5_ln_intensity	-0.03853	0.01799	-2.14163
const (r-square=0.0415; NOBS=863; Sm.Est.=1.0356)	-0.14069	0.05005	-2.81100
d5_Iron oxides and hydroxides; earth colours co...	-0.01798	0.01033	-1.74078
lag5_ln_intensity	-0.05784	0.02044	-2.83024
const (r-square=0.0171; NOBS=538; Sm.Est.=1.0168)	-0.10320	0.04548	-2.26892
d5_Cobalt oxides and hydroxides; commercial cob...	0.00971	0.06579	0.14757
lag5_ln_intensity	-0.03366	0.01755	-1.91859
const (r-square=0.0226; NOBS=833; Sm.Est.=1.0314)	-0.11925	0.04769	-2.50033
d5_Titanium oxides	0.01289	0.03848	0.33507
lag5_ln_intensity	-0.04528	0.01850	-2.44740
const (r-square=0.0212; NOBS=594; Sm.Est.=1.0182)	-0.07901	0.03306	-2.38985
d5_Lead oxides; red lead and orange lead	-0.02427	0.01719	-1.41176
lag5_ln_intensity	-0.02486	0.01220	-2.03759
const (r-square=0.0216; NOBS=885; Sm.Est.=1.035)	-0.11510	0.04108	-2.80152
d5_Hydrazine and hydroxylamine and their inorga...	-0.00055	0.00061	-0.89465
lag5_ln_intensity	-0.04629	0.01629	-2.84164
const (r-square=0.0226; NOBS=789; Sm.Est.=1.0296)	-0.11235	0.04946	-2.27141
d5_Fluorides; fluorosilicates, fluoroaluminates...	-0.00296	0.03171	-0.09327
lag5_ln_intensity	-0.04631	0.01919	-2.41323
const (r-square=0.0612; NOBS=900; Sm.Est.=1.0363)	-0.15378	0.04592	-3.34869
d5_Chlorides; chloride oxides and chloride hydr...	-0.11718	0.06864	-1.70708
lag5_ln_intensity	-0.06103	0.01818	-3.35805
const (r-square=0.0348; NOBS=863; Sm.Est.=1.0335)	-0.14980	0.04646	-3.22399
d5_Hypochlorites; commercial calcium hypochlori...	0.02195	0.07749	0.28329
lag5_ln_intensity	-0.05813	0.01786	-3.25557
const (r-square=0.0132; NOBS=709; Sm.Est.=1.0226)	-0.08524	0.05267	-1.61848
d5_Chlorates and perchlorates; bromates and per...	0.00157	0.01444	0.10870
lag5_ln_intensity	-0.03153	0.01922	-1.64076
const (r-square=0.036; NOBS=744; Sm.Est.=1.0331)	-0.13702	0.04843	-2.82937
d5_Sulphides; polysulphides	-0.00199	0.00134	-1.48134
lag5_ln_intensity	-0.05220	0.01897	-2.75095
const (r-square=0.0307; NOBS=637; Sm.Est.=1.0211)	-0.10717	0.05043	-2.12530
d5_Dithionites and sulphoxylates	0.07455	0.09209	0.80955
lag5_ln_intensity	-0.03883	0.01909	-2.03400

(continued...)

const (r-square=0.0292; NOBS=816; Sm.Est.=1.027)	-0.08272	0.04449	-1.85907
d5_Sulphites; thiosulphates	0.12274	0.10113	1.21366
lag5_ln_intensity	-0.03556	0.01733	-2.05207
const (r-square=0.0533; NOBS=900; Sm.Est.=1.0362)	-0.13262	0.04101	-3.23412
d5_Sulphates; alums; peroxosulphates (persulpha...	0.13527	0.09485	1.42609
lag5_ln_intensity	-0.05331	0.01679	-3.17497
const (r-square=0.0479; NOBS=854; Sm.Est.=1.031)	-0.16272	0.04530	-3.59248
d5_Nitrites; nitrates	-0.01735	0.04192	-0.41391
lag5_ln_intensity	-0.06544	0.01804	-3.62814
const (r-square=0.0407; NOBS=905; Sm.Est.=1.035)	-0.13939	0.04469	-3.11879
d5_Phosphinates (hypophosphites), phosphonates ...	0.06109	0.04380	1.39477
lag5_ln_intensity	-0.05632	0.01854	-3.03826
const (r-square=0.035; NOBS=902; Sm.Est.=1.0357)	-0.14555	0.04477	-3.25096
d5_Carbonates; peroxocarbonates (percarbonates)...	0.00153	0.02105	0.07245
lag5_ln_intensity	-0.05760	0.01858	-3.10047
const (r-square=0.0366; NOBS=635; Sm.Est.=1.0189)	-0.10312	0.05495	-1.87662
d5_Cyanides, cyanide oxides and complex cyanides	0.04419	0.02467	1.79078
lag5_ln_intensity	-0.04265	0.02048	-2.08211
const (r-square=0.0433; NOBS=865; Sm.Est.=1.0334)	-0.12266	0.04251	-2.88564
d5_Silicates; commercial alkali metal silicates	0.10972	0.08272	1.32645
lag5_ln_intensity	-0.04965	0.01706	-2.90982
const (r-square=0.0226; NOBS=782; Sm.Est.=1.0261)	-0.11298	0.04798	-2.35479
d5_Borates; peroxoborates (perborates)	-0.00050	0.00640	-0.07739
lag5_ln_intensity	-0.04264	0.01870	-2.28062
const (r-square=0.0175; NOBS=854; Sm.Est.=1.0281)	-0.09819	0.04267	-2.30087
d5_Salts of oxometallic or peroxometallic acids	-0.00789	0.01510	-0.52222
lag5_ln_intensity	-0.03713	0.01637	-2.26750
const (r-square=0.0283; NOBS=799; Sm.Est.=1.0249)	-0.09954	0.03946	-2.52226
d5_Salts of inorganic acids or peroxoacids, exc...	-0.01074	0.01094	-0.98144
lag5_ln_intensity	-0.04086	0.01521	-2.68559
const (r-square=0.0586; NOBS=793; Sm.Est.=1.0345)	-0.14751	0.05693	-2.59099
d5_Colloidal precious metals; inorganic or orga...	-0.06455	0.04460	-1.44754
lag5_ln_intensity	-0.06117	0.02194	-2.78822
const (r-square=0.0576; NOBS=524; Sm.Est.=1.0072)	-0.08325	0.02384	-3.49242
d5_Radioactive chemical elements and radioactiv...	0.01750	0.01743	1.00397
lag5_ln_intensity	-0.02341	0.00959	-2.44039
const (r-square=0.0208; NOBS=363; Sm.Est.=1.0048)	-0.05388	0.02424	-2.22223
d5_Isotopes other than those of heading no. 284...	0.00229	0.00149	1.54387
lag5_ln_intensity	-0.01582	0.01007	-1.57206
const (r-square=0.1258; NOBS=433; Sm.Est.=1.0027)	-0.06258	0.02297	-2.72411
d5_Compounds, inorganic or organic, of rare-ear...	-0.02813	0.01218	-2.30989
lag5_ln_intensity	-0.01633	0.00882	-1.85116
const (r-square=0.0349; NOBS=839; Sm.Est.=1.0273)	-0.12942	0.04556	-2.84052
d5_Hydrogen peroxide; whether or not solidified...	0.02678	0.04919	0.54446

(continued...)

lag5_ln_intensity	-0.05397	0.01823	-2.96070
const (r-square=0.0302; NOBS=854; Sm.Est.=1.033)	-0.12255	0.04352	-2.81606
d5_Carbides, whether or not chemically defined	-0.00818	0.00958	-0.85320
lag5_ln_intensity	-0.05072	0.01758	-2.88545
const (r-square=0.0608; NOBS=669; Sm.Est.=1.0252)	-0.10501	0.05288	-1.98570
d5_Hydrides, nitrides, azides, silicides and bo...	0.25164	0.10159	2.47703
lag5_ln_intensity	-0.04329	0.01954	-2.21556
const (r-square=0.0327; NOBS=875; Sm.Est.=1.0322)	-0.13173	0.04365	-3.01830
d5_Inorganic compounds n.e.s. (including distil...	0.00535	0.01262	0.42391
lag5_ln_intensity	-0.05395	0.01638	-3.29435
const (r-square=0.0335; NOBS=888; Sm.Est.=1.0322)	-0.13722	0.04603	-2.98129
d5_Acyclic hydrocarbons	-0.00645	0.06687	-0.09640
lag5_ln_intensity	-0.05465	0.01848	-2.95783
const (r-square=0.0906; NOBS=912; Sm.Est.=1.0364)	-0.12847	0.03996	-3.21513
d5_Cyclic hydrocarbons	-0.06479	0.01693	-3.82712
lag5_ln_intensity	-0.05226	0.01553	-3.36467
const (r-square=0.036; NOBS=918; Sm.Est.=1.0386)	-0.14511	0.04422	-3.28141
d5_Halogenated derivatives of hydrocarbons	0.01217	0.02140	0.56888
lag5_ln_intensity	-0.05985	0.01826	-3.27713
const (r-square=0.0295; NOBS=854; Sm.Est.=1.0324)	-0.11936	0.04170	-2.86213
d5_Sulphonated, nitrated or nitrosated derivati...	-0.03960	0.04523	-0.87545
lag5_ln_intensity	-0.04822	0.01638	-2.94295
const (r-square=0.0366; NOBS=905; Sm.Est.=1.0363)	-0.15094	0.04642	-3.25132
d5_Acyclic alcohols and their halogenated, sulp...	0.00068	0.02114	0.03199
lag5_ln_intensity	-0.06028	0.01901	-3.17129
const (r-square=0.0315; NOBS=828; Sm.Est.=1.0337)	-0.13904	0.04826	-2.88130
d5_Alcohols; cyclic, and their halogenated, sul...	0.00164	0.08419	0.01953
lag5_ln_intensity	-0.05617	0.01895	-2.96379
const (r-square=0.0367; NOBS=867; Sm.Est.=1.0357)	-0.15297	0.04759	-3.21417
d5_Phenols; phenol-alcohols	-0.01294	0.07478	-0.17306
lag5_ln_intensity	-0.06142	0.01879	-3.26855
const (r-square=0.0505; NOBS=687; Sm.Est.=1.0311)	-0.18307	0.06750	-2.71224
d5_Phenols or phenol-alcohols; halogenated, sul...	0.00102	0.01719	0.05955
lag5_ln_intensity	-0.07408	0.02612	-2.83549
const (r-square=0.0372; NOBS=913; Sm.Est.=1.0386)	-0.14979	0.04480	-3.34361
d5_Ethers, ether-alcohols, ether-phenols, ether...	-0.03509	0.08679	-0.40436
lag5_ln_intensity	-0.06165	0.01820	-3.38645
const (r-square=0.0273; NOBS=760; Sm.Est.=1.0307)	-0.09502	0.04346	-2.18663
d5_Epoxides, epoxyalcohols, epoxyphenols and ep...	0.05410	0.03314	1.63229
lag5_ln_intensity	-0.04098	0.01678	-2.44256
const (r-square=0.0208; NOBS=527; Sm.Est.=1.0203)	-0.11010	0.05093	-2.16172
d5_Acetals and hemiacetals; whether or not with...	0.00206	0.00319	0.64434
lag5_ln_intensity	-0.03934	0.01884	-2.08785
const (r-square=0.0296; NOBS=885; Sm.Est.=1.034)	-0.13542	0.04851	-2.79179

(continued...)

d5_Aldehydes, whether or not with other oxygen ...	-0.02243	0.05024	-0.44638
lag5_ln_intensity	-0.05402	0.01975	-2.73587
const (r-square=0.0217; NOBS=433; Sm.Est.=1.0183)	-0.09364	0.03645	-2.56937
d5_Aldehydes; halogenated, sulphonated, nitrate...	0.03869	0.07235	0.53475
lag5_ln_intensity	-0.03521	0.01342	-2.62404
const (r-square=0.0374; NOBS=909; Sm.Est.=1.0372)	-0.14902	0.04241	-3.51349
d5_Ketones and quinones; whether or not with ot...	-0.04741	0.06058	-0.78259
lag5_ln_intensity	-0.06092	0.01745	-3.49043
const (r-square=0.0854; NOBS=918; Sm.Est.=1.0353)	-0.13707	0.04165	-3.29094
d5_Acids; saturated acyclic monocarboxylic acid...	0.42479	0.17800	2.38652
lag5_ln_intensity	-0.05705	0.01719	-3.31853
const (r-square=0.0353; NOBS=909; Sm.Est.=1.0353)	-0.13939	0.04639	-3.00485
d5_Acids; unsaturated acyclic monocarboxylic, c...	-0.00678	0.00248	-2.73091
lag5_ln_intensity	-0.05754	0.01839	-3.12877
const (r-square=0.0603; NOBS=906; Sm.Est.=1.0378)	-0.14568	0.04462	-3.26464
d5_Acids; polycarboxylic acids, their anhydride...	0.09992	0.06016	1.66111
lag5_ln_intensity	-0.06121	0.01822	-3.35911
const (r-square=0.0428; NOBS=912; Sm.Est.=1.0367)	-0.15109	0.04536	-3.33123
d5_Acids; carboxylic acid with additional oxyge...	0.04065	0.03651	1.11347
lag5_ln_intensity	-0.06103	0.01877	-3.25152
const (r-square=0.1117; NOBS=767; Sm.Est.=1.0275)	-0.08862	0.04624	-1.91678
d5_Esters; phosphoric, and their salts, includi...	0.45170	0.15963	2.82964
lag5_ln_intensity	-0.03637	0.01726	-2.10746
const (r-square=0.0226; NOBS=763; Sm.Est.=1.0301)	-0.11712	0.05483	-2.13618
d5_Esters of other inorganic acids (not esters ...	0.01458	0.05861	0.24882
lag5_ln_intensity	-0.04834	0.02033	-2.37816
const (r-square=0.0406; NOBS=916; Sm.Est.=1.0386)	-0.14587	0.04544	-3.20997
d5_Amine-function compounds	-0.03117	0.02650	-1.17649
lag5_ln_intensity	-0.06007	0.01883	-3.19019
const (r-square=0.1211; NOBS=916; Sm.Est.=1.0349)	-0.16389	0.04858	-3.37401
d5_Oxygen-function amino-compounds	0.51007	0.13937	3.65988
lag5_ln_intensity	-0.06890	0.01951	-3.53195
const (r-square=0.0496; NOBS=892; Sm.Est.=1.036)	-0.15486	0.04796	-3.22875
d5_Quaternary ammonium salts and hydroxides; le...	-0.04471	0.04848	-0.92240
lag5_ln_intensity	-0.06374	0.01946	-3.27557
const (r-square=0.0372; NOBS=903; Sm.Est.=1.0386)	-0.14621	0.04560	-3.20647
d5_Carboxyamide-function compounds; amide-funct...	0.02578	0.02505	1.02887
lag5_ln_intensity	-0.06006	0.01849	-3.24851
const (r-square=0.0472; NOBS=848; Sm.Est.=1.0369)	-0.12917	0.04993	-2.58722
d5_Carboxyimide-function compounds (including s...	0.15281	0.09838	1.55328
lag5_ln_intensity	-0.05557	0.02048	-2.71319
const (r-square=0.0582; NOBS=840; Sm.Est.=1.0293)	-0.12316	0.04119	-2.98978
d5_Nitrile-function compounds	0.04674	0.01350	3.46177
lag5_ln_intensity	-0.05122	0.01740	-2.94295

(continued...)

const (r-square=0.081; NOBS=665; Sm.Est.=1.0227)	-0.06698	0.04585	-1.46107
d5_Diazo-, azo- or azoxy-compounds	-0.09732	0.04809	-2.02349
lag5_ln_intensity	-0.03150	0.01791	-1.75865
const (r-square=0.0397; NOBS=763; Sm.Est.=1.0299)	-0.12329	0.05085	-2.42469
d5_Organic derivatives of hydrazine or of hydro...	-0.07721	0.06481	-1.19132
lag5_ln_intensity	-0.05086	0.02016	-2.52241
const (r-square=0.0619; NOBS=870; Sm.Est.=1.034)	-0.15807	0.05044	-3.13417
d5_Nitrogen-function compounds, n.e.s. in chapt...	0.13968	0.09139	1.52840
lag5_ln_intensity	-0.06347	0.01992	-3.18633
const (r-square=0.0357; NOBS=901; Sm.Est.=1.0371)	-0.14434	0.04707	-3.06649
d5_Organo-sulphur compounds	-0.02912	0.09116	-0.31940
lag5_ln_intensity	-0.06074	0.01923	-3.15853
const (r-square=0.1142; NOBS=884; Sm.Est.=1.0353)	-0.14519	0.04645	-3.12587
d5_Organo-inorganic compounds; n.e.s. in headin...	0.65847	0.26288	2.50485
lag5_ln_intensity	-0.06172	0.01938	-3.18525
const (r-square=0.1182; NOBS=877; Sm.Est.=1.0321)	-0.11614	0.04133	-2.80981
d5_Heterocyclic compounds with oxygen hetero-at...	-0.26534	0.07591	-3.49541
lag5_ln_intensity	-0.04653	0.01523	-3.05506
const (r-square=0.0425; NOBS=919; Sm.Est.=1.038)	-0.14010	0.04471	-3.13314
d5_Heterocyclic compounds with nitrogen hetero-...	0.23893	0.28141	0.84906
lag5_ln_intensity	-0.05808	0.01859	-3.12460
const (r-square=0.0361; NOBS=909; Sm.Est.=1.0382)	-0.14712	0.04485	-3.28008
d5_Heterocyclic compounds; n.e.s. in chapter 29	-0.02262	0.21527	-0.10506
lag5_ln_intensity	-0.06101	0.01838	-3.31892
const (r-square=0.0324; NOBS=824; Sm.Est.=1.0337)	-0.13755	0.05130	-2.68139
d5_Sulphonamides	-0.02129	0.13269	-0.16048
lag5_ln_intensity	-0.05534	0.02068	-2.67661
const (r-square=0.0337; NOBS=912; Sm.Est.=1.0366)	-0.14290	0.04462	-3.20253
d5_Provitamins, vitamins; natural or reproduced...	0.00031	0.02520	0.01212
lag5_ln_intensity	-0.05752	0.01828	-3.14601
const (r-square=0.0575; NOBS=832; Sm.Est.=1.0356)	-0.13468	0.04927	-2.73358
d5_Hormones, natural or reproduced by synthesis...	-0.18192	0.13702	-1.32771
lag5_ln_intensity	-0.05476	0.02002	-2.73581
const (r-square=0.0739; NOBS=738; Sm.Est.=1.0297)	-0.13359	0.04529	-2.94940
d5_Glycosides, natural or reproduced by synthes...	0.20132	0.07377	2.72893
lag5_ln_intensity	-0.05300	0.01797	-2.94885
const (r-square=0.0287; NOBS=847; Sm.Est.=1.0344)	-0.12774	0.04807	-2.65751
d5_Alkaloids, vegetable; natural or reproduced ...	-0.00067	0.01044	-0.06442
lag5_ln_intensity	-0.05192	0.01989	-2.61053
const (r-square=0.033; NOBS=762; Sm.Est.=1.0352)	-0.14697	0.05921	-2.48235
d5_Sugars, chemically pure, other than sucrose,...	-0.00617	0.04416	-0.13962
lag5_ln_intensity	-0.05982	0.02335	-2.56199
const (r-square=0.0375; NOBS=891; Sm.Est.=1.0358)	-0.15377	0.04678	-3.28725
d5_Antibiotics	-0.01417	0.04623	-0.30641

(continued...)

lag5_ln_intensity	-0.06041	0.01912	-3.16009
const (r-square=0.038; NOBS=897; Sm.Est.=1.0371)	-0.14593	0.04547	-3.20977
d5_Organic compounds; n.e.s. in chapter 29	-0.01154	0.01659	-0.69544
lag5_ln_intensity	-0.06040	0.01851	-3.26285
const (r-square=0.0655; NOBS=848; Sm.Est.=1.0344)	-0.14459	0.04909	-2.94519
d5_Glands, organs (extracts, secretions thereof...	-0.17298	0.11024	-1.56916
lag5_ln_intensity	-0.05768	0.01977	-2.91772
const (r-square=0.0519; NOBS=921; Sm.Est.=1.0374)	-0.14587	0.04420	-3.30050
d5_Blood, human or animal; prepared for therape...	-0.09180	0.08677	-1.05801
lag5_ln_intensity	-0.05942	0.01827	-3.25327
const (r-square=0.1189; NOBS=906; Sm.Est.=1.0338)	-0.13587	0.04032	-3.37018
d5_Medicaments; (not goods of heading no. 3002,...	-0.26665	0.09645	-2.76472
lag5_ln_intensity	-0.05620	0.01596	-3.52053
const (r-square=0.2876; NOBS=923; Sm.Est.=1.0279)	-0.09114	0.03428	-2.65889
d5_Medicaments; (not goods of heading no. 3002,...	-1.18093	0.23383	-5.05033
lag5_ln_intensity	-0.04085	0.01376	-2.96967
const (r-square=0.1226; NOBS=908; Sm.Est.=1.0354)	-0.13879	0.04359	-3.18409
d5_Wadding, gauze, bandages (dressings, adhesiv...	-0.28607	0.08031	-3.56228
lag5_ln_intensity	-0.05621	0.01861	-3.01995
const (r-square=0.0368; NOBS=895; Sm.Est.=1.0374)	-0.15320	0.04771	-3.21114
d5_Pharmaceutical goods	-0.00341	0.07522	-0.04533
lag5_ln_intensity	-0.06226	0.01943	-3.20412
const (r-square=0.0514; NOBS=906; Sm.Est.=1.0362)	-0.16411	0.04947	-3.31751
d5_Fertilizers; mineral or chemical, nitrogenous	-0.03962	0.02936	-1.34936
lag5_ln_intensity	-0.06547	0.02003	-3.26913
const (r-square=0.0416; NOBS=787; Sm.Est.=1.0305)	-0.13451	0.05299	-2.53816
d5_Fertilizers; mineral or chemical, phosphatic	-0.03091	0.02114	-1.46248
lag5_ln_intensity	-0.05171	0.02141	-2.41530
const (r-square=0.0355; NOBS=877; Sm.Est.=1.0354)	-0.14715	0.04733	-3.10876
d5_Fertilizers; mineral or chemical, potassic	0.00684	0.05754	0.11879
lag5_ln_intensity	-0.05888	0.01911	-3.08167
const (r-square=0.0582; NOBS=906; Sm.Est.=1.0361)	-0.15321	0.04902	-3.12559
d5_Fertilizers; mineral or chemical, containing...	-0.05107	0.02310	-2.21067
lag5_ln_intensity	-0.06168	0.01971	-3.13015
const (r-square=0.0188; NOBS=781; Sm.Est.=1.0225)	-0.09188	0.04314	-2.12995
d5_Tanning extracts of vegetable origin; tannin...	0.01614	0.01912	0.84446
lag5_ln_intensity	-0.03475	0.01623	-2.14158
const (r-square=0.0327; NOBS=844; Sm.Est.=1.0278)	-0.12578	0.04722	-2.66344
d5_Tanning substances; synthetic organic or ino...	0.04666	0.06618	0.70513
lag5_ln_intensity	-0.04856	0.01877	-2.58750
const (r-square=0.0571; NOBS=865; Sm.Est.=1.0302)	-0.15264	0.04858	-3.14210
d5_Colouring matter of vegetable or animal orig...	0.06703	0.05908	1.13463
lag5_ln_intensity	-0.06144	0.01869	-3.28673
const (r-square=0.0967; NOBS=920; Sm.Est.=1.0353)	-0.15387	0.04819	-3.19305

(continued...)

d5_Synthetic organic colouring matter and prepa...	0.51427	0.21769	2.36234
lag5_ln_intensity	-0.06203	0.01952	-3.17829
const (r-square=0.0448; NOBS=839; Sm.Est.=1.0295)	-0.13608	0.05008	-2.71707
d5_Colour lakes; preparations based on colour l...	0.12823	0.05050	2.53898
lag5_ln_intensity	-0.05277	0.01918	-2.75158
const (r-square=0.0688; NOBS=911; Sm.Est.=1.0367)	-0.14047	0.04451	-3.15570
d5_Colouring matter and preparations thereof n....	0.24054	0.19136	1.25700
lag5_ln_intensity	-0.05743	0.01813	-3.16756
const (r-square=0.0328; NOBS=902; Sm.Est.=1.0374)	-0.13904	0.04368	-3.18324
d5_Pigments, prepared; opacifiers, colours, vit...	-0.00936	0.02481	-0.37711
lag5_ln_intensity	-0.05632	0.01770	-3.18249
const (r-square=0.067; NOBS=920; Sm.Est.=1.037)	-0.13872	0.04412	-3.14445
d5_Paints, varnishes; (enamels and lacquers) ba...	-0.26054	0.12941	-2.01324
lag5_ln_intensity	-0.05753	0.01836	-3.13448
const (r-square=0.0666; NOBS=920; Sm.Est.=1.0371)	-0.13077	0.04396	-2.97468
d5_Paints and varnishes (including enamels and ...	-0.28032	0.12056	-2.32513
lag5_ln_intensity	-0.05467	0.01846	-2.96215
const (r-square=0.0379; NOBS=907; Sm.Est.=1.0379)	-0.14263	0.04522	-3.15427
d5_Paints and varnishes (including enamels, lac...	-0.04439	0.03514	-1.26314
lag5_ln_intensity	-0.05826	0.01830	-3.18413
const (r-square=0.0991; NOBS=822; Sm.Est.=1.024)	-0.09409	0.04402	-2.13722
d5_Driers; prepared	-0.13101	0.02907	-4.50630
lag5_ln_intensity	-0.03660	0.01700	-2.15252
const (r-square=0.0366; NOBS=905; Sm.Est.=1.0391)	-0.14697	0.04505	-3.26265
d5_Pigments (metallic powders and flakes) dispe...	-0.00601	0.00334	-1.79894
lag5_ln_intensity	-0.06044	0.01843	-3.27845
const (r-square=0.0703; NOBS=878; Sm.Est.=1.0356)	-0.15246	0.04741	-3.21581
d5_Colours; artists, students, or signboard pai...	0.33128	0.19627	1.68785
lag5_ln_intensity	-0.06190	0.01891	-3.27307
const (r-square=0.0871; NOBS=921; Sm.Est.=1.0357)	-0.12239	0.04505	-2.71700
d5_Glaziers' putty, grafting putty, resin cemen...	-0.13961	0.05318	-2.62552
lag5_ln_intensity	-0.05269	0.01847	-2.85256
const (r-square=0.0367; NOBS=908; Sm.Est.=1.0367)	-0.13829	0.04424	-3.12602
d5_Ink; printing, writing or drawing ink and ot...	-0.07115	0.09027	-0.78817
lag5_ln_intensity	-0.05590	0.01817	-3.07663
const (r-square=0.0983; NOBS=901; Sm.Est.=1.0348)	-0.17369	0.04706	-3.69087
d5_Oils; essential (concretes, absolutes); conc...	0.21872	0.05506	3.97267
lag5_ln_intensity	-0.07039	0.01862	-3.78149
const (r-square=0.0526; NOBS=911; Sm.Est.=1.0372)	-0.15663	0.04670	-3.35441
d5_Odoriferous substances and mixtures (includi...	0.46790	0.34832	1.34332
lag5_ln_intensity	-0.06327	0.01867	-3.38840
const (r-square=0.0363; NOBS=913; Sm.Est.=1.0388)	-0.14198	0.04566	-3.10961
d5_Perfumes and toilet waters	-0.06890	0.16218	-0.42486
lag5_ln_intensity	-0.05850	0.01897	-3.08311

(continued...)

const (r-square=0.0352; NOBS=918; Sm.Est.=1.0386)	-0.14729	0.04646	-3.17028
d5_Cosmetic and toilet preparations; beauty, ma...	0.02916	0.19501	0.14954
lag5_ln_intensity	-0.06059	0.01948	-3.11053
const (r-square=0.0471; NOBS=915; Sm.Est.=1.0385)	-0.14450	0.04318	-3.34680
d5_Hair preparations; for use on the hair	-0.09129	0.06295	-1.45017
lag5_ln_intensity	-0.05975	0.01816	-3.28916
const (r-square=0.0375; NOBS=911; Sm.Est.=1.0382)	-0.14894	0.04470	-3.33236
d5_Oral or dental hygiene preparations; includi...	-0.01535	0.02985	-0.51429
lag5_ln_intensity	-0.06079	0.01841	-3.30196
const (r-square=0.0576; NOBS=919; Sm.Est.=1.038)	-0.13145	0.04528	-2.90285
d5_Perfumery, cosmetic or toilet preparations; ...	-0.18873	0.07757	-2.43289
lag5_ln_intensity	-0.05454	0.01893	-2.88074
const (r-square=0.0351; NOBS=917; Sm.Est.=1.0387)	-0.14578	0.04450	-3.27594
d5_Soap; organic surface-active products and pr...	-0.00589	0.03930	-0.14992
lag5_ln_intensity	-0.06006	0.01826	-3.28974
const (r-square=0.0453; NOBS=923; Sm.Est.=1.0378)	-0.14225	0.04130	-3.44416
d5_Organic surface-active agents (not soap); su...	0.17958	0.17991	0.99818
lag5_ln_intensity	-0.05844	0.01628	-3.59032
const (r-square=0.0865; NOBS=909; Sm.Est.=1.0365)	-0.16051	0.04672	-3.43589
d5_Lubricating preparations and those used in o...	0.70008	0.28007	2.49964
lag5_ln_intensity	-0.06414	0.01875	-3.42071
const (r-square=0.0449; NOBS=885; Sm.Est.=1.0353)	-0.15966	0.04812	-3.31820
d5_Waxes; artificial, prepared	-0.00836	0.01252	-0.66819
lag5_ln_intensity	-0.06496	0.01959	-3.31613
const (r-square=0.056; NOBS=921; Sm.Est.=1.0372)	-0.14029	0.04374	-3.20732
d5_Polishes, creams, scouring pastes, powders a...	-0.11794	0.08833	-1.33527
lag5_ln_intensity	-0.05823	0.01820	-3.19952
const (r-square=0.0402; NOBS=884; Sm.Est.=1.0379)	-0.15787	0.04973	-3.17459
d5_Modelling pastes, including those for childr...	-0.03049	0.09758	-0.31249
lag5_ln_intensity	-0.06532	0.02005	-3.25843
const (r-square=0.0416; NOBS=827; Sm.Est.=1.0304)	-0.14460	0.05553	-2.60408
d5_Casein, caseinates and other casein derivati...	-0.00325	0.00159	-2.04470
lag5_ln_intensity	-0.05919	0.02263	-2.61505
const (r-square=0.0407; NOBS=647; Sm.Est.=1.0252)	-0.10238	0.04376	-2.33955
d5_Albumins; albuminates and other albumin deri...	-0.00602	0.00106	-5.69694
lag5_ln_intensity	-0.04568	0.01791	-2.55092
const (r-square=0.04; NOBS=876; Sm.Est.=1.0346)	-0.15764	0.04945	-3.18784
d5_Gelatin (including gelatin in rectangular sh...	0.04021	0.08249	0.48744
lag5_ln_intensity	-0.06192	0.01947	-3.18072
const (r-square=0.0407; NOBS=867; Sm.Est.=1.0328)	-0.14138	0.04772	-2.96249
d5_Peptones and their derivatives; other protei...	-0.01941	0.00948	-2.04735
lag5_ln_intensity	-0.05754	0.01831	-3.14310
const (r-square=0.0258; NOBS=867; Sm.Est.=1.0309)	-0.12144	0.04500	-2.69844
d5_Dextrins and other modified starches (eg pre...	0.00454	0.00825	0.55103

(continued...)

lag5_ln_intensity	-0.04803	0.01689	-2.84425
const (r-square=0.036; NOBS=923; Sm.Est.=1.0383)	-0.14255	0.04577	-3.11422
d5_Prepared glues and other prepared adhesives,...	-0.07305	0.20884	-0.34976
lag5_ln_intensity	-0.05887	0.01846	-3.18936
const (r-square=0.0694; NOBS=909; Sm.Est.=1.0382)	-0.14024	0.04583	-3.05992
d5_Enzymes; prepared enzymes not elsewhere spec...	-0.08238	0.02876	-2.86456
lag5_ln_intensity	-0.05764	0.01876	-3.07226
const (r-square=0.1143; NOBS=675; Sm.Est.=1.029)	-0.15209	0.04982	-3.05298
d5_Explosives; propellent powders	-0.14947	0.05207	-2.87058
lag5_ln_intensity	-0.05968	0.02176	-2.74250
const (r-square=0.0388; NOBS=782; Sm.Est.=1.0166)	-0.08868	0.03928	-2.25735
d5_Prepared explosives, other than propellent p...	-0.03575	0.03503	-1.02046
lag5_ln_intensity	-0.03526	0.01448	-2.43538
const (r-square=0.0554; NOBS=826; Sm.Est.=1.0282)	-0.14578	0.05179	-2.81473
d5_Safety fuses; detonating fuses; percussion o...	-0.03782	0.04627	-0.81728
lag5_ln_intensity	-0.05927	0.02130	-2.78217
const (r-square=0.0338; NOBS=840; Sm.Est.=1.0309)	-0.09216	0.03922	-2.34970
d5_Fireworks, signalling flares, rain rockets, ...	0.15390	0.12709	1.21096
lag5_ln_intensity	-0.03807	0.01466	-2.59704
const (r-square=0.1172; NOBS=830; Sm.Est.=1.0237)	-0.14026	0.04645	-3.01971
d5_Matches; other than pyrotechnic articles of ...	-0.05286	0.00952	-5.55261
lag5_ln_intensity	-0.05282	0.01668	-3.16613
const (r-square=0.0472; NOBS=906; Sm.Est.=1.0373)	-0.14868	0.04535	-3.27836
d5_Photographic plates and film in the flat, se...	0.12638	0.10760	1.17454
lag5_ln_intensity	-0.05984	0.01860	-3.21678
const (r-square=0.0438; NOBS=881; Sm.Est.=1.0309)	-0.12425	0.03935	-3.15747
d5_Photographic film in rolls, sensitised, unex...	0.18492	0.11923	1.55092
lag5_ln_intensity	-0.04741	0.01535	-3.08804
const (r-square=0.0501; NOBS=877; Sm.Est.=1.036)	-0.15252	0.05041	-3.02565
d5_Photographic paper, paperboard and textiles;...	0.12150	0.07411	1.63940
lag5_ln_intensity	-0.06120	0.02039	-3.00133
const (r-square=0.0711; NOBS=903; Sm.Est.=1.0361)	-0.15439	0.04819	-3.20395
d5_Chemical preparations for photographic uses ...	0.43003	0.20002	2.14996
lag5_ln_intensity	-0.06067	0.01920	-3.15981
const (r-square=0.0679; NOBS=904; Sm.Est.=1.0372)	-0.12141	0.04563	-2.66092
d5_Activated carbon; activated natural mineral ...	-0.02805	0.01538	-1.82345
lag5_ln_intensity	-0.05041	0.01886	-2.67309
const (r-square=0.0209; NOBS=596; Sm.Est.=1.0193)	-0.09332	0.04175	-2.23532
d5_Tall oil, whether or not refined	-0.02405	0.01515	-1.58750
lag5_ln_intensity	-0.03182	0.01635	-1.94589
const (r-square=0.043; NOBS=778; Sm.Est.=1.0322)	-0.16105	0.06149	-2.61909
d5_Residual lyes from the manufacture of wood p...	-0.00626	0.02309	-0.27108
lag5_ln_intensity	-0.06692	0.02400	-2.78844
const (r-square=0.0133; NOBS=789; Sm.Est.=1.029)	-0.09536	0.04544	-2.09838

(continued...)

d5_Gum, wood or sulphate turpentine, other turp...	0.00266	0.01112	0.23941
lag5_ln_intensity	-0.03479	0.01795	-1.93813
const (r-square=0.0167; NOBS=839; Sm.Est.=1.025)	-0.07425	0.04054	-1.83159
d5_Rosin and resin acids and derivatives thereo...	-0.03034	0.03161	-0.95988
lag5_ln_intensity	-0.02718	0.01562	-1.74064
const (r-square=0.0613; NOBS=671; Sm.Est.=1.0243)	-0.11573	0.05204	-2.22398
d5_Wood tar; wood tar oils; wood creosote; wood...	-0.02411	0.00309	-7.81420
lag5_ln_intensity	-0.04589	0.01901	-2.41364
const (r-square=0.0426; NOBS=918; Sm.Est.=1.0386)	-0.13603	0.04526	-3.00544
d5_Insecticides, rodenticides, fungicides, herb...	-0.15153	0.20050	-0.75578
lag5_ln_intensity	-0.05656	0.01878	-3.01151
const (r-square=0.0353; NOBS=899; Sm.Est.=1.0377)	-0.14593	0.04674	-3.12197
d5_Finishing agents, dye carriers to accelerate...	0.03175	0.09371	0.33880
lag5_ln_intensity	-0.06015	0.01877	-3.20387
const (r-square=0.0348; NOBS=878; Sm.Est.=1.0312)	-0.13279	0.05103	-2.60197
d5_Metal-pickling preparations; fluxes etc for ...	0.09962	0.10432	0.95499
lag5_ln_intensity	-0.05245	0.01943	-2.69945
const (r-square=0.0352; NOBS=901; Sm.Est.=1.0357)	-0.14633	0.04557	-3.21134
d5_Anti-knock preparations, oxidation and gum i...	0.01508	0.15402	0.09794
lag5_ln_intensity	-0.05798	0.01864	-3.11157
const (r-square=0.0311; NOBS=895; Sm.Est.=1.033)	-0.13561	0.04636	-2.92499
d5_Prepared rubber accelerators; compound plast...	0.04369	0.07727	0.56545
lag5_ln_intensity	-0.05287	0.01849	-2.85988
const (r-square=0.0442; NOBS=831; Sm.Est.=1.0314)	-0.14699	0.04882	-3.01056
d5_Preparations and charges for fire extinguish...	0.01827	0.02129	0.85834
lag5_ln_intensity	-0.06059	0.01972	-3.07187
const (r-square=0.0389; NOBS=911; Sm.Est.=1.0374)	-0.14775	0.04516	-3.27205
d5_Organic composite solvents and thinners, not...	-0.04907	0.04237	-1.15827
lag5_ln_intensity	-0.05994	0.01868	-3.20871
const (r-square=0.0674; NOBS=896; Sm.Est.=1.0335)	-0.14354	0.04698	-3.05546
d5_Reaction initiators, reaction accelerators a...	0.38492	0.16751	2.29786
lag5_ln_intensity	-0.05887	0.01912	-3.07946
const (r-square=0.0953; NOBS=659; Sm.Est.=1.017)	-0.08024	0.04157	-1.93015
d5_Mixed alkylbenzenes and mixed alkylnaphthale...	0.23668	0.08915	2.65481
lag5_ln_intensity	-0.03234	0.01523	-2.12282
const (r-square=0.042; NOBS=792; Sm.Est.=1.0297)	-0.11590	0.04587	-2.52671
d5_Chemical elements doped for use in electroni...	0.10007	0.07762	1.28915
lag5_ln_intensity	-0.04817	0.01737	-2.77323
const (r-square=0.0382; NOBS=873; Sm.Est.=1.0337)	-0.14253	0.04903	-2.90718
d5_Hydraulic brake fluids and other prepared li...	0.07633	0.12204	0.62546
lag5_ln_intensity	-0.05740	0.02008	-2.85850
const (r-square=0.0381; NOBS=884; Sm.Est.=1.0362)	-0.14948	0.04621	-3.23446
d5_Anti-freezing preparations and prepared de-i...	0.01536	0.10707	0.14346
lag5_ln_intensity	-0.06102	0.01881	-3.24448

(continued...)

const (r-square=0.0587; NOBS=853; Sm.Est.=1.0342)	-0.15786	0.05416	-2.91472
d5_Prepared culture media for development of mi...	0.34557	0.20028	1.72548
lag5_ln_intensity	-0.06354	0.02138	-2.97161
const (r-square=0.0448; NOBS=918; Sm.Est.=1.0385)	-0.15127	0.04574	-3.30714
d5_Composite diagnostic or laboratory reagents,...	0.26710	0.29761	0.89750
lag5_ln_intensity	-0.06189	0.01917	-3.22799
const (r-square=0.0364; NOBS=921; Sm.Est.=1.0383)	-0.14256	0.04323	-3.29804
d5_Prepared binders for foundry moulds or cores...	-0.07166	0.15923	-0.45005
lag5_ln_intensity	-0.05882	0.01746	-3.36803
const (r-square=0.0497; NOBS=910; Sm.Est.=1.0365)	-0.12778	0.04466	-2.86108
d5_Polymers of ethylene, in primary forms	0.21358	0.13502	1.58184
lag5_ln_intensity	-0.05265	0.01812	-2.90593
const (r-square=0.0534; NOBS=904; Sm.Est.=1.0361)	-0.15048	0.04635	-3.24659
d5_Polymers of propylene or of other olefins, i...	0.18152	0.13142	1.38126
lag5_ln_intensity	-0.06096	0.01859	-3.27986
const (r-square=0.0548; NOBS=902; Sm.Est.=1.0352)	-0.14646	0.04436	-3.30128
d5_Polymers of styrene, in primary forms	0.20683	0.16232	1.27423
lag5_ln_intensity	-0.05909	0.01787	-3.30600
const (r-square=0.0402; NOBS=908; Sm.Est.=1.0368)	-0.13468	0.04545	-2.96347
d5_Polymers of vinyl chloride or of other halog...	0.07967	0.08852	0.89995
lag5_ln_intensity	-0.05460	0.01800	-3.03230
const (r-square=0.051; NOBS=919; Sm.Est.=1.0372)	-0.13970	0.04434	-3.15051
d5_Polymers of vinyl acetate or of other vinyl ...	-0.05434	0.05839	-0.93057
lag5_ln_intensity	-0.05782	0.01820	-3.17649
const (r-square=0.1216; NOBS=908; Sm.Est.=1.0344)	-0.15031	0.04709	-3.19196
d5_Acrylic polymers in primary forms	0.87934	0.25074	3.50701
lag5_ln_intensity	-0.05959	0.01860	-3.20425
const (r-square=0.035; NOBS=921; Sm.Est.=1.0385)	-0.14563	0.04545	-3.20444
d5_Polyacetals, other polyethers and epoxide re...	0.00290	0.14082	0.02061
lag5_ln_intensity	-0.06000	0.01831	-3.27717
const (r-square=0.1033; NOBS=891; Sm.Est.=1.0345)	-0.14993	0.04590	-3.26627
d5_Polyamides in primary forms	0.59878	0.20832	2.87434
lag5_ln_intensity	-0.06066	0.01895	-3.20172
const (r-square=0.0365; NOBS=907; Sm.Est.=1.0384)	-0.15030	0.04647	-3.23430
d5_Amino-resins, phenolic resins and polyuretha...	0.01432	0.09438	0.15174
lag5_ln_intensity	-0.06124	0.01886	-3.24634
const (r-square=0.1455; NOBS=892; Sm.Est.=1.0312)	-0.13024	0.04789	-2.71936
d5_Silicones in primary forms	0.87545	0.30490	2.87125
lag5_ln_intensity	-0.05195	0.01912	-2.71726
const (r-square=0.1175; NOBS=863; Sm.Est.=1.0308)	-0.16519	0.05521	-2.99215
d5_Petroleum resins, coumarone-indene resins, p...	0.68466	0.25066	2.73140
lag5_ln_intensity	-0.06605	0.02158	-3.06057
const (r-square=0.0535; NOBS=905; Sm.Est.=1.0361)	-0.15302	0.04543	-3.36812
d5_Cellulose and its chemical derivatives, n.e....	0.24506	0.20489	1.19607

(continued...)

lag5_ln_intensity	-0.06104	0.01846	-3.30647
const (r-square=0.035; NOBS=867; Sm.Est.=1.0341)	-0.13530	0.04910	-2.75548
d5_Natural polymers (eg alginic acid) and modif...	-0.06271	0.09440	-0.66437
lag5_ln_intensity	-0.05491	0.02017	-2.72196
const (r-square=0.0161; NOBS=835; Sm.Est.=1.0285)	-0.08477	0.03527	-2.40351
d5_Ion-exchangers; based on polymers of heading...	0.01555	0.04141	0.37545
lag5_ln_intensity	-0.03430	0.01370	-2.50426
const (r-square=0.05; NOBS=921; Sm.Est.=1.0374)	-0.15822	0.05438	-2.90968
d5_Articles of plastics and articles of other m...	0.26489	0.26863	0.98608
lag5_ln_intensity	-0.06539	0.02168	-3.01638
const (r-square=0.0363; NOBS=908; Sm.Est.=1.0357)	-0.14899	0.04502	-3.30927
d5_Synthetic rubber and factice derived from oi...	0.00004	0.00034	0.11669
lag5_ln_intensity	-0.05901	0.01855	-3.18181
const (r-square=0.0624; NOBS=881; Sm.Est.=1.0368)	-0.15115	0.04905	-3.08126
d5_Wood charcoal (including shell or nut charco...	-0.02775	0.01538	-1.80455
lag5_ln_intensity	-0.06156	0.02025	-3.04024
const (r-square=0.0582; NOBS=902; Sm.Est.=1.0368)	-0.16167	0.04438	-3.64307
d5_Synthetic filament yarn (other than sewing t...	-0.13387	0.06702	-1.99759
lag5_ln_intensity	-0.06519	0.01869	-3.48781
const (r-square=0.0284; NOBS=785; Sm.Est.=1.0305)	-0.10199	0.04484	-2.27448
d5_Artificial filament yarn (other than sewing ...	-0.03099	0.02045	-1.51510
lag5_ln_intensity	-0.03860	0.01725	-2.23835
const (r-square=0.0262; NOBS=877; Sm.Est.=1.0301)	-0.11822	0.03998	-2.95716
d5_Synthetic monofilament of 67 decitex or more...	-0.02599	0.09979	-0.26042
lag5_ln_intensity	-0.04594	0.01534	-2.99477
const (r-square=0.0095; NOBS=586; Sm.Est.=1.0135)	-0.06143	0.05913	-1.03884
d5_Artificial monofilament of 67 decitex or mor...	-0.00124	0.00526	-0.23647
lag5_ln_intensity	-0.02249	0.02176	-1.03346
const (r-square=0.0252; NOBS=820; Sm.Est.=1.0241)	-0.09260	0.04194	-2.20762
d5_Synthetic filament tow	-0.03569	0.03070	-1.16261
lag5_ln_intensity	-0.03431	0.01577	-2.17578
const (r-square=0.0437; NOBS=713; Sm.Est.=1.0319)	-0.12176	0.05820	-2.09199
d5_Artificial filament tow	0.23415	0.18587	1.25974
lag5_ln_intensity	-0.05014	0.02236	-2.24203
const (r-square=0.0281; NOBS=890; Sm.Est.=1.0328)	-0.12315	0.04166	-2.95606
d5_Synthetic staple fibres, not carded, combed ...	0.03570	0.13770	0.25923
lag5_ln_intensity	-0.04897	0.01687	-2.90341
const (r-square=0.0193; NOBS=763; Sm.Est.=1.0221)	-0.09134	0.04752	-1.92196
d5_Artificial staple fibres, not carded, combed...	0.01800	0.03283	0.54822
lag5_ln_intensity	-0.03301	0.01821	-1.81275
const (r-square=0.0804; NOBS=380; Sm.Est.=1.0094)	-0.09193	0.04327	-2.12455
d5_Nuclear reactors; fuel elements (cartridges)...	0.07633	0.02888	2.64326
lag5_ln_intensity	-0.03422	0.01717	-1.99261

(continued...)

Table L.1: Regression results of HS-4digit products in the chemical industry [1995-2017]

Metal-steel industry

	parameter	std_errors	t-stat
const (r-square=0.1145; NOBS=670; Sm.Est.=1.0318)	-0.27259	0.08731	-3.12207
d5_ Granulated slag (slag sand) from the manufa...	0.04194	0.04452	0.94206
lag5_ln_intensity	-0.14368	0.04401	-3.26500
const (r-square=0.0835; NOBS=771; Sm.Est.=1.0349)	-0.20191	0.06282	-3.21401
d5_ Slag, dross; (other than granulated slag), ...	-0.02135	0.01466	-1.45633
lag5_ln_intensity	-0.10316	0.03101	-3.32688
const (r-square=0.1191; NOBS=958; Sm.Est.=1.0451)	-0.25061	0.06779	-3.69659
d5_ Ash and residues (not from the manufacture ...	-0.07687	0.02404	-3.19769
lag5_ln_intensity	-0.12444	0.03554	-3.50146
const (r-square=0.01; NOBS=586; Sm.Est.=1.0036)	-0.03768	0.01204	-3.12987
d5_ Silver (including silver plated with gold o...	0.02633	0.02088	1.26139
lag5_ln_intensity	-0.00886	0.00546	-1.62229
const (r-square=0.0088; NOBS=409; Sm.Est.=1.0011)	-0.03147	0.01505	-2.09093
d5_ Base metals clad with silver; not further w...	-0.00033	0.00137	-0.24454
lag5_ln_intensity	-0.00699	0.00670	-1.04344
const (r-square=0.1084; NOBS=961; Sm.Est.=1.0428)	-0.22145	0.05727	-3.86666
d5_ Gold (including gold plated with platinum) ...	-0.19268	0.17176	-1.12177
lag5_ln_intensity	-0.11500	0.03114	-3.69276
const (r-square=0.1203; NOBS=544; Sm.Est.=1.0291)	-0.25450	0.07826	-3.25179
d5_ Base metals or silver, clad with gold, not ...	-0.02538	0.02313	-1.09739
lag5_ln_intensity	-0.12560	0.03882	-3.23560
const (r-square=0.0551; NOBS=579; Sm.Est.=1.0041)	-0.04894	0.02028	-2.41332
d5_ Platinum; unwrought or in semi-manufactured...	-0.03303	0.02747	-1.20271
lag5_ln_intensity	-0.01598	0.00959	-1.66546
const (r-square=0.0735; NOBS=331; Sm.Est.=1.0014)	-0.05644	0.01795	-3.14393
d5_ Base metals, silver or gold, clad with plat...	-0.00211	0.00027	-7.69401
lag5_ln_intensity	-0.02124	0.00727	-2.91994
const (r-square=0.0099; NOBS=388; Sm.Est.=1.0012)	-0.03594	0.01475	-2.43706
d5_ Articles of precious metal or of metal clad...	0.00424	0.00719	0.58988
lag5_ln_intensity	-0.00721	0.00710	-1.01573
const (r-square=0.0794; NOBS=884; Sm.Est.=1.0425)	-0.21516	0.06255	-3.43990
d5_ Pig iron and spiegeleisen in pigs, blocks o...	-0.05876	0.06697	-0.87748
lag5_ln_intensity	-0.10673	0.03332	-3.20290
const (r-square=0.115; NOBS=980; Sm.Est.=1.0457)	-0.23608	0.06185	-3.81690
d5_ Ferro-alloys	-0.01147	0.00793	-1.44649
lag5_ln_intensity	-0.11700	0.03263	-3.58577
const (r-square=0.0606; NOBS=774; Sm.Est.=1.0392)	-0.18475	0.06520	-2.83388
d5_ Ferrous products obtained by direct reducti...	-0.02146	0.00926	-2.31703
lag5_ln_intensity	-0.09185	0.03406	-2.69652
const (r-square=0.0789; NOBS=932; Sm.Est.=1.0421)	-0.23402	0.06022	-3.88615
d5_ Granules and powders, of pig iron, spiegele...	0.00858	0.02394	0.35863

(continued...)

lag5_ln_intensity	-0.11438	0.03209	-3.56465
const (r-square=0.0648; NOBS=892; Sm.Est.=1.0377)	-0.19576	0.05634	-3.47474
d5_ Iron and non-alloy steel in ingots or other...	-0.00763	0.01101	-0.69246
lag5_ln_intensity	-0.09892	0.02976	-3.32389
const (r-square=0.0868; NOBS=942; Sm.Est.=1.044)	-0.23117	0.06178	-3.74186
d5_ Iron or non-alloy steel; semi-finished prod...	0.09788	0.12844	0.76209
lag5_ln_intensity	-0.11403	0.03321	-3.43355
const (r-square=0.0901; NOBS=973; Sm.Est.=1.0459)	-0.23264	0.06355	-3.66101
d5_ Iron or non-alloy steel; flat-rolled produc...	0.11383	0.14952	0.76130
lag5_ln_intensity	-0.11473	0.03386	-3.38778
const (r-square=0.1056; NOBS=963; Sm.Est.=1.0457)	-0.24680	0.06249	-3.94959
d5_ Iron or non-alloy steel; flat-rolled produc...	0.22106	0.14787	1.49501
lag5_ln_intensity	-0.12385	0.03332	-3.71653
const (r-square=0.1054; NOBS=972; Sm.Est.=1.0465)	-0.24427	0.06424	-3.80242
d5_ Iron or non-alloy steel; flat-rolled produc...	0.25510	0.24156	1.05605
lag5_ln_intensity	-0.12146	0.03419	-3.55227
const (r-square=0.0759; NOBS=955; Sm.Est.=1.042)	-0.21758	0.05320	-4.08968
d5_ Iron or non-alloy steel; flat-rolled produc...	0.10363	0.12131	0.85425
lag5_ln_intensity	-0.10675	0.02905	-3.67426
const (r-square=0.0988; NOBS=962; Sm.Est.=1.0453)	-0.24562	0.06270	-3.91745
d5_ Iron or non-alloy steel; flat-rolled produc...	-0.10473	0.10212	-1.02552
lag5_ln_intensity	-0.12128	0.03375	-3.59376
const (r-square=0.0875; NOBS=950; Sm.Est.=1.0449)	-0.24563	0.06082	-4.03858
d5_ Iron or non-alloy steel; bars and rods, hot...	0.00669	0.06114	0.10948
lag5_ln_intensity	-0.12181	0.03308	-3.68185
const (r-square=0.0879; NOBS=966; Sm.Est.=1.0457)	-0.23768	0.06526	-3.64178
d5_ Iron or non-alloy steel; bars and rods, not...	0.01344	0.11110	0.12095
lag5_ln_intensity	-0.11667	0.03486	-3.34729
const (r-square=0.0951; NOBS=959; Sm.Est.=1.0451)	-0.24308	0.06917	-3.51439
d5_ Iron or non-alloy steel; bars and rods, n.e...	-0.04743	0.04397	-1.07882
lag5_ln_intensity	-0.11969	0.03733	-3.20625
const (r-square=0.0969; NOBS=976; Sm.Est.=1.0464)	-0.24666	0.06166	-4.00068
d5_ Iron or non-alloy steel, angles, shapes and...	-0.08060	0.17583	-0.45841
lag5_ln_intensity	-0.12225	0.03328	-3.67349
const (r-square=0.0937; NOBS=960; Sm.Est.=1.0449)	-0.24544	0.06731	-3.64649
d5_ Wire of iron or non-alloy steel	0.04949	0.06928	0.71442
lag5_ln_intensity	-0.12060	0.03611	-3.33989
const (r-square=0.0718; NOBS=899; Sm.Est.=1.0376)	-0.20901	0.05824	-3.58901
d5_ Stainless steel in ingots or other primary ...	0.04680	0.02874	1.62847
lag5_ln_intensity	-0.10496	0.03133	-3.34972
const (r-square=0.1414; NOBS=961; Sm.Est.=1.0428)	-0.23594	0.06638	-3.55455
d5_ Stainless steel; flat-rolled products of wi...	0.35199	0.16288	2.16109
lag5_ln_intensity	-0.11623	0.03456	-3.36333
const (r-square=0.1021; NOBS=950; Sm.Est.=1.0439)	-0.23613	0.06226	-3.79257

(continued...)

d5_ Stainless steel; flat-rolled products of wi...	0.29076	0.30480	0.95394
lag5_ln_intensity	-0.11596	0.03226	-3.59416
const (r-square=0.1683; NOBS=772; Sm.Est.=1.0329)	-0.21730	0.07236	-3.00287
d5_ Stainless steel bars and rods, hot-rolled, ...	0.45798	0.16656	2.74964
lag5_ln_intensity	-0.10974	0.03814	-2.87732
const (r-square=0.0932; NOBS=959; Sm.Est.=1.0448)	-0.24191	0.06649	-3.63852
d5_ Stainless steel bars and rods, angles, shap...	0.03227	0.06731	0.47945
lag5_ln_intensity	-0.12104	0.03572	-3.38859
const (r-square=0.0979; NOBS=946; Sm.Est.=1.0432)	-0.24336	0.06102	-3.98822
d5_ Stainless steel wire	0.10860	0.06728	1.61419
lag5_ln_intensity	-0.11946	0.03305	-3.61420
const (r-square=0.0812; NOBS=893; Sm.Est.=1.0399)	-0.22884	0.06345	-3.60647
d5_ Alloy steel in ingots or other primary form...	-0.01461	0.03490	-0.41870
lag5_ln_intensity	-0.11411	0.03411	-3.34521
const (r-square=0.0996; NOBS=954; Sm.Est.=1.0443)	-0.25179	0.06862	-3.66931
d5_ Alloy steel flat-rolled products, of a widt...	0.14265	0.09076	1.57185
lag5_ln_intensity	-0.12450	0.03711	-3.35482
const (r-square=0.0634; NOBS=930; Sm.Est.=1.0382)	-0.20550	0.05910	-3.47732
d5_ Alloy steel flat-rolled products, of a widt...	0.05978	0.14197	0.42105
lag5_ln_intensity	-0.10057	0.03175	-3.16747
const (r-square=0.0507; NOBS=828; Sm.Est.=1.0341)	-0.15759	0.05141	-3.06558
d5_ Steel, alloy; bars and rods, hot-rolled, in...	0.17189	0.11554	1.48766
lag5_ln_intensity	-0.07613	0.02719	-2.80023
const (r-square=0.0913; NOBS=964; Sm.Est.=1.0453)	-0.24062	0.06649	-3.61865
d5_ Alloy steel bars, rods, shapes and sections...	0.08241	0.16168	0.50970
lag5_ln_intensity	-0.11789	0.03581	-3.29235
const (r-square=0.056; NOBS=936; Sm.Est.=1.04)	-0.19683	0.05864	-3.35672
d5_ Wire of other alloy steel	-0.03624	0.10481	-0.34582
lag5_ln_intensity	-0.09498	0.03172	-2.99452
const (r-square=0.0925; NOBS=949; Sm.Est.=1.0445)	-0.24895	0.07261	-3.42852
d5_ Iron or steel sheet piling, whether or not ...	-0.03786	0.04857	-0.77950
lag5_ln_intensity	-0.12392	0.03946	-3.14027
const (r-square=0.0698; NOBS=960; Sm.Est.=1.0428)	-0.21420	0.05644	-3.79528
d5_ Railway or tramway track constructions of i...	0.03818	0.05526	0.69090
lag5_ln_intensity	-0.10403	0.03036	-3.42632
const (r-square=0.0958; NOBS=953; Sm.Est.=1.0439)	-0.24392	0.06660	-3.66235
d5_ Tubes, pipes and hollow profiles, of cast iron	-0.02427	0.01127	-2.15351
lag5_ln_intensity	-0.12047	0.03567	-3.37756
const (r-square=0.093; NOBS=980; Sm.Est.=1.0461)	-0.23209	0.06158	-3.76911
d5_ Tubes, pipes and hollow profiles, seamless,...	-0.09042	0.09863	-0.91675
lag5_ln_intensity	-0.11470	0.03250	-3.52962
const (r-square=0.0948; NOBS=970; Sm.Est.=1.0451)	-0.23216	0.06284	-3.69468
d5_ Tubes and pipes (eg welded, riveted or simi...	-0.02029	0.01504	-1.34883
lag5_ln_intensity	-0.11429	0.03320	-3.44202

(continued...)

const (r-square=0.1112; NOBS=978; Sm.Est.=1.0461)	-0.23148	0.06281	-3.68547
d5_ Tubes, pipes and hollow profiles (eg open s...	-0.17950	0.10085	-1.77989
lag5_ln_intensity	-0.11466	0.03327	-3.44613
const (r-square=0.1616; NOBS=980; Sm.Est.=1.0439)	-0.18532	0.06104	-3.03614
d5_ Tube or pipe fittings (eg couplings, elbows...	-0.23504	0.07906	-2.97312
lag5_ln_intensity	-0.09226	0.03256	-2.83332
const (r-square=0.0613; NOBS=577; Sm.Est.=1.0306)	-0.19575	0.06281	-3.11670
d5_ Copper mattes; cement copper (precipitated ...	-0.00698	0.00965	-0.72342
lag5_ln_intensity	-0.09787	0.02960	-3.30679
const (r-square=0.0858; NOBS=812; Sm.Est.=1.0362)	-0.20216	0.05884	-3.43589
d5_ Copper; unrefined, copper anodes for electr...	-0.02167	0.02106	-1.02894
lag5_ln_intensity	-0.10384	0.02955	-3.51373
const (r-square=0.0931; NOBS=967; Sm.Est.=1.0458)	-0.24072	0.06365	-3.78203
d5_ Copper; refined and copper alloys, unwrought	-0.05141	0.05693	-0.90306
lag5_ln_intensity	-0.11868	0.03393	-3.49716
const (r-square=0.0466; NOBS=654; Sm.Est.=1.0287)	-0.16194	0.06450	-2.51077
d5_ Copper; master alloys	0.00285	0.00692	0.41135
lag5_ln_intensity	-0.08183	0.03064	-2.67073
const (r-square=0.1168; NOBS=812; Sm.Est.=1.0336)	-0.20244	0.06396	-3.16534
d5_ Copper; powders and flakes	-0.03837	0.00912	-4.20680
lag5_ln_intensity	-0.10060	0.03332	-3.01900
const (r-square=0.0987; NOBS=955; Sm.Est.=1.0447)	-0.23913	0.06325	-3.78094
d5_ Copper; bars, rods and profiles	0.11602	0.10436	1.11168
lag5_ln_intensity	-0.11766	0.03396	-3.46523
const (r-square=0.1545; NOBS=965; Sm.Est.=1.0433)	-0.24491	0.06366	-3.84731
d5_ Copper wire	0.27343	0.09386	2.91320
lag5_ln_intensity	-0.12027	0.03406	-3.53165
const (r-square=0.1041; NOBS=963; Sm.Est.=1.0454)	-0.24913	0.06675	-3.73213
d5_ Copper plates, sheets and strip; of a thick...	0.08207	0.08714	0.94180
lag5_ln_intensity	-0.12307	0.03582	-3.43611
const (r-square=0.0876; NOBS=901; Sm.Est.=1.034)	-0.19483	0.05806	-3.35566
d5_ Copper foil (whether or not printed or back...	0.12964	0.13212	0.98117
lag5_ln_intensity	-0.09853	0.03145	-3.13339
const (r-square=0.1467; NOBS=964; Sm.Est.=1.0422)	-0.24103	0.06240	-3.86292
d5_ Copper tubes and pipes	0.17615	0.05772	3.05173
lag5_ln_intensity	-0.11991	0.03259	-3.67898
const (r-square=0.0926; NOBS=966; Sm.Est.=1.0464)	-0.24577	0.06590	-3.72973
d5_ Copper; tube or pipe fittings (eg couplings...	0.03050	0.12484	0.24431
lag5_ln_intensity	-0.12207	0.03499	-3.48880
const (r-square=0.0436; NOBS=506; Sm.Est.=1.034)	-0.17293	0.06696	-2.58245
d5_ Nickel mattes; nickel oxide sinters and oth...	-0.02575	0.02657	-0.96897
lag5_ln_intensity	-0.07781	0.03542	-2.19713
const (r-square=0.0954; NOBS=894; Sm.Est.=1.0451)	-0.25537	0.07401	-3.45056
d5_ Nickel; unwrought	0.03516	0.07235	0.48590

(continued...)

lag5_ln_intensity	-0.12623	0.03945	-3.19995
const (r-square=0.0648; NOBS=747; Sm.Est.=1.0377)	-0.19827	0.06193	-3.20130
d5_ Nickel; powders and flakes	0.01863	0.01117	1.66798
lag5_ln_intensity	-0.09575	0.03313	-2.89002
const (r-square=0.1129; NOBS=899; Sm.Est.=1.0382)	-0.23744	0.06225	-3.81412
d5_ Nickel; bars, rods, profiles and wire	-0.09017	0.05615	-1.60589
lag5_ln_intensity	-0.12212	0.03359	-3.63591
const (r-square=0.0828; NOBS=870; Sm.Est.=1.0392)	-0.21339	0.06084	-3.50736
d5_ Nickel; plates, sheets, strip and foil	-0.06722	0.04752	-1.41447
lag5_ln_intensity	-0.10673	0.03249	-3.28494
const (r-square=0.0834; NOBS=817; Sm.Est.=1.034)	-0.19621	0.05742	-3.41703
d5_ Nickel; tubes, pipes and tube or pipe fitti...	-0.02560	0.03628	-0.70568
lag5_ln_intensity	-0.10465	0.02940	-3.55943
const (r-square=0.1081; NOBS=981; Sm.Est.=1.0459)	-0.23288	0.06039	-3.85625
d5_ Aluminium; unwrought	0.21324	0.15024	1.41933
lag5_ln_intensity	-0.11543	0.03163	-3.64896
const (r-square=0.0712; NOBS=842; Sm.Est.=1.036)	-0.19635	0.06330	-3.10187
d5_ Aluminium; powders and flakes	-0.04693	0.02712	-1.73019
lag5_ln_intensity	-0.09833	0.03414	-2.87984
const (r-square=0.1342; NOBS=974; Sm.Est.=1.0457)	-0.23321	0.06706	-3.47751
d5_ Aluminium; bars, rods and profiles	-0.14153	0.06130	-2.30859
lag5_ln_intensity	-0.11679	0.03626	-3.22055
const (r-square=0.0628; NOBS=949; Sm.Est.=1.0412)	-0.20989	0.05490	-3.82299
d5_ Aluminium wire	-0.03036	0.06461	-0.46997
lag5_ln_intensity	-0.10129	0.03065	-3.30451
const (r-square=0.0931; NOBS=978; Sm.Est.=1.0473)	-0.24236	0.06312	-3.83934
d5_ Aluminium; plates, sheets and strip, thickn...	0.03894	0.11603	0.33558
lag5_ln_intensity	-0.12057	0.03336	-3.61487
const (r-square=0.1418; NOBS=981; Sm.Est.=1.0449)	-0.23912	0.06390	-3.74181
d5_ Aluminium foil (whether or not printed or b...	-0.16083	0.05057	-3.18056
lag5_ln_intensity	-0.11864	0.03372	-3.51843
const (r-square=0.1569; NOBS=955; Sm.Est.=1.0427)	-0.24611	0.06204	-3.96717
d5_ Aluminium; tubes and pipes	-0.07724	0.01774	-4.35517
lag5_ln_intensity	-0.12238	0.03388	-3.61247
const (r-square=0.0963; NOBS=946; Sm.Est.=1.0433)	-0.23259	0.06427	-3.61915
d5_ Aluminium; tube or pipe fittings (eg coupli...	-0.09334	0.04710	-1.98161
lag5_ln_intensity	-0.11429	0.03504	-3.26180
const (r-square=0.1042; NOBS=950; Sm.Est.=1.0445)	-0.24554	0.06427	-3.82036
d5_ Lead; unwrought	-0.02116	0.05255	-0.40258
lag5_ln_intensity	-0.12507	0.03393	-3.68601
const (r-square=0.1071; NOBS=894; Sm.Est.=1.0391)	-0.24374	0.06689	-3.64359
d5_ Lead; plates, sheets, strip and foil, lead ...	-0.00929	0.00557	-1.66858
lag5_ln_intensity	-0.12100	0.03485	-3.47193
const (r-square=0.1863; NOBS=944; Sm.Est.=1.0371)	-0.20021	0.05582	-3.58686

(continued...)

d5_ Zinc; unwrought	0.26194	0.07900	3.31586
lag5_ln_intensity	-0.10222	0.02991	-3.41809
const (r-square=0.066; NOBS=848; Sm.Est.=1.0419)	-0.21523	0.05798	-3.71229
d5_ Zinc; dust, powders and flakes	-0.00204	0.03773	-0.05408
lag5_ln_intensity	-0.10255	0.03204	-3.20043
const (r-square=0.065; NOBS=864; Sm.Est.=1.0381)	-0.20298	0.06306	-3.21899
d5_ Zinc; bars, rods, profiles and wire	0.01104	0.00447	2.47056
lag5_ln_intensity	-0.09821	0.03422	-2.87019
const (r-square=0.0862; NOBS=859; Sm.Est.=1.0401)	-0.23581	0.06758	-3.48945
d5_ Zinc; plates, sheets, strip and foil	-0.00334	0.02281	-0.14626
lag5_ln_intensity	-0.12006	0.03595	-3.33956
const (r-square=0.0711; NOBS=895; Sm.Est.=1.0449)	-0.23804	0.06647	-3.58112
d5_ Tin; unwrought	-0.00068	0.03952	-0.01731
lag5_ln_intensity	-0.11646	0.03478	-3.34900
const (r-square=0.0896; NOBS=889; Sm.Est.=1.0373)	-0.22213	0.06117	-3.63144
d5_ Tin; bars, rods, profiles and wire	-0.03769	0.02228	-1.69190
lag5_ln_intensity	-0.11216	0.03285	-3.41443
const (r-square=0.1353; NOBS=928; Sm.Est.=1.0382)	-0.20464	0.05577	-3.66941
d5_ Tungsten (wolfram); articles thereof, inclu...	-0.04461	0.01248	-3.57351
lag5_ln_intensity	-0.10181	0.02962	-3.43734
const (r-square=0.1468; NOBS=851; Sm.Est.=1.0426)	-0.22669	0.07210	-3.14405
d5_ Molybdenum; articles thereof, including was...	-0.02241	0.01107	-2.02486
lag5_ln_intensity	-0.11435	0.03809	-3.00175
const (r-square=0.1341; NOBS=698; Sm.Est.=1.0421)	-0.23859	0.09239	-2.58243
d5_ Tantalum; articles thereof, including waste...	-0.02699	0.01211	-2.22916
lag5_ln_intensity	-0.11119	0.04709	-2.36134
const (r-square=0.1024; NOBS=889; Sm.Est.=1.0401)	-0.20743	0.06201	-3.34523
d5_ Magnesium; articles thereof, including wast...	-0.03707	0.01264	-2.93387
lag5_ln_intensity	-0.10029	0.03409	-2.94189
const (r-square=0.0984; NOBS=863; Sm.Est.=1.0416)	-0.24947	0.07433	-3.35648
d5_ Cobalt; mattes and other intermediate produ...	0.04021	0.07644	0.52604
lag5_ln_intensity	-0.12699	0.03841	-3.30611
const (r-square=0.0413; NOBS=520; Sm.Est.=1.0266)	-0.16105	0.06647	-2.42283
d5_ Bismuth; articles thereof, including waste ...	0.02943	0.01956	1.50446
lag5_ln_intensity	-0.07978	0.03191	-2.50011
const (r-square=0.1925; NOBS=497; Sm.Est.=1.0287)	-0.26365	0.07959	-3.31264
d5_ Cadmium; articles thereof, including waste ...	-0.04055	0.02441	-1.66164
lag5_ln_intensity	-0.13549	0.03931	-3.44692
const (r-square=0.0994; NOBS=956; Sm.Est.=1.043)	-0.23270	0.06489	-3.58624
d5_ Titanium; articles thereof, including waste...	-0.07766	0.04692	-1.65518
lag5_ln_intensity	-0.11458	0.03394	-3.37629
const (r-square=0.0767; NOBS=663; Sm.Est.=1.0374)	-0.23109	0.07173	-3.22156
d5_ Zirconium; articles thereof, including wast...	0.01973	0.03012	0.65493
lag5_ln_intensity	-0.11446	0.03493	-3.27696

(continued...)

const (r-square=0.0467; NOBS=589; Sm.Est.=1.0284)	-0.18209	0.06155	-2.95839
d5_ Antimony; articles thereof, including waste...	0.07193	0.16667	0.43158
lag5_ln_intensity	-0.08310	0.03028	-2.74476
const (r-square=0.0627; NOBS=711; Sm.Est.=1.0342)	-0.19414	0.06001	-3.23486
d5_ Manganese; articles thereof, including wast...	-0.01354	0.00401	-3.37764
lag5_ln_intensity	-0.09961	0.03253	-3.06221
const (r-square=0.2125; NOBS=923; Sm.Est.=1.0388)	-0.20065	0.06389	-3.14076
d5_ Beryllium, chromium, germanium, vanadium, g...	-0.08793	0.01402	-6.27223
lag5_ln_intensity	-0.10135	0.03309	-3.06258
const (r-square=0.0668; NOBS=847; Sm.Est.=1.0366)	-0.19634	0.06432	-3.05262
d5_ Cermets; articles thereof, including waste ...	-0.01378	0.01487	-0.92667
lag5_ln_intensity	-0.09780	0.03408	-2.86998

Table L.2: Regression results of HS-4digit products in the metal-steel industry [1995-2017]

Non-metallic minerals industry

	parameter	std_errors	t-stat
const (r-square=0.0892; NOBS=362; Sm.Est.=1.0065)	-0.16697	0.05325	-3.13537
d5_ Pebbles, gravel, crushed stone for concrete...	-0.00439	0.00308	-1.42563
lag5_ln_intensity	-0.08984	0.02905	-3.09297
const (r-square=0.0562; NOBS=703; Sm.Est.=1.0156)	-0.15764	0.05289	-2.98086
d5_ Dolomite, whether or not calcined; dolomite...	0.06410	0.02963	2.16332
lag5_ln_intensity	-0.08610	0.02901	-2.96815
const (r-square=0.0523; NOBS=993; Sm.Est.=1.0185)	-0.13247	0.03814	-3.47316
d5_ Gypsum; anhydrite; plasters (consisting of ...	-0.02066	0.03511	-0.58861
lag5_ln_intensity	-0.07863	0.02177	-3.61234
const (r-square=0.0587; NOBS=948; Sm.Est.=1.0173)	-0.15252	0.03796	-4.01798
d5_ Quicklime, slaked lime and hydraulic lime; ...	-0.02383	0.01883	-1.26549
lag5_ln_intensity	-0.08744	0.02166	-4.03721
const (r-square=0.0708; NOBS=1009; Sm.Est.=1.0173)	-0.14842	0.03464	-4.28414
d5_ Portland cement, aluminous cement ("ciment ...	-0.06226	0.04312	-1.44388
lag5_ln_intensity	-0.08701	0.01986	-4.38009
const (r-square=0.0559; NOBS=976; Sm.Est.=1.0179)	-0.12186	0.03606	-3.37938
d5_ Bituminous mixtures based on natural asphal...	-0.00966	0.00393	-2.46093
lag5_ln_intensity	-0.07024	0.02055	-3.41741
const (r-square=0.0621; NOBS=945; Sm.Est.=1.0162)	-0.15483	0.03324	-4.65720
d5_ Artificial graphite; colloidal or semi-coll...	0.01923	0.03625	0.53044
lag5_ln_intensity	-0.08848	0.01931	-4.58150
const (r-square=0.055; NOBS=985; Sm.Est.=1.0172)	-0.13742	0.03492	-3.93525
d5_ Refractory cements, mortars, concretes and ...	0.07575	0.13119	0.57738
lag5_ln_intensity	-0.07922	0.02012	-3.93739
const (r-square=0.0517; NOBS=960; Sm.Est.=1.0183)	-0.14388	0.03834	-3.75292
d5_ Prepared binders for foundry moulds or core...	-0.01194	0.07575	-0.15763
lag5_ln_intensity	-0.08417	0.02163	-3.89191
const (r-square=0.0391; NOBS=963; Sm.Est.=1.0175)	-0.10660	0.03903	-2.73094
d5_ Stone; setts, curbstones and flagstones, of...	0.06090	0.06995	0.87062
lag5_ln_intensity	-0.06405	0.02187	-2.92907
const (r-square=0.0763; NOBS=1015; Sm.Est.=1.0181)	-0.11516	0.03286	-3.50424
d5_ Monumental or building stone, worked (excep...	0.13866	0.11846	1.17050
lag5_ln_intensity	-0.06885	0.01912	-3.60100
const (r-square=0.1308; NOBS=865; Sm.Est.=1.0142)	-0.11694	0.03908	-2.99252
d5_ Slate, worked; and articles of slate or of ...	0.12483	0.02888	4.32217
lag5_ln_intensity	-0.06445	0.02244	-2.87213
const (r-square=0.0495; NOBS=1010; Sm.Est.=1.0181)	-0.13011	0.03472	-3.74722
d5_ Millstones, grindstones, grinding wheels, e...	-0.00553	0.01086	-0.50888
lag5_ln_intensity	-0.07660	0.01955	-3.91731
const (r-square=0.0448; NOBS=993; Sm.Est.=1.017)	-0.12825	0.03564	-3.59882
d5_ Abrasive powder or grain; natural or artifi...	0.00098	0.12082	0.00811

(continued...)

lag5_ln_intensity	-0.07398	0.02037	-3.63093
const (r-square=0.0522; NOBS=993; Sm.Est.=1.0175)	-0.11530	0.03790	-3.04196
d5_ Slag, rock wool and similar mineral wools; ...	-0.03312	0.02299	-1.44098
lag5_ln_intensity	-0.06738	0.02189	-3.07810
const (r-square=0.0489; NOBS=984; Sm.Est.=1.0174)	-0.13110	0.03666	-3.57597
d5_ Asphalt or similar material; articles (eg p...	0.03289	0.05023	0.65480
lag5_ln_intensity	-0.07621	0.02093	-3.64019
const (r-square=0.0352; NOBS=959; Sm.Est.=1.0168)	-0.11938	0.03817	-3.12770
d5_ Panels, boards, tiles, blocks and the like;...	-0.00427	0.00925	-0.46152
lag5_ln_intensity	-0.06930	0.02138	-3.24141
const (r-square=0.0701; NOBS=990; Sm.Est.=1.0169)	-0.12241	0.04083	-2.99829
d5_ Plaster or compositions based on plaster; a...	-0.06122	0.03616	-1.69292
lag5_ln_intensity	-0.07153	0.02367	-3.02205
const (r-square=0.075; NOBS=1013; Sm.Est.=1.0179)	-0.14119	0.03872	-3.64627
d5_ Cement, concrete or artificial stone; wheth...	-0.14902	0.08051	-1.85106
lag5_ln_intensity	-0.08418	0.02103	-4.00201
const (r-square=0.0707; NOBS=978; Sm.Est.=1.0168)	-0.13039	0.03624	-3.59819
d5_ Asbestos-cement, cellulose fibre-cement or ...	-0.02434	0.01165	-2.08983
lag5_ln_intensity	-0.07556	0.02110	-3.58120
const (r-square=0.0606; NOBS=958; Sm.Est.=1.0168)	-0.15504	0.03423	-4.52893
d5_ Asbestos fibres, fabricated; mixtures with ...	0.00100	0.02195	0.04560
lag5_ln_intensity	-0.08975	0.01991	-4.50772
const (r-square=0.1311; NOBS=994; Sm.Est.=1.0156)	-0.12126	0.03460	-3.50473
d5_ Friction material and articles thereof (eg ...	0.26602	0.10870	2.44719
lag5_ln_intensity	-0.06976	0.01973	-3.53542
const (r-square=0.0805; NOBS=831; Sm.Est.=1.0166)	-0.18864	0.04042	-4.66682
d5_ Mica; worked, articles of, including agglom...	-0.00954	0.01473	-0.64746
lag5_ln_intensity	-0.10800	0.02193	-4.92590
const (r-square=0.062; NOBS=1011; Sm.Est.=1.018)	-0.11968	0.03815	-3.13735
d5_ Stone or other mineral substances; articles...	0.16915	0.11899	1.42157
lag5_ln_intensity	-0.06996	0.02172	-3.22112
const (r-square=0.0296; NOBS=959; Sm.Est.=1.0169)	-0.11094	0.03673	-3.02077
d5_ Bricks, blocks, tiles and other ceramic goo...	-0.02367	0.02730	-0.86710
lag5_ln_intensity	-0.06277	0.02076	-3.02336
const (r-square=0.0509; NOBS=1001; Sm.Est.=1.0175)	-0.12563	0.03699	-3.39668
d5_ Refractory bricks, blocks, tiles and simila...	0.05164	0.06837	0.75530
lag5_ln_intensity	-0.07394	0.02091	-3.53627
const (r-square=0.1044; NOBS=978; Sm.Est.=1.0173)	-0.16227	0.03562	-4.55597
d5_ Ceramic goods; (eg retorts, crucibles, muff...	0.23440	0.19020	1.23241
lag5_ln_intensity	-0.09483	0.02051	-4.62409
const (r-square=0.0628; NOBS=977; Sm.Est.=1.0165)	-0.13156	0.03208	-4.10090
d5_ Ceramic building bricks, floor blocks, supp...	-0.04334	0.02935	-1.47686
lag5_ln_intensity	-0.07436	0.01867	-3.98384
const (r-square=0.0336; NOBS=970; Sm.Est.=1.0163)	-0.10833	0.03373	-3.21189

(continued...)

d5_ Roofing tiles, chimney-pots, cowls, chimney...	-0.04238	0.03459	-1.22508
lag5_ln_intensity	-0.06026	0.01921	-3.13628
const (r-square=0.0251; NOBS=837; Sm.Est.=1.016)	-0.11805	0.04669	-2.52844
d5_ Ceramic pipes, conduits, guttering and pipe...	0.00185	0.04563	0.04063
lag5_ln_intensity	-0.06522	0.02625	-2.48443
const (r-square=0.0429; NOBS=1000; Sm.Est.=1.0174)	-0.11722	0.03451	-3.39633
d5_ Ceramic flags and paving, hearth or wall ti...	0.08124	0.11166	0.72752
lag5_ln_intensity	-0.06896	0.01926	-3.58013
const (r-square=0.0383; NOBS=978; Sm.Est.=1.0175)	-0.11207	0.03732	-3.00261
d5_ Ceramic ware for laboratory, chemical, othe...	0.06022	0.06665	0.90355
lag5_ln_intensity	-0.06650	0.02075	-3.20471
const (r-square=0.0497; NOBS=998; Sm.Est.=1.0181)	-0.13049	0.03688	-3.53859
d5_ Ceramic sinks, wash basins, wash basin pede...	0.05128	0.06990	0.73361
lag5_ln_intensity	-0.07739	0.02120	-3.65109
const (r-square=0.0669; NOBS=998; Sm.Est.=1.0181)	-0.12937	0.03321	-3.89568
d5_ Tableware, kitchenware, other household art...	0.20282	0.18268	1.11021
lag5_ln_intensity	-0.07726	0.01881	-4.10720
const (r-square=0.0627; NOBS=1008; Sm.Est.=1.0179)	-0.13335	0.03468	-3.84494
d5_ Ceramic tableware, kitchenware, other house...	-0.08495	0.05543	-1.53237
lag5_ln_intensity	-0.07852	0.01970	-3.98630
const (r-square=0.0379; NOBS=1007; Sm.Est.=1.0183)	-0.11807	0.03482	-3.39043
d5_ Statuettes and other ornamental ceramic art...	0.00658	0.16568	0.03974
lag5_ln_intensity	-0.07017	0.01930	-3.63654
const (r-square=0.0399; NOBS=998; Sm.Est.=1.0179)	-0.11802	0.03834	-3.07829
d5_ Ceramic articles; n.e.s. in chapter 69	-0.03906	0.10698	-0.36515
lag5_ln_intensity	-0.06998	0.02143	-3.26563
const (r-square=0.0675; NOBS=929; Sm.Est.=1.0158)	-0.15201	0.03523	-4.31525
d5_ Glass; cullet and other waste and scrap of ...	0.01751	0.02891	0.60577
lag5_ln_intensity	-0.08910	0.02008	-4.43641
const (r-square=0.0353; NOBS=958; Sm.Est.=1.0169)	-0.12219	0.03399	-3.59443
d5_ Glass in balls (other than microspheres of ...	0.00919	0.00869	1.05741
lag5_ln_intensity	-0.06952	0.01962	-3.54266
const (r-square=0.0538; NOBS=978; Sm.Est.=1.0165)	-0.13217	0.03530	-3.74398
d5_ Cast glass and rolled glass in sheets or pr...	0.06759	0.04231	1.59746
lag5_ln_intensity	-0.07499	0.02047	-3.66298
const (r-square=0.032; NOBS=962; Sm.Est.=1.0157)	-0.11306	0.03238	-3.49157
d5_ Glass; drawn and blown, in sheets, whether ...	-0.02012	0.01869	-1.07650
lag5_ln_intensity	-0.06225	0.01818	-3.42395
const (r-square=0.0531; NOBS=999; Sm.Est.=1.0179)	-0.13746	0.03918	-3.50889
d5_ Glass; float glass and surface ground or po...	0.02637	0.09600	0.27471
lag5_ln_intensity	-0.08103	0.02225	-3.64264
const (r-square=0.0436; NOBS=972; Sm.Est.=1.0166)	-0.10472	0.03792	-2.76168
d5_ Glass of heading no. 7003, 7004 or 7005, be...	0.07759	0.06044	1.28373
lag5_ln_intensity	-0.06049	0.02126	-2.84553

(continued...)

const (r-square=0.0499; NOBS=1002; Sm.Est.=1.0184)	-0.13229	0.03696	-3.57931
d5_ Safety glass, consisting of toughened (temp...	0.01058	0.10139	0.10436
lag5_ln_intensity	-0.07897	0.02130	-3.70809
const (r-square=0.0563; NOBS=968; Sm.Est.=1.0168)	-0.13242	0.03644	-3.63382
d5_ Glass; multiple-walled insulating units of ...	-0.05635	0.03823	-1.47387
lag5_ln_intensity	-0.07901	0.02114	-3.73802
const (r-square=0.053; NOBS=1002; Sm.Est.=1.018)	-0.12793	0.03439	-3.72035
d5_ Glass mirrors; whether or not framed, inclu...	0.07737	0.16260	0.47581
lag5_ln_intensity	-0.07592	0.01968	-3.85671
const (r-square=0.0922; NOBS=1015; Sm.Est.=1.0174)	-0.12987	0.03520	-3.68922
d5_ Carboys, bottles, flasks, jars, pots, phial...	-0.15036	0.07485	-2.00868
lag5_ln_intensity	-0.07697	0.01971	-3.90533
const (r-square=0.0334; NOBS=928; Sm.Est.=1.016)	-0.12319	0.03902	-3.15681
d5_ Glass envelopes (including bulbs and tubes)...	-0.00681	0.01494	-0.45558
lag5_ln_intensity	-0.06973	0.02234	-3.12107
const (r-square=0.0503; NOBS=1013; Sm.Est.=1.0183)	-0.12445	0.03458	-3.59897
d5_ Glassware of a kind used for table, kitchen...	-0.05576	0.15775	-0.35348
lag5_ln_intensity	-0.07423	0.01954	-3.79851
const (r-square=0.0443; NOBS=927; Sm.Est.=1.016)	-0.13987	0.03981	-3.51372
d5_ Signalling glassware and optical elements o...	0.01638	0.03374	0.48536
lag5_ln_intensity	-0.07977	0.02290	-3.48371
const (r-square=0.0264; NOBS=882; Sm.Est.=1.0156)	-0.10840	0.04060	-2.66992
d5_ Clock, watch and similar glasses, glasses f...	0.00654	0.01923	0.33995
lag5_ln_intensity	-0.06204	0.02316	-2.67880
const (r-square=0.0604; NOBS=990; Sm.Est.=1.0181)	-0.12006	0.03750	-3.20203
d5_ Glass; paving blocks, slabs, bricks, tiles ...	0.10339	0.05647	1.83074
lag5_ln_intensity	-0.07142	0.02125	-3.36113
const (r-square=0.0576; NOBS=1001; Sm.Est.=1.0183)	-0.13292	0.03668	-3.62372
d5_ Laboratory, hygienic or pharmaceutical glas...	0.06903	0.04135	1.66929
lag5_ln_intensity	-0.07869	0.02085	-3.77356
const (r-square=0.0676; NOBS=973; Sm.Est.=1.0167)	-0.14712	0.03218	-4.57153
d5_ Glass beads, imitation pearls, precious or ...	0.04609	0.05182	0.88929
lag5_ln_intensity	-0.08647	0.01884	-4.58996
const (r-square=0.0505; NOBS=997; Sm.Est.=1.017)	-0.13300	0.03437	-3.86905
d5_ Glass fibres (including glass wool) and art...	0.00049	0.00541	0.08995
lag5_ln_intensity	-0.07663	0.01981	-3.86837
const (r-square=0.0638; NOBS=1005; Sm.Est.=1.0182)	-0.12951	0.03569	-3.62862
d5_ Glass; articles n.e.s. in chapter 70	0.10730	0.08344	1.28604
lag5_ln_intensity	-0.07662	0.01977	-3.87442
const (r-square=0.1669; NOBS=446; Sm.Est.=1.0018)	-0.08880	0.03731	-2.38035
d5_ Synthetic, reconstructed precious, semi-pre...	-0.00684	0.00589	-1.16204
lag5_ln_intensity	-0.05014	0.02108	-2.37875
const (r-square=0.0518; NOBS=967; Sm.Est.=1.0171)	-0.13550	0.04005	-3.38326
d5_ Electro-magnets; permanent magnets, intende...	0.04760	0.07510	0.63384

(continued...)

lag5_ln_intensity	-0.07846	0.02314	-3.39151
const (r-square=0.0589; NOBS=976; Sm.Est.=1.0163)	-0.14013	0.03443	-4.07002
d5_ Electrical insulators of any material	-0.03718	0.07539	-0.49317
lag5_ln_intensity	-0.08077	0.01989	-4.06087
const (r-square=0.0658; NOBS=917; Sm.Est.=1.0163)	-0.16062	0.03604	-4.45608
d5_ Insulating fittings; for electrical machine...	-0.01214	0.06415	-0.18922
lag5_ln_intensity	-0.08955	0.02140	-4.18513
const (r-square=0.0338; NOBS=984; Sm.Est.=1.0172)	-0.11175	0.03948	-2.83081
d5_ Lamps, light fittings; including searchligh...	-0.02998	0.03008	-0.99648
lag5_ln_intensity	-0.06512	0.02219	-2.93417

Table L.3: Regression results of HS-4digit products in the non-metallic minerals industry [1995-2017]

Pulp & paper industry

	parameter	std_errors	t-stat
const (r-square=0.0535; NOBS=666; Sm.Est.=1.0254)	-0.13469	0.07385	-1.82383
d5_ Wood pulp, mechanical wood pulp	-0.00793	0.00917	-0.86458
lag5_ln_intensity	-0.05625	0.02781	-2.02315
const (r-square=0.0498; NOBS=636; Sm.Est.=1.0239)	-0.13305	0.07086	-1.87769
d5_ Chemical wood pulp, dissolving grades	0.02082	0.04474	0.46529
lag5_ln_intensity	-0.05392	0.02730	-1.97500
const (r-square=0.1229; NOBS=911; Sm.Est.=1.0314)	-0.17701	0.07640	-2.31702
d5_ Chemical wood pulp, soda or sulphate, other...	0.39421	0.16250	2.42594
lag5_ln_intensity	-0.06981	0.02880	-2.42428
const (r-square=0.0581; NOBS=787; Sm.Est.=1.0228)	-0.14677	0.06060	-2.42172
d5_ Chemical wood pulp, sulphite, other than di...	0.03018	0.01676	1.80079
lag5_ln_intensity	-0.05541	0.02248	-2.46440
const (r-square=0.1186; NOBS=577; Sm.Est.=1.0207)	-0.15698	0.07665	-2.04806
d5_ Semi-chemical wood pulp	-0.06558	0.04836	-1.35598
lag5_ln_intensity	-0.06877	0.02725	-2.52374
const (r-square=0.0852; NOBS=882; Sm.Est.=1.0311)	-0.17227	0.08024	-2.14685
d5_ Pulps of other fibrous cellulosic material	-0.01603	0.00518	-3.09490
lag5_ln_intensity	-0.06842	0.02985	-2.29199
const (r-square=0.0801; NOBS=975; Sm.Est.=1.0333)	-0.18120	0.07417	-2.44304
d5_ Newsprint, in rolls or sheets	0.09637	0.09239	1.04311
lag5_ln_intensity	-0.06959	0.02777	-2.50627
const (r-square=0.0912; NOBS=997; Sm.Est.=1.0351)	-0.18074	0.07535	-2.39886
d5_ Uncoated paper and paperboard, used for wri...	0.19608	0.12889	1.52127
lag5_ln_intensity	-0.07062	0.02759	-2.55963
const (r-square=0.0943; NOBS=992; Sm.Est.=1.0342)	-0.18158	0.07360	-2.46710
d5_ Tissue, towel, napkin stock or similar; for...	-0.09534	0.05239	-1.81963
lag5_ln_intensity	-0.06974	0.02719	-2.56464
const (r-square=0.074; NOBS=993; Sm.Est.=1.034)	-0.18489	0.07261	-2.54642
d5_ Uncoated kraft paper and paperboard, in rol...	0.04463	0.08936	0.49942
lag5_ln_intensity	-0.07152	0.02656	-2.69270
const (r-square=0.0775; NOBS=1009; Sm.Est.=1.0369)	-0.19509	0.07169	-2.72142
d5_ Uncoated paper and paperboard n.e.s., in ro...	-0.01343	0.01418	-0.94740
lag5_ln_intensity	-0.07528	0.02610	-2.88396
const (r-square=0.0712; NOBS=970; Sm.Est.=1.0338)	-0.18678	0.07604	-2.45624
d5_ Vegetable parchment, greaseproof papers, tr...	0.03862	0.05574	0.69283
lag5_ln_intensity	-0.07111	0.02824	-2.51819
const (r-square=0.0629; NOBS=966; Sm.Est.=1.0327)	-0.17810	0.07590	-2.34661
d5_ Composite paper and paperboard, (made by st...	-0.00304	0.03275	-0.09290
lag5_ln_intensity	-0.06719	0.02823	-2.37962
const (r-square=0.0956; NOBS=988; Sm.Est.=1.036)	-0.19362	0.07375	-2.62527
d5_ Paper and paperboard, corrugated (with or w...	-0.07608	0.05079	-1.49814

(continued...)

lag5_ln_intensity	-0.07469	0.02714	-2.75200
const (r-square=0.0847; NOBS=967; Sm.Est.=1.0345)	-0.19738	0.07907	-2.49615
d5_ Carbon paper, self copy paper and the like ...	0.12440	0.10655	1.16751
lag5_ln_intensity	-0.07533	0.02933	-2.56791
const (r-square=0.0887; NOBS=1002; Sm.Est.=1.0352)	-0.18778	0.07128	-2.63451
d5_ Paper and paperboard, one or both sides coa...	0.17272	0.13465	1.28270
lag5_ln_intensity	-0.07172	0.02606	-2.75196
const (r-square=0.0819; NOBS=1004; Sm.Est.=1.0359)	-0.18902	0.07122	-2.65389
d5_ Paper, paperboard, cellulose wadding and we...	0.17397	0.15783	1.10230
lag5_ln_intensity	-0.07313	0.02580	-2.83410
const (r-square=0.0872; NOBS=939; Sm.Est.=1.0321)	-0.17965	0.07751	-2.31781
d5_ Filter blocks, slabs and plates of paper pulp	-0.06003	0.02604	-2.30554
lag5_ln_intensity	-0.07019	0.02895	-2.42446
const (r-square=0.0898; NOBS=977; Sm.Est.=1.0363)	-0.20543	0.07716	-2.66252
d5_ Cigarette paper, whether or not cut to size...	-0.03615	0.02168	-1.66699
lag5_ln_intensity	-0.08040	0.02839	-2.83177
const (r-square=0.1047; NOBS=986; Sm.Est.=1.0343)	-0.18264	0.07484	-2.44040
d5_ Wallpaper and similar wall coverings; windo...	-0.04801	0.02144	-2.23865
lag5_ln_intensity	-0.07009	0.02752	-2.54681
const (r-square=0.0694; NOBS=971; Sm.Est.=1.035)	-0.18696	0.07790	-2.40005
d5_ Carbon paper, self-copy paper and other cop...	0.03103	0.02567	1.20879
lag5_ln_intensity	-0.07187	0.02895	-2.48257
const (r-square=0.092; NOBS=1001; Sm.Est.=1.0361)	-0.17872	0.07572	-2.36027
d5_ Envelopes, letter cards, plain postcards an...	-0.10196	0.06602	-1.54437
lag5_ln_intensity	-0.07021	0.02799	-2.50891
const (r-square=0.1083; NOBS=1006; Sm.Est.=1.0362)	-0.18497	0.07448	-2.48349
d5_ Paper towels, toilet paper, tissues, handke...	-0.24283	0.12582	-1.93003
lag5_ln_intensity	-0.07197	0.02745	-2.62139
const (r-square=0.0957; NOBS=1014; Sm.Est.=1.0366)	-0.18328	0.07201	-2.54505
d5_ Cartons, boxes, cases, bags and the like, o...	-0.17055	0.15109	-1.12878
lag5_ln_intensity	-0.07059	0.02660	-2.65359
const (r-square=0.0733; NOBS=1008; Sm.Est.=1.0363)	-0.18646	0.07062	-2.64052
d5_ Registers, account books, diaries and simil...	0.03870	0.13073	0.29603
lag5_ln_intensity	-0.07246	0.02560	-2.83084
const (r-square=0.0992; NOBS=1013; Sm.Est.=1.0366)	-0.18232	0.07206	-2.53030
d5_ Paper or paperboard labels of all kinds, wh...	-0.13592	0.10639	-1.27752
lag5_ln_intensity	-0.07108	0.02639	-2.69385
const (r-square=0.0692; NOBS=954; Sm.Est.=1.0335)	-0.17644	0.07956	-2.21756
d5_ Bobbins, spools, cops and similar supports ...	-0.05198	0.04117	-1.26268
lag5_ln_intensity	-0.06692	0.02975	-2.24939
const (r-square=0.0776; NOBS=1011; Sm.Est.=1.0373)	-0.19654	0.07178	-2.73806
d5_ Paper, paperboard, cellulose wadding and we...	0.00055	0.02133	0.02598
lag5_ln_intensity	-0.07631	0.02610	-2.92395
const (r-square=0.0909; NOBS=1011; Sm.Est.=1.0366)	-0.19436	0.07145	-2.72012

(continued...)

d5_ Unused postage, revenue or similar stamps o...	-0.01509	0.01111	-1.35813
lag5_ln_intensity	-0.07496	0.02588	-2.89646
const (r-square=0.0859; NOBS=1012; Sm.Est.=1.0371)	-0.19372	0.07053	-2.74666
d5_ Printed matter, n.e.s., including printed p...	-0.04426	0.02782	-1.59099
lag5_ln_intensity	-0.07517	0.02565	-2.93061
const (r-square=0.1048; NOBS=839; Sm.Est.=1.0298)	-0.18804	0.08384	-2.24279
d5_ Textile wall coverings	-0.01860	0.00246	-7.54984
lag5_ln_intensity	-0.07459	0.03103	-2.40419
const (r-square=0.075; NOBS=991; Sm.Est.=1.0357)	-0.19556	0.07473	-2.61694
d5_ Machinery and apparatus; for type founding ...	-0.01643	0.06467	-0.25400
lag5_ln_intensity	-0.07504	0.02745	-2.73406

Table L.4: Regression results of HS-4digit products in the pulp & paper industry [1995-2017]

Food & beverages industry

	parameter	std_errors	t-stat
const (r-square=0.0261; NOBS=903; Sm.Est.=1.0173)	-0.09078	0.04357	-2.08384
d5_ Meat of bovine animals; fresh or chilled	0.10977	0.09189	1.19454
lag5_ln_intensity	-0.02626	0.01117	-2.35046
const (r-square=0.0274; NOBS=951; Sm.Est.=1.0183)	-0.07956	0.04362	-1.82370
d5_ Meat of bovine animals; frozen	0.11416	0.05055	2.25816
lag5_ln_intensity	-0.02368	0.01150	-2.05888
const (r-square=0.0105; NOBS=910; Sm.Est.=1.0182)	-0.07658	0.04526	-1.69205
d5_ Meat of swine; fresh, chilled or frozen	0.04190	0.12254	0.34198
lag5_ln_intensity	-0.02314	0.01161	-1.99355
const (r-square=0.0193; NOBS=831; Sm.Est.=1.0189)	-0.11540	0.04287	-2.69167
d5_ Meat of sheep or goats; fresh, chilled or f...	0.00347	0.02820	0.12292
lag5_ln_intensity	-0.03648	0.01062	-3.43504
const (r-square=0.0218; NOBS=498; Sm.Est.=1.0141)	-0.14847	0.12768	-1.16289
d5_ Meat of horses, asses, mules or hinnies; fr...	0.00495	0.03723	0.13301
lag5_ln_intensity	-0.04700	0.03512	-1.33819
const (r-square=0.0536; NOBS=914; Sm.Est.=1.0179)	-0.07825	0.04024	-1.94439
d5_ Edible offal of bovine animals, swine, shee...	0.30317	0.11914	2.54460
lag5_ln_intensity	-0.02427	0.01035	-2.34542
const (r-square=0.0192; NOBS=952; Sm.Est.=1.0194)	-0.08983	0.04548	-1.97516
d5_ Meat and edible offal of poultry; of the po...	-0.09801	0.06152	-1.59319
lag5_ln_intensity	-0.02785	0.01166	-2.38895
const (r-square=0.0121; NOBS=838; Sm.Est.=1.0173)	-0.08796	0.04225	-2.08208
d5_ Meat and edible meat offal, n.e.s. in chapt...	0.01090	0.03659	0.29790
lag5_ln_intensity	-0.02567	0.01056	-2.43179
const (r-square=0.0347; NOBS=769; Sm.Est.=1.0173)	-0.16954	0.04990	-3.39751
d5_ Pig fat, free of lean meat, and poultry fat...	0.04754	0.05503	0.86385
lag5_ln_intensity	-0.05054	0.01245	-4.05863
const (r-square=0.0118; NOBS=943; Sm.Est.=1.0187)	-0.09093	0.04429	-2.05294
d5_ Meat and edible meat offal; salted, in brin...	-0.02549	0.14429	-0.17669
lag5_ln_intensity	-0.02687	0.01138	-2.36088
const (r-square=0.0108; NOBS=667; Sm.Est.=1.0161)	-0.07322	0.04161	-1.75961
d5_ Fish; fresh or chilled (excluding fish fill...	-0.01559	0.01078	-1.44620
lag5_ln_intensity	-0.02028	0.01014	-1.99965
const (r-square=0.0322; NOBS=975; Sm.Est.=1.0197)	-0.08272	0.04240	-1.95117
d5_ Fish; frozen (excluding fish fillets and ot...	0.08350	0.05084	1.64245
lag5_ln_intensity	-0.02545	0.01076	-2.36474
const (r-square=0.0099; NOBS=963; Sm.Est.=1.0203)	-0.08287	0.04505	-1.83956
d5_ Fish fillets and other fish meat (whether o...	0.01628	0.05110	0.31855
lag5_ln_intensity	-0.02548	0.01157	-2.20252
const (r-square=0.0112; NOBS=959; Sm.Est.=1.0199)	-0.07908	0.04504	-1.75587
d5_ Fish; dried, salted or in brine, smoked fis...	-0.01547	0.01978	-0.78187

(continued…)

lag5_ln_intensity	-0.02437	0.01150	-2.11882
const (r-square=0.0318; NOBS=936; Sm.Est.=1.0197)	-0.09018	0.04231	-2.13150
d5_ Crustaceans, in shell or not, live, fresh, ...	0.12991	0.09092	1.42879
lag5_ln_intensity	-0.02795	0.01073	-2.60476
const (r-square=0.0636; NOBS=937; Sm.Est.=1.0178)	-0.08788	0.04461	-1.96993
d5_ Molluscs, whether in shell or not, live, fr...	0.21609	0.09108	2.37251
lag5_ln_intensity	-0.02638	0.01139	-2.31561
const (r-square=0.0223; NOBS=863; Sm.Est.=1.0169)	-0.11377	0.04772	-2.38415
d5_ Milk and cream; not concentrated nor contai...	-0.02335	0.01583	-1.47494
lag5_ln_intensity	-0.03275	0.01271	-2.57675
const (r-square=0.0159; NOBS=970; Sm.Est.=1.0201)	-0.07989	0.04462	-1.79031
d5_ Milk and cream; concentrated or containing ...	0.05967	0.06358	0.93848
lag5_ln_intensity	-0.02477	0.01144	-2.16545
const (r-square=0.0153; NOBS=959; Sm.Est.=1.0202)	-0.08751	0.04450	-1.96640
d5_ Buttermilk, curdled milk and cream, yoghurt...	-0.04480	0.03845	-1.16508
lag5_ln_intensity	-0.02699	0.01147	-2.35350
const (r-square=0.0106; NOBS=889; Sm.Est.=1.0172)	-0.08026	0.04568	-1.75706
d5_ Whey and products consisting of natural mil...	0.02774	0.05917	0.46878
lag5_ln_intensity	-0.02397	0.01178	-2.03392
const (r-square=0.0147; NOBS=958; Sm.Est.=1.02)	-0.08153	0.04559	-1.78833
d5_ Butter and other fats and oils derived from...	0.03595	0.04277	0.84063
lag5_ln_intensity	-0.02526	0.01171	-2.15745
const (r-square=0.0443; NOBS=974; Sm.Est.=1.0195)	-0.09939	0.04661	-2.13220
d5_ Cheese and curd	-0.14860	0.07933	-1.87322
lag5_ln_intensity	-0.03015	0.01250	-2.41201
const (r-square=0.0476; NOBS=868; Sm.Est.=1.0163)	-0.08948	0.03868	-2.31346
d5_ Birds' eggs, not in shell; egg yolks, fresh...	-0.08402	0.04045	-2.07740
lag5_ln_intensity	-0.02604	0.00952	-2.73474
const (r-square=0.0662; NOBS=546; Sm.Est.=1.0141)	-0.09905	0.03919	-2.52708
d5_ Pigs', hogs' or boars' bristles and hair; a...	0.11938	0.04333	2.75533
lag5_ln_intensity	-0.03068	0.00839	-3.65582
const (r-square=0.0145; NOBS=950; Sm.Est.=1.0191)	-0.09902	0.04072	-2.43199
d5_ Guts, bladders and stomachs of animals (oth...	0.05886	0.13984	0.42093
lag5_ln_intensity	-0.02944	0.01004	-2.93283
const (r-square=0.015; NOBS=849; Sm.Est.=1.018)	-0.10027	0.04334	-2.31342
d5_ Skins and other parts of birds with feather...	0.00841	0.02407	0.34949
lag5_ln_intensity	-0.02998	0.01127	-2.66141
const (r-square=0.0239; NOBS=765; Sm.Est.=1.0162)	-0.03812	0.04416	-0.86329
d5_ Bones and horn-cores, unworked, defatted, s...	-0.09070	0.05300	-1.71153
lag5_ln_intensity	-0.01346	0.01094	-1.23006
const (r-square=0.0099; NOBS=733; Sm.Est.=1.0162)	-0.07353	0.04581	-1.60494
d5_ Ivory, tortoise-shell, whalebone and whaleb...	0.01042	0.02396	0.43508
lag5_ln_intensity	-0.02092	0.01156	-1.81005
const (r-square=0.0225; NOBS=680; Sm.Est.=1.0136)	-0.06066	0.05109	-1.18726

(continued…)

d5_ Ambergris, castoreum, civet and musk; canth...	-0.03056	0.01800	-1.69830
lag5_ln_intensity	-0.01595	0.01302	-1.22497
const (r-square=0.0073; NOBS=882; Sm.Est.=1.0185)	-0.06064	0.04453	-1.36189
d5_ Animal products not elsewhere specified or ...	0.01867	0.02441	0.76477
lag5_ln_intensity	-0.01924	0.01117	-1.72219
const (r-square=0.013; NOBS=963; Sm.Est.=1.0201)	-0.08970	0.04623	-1.94018
d5_ Vegetables (uncooked or cooked by steaming ...	0.04515	0.11156	0.40469
lag5_ln_intensity	-0.02765	0.01204	-2.29695
const (r-square=0.0173; NOBS=962; Sm.Est.=1.0202)	-0.08569	0.04516	-1.89762
d5_ Vegetables provisionally preserved; (eg by ...	-0.04201	0.03367	-1.24773
lag5_ln_intensity	-0.02638	0.01166	-2.26208
const (r-square=0.0141; NOBS=972; Sm.Est.=1.02)	-0.08286	0.04416	-1.87649
d5_ Vegetables, dried; whole, cut, sliced, brok...	-0.04243	0.08217	-0.51643
lag5_ln_intensity	-0.02545	0.01130	-2.25132
const (r-square=0.011; NOBS=845; Sm.Est.=1.0189)	-0.06112	0.04415	-1.38459
d5_ Nuts, edible; coconuts, Brazil nuts and cas...	-0.02757	0.02493	-1.10627
lag5_ln_intensity	-0.01916	0.01116	-1.71629
const (r-square=0.0154; NOBS=943; Sm.Est.=1.0199)	-0.08472	0.04448	-1.90459
d5_ Nuts (excluding coconuts, Brazils and cashe...	-0.01911	0.02095	-0.91219
lag5_ln_intensity	-0.02682	0.01144	-2.34488
const (r-square=0.0432; NOBS=927; Sm.Est.=1.0184)	-0.09308	0.04217	-2.20743
d5_ Grapes; fresh or dried	-0.05427	0.01666	-3.25708
lag5_ln_intensity	-0.02877	0.01075	-2.67525
const (r-square=0.0161; NOBS=962; Sm.Est.=1.0199)	-0.08341	0.04404	-1.89401
d5_ Fruit and nuts; uncooked or cooked by steam...	-0.02930	0.03294	-0.88966
lag5_ln_intensity	-0.02578	0.01127	-2.28659
const (r-square=0.0542; NOBS=794; Sm.Est.=1.019)	-0.06010	0.05089	-1.18090
d5_ Fruit and nuts provisionally preserved; (eg...	-0.02930	0.01309	-2.23908
lag5_ln_intensity	-0.01942	0.01295	-1.49999
const (r-square=0.0227; NOBS=976; Sm.Est.=1.0197)	-0.07410	0.04326	-1.71320
d5_ Fruit, dried, other than that of heading no...	-0.06602	0.02983	-2.21321
lag5_ln_intensity	-0.02347	0.01104	-2.12601
const (r-square=0.0058; NOBS=676; Sm.Est.=1.02)	-0.05980	0.05311	-1.12596
d5_ Peel of citrus fruit or melons (including w...	-0.00179	0.04799	-0.03732
lag5_ln_intensity	-0.01904	0.01367	-1.39272
const (r-square=0.0102; NOBS=975; Sm.Est.=1.0201)	-0.08697	0.04390	-1.98116
d5_ Coffee, whether or not roasted or decaffein...	0.00120	0.04858	0.02464
lag5_ln_intensity	-0.02675	0.01123	-2.38141
const (r-square=0.0127; NOBS=960; Sm.Est.=1.0204)	-0.09076	0.04632	-1.95924
d5_ Tea	0.04266	0.08497	0.50200
lag5_ln_intensity	-0.02761	0.01184	-2.33107
const (r-square=0.0122; NOBS=922; Sm.Est.=1.0194)	-0.07376	0.04330	-1.70330
d5_ Pepper of the genus piper; dried or crushed...	-0.04108	0.05883	-0.69832
lag5_ln_intensity	-0.02320	0.01086	-2.13741

(continued...)

const (r-square=0.0124; NOBS=812; Sm.Est.=1.0181)	-0.08290	0.04444	-1.86572
d5_ Cinnamon and cinnamon-tree flowers	0.03164	0.03331	0.95002
lag5_ln_intensity	-0.02505	0.01153	-2.17246
const (r-square=0.0096; NOBS=957; Sm.Est.=1.0187)	-0.08575	0.04502	-1.90489
d5_ Rice	0.00569	0.05766	0.09873
lag5_ln_intensity	-0.02518	0.01165	-2.16207
const (r-square=0.0166; NOBS=954; Sm.Est.=1.0192)	-0.08994	0.04553	-1.97535
d5_ Wheat or meslin flour	-0.00686	0.00302	-2.27489
lag5_ln_intensity	-0.02684	0.01174	-2.28696
const (r-square=0.0091; NOBS=918; Sm.Est.=1.0184)	-0.07906	0.04647	-1.70135
d5_ Cereal flours; other than of wheat or meslin	-0.00269	0.01137	-0.23648
lag5_ln_intensity	-0.02422	0.01196	-2.02474
const (r-square=0.0162; NOBS=958; Sm.Est.=1.02)	-0.08601	0.04491	-1.91541
d5_ Cereal groats; meal and pellets	0.05750	0.05203	1.10523
lag5_ln_intensity	-0.02667	0.01149	-2.32136
const (r-square=0.0122; NOBS=950; Sm.Est.=1.0201)	-0.07982	0.04454	-1.79194
d5_ Cereal grains otherwise worked (eg hulled, ...	-0.02820	0.02764	-1.02038
lag5_ln_intensity	-0.02492	0.01141	-2.18446
const (r-square=0.0363; NOBS=841; Sm.Est.=1.0177)	-0.07371	0.04681	-1.57447
d5_ Flour, meal, and flakes of potatoes	0.18093	0.10050	1.80037
lag5_ln_intensity	-0.02204	0.01188	-1.85580
const (r-square=0.0094; NOBS=866; Sm.Est.=1.0185)	-0.05801	0.04598	-1.26160
d5_ Flour and meal; of the dried leguminous veg...	-0.02506	0.03960	-0.63289
lag5_ln_intensity	-0.01936	0.01179	-1.64240
const (r-square=0.0146; NOBS=848; Sm.Est.=1.0169)	-0.08602	0.04472	-1.92336
d5_ Malt; whether or not roasted	0.02242	0.04165	0.53815
lag5_ln_intensity	-0.02534	0.01124	-2.25382
const (r-square=0.0086; NOBS=943; Sm.Est.=1.0186)	-0.08139	0.04536	-1.79412
d5_ Starches; inulin	0.00252	0.02135	0.11818
lag5_ln_intensity	-0.02412	0.01172	-2.05849
const (r-square=0.0172; NOBS=769; Sm.Est.=1.0157)	-0.10910	0.03776	-2.88960
d5_ Wheat gluten; whether or not dried	0.01307	0.08361	0.15634
lag5_ln_intensity	-0.03086	0.00884	-3.48999
const (r-square=0.0114; NOBS=889; Sm.Est.=1.0189)	-0.08443	0.04731	-1.78468
d5_ Ground-nuts; not roasted or otherwise cooke...	-0.04544	0.06589	-0.68958
lag5_ln_intensity	-0.02548	0.01215	-2.09806
const (r-square=0.0284; NOBS=886; Sm.Est.=1.0185)	-0.09357	0.04604	-2.03233
d5_ Flours and meals of oil seeds or oleaginous...	-0.03545	0.02063	-1.71834
lag5_ln_intensity	-0.02709	0.01178	-2.29889
const (r-square=0.0081; NOBS=529; Sm.Est.=1.0141)	-0.06611	0.05326	-1.24131
d5_ Swedes, mangolds, fodder roots, hay, lucern...	-0.01281	0.04454	-0.28756
lag5_ln_intensity	-0.02201	0.01362	-1.61670
const (r-square=0.0124; NOBS=965; Sm.Est.=1.02)	-0.09317	0.04654	-2.00189
d5_ Vegetable saps and extracts; pectic substan...	-0.03243	0.05602	-0.57893

(continued...)

lag5_ln_intensity	-0.02817	0.01202	-2.34260
const (r-square=0.0235; NOBS=424; Sm.Est.=1.014)	-0.07679	0.05309	-1.44642
d5_ Vegetable products not elsewhere specified ...	-0.02053	0.01800	-1.14035
lag5_ln_intensity	-0.01925	0.01301	-1.47933
const (r-square=0.0016; NOBS=719; Sm.Est.=1.0161)	-0.03028	0.07243	-0.41809
d5_ Lard; other pig fat and poultry fat, render...	-0.01604	0.04441	-0.36118
lag5_ln_intensity	-0.01015	0.01958	-0.51833
const (r-square=0.0569; NOBS=812; Sm.Est.=1.0163)	-0.08817	0.04377	-2.01430
d5_ Fats of bovine animals, sheep or goats; raw...	0.21039	0.07755	2.71286
lag5_ln_intensity	-0.02566	0.01088	-2.35820
const (r-square=0.0391; NOBS=464; Sm.Est.=1.0147)	-0.09772	0.05185	-1.88473
d5_ Lard stearin, lard oil, oleostearin, oleo-o...	0.05479	0.01468	3.73366
lag5_ln_intensity	-0.02843	0.01279	-2.22225
const (r-square=0.024; NOBS=864; Sm.Est.=1.0168)	-0.06888	0.04458	-1.54494
d5_ Fats and oils and their fractions of fish o...	-0.06802	0.04696	-1.44864
lag5_ln_intensity	-0.02152	0.01151	-1.86926
const (r-square=0.0344; NOBS=703; Sm.Est.=1.0163)	-0.09197	0.04223	-2.17799
d5_ Wool grease and fatty substances derived th...	0.06362	0.03863	1.64683
lag5_ln_intensity	-0.02598	0.01057	-2.45837
const (r-square=0.019; NOBS=713; Sm.Est.=1.0177)	-0.11505	0.05991	-1.92040
d5_ Animal fats and oils and their fractions; w...	-0.00699	0.01755	-0.39813
lag5_ln_intensity	-0.03575	0.01606	-2.22665
const (r-square=0.0246; NOBS=931; Sm.Est.=1.0182)	-0.08759	0.04668	-1.87651
d5_ Soya-bean oil and its fractions; whether or...	0.13276	0.06860	1.93532
lag5_ln_intensity	-0.02591	0.01208	-2.14543
const (r-square=0.0121; NOBS=639; Sm.Est.=1.0167)	-0.07137	0.05042	-1.41547
d5_ Ground nut oil and its fractions; whether o...	-0.02794	0.02372	-1.17784
lag5_ln_intensity	-0.02171	0.01260	-1.72210
const (r-square=0.0131; NOBS=895; Sm.Est.=1.0193)	-0.09933	0.04479	-2.21784
d5_ Olive oil and its fractions; whether or not...	-0.00294	0.04394	-0.06702
lag5_ln_intensity	-0.02938	0.01176	-2.49757
const (r-square=0.0305; NOBS=672; Sm.Est.=1.0167)	-0.11339	0.05612	-2.02042
d5_ Oils and their fractions n.e.s. in chapter ...	-0.01670	0.01708	-0.97763
lag5_ln_intensity	-0.03244	0.01501	-2.16193
const (r-square=0.0359; NOBS=886; Sm.Est.=1.0179)	-0.09976	0.04878	-2.04490
d5_ Palm oil and its fractions; whether or not ...	0.09516	0.01376	6.91605
lag5_ln_intensity	-0.02870	0.01281	-2.24135
const (r-square=0.0134; NOBS=946; Sm.Est.=1.0193)	-0.08365	0.04501	-1.85854
d5_ Sun-flower seed, safflower or cotton-seed o...	-0.01150	0.02144	-0.53651
lag5_ln_intensity	-0.02532	0.01156	-2.18980
const (r-square=0.0098; NOBS=845; Sm.Est.=1.018)	-0.06913	0.04760	-1.45231
d5_ Coconut (copra), palm kernel or babassu oil...	-0.00685	0.01036	-0.66148
lag5_ln_intensity	-0.02145	0.01213	-1.76774
const (r-square=0.0105; NOBS=844; Sm.Est.=1.0175)	-0.08252	0.04056	-2.03438

(continued...)

d5_ Rape, colza or mustard oil and their fracti...	0.00543	0.06133	0.08850
lag5_ln_intensity	-0.02530	0.01055	-2.39918
const (r-square=0.0132; NOBS=968; Sm.Est.=1.0202)	-0.08365	0.04427	-1.88966
d5_ Fixed vegetable fats and oils (including jo...	-0.05344	0.05615	-0.95172
lag5_ln_intensity	-0.02583	0.01135	-2.27672
const (r-square=0.0097; NOBS=957; Sm.Est.=1.0199)	-0.08091	0.04434	-1.82491
d5_ Animal or vegetable fats and oils and their...	-0.02891	0.06013	-0.48087
lag5_ln_intensity	-0.02478	0.01137	-2.17993
const (r-square=0.0122; NOBS=961; Sm.Est.=1.02)	-0.08696	0.04571	-1.90237
d5_ Margarine; edible mixtures or preparations ...	0.03281	0.06461	0.50779
lag5_ln_intensity	-0.02641	0.01189	-2.22193
const (r-square=0.0837; NOBS=636; Sm.Est.=1.0175)	-0.05199	0.05671	-0.91671
d5_ Vegetable waxes (other than triglycerides),...	0.11871	0.02685	4.42124
lag5_ln_intensity	-0.01546	0.01461	-1.05859
const (r-square=0.0071; NOBS=726; Sm.Est.=1.0173)	-0.06872	0.05131	-1.33938
d5_ Degras; residues resulting from the treatme...	-0.00205	0.04809	-0.04257
lag5_ln_intensity	-0.02065	0.01314	-1.57147
const (r-square=0.0254; NOBS=965; Sm.Est.=1.0196)	-0.08942	0.04430	-2.01861
d5_ Sausages and similar products of meat, meat...	-0.06725	0.02916	-2.30642
lag5_ln_intensity	-0.02785	0.01154	-2.41400
const (r-square=0.016; NOBS=970; Sm.Est.=1.0198)	-0.08973	0.04394	-2.04219
d5_ Prepared or preserved meat, meat offal or b...	-0.07562	0.10799	-0.70018
lag5_ln_intensity	-0.02741	0.01127	-2.43278
const (r-square=0.0454; NOBS=696; Sm.Est.=1.0145)	-0.05240	0.04948	-1.05888
d5_ Extracts and juices of meat, fish or crusta...	0.12150	0.03274	3.71109
lag5_ln_intensity	-0.01609	0.01231	-1.30716
const (r-square=0.0158; NOBS=975; Sm.Est.=1.02)	-0.09287	0.04366	-2.12728
d5_ Prepared or preserved fish; caviar and cavi...	-0.03835	0.03740	-1.02555
lag5_ln_intensity	-0.02824	0.01127	-2.50519
const (r-square=0.036; NOBS=941; Sm.Est.=1.0195)	-0.08227	0.04280	-1.92244
d5_ Crustaceans, molluscs and other aquatic inv...	0.15539	0.09963	1.55963
lag5_ln_intensity	-0.02571	0.01076	-2.38873
const (r-square=0.0153; NOBS=965; Sm.Est.=1.0197)	-0.08908	0.04407	-2.02104
d5_ Cane or beet sugar and chemically pure sucr...	0.06289	0.11031	0.57015
lag5_ln_intensity	-0.02690	0.01153	-2.33346
const (r-square=0.034; NOBS=959; Sm.Est.=1.0187)	-0.08689	0.04384	-1.98223
d5_ Sugars, including lactose, maltose, glucose...	-0.08222	0.04398	-1.86956
lag5_ln_intensity	-0.02545	0.01122	-2.26857
const (r-square=0.0096; NOBS=868; Sm.Est.=1.0183)	-0.08069	0.04632	-1.74208
d5_ Molasses; resulting from the extraction or ...	-0.00275	0.01500	-0.18341
lag5_ln_intensity	-0.02454	0.01180	-2.08049
const (r-square=0.0149; NOBS=977; Sm.Est.=1.02)	-0.08772	0.04374	-2.00542
d5_ Sugar confectionery (including white chocol...	0.06879	0.09925	0.69314
lag5_ln_intensity	-0.02665	0.01124	-2.37101

(continued...)

const (r-square=0.0114; NOBS=397; Sm.Est.=1.013)	-0.06125	0.08549	-0.71641
d5_ Cocoa; shells, husks, skins and other cocoa...	-0.00874	0.04342	-0.20132
lag5_ln_intensity	-0.01946	0.02301	-0.84601
const (r-square=0.02; NOBS=773; Sm.Est.=1.0191)	-0.10916	0.06841	-1.59557
d5_ Cocoa; paste; whether or not defatted	-0.03855	0.03684	-1.04648
lag5_ln_intensity	-0.03242	0.01839	-1.76285
const (r-square=0.0086; NOBS=765; Sm.Est.=1.0192)	-0.06427	0.04774	-1.34631
d5_ Cocoa; butter, fat and oil	-0.02624	0.06904	-0.38010
lag5_ln_intensity	-0.02126	0.01217	-1.74742
const (r-square=0.008; NOBS=944; Sm.Est.=1.0196)	-0.07259	0.04508	-1.61012
d5_ Cocoa; powder, not containing added sugar o...	0.02801	0.06584	0.42553
lag5_ln_intensity	-0.02231	0.01166	-1.91365
const (r-square=0.0116; NOBS=976; Sm.Est.=1.0201)	-0.08699	0.04410	-1.97270
d5_ Chocolate and other food preparations conta...	0.04483	0.12774	0.35090
lag5_ln_intensity	-0.02671	0.01129	-2.36583
const (r-square=0.0344; NOBS=964; Sm.Est.=1.0194)	-0.07741	0.04664	-1.65953
d5_ Malt extract; flour, meal, starch or malt e...	0.20624	0.11780	1.75081
lag5_ln_intensity	-0.02372	0.01203	-1.97129
const (r-square=0.0761; NOBS=964; Sm.Est.=1.0187)	-0.08626	0.04384	-1.96772
d5_ Pasta; whether or not cooked or stuffed wit...	0.22161	0.06904	3.20965
lag5_ln_intensity	-0.02625	0.01110	-2.36502
const (r-square=0.0776; NOBS=569; Sm.Est.=1.0148)	-0.04758	0.04447	-1.06994
d5_ Tapioca and substitutes therefor prepared f...	0.10660	0.01514	7.04011
lag5_ln_intensity	-0.01659	0.01110	-1.49559
const (r-square=0.0616; NOBS=970; Sm.Est.=1.0192)	-0.08441	0.04409	-1.91442
d5_ Prepared foods obtained by swelling, roasti...	0.32470	0.12259	2.64871
lag5_ln_intensity	-0.02592	0.01141	-2.27254
const (r-square=0.0108; NOBS=974; Sm.Est.=1.0202)	-0.08494	0.04487	-1.89317
d5_ Bread, pastry, cakes, biscuits, other baker...	-0.04619	0.18160	-0.25432
lag5_ln_intensity	-0.02618	0.01155	-2.26603
const (r-square=0.0255; NOBS=973; Sm.Est.=1.0199)	-0.07904	0.04337	-1.82236
d5_ Vegetables, fruit, nuts and other edible pa...	-0.05462	0.04017	-1.35975
lag5_ln_intensity	-0.02471	0.01118	-2.21035
const (r-square=0.0168; NOBS=975; Sm.Est.=1.0201)	-0.08249	0.04415	-1.86842
d5_ Tomatoes; prepared or preserved otherwise t...	-0.03597	0.04624	-0.77781
lag5_ln_intensity	-0.02541	0.01141	-2.22667
const (r-square=0.0476; NOBS=936; Sm.Est.=1.0189)	-0.08964	0.04126	-2.17275
d5_ Mushrooms and truffles, prepared or preserv...	0.18018	0.07033	2.56173
lag5_ln_intensity	-0.02700	0.01016	-2.65637
const (r-square=0.0491; NOBS=954; Sm.Est.=1.0182)	-0.08895	0.04602	-1.93282
d5_ Vegetable preparations n.e.s.; prepared or ...	0.24529	0.09136	2.68481
lag5_ln_intensity	-0.02731	0.01200	-2.27563
const (r-square=0.0101; NOBS=976; Sm.Est.=1.0201)	-0.08644	0.04403	-1.96318
d5_ Vegetable preparations n.e.s.; prepared or ...	0.00411	0.06352	0.06467

(continued...)

lag5_ln_intensity	-0.02659	0.01128	-2.35796
const (r-square=0.0295; NOBS=902; Sm.Est.=1.0192)	-0.08112	0.04316	-1.87973
d5_ Fruit, nuts, fruit-peel and other parts of ...	0.08745	0.06914	1.26474
lag5_ln_intensity	-0.02676	0.01102	-2.42746
const (r-square=0.0189; NOBS=978; Sm.Est.=1.0199)	-0.07833	0.04424	-1.77042
d5_ Jams, fruit jellies, marmalades, fruit or n...	-0.07525	0.06304	-1.19358
lag5_ln_intensity	-0.02425	0.01138	-2.13042
const (r-square=0.0236; NOBS=977; Sm.Est.=1.0199)	-0.08286	0.04357	-1.90168
d5_ Fruit, nuts and other edible parts of plant...	-0.07305	0.05067	-1.44150
lag5_ln_intensity	-0.02550	0.01116	-2.28530
const (r-square=0.0335; NOBS=978; Sm.Est.=1.0195)	-0.07875	0.04307	-1.82833
d5_ Fruit juices (including grape must) and veg...	-0.07746	0.06138	-1.26185
lag5_ln_intensity	-0.02409	0.01086	-2.21830
const (r-square=0.0137; NOBS=969; Sm.Est.=1.0202)	-0.08718	0.04383	-1.98906
d5_ Extracts, essences, concentrates of coffee,...	-0.03052	0.03810	-0.80116
lag5_ln_intensity	-0.02683	0.01130	-2.37448
const (r-square=0.0166; NOBS=961; Sm.Est.=1.0196)	-0.07457	0.04487	-1.66181
d5_ Yeasts (active or inactive); other single-c...	-0.05361	0.05901	-0.90864
lag5_ln_intensity	-0.02335	0.01163	-2.00824
const (r-square=0.0103; NOBS=977; Sm.Est.=1.0201)	-0.08505	0.04355	-1.95304
d5_ Sauces and preparations therefor; mixed con...	-0.01100	0.04099	-0.26824
lag5_ln_intensity	-0.02616	0.01116	-2.34502
const (r-square=0.0269; NOBS=952; Sm.Est.=1.0185)	-0.08733	0.04523	-1.93066
d5_ Soups and broths and preparations therefor;...	-0.08280	0.04572	-1.81113
lag5_ln_intensity	-0.02603	0.01168	-2.22837
const (r-square=0.0125; NOBS=964; Sm.Est.=1.0196)	-0.08538	0.04324	-1.97438
d5_ Ice cream and other edible ice; whether or ...	0.03910	0.05409	0.72289
lag5_ln_intensity	-0.02642	0.01094	-2.41504
const (r-square=0.0147; NOBS=977; Sm.Est.=1.0199)	-0.09154	0.04386	-2.08698
d5_ Food preparations not elsewhere specified o...	-0.06746	0.08386	-0.80435
lag5_ln_intensity	-0.02800	0.01128	-2.48216
const (r-square=0.0273; NOBS=972; Sm.Est.=1.0194)	-0.08626	0.04275	-2.01790
d5_ Waters, including natural or artificial min...	-0.09467	0.05645	-1.67709
lag5_ln_intensity	-0.02659	0.01086	-2.44759
const (r-square=0.0129; NOBS=977; Sm.Est.=1.0201)	-0.08429	0.04309	-1.95627
d5_ Waters, including mineral and aerated water...	-0.03301	0.03248	-1.01629
lag5_ln_intensity	-0.02600	0.01104	-2.35621
const (r-square=0.0544; NOBS=976; Sm.Est.=1.019)	-0.09196	0.04296	-2.14077
d5_ Beer made from malt	0.14677	0.05446	2.69520
lag5_ln_intensity	-0.02794	0.01108	-2.52217
const (r-square=0.0098; NOBS=979; Sm.Est.=1.0201)	-0.08357	0.04324	-1.93266
d5_ Wine of fresh grapes, including fortified w...	0.01442	0.07612	0.18936
lag5_ln_intensity	-0.02565	0.01105	-2.32016
const (r-square=0.0142; NOBS=879; Sm.Est.=1.0208)	-0.10161	0.04884	-2.08027

(continued...)

d5_ Vermouth and other wine of fresh grapes, fl...	-0.01322	0.03778	-0.34983
lag5_ln_intensity	-0.03061	0.01275	-2.40010
const (r-square=0.0098; NOBS=923; Sm.Est.=1.0207)	-0.08770	0.04671	-1.87758
d5_ Fermented beverages, n.e.s. in chapter 22; ...	0.00307	0.02446	0.12547
lag5_ln_intensity	-0.02669	0.01198	-2.22699
const (r-square=0.0115; NOBS=979; Sm.Est.=1.02)	-0.08001	0.04517	-1.77128
d5_ Ethyl alcohol, undenatured; of an alcoholic...	-0.01184	0.02657	-0.44576
lag5_ln_intensity	-0.02449	0.01151	-2.12823
const (r-square=0.0225; NOBS=917; Sm.Est.=1.0181)	-0.08735	0.04674	-1.86890
d5_ Vinegar and substitutes for vinegar obtaine...	0.07524	0.09070	0.82955
lag5_ln_intensity	-0.02657	0.01178	-2.25492
const (r-square=0.0151; NOBS=929; Sm.Est.=1.0191)	-0.08835	0.04644	-1.90229
d5_ Flours, meal and pellets, of meat or meat o...	-0.10062	0.13060	-0.77046
lag5_ln_intensity	-0.02657	0.01216	-2.18516
const (r-square=0.0185; NOBS=904; Sm.Est.=1.0176)	-0.07335	0.04644	-1.57953
d5_ Bran, sharps and other residues; whether or...	-0.04200	0.02823	-1.48758
lag5_ln_intensity	-0.02254	0.01174	-1.92054
const (r-square=0.0164; NOBS=879; Sm.Est.=1.0164)	-0.07540	0.04569	-1.65013
d5_ Residues of starch manufacture, similar res...	-0.05055	0.04277	-1.18205
lag5_ln_intensity	-0.02310	0.01162	-1.98723
const (r-square=0.0109; NOBS=898; Sm.Est.=1.0199)	-0.08593	0.04445	-1.93304
d5_ Oil-cake and other solid residues; whether ...	0.03938	0.08538	0.46117
lag5_ln_intensity	-0.02511	0.01145	-2.19283
const (r-square=0.0874; NOBS=225; Sm.Est.=1.0122)	-0.04266	0.04421	-0.96504
d5_ Oil-cake and other solid residues; whether ...	-0.03144	0.00876	-3.58952
lag5_ln_intensity	-0.01541	0.00980	-1.57314
const (r-square=0.0149; NOBS=930; Sm.Est.=1.0181)	-0.08378	0.04560	-1.83740
d5_ Oil-cake and other solid residues; whether ...	-0.01265	0.01454	-0.87004
lag5_ln_intensity	-0.02425	0.01174	-2.06548
const (r-square=0.0386; NOBS=480; Sm.Est.=1.0121)	-0.18936	0.07557	-2.50580
d5_ Wine lees; argol	-0.00033	0.00406	-0.08063
lag5_ln_intensity	-0.05484	0.01946	-2.81818
const (r-square=0.0109; NOBS=900; Sm.Est.=1.0183)	-0.08243	0.04724	-1.74474
d5_ Vegetable materials and vegetable waste, ve...	0.03661	0.12515	0.29253
lag5_ln_intensity	-0.02448	0.01210	-2.02291
const (r-square=0.0098; NOBS=971; Sm.Est.=1.0202)	-0.08555	0.04447	-1.92381
d5_ Preparations of a kind used in animal feeding	-0.00641	0.10899	-0.05885
lag5_ln_intensity	-0.02632	0.01145	-2.29909
const (r-square=0.0154; NOBS=870; Sm.Est.=1.0186)	-0.08912	0.04293	-2.07575
d5_ Tobacco, unmanufactured; tobacco refuse	0.08327	0.11846	0.70293
lag5_ln_intensity	-0.02633	0.01085	-2.42630
const (r-square=0.0807; NOBS=976; Sm.Est.=1.0186)	-0.08078	0.04184	-1.93072
d5_ Cigars, cheroots, cigarillos and cigarettes...	-0.10148	0.03955	-2.56609
lag5_ln_intensity	-0.02474	0.01090	-2.26872

(continued...)

const (r-square=0.0116; NOBS=924; Sm.Est.=1.0196)	-0.08550	0.04356	-1.96276
d5_ Manufactured tobacco and manufactured tobac...	-0.00310	0.02522	-0.12283
lag5_ln_intensity	-0.02777	0.01101	-2.52217
const (r-square=0.0195; NOBS=784; Sm.Est.=1.0166)	-0.09919	0.03712	-2.67176
d5_ Casein, caseinates and other casein derivat...	0.01856	0.02237	0.82978
lag5_ln_intensity	-0.02794	0.00904	-3.09150
const (r-square=0.0185; NOBS=761; Sm.Est.=1.0162)	-0.11046	0.03871	-2.85345
d5_ Albumins; albuminates and other albumin der...	-0.00394	0.09075	-0.04336
lag5_ln_intensity	-0.03365	0.00956	-3.51874
const (r-square=0.0144; NOBS=933; Sm.Est.=1.0181)	-0.07637	0.04470	-1.70868
d5_ Dextrins and other modified starches (eg pr...	0.07300	0.07876	0.92689
lag5_ln_intensity	-0.02283	0.01155	-1.97660
const (r-square=0.0127; NOBS=369; Sm.Est.=1.0109)	-0.06654	0.03917	-1.69887
d5_ Raw hides and skins of bovine or equine ani...	-0.00178	0.00502	-0.35463
lag5_ln_intensity	-0.01955	0.01034	-1.89023
const (r-square=0.024; NOBS=855; Sm.Est.=1.0198)	-0.09962	0.04208	-2.36774
d5_ Raw skins of sheep or lambs (fresh, salted,...	0.05183	0.04064	1.27534
lag5_ln_intensity	-0.02851	0.01092	-2.61032
const (r-square=0.0086; NOBS=906; Sm.Est.=1.0169)	-0.07751	0.04375	-1.77190
d5_ Raw hides and skins n.e.s in headings no. 4...	0.00183	0.00973	0.18758
lag5_ln_intensity	-0.02230	0.01114	-2.00163
const (r-square=0.0; NOBS=419; Sm.Est.=1.011)	-0.00051	0.05733	-0.00889
d5_ Leather of bovine or equine animals, withou...	0.00013	0.00086	0.15120
lag5_ln_intensity	-0.00082	0.01693	-0.04869
const (r-square=0.0103; NOBS=833; Sm.Est.=1.0162)	-0.07131	0.04413	-1.61601
d5_ Leather; of animals n.e.s. in chapter 41, w...	-0.00341	0.00228	-1.49402
lag5_ln_intensity	-0.02122	0.01097	-1.93482

Table L.5: Regression results of HS-4digit productsin the food & beverages industry [1995-2017]

Machine industry

	parameter	std_errors	t-stat
const (r-square=0.0318; NOBS=965; Sm.Est.=1.0523)	-0.28200	0.10583	-2.66475
d5_Articles of plastics and articles of other m...	0.02142	0.33060	0.06480
lag5_ln_intensity	-0.06200	0.02175	-2.85097
const (r-square=0.0809; NOBS=700; Sm.Est.=1.0262)	-0.36344	0.12356	-2.94140
d5_Blankets and travelling rugs	-0.00735	0.00200	-3.67882
lag5_ln_intensity	-0.07405	0.02636	-2.80877
const (r-square=0.0411; NOBS=967; Sm.Est.=1.0521)	-0.29257	0.10574	-2.76698
d5_Structures of iron or steel and parts thereo...	-0.07814	0.06611	-1.18201
lag5_ln_intensity	-0.06429	0.02170	-2.96227
const (r-square=0.0347; NOBS=961; Sm.Est.=1.0505)	-0.29294	0.10346	-2.83153
d5_Reservoirs, tanks, vats and similar containe...	-0.00071	0.03476	-0.02053
lag5_ln_intensity	-0.06378	0.02129	-2.99619
const (r-square=0.0545; NOBS=966; Sm.Est.=1.0512)	-0.29716	0.10696	-2.77815
d5_Tanks, casks, drums, cans, boxes and similar...	-0.09774	0.05769	-1.69410
lag5_ln_intensity	-0.06533	0.02208	-2.95861
const (r-square=0.054; NOBS=961; Sm.Est.=1.0509)	-0.28871	0.10511	-2.74680
d5_Containers for compressed or liquefied gas, ...	-0.05605	0.04153	-1.34962
lag5_ln_intensity	-0.06336	0.02164	-2.92815
const (r-square=0.0369; NOBS=953; Sm.Est.=1.0515)	-0.28564	0.10248	-2.78740
d5_Stranded wire, ropes, cables, plaited bands,...	-0.07687	0.07914	-0.97138
lag5_ln_intensity	-0.06270	0.02109	-2.97379
const (r-square=0.035; NOBS=897; Sm.Est.=1.0405)	-0.25576	0.09689	-2.63971
d5_Barbed wire of iron or steel; twisted hoop o...	-0.03517	0.02336	-1.50505
lag5_ln_intensity	-0.05437	0.01950	-2.78849
const (r-square=0.0342; NOBS=954; Sm.Est.=1.0503)	-0.27779	0.10240	-2.71278
d5_Cloth (including endless bands), grill, nett...	0.04108	0.10749	0.38217
lag5_ln_intensity	-0.06098	0.02083	-2.92705
const (r-square=0.0397; NOBS=955; Sm.Est.=1.0488)	-0.31291	0.10426	-3.00126
d5_Chain and parts thereof, of iron or steel	-0.00874	0.00984	-0.88748
lag5_ln_intensity	-0.06746	0.02169	-3.11044
const (r-square=0.0422; NOBS=918; Sm.Est.=1.0435)	-0.30010	0.10850	-2.76588
d5_Anchors, grapnels and parts thereof, of iron...	-0.01802	0.02588	-0.69644
lag5_ln_intensity	-0.06580	0.02283	-2.88242
const (r-square=0.0533; NOBS=953; Sm.Est.=1.0498)	-0.30517	0.10522	-2.90038
d5_Nails, tacks, drawing pins, corrugated nails...	-0.05980	0.03129	-1.91154
lag5_ln_intensity	-0.06685	0.02193	-3.04760
const (r-square=0.0536; NOBS=967; Sm.Est.=1.0513)	-0.26217	0.10128	-2.58846
d5_Screws, bolts, nuts, coach screws, screw hoo...	0.16413	0.14861	1.10437
lag5_ln_intensity	-0.05782	0.02075	-2.78585
const (r-square=0.061; NOBS=894; Sm.Est.=1.0349)	-0.24558	0.08632	-2.84514
d5_Sewing and knitting needles, bodkins, croche...	0.25405	0.12929	1.96504

(continued...)

lag5_ln_intensity	-0.05170	0.01730	-2.98808
const (r-square=0.0334; NOBS=956; Sm.Est.=1.0508)	-0.28713	0.10649	-2.69632
d5_Springs and leaves for springs, of iron or s...	-0.00984	0.17304	-0.05684
lag5_ln_intensity	-0.06264	0.02194	-2.85469
const (r-square=0.0487; NOBS=955; Sm.Est.=1.0516)	-0.29738	0.10807	-2.75178
d5_Stoves, ranges, grates, cookers (those with ...	-0.12155	0.06896	-1.76270
lag5_ln_intensity	-0.06558	0.02219	-2.95537
const (r-square=0.0459; NOBS=956; Sm.Est.=1.052)	-0.27971	0.10517	-2.65971
d5_Radiators for central heating, not electrica...	-0.07234	0.05108	-1.41629
lag5_ln_intensity	-0.06190	0.02161	-2.86526
const (r-square=0.0323; NOBS=958; Sm.Est.=1.0523)	-0.28083	0.10574	-2.65581
d5_Table, kitchen, other household articles and...	-0.03272	0.08285	-0.39497
lag5_ln_intensity	-0.06187	0.02172	-2.84811
const (r-square=0.1654; NOBS=951; Sm.Est.=1.0441)	-0.26848	0.09997	-2.68567
d5_Sanitary ware and parts thereof, of iron or ...	-0.12097	0.02863	-4.22588
lag5_ln_intensity	-0.05870	0.02092	-2.80645
const (r-square=0.031; NOBS=962; Sm.Est.=1.0523)	-0.27003	0.10253	-2.63375
d5_Iron or steel; cast articles	0.00938	0.04179	0.22444
lag5_ln_intensity	-0.05956	0.02054	-2.90016
const (r-square=0.0323; NOBS=966; Sm.Est.=1.0524)	-0.28379	0.10523	-2.69695
d5_Iron or steel; articles, n.e.s. in chapter 73	-0.03766	0.15810	-0.23823
lag5_ln_intensity	-0.06242	0.02138	-2.91964
const (r-square=0.0355; NOBS=905; Sm.Est.=1.0413)	-0.25880	0.09442	-2.74109
d5_Copper; stranded wire, cables, plaited bands...	-0.01700	0.02026	-0.83943
lag5_ln_intensity	-0.05561	0.01943	-2.86190
const (r-square=0.0502; NOBS=937; Sm.Est.=1.0472)	-0.28291	0.09817	-2.88195
d5_Nails, tacks, drawing pins, staples (not tho...	0.14347	0.06451	2.22411
lag5_ln_intensity	-0.06145	0.02022	-3.03925
const (r-square=0.0432; NOBS=934; Sm.Est.=1.0452)	-0.30700	0.10425	-2.94492
d5_Table, kitchen or other household articles a...	0.00940	0.04337	0.21681
lag5_ln_intensity	-0.06650	0.02175	-3.05697
const (r-square=0.0354; NOBS=962; Sm.Est.=1.0514)	-0.28990	0.10461	-2.77131
d5_Copper; articles thereof n.e.s.	-0.02361	0.02773	-0.85139
lag5_ln_intensity	-0.06337	0.02157	-2.93739
const (r-square=0.0355; NOBS=890; Sm.Est.=1.0352)	-0.26165	0.09664	-2.70743
d5_Nickel; other articles thereof n.e.s.	0.01275	0.05606	0.22745
lag5_ln_intensity	-0.05493	0.01969	-2.78950
const (r-square=0.0594; NOBS=965; Sm.Est.=1.0508)	-0.25807	0.10211	-2.52748
d5_Aluminium; structures (excluding prefabricat...	-0.10401	0.05021	-2.07134
lag5_ln_intensity	-0.05715	0.02123	-2.69169
const (r-square=0.0878; NOBS=871; Sm.Est.=1.0375)	-0.29892	0.10683	-2.79824
d5_Aluminium; reservoirs, tanks, vats and the l...	-0.04024	0.00661	-6.08509
lag5_ln_intensity	-0.06385	0.02231	-2.86170
const (r-square=0.0593; NOBS=945; Sm.Est.=1.0478)	-0.26821	0.10613	-2.52712

(continued...)

d5_Aluminium casks, drums, cans, boxes etc (inc...	-0.08265	0.05043	-1.63905
lag5_ln_intensity	-0.05877	0.02202	-2.66884
const (r-square=0.0323; NOBS=865; Sm.Est.=1.0445)	-0.27717	0.10602	-2.61433
d5_Aluminium; containers for compressed or liqu...	-0.00026	0.03104	-0.00851
lag5_ln_intensity	-0.05927	0.02154	-2.75150
const (r-square=0.0349; NOBS=915; Sm.Est.=1.0377)	-0.25580	0.09753	-2.62279
d5_Aluminium; stranded wire, cables, plaited ba...	-0.01281	0.01267	-1.01114
lag5_ln_intensity	-0.05478	0.01987	-2.75749
const (r-square=0.0378; NOBS=956; Sm.Est.=1.0514)	-0.28421	0.10588	-2.68430
d5_Aluminium; table, kitchen or other household...	-0.03545	0.03937	-0.90032
lag5_ln_intensity	-0.06235	0.02188	-2.85010
const (r-square=0.0421; NOBS=966; Sm.Est.=1.0523)	-0.28429	0.10548	-2.69511
d5_Aluminium; articles n.e.s. in chapter 76	-0.13079	0.11432	-1.14404
lag5_ln_intensity	-0.06247	0.02170	-2.87879
const (r-square=0.0304; NOBS=913; Sm.Est.=1.0379)	-0.24655	0.09584	-2.57258
d5_Lead; articles n.e.s. in chapter 78	0.00310	0.00846	0.36695
lag5_ln_intensity	-0.05224	0.01928	-2.70890
const (r-square=0.0333; NOBS=932; Sm.Est.=1.0449)	-0.26551	0.10150	-2.61577
d5_Zinc; articles n.e.s. in chapter 79	0.02638	0.04179	0.63124
lag5_ln_intensity	-0.05830	0.02101	-2.77541
const (r-square=0.076; NOBS=832; Sm.Est.=1.028)	-0.33666	0.10157	-3.31463
d5_Tin; articles n.e.s. in chapter 80	-0.05347	0.02578	-2.07426
lag5_ln_intensity	-0.06958	0.02087	-3.33350
const (r-square=0.0349; NOBS=948; Sm.Est.=1.0501)	-0.28328	0.10328	-2.74295
d5_Tools, hand; spades, shovels, mattocks, pick...	-0.01043	0.01681	-0.62023
lag5_ln_intensity	-0.06210	0.02137	-2.90632
const (r-square=0.0372; NOBS=963; Sm.Est.=1.0521)	-0.28167	0.10447	-2.69626
d5_Tools, hand; blades for saws of all kinds (i...	-0.04847	0.03550	-1.36533
lag5_ln_intensity	-0.06207	0.02144	-2.89464
const (r-square=0.0358; NOBS=955; Sm.Est.=1.0507)	-0.29680	0.10519	-2.82152
d5_Tools, hand; files, rasps, pliers (including...	-0.02901	0.06937	-0.41814
lag5_ln_intensity	-0.06476	0.02181	-2.96900
const (r-square=0.0534; NOBS=947; Sm.Est.=1.0485)	-0.24049	0.09569	-2.51316
d5_Tools, hand; hand-operated spanners and wren...	0.09075	0.01616	5.61665
lag5_ln_intensity	-0.05248	0.01959	-2.67931
const (r-square=0.0349; NOBS=967; Sm.Est.=1.0521)	-0.27004	0.10018	-2.69553
d5_Tools, hand; (including glaziers' diamonds) ...	0.07822	0.10594	0.73831
lag5_ln_intensity	-0.05942	0.02052	-2.89526
const (r-square=0.0364; NOBS=953; Sm.Est.=1.0513)	-0.28722	0.10614	-2.70606
d5_Tools, hand; two or more of heading no. 8202...	-0.05820	0.05194	-1.12049
lag5_ln_intensity	-0.06282	0.02186	-2.87389
const (r-square=0.0324; NOBS=968; Sm.Est.=1.0521)	-0.27873	0.10416	-2.67600
d5_Tools, interchangeable; for hand tools, whet...	0.01992	0.06442	0.30917
lag5_ln_intensity	-0.06127	0.02132	-2.87357

(continued...)

const (r-square=0.0331; NOBS=967; Sm.Est.=1.0521)	-0.28181	0.10441	-2.69900
d5_Knives and cutting blades, for machines or f...	0.01536	0.01877	0.81793
lag5_ln_intensity	-0.06189	0.02141	-2.89127
const (r-square=0.0364; NOBS=916; Sm.Est.=1.0421)	-0.27607	0.10161	-2.71698
d5_Tools; plates, sticks, tips and the like for...	-0.00403	0.01224	-0.32919
lag5_ln_intensity	-0.05959	0.02113	-2.82014
const (r-square=0.0548; NOBS=930; Sm.Est.=1.0488)	-0.29768	0.10476	-2.84166
d5_Tools; hand-operated mechanical appliances, ...	-0.01814	0.00622	-2.91814
lag5_ln_intensity	-0.06531	0.02178	-2.99881
const (r-square=0.044; NOBS=952; Sm.Est.=1.0517)	-0.26869	0.10664	-2.51967
d5_Knives; with cutting blades, serrated or not...	-0.22264	0.16001	-1.39141
lag5_ln_intensity	-0.05940	0.02175	-2.73160
const (r-square=0.0685; NOBS=950; Sm.Est.=1.0497)	-0.27353	0.10505	-2.60390
d5_Razors and razor blades; (including razor bl...	-0.03793	0.02227	-1.70320
lag5_ln_intensity	-0.05999	0.02170	-2.76444
const (r-square=0.0485; NOBS=932; Sm.Est.=1.0472)	-0.31296	0.10419	-3.00366
d5_Scissors; tailors' shears and similar shears...	0.18141	0.14776	1.22770
lag5_ln_intensity	-0.06744	0.02182	-3.09018
const (r-square=0.0673; NOBS=940; Sm.Est.=1.0478)	-0.27025	0.09298	-2.90644
d5_Cutlery; other articles, (eg hair clippers, ...	0.33988	0.16347	2.07922
lag5_ln_intensity	-0.05879	0.01891	-3.10973
const (r-square=0.0838; NOBS=950; Sm.Est.=1.0472)	-0.25518	0.10849	-2.35207
d5_Cutlery; spoons, forks, ladles, skimmers, ca...	-0.24804	0.09316	-2.66254
lag5_ln_intensity	-0.05599	0.02218	-2.52451
const (r-square=0.0332; NOBS=960; Sm.Est.=1.0527)	-0.28186	0.10389	-2.71293
d5_Padlocks and locks (key, combination, electr...	-0.04911	0.09274	-0.52956
lag5_ln_intensity	-0.06206	0.02122	-2.92463
const (r-square=0.0478; NOBS=967; Sm.Est.=1.0511)	-0.27624	0.10221	-2.70262
d5_Base metal mountings, fittings and similar a...	0.22732	0.16735	1.35835
lag5_ln_intensity	-0.06059	0.02079	-2.91486
const (r-square=0.0372; NOBS=938; Sm.Est.=1.0479)	-0.29489	0.10472	-2.81607
d5_Safes; armoured or reinforced, strong-boxes,...	0.01669	0.05688	0.29351
lag5_ln_intensity	-0.06386	0.02184	-2.92410
const (r-square=0.0905; NOBS=927; Sm.Est.=1.0428)	-0.30805	0.10599	-2.90650
d5_Office equipment; filing cabinets, card-inde...	-0.09094	0.01651	-5.50725
lag5_ln_intensity	-0.06618	0.02225	-2.97383
const (r-square=0.0412; NOBS=933; Sm.Est.=1.049)	-0.31466	0.10915	-2.88282
d5_Stationery; fittings for loose-leaf binders ...	-0.03468	0.04887	-0.70972
lag5_ln_intensity	-0.06774	0.02280	-2.97036
const (r-square=0.0421; NOBS=958; Sm.Est.=1.0513)	-0.26633	0.10108	-2.63476
d5_Bells, gongs and the like; non-electric, sta...	0.04032	0.01441	2.79795
lag5_ln_intensity	-0.05838	0.02071	-2.81892
const (r-square=0.0468; NOBS=943; Sm.Est.=1.0492)	-0.27796	0.10000	-2.77950
d5_Tubing; flexible, with or without fittings, ...	0.16395	0.10665	1.53730

(continued...)

lag5_ln_intensity	-0.06079	0.02053	-2.96041
const (r-square=0.0423; NOBS=946; Sm.Est.=1.048)	-0.29657	0.10084	-2.94088
d5_Clasps; frames with clasps, buckles, hooks, ...	-0.05477	0.04006	-1.36723
lag5_ln_intensity	-0.06435	0.02090	-3.07960
const (r-square=0.091; NOBS=965; Sm.Est.=1.0486)	-0.29159	0.10731	-2.71720
d5_Stoppers, caps, lids (including crown corks,...	-0.16593	0.06718	-2.46992
lag5_ln_intensity	-0.06416	0.02236	-2.86918
const (r-square=0.0376; NOBS=939; Sm.Est.=1.0495)	-0.28179	0.10191	-2.76515
d5_Sign plates, name plates, address plates and...	-0.08310	0.07493	-1.10905
lag5_ln_intensity	-0.06160	0.02093	-2.94307
const (r-square=0.0997; NOBS=948; Sm.Est.=1.0465)	-0.30785	0.10243	-3.00563
d5_Wires, rods, tubes, plates, electrodes of ba...	-0.21526	0.06480	-3.32172
lag5_ln_intensity	-0.06706	0.02140	-3.13305
const (r-square=0.0159; NOBS=695; Sm.Est.=1.0295)	-0.15419	0.08574	-1.79831
d5_Nuclear reactors; fuel elements (cartridges)...	0.00200	0.01543	0.12975
lag5_ln_intensity	-0.03380	0.01730	-1.95368
const (r-square=0.0407; NOBS=961; Sm.Est.=1.0513)	-0.30225	0.10634	-2.84241
d5_Boilers; steam or other vapour generating (o...	-0.03775	0.02987	-1.26402
lag5_ln_intensity	-0.06605	0.02191	-3.01389
const (r-square=0.0375; NOBS=947; Sm.Est.=1.0509)	-0.28203	0.10409	-2.70949
d5_Central heating boilers; excluding those of ...	0.06066	0.07159	0.84731
lag5_ln_intensity	-0.06197	0.02130	-2.90948
const (r-square=0.0369; NOBS=935; Sm.Est.=1.0427)	-0.25962	0.10384	-2.50029
d5_Auxiliary plant for use with boilers of head...	0.02535	0.03698	0.68543
lag5_ln_intensity	-0.05534	0.02122	-2.60753
const (r-square=0.0365; NOBS=936; Sm.Est.=1.0461)	-0.27679	0.10195	-2.71482
d5_Generators for producer or water gas with or...	0.01518	0.01549	0.97960
lag5_ln_intensity	-0.05987	0.02102	-2.84804
const (r-square=0.0285; NOBS=921; Sm.Est.=1.0425)	-0.24600	0.09658	-2.54705
d5_Turbines; steam and other vapour turbines	-0.01031	0.01934	-0.53330
lag5_ln_intensity	-0.05290	0.01932	-2.73748
const (r-square=0.0873; NOBS=944; Sm.Est.=1.0463)	-0.29752	0.09954	-2.98906
d5_Reciprocating or rotary internal combustion ...	0.40621	0.10727	3.78674
lag5_ln_intensity	-0.06400	0.02079	-3.07805
const (r-square=0.1058; NOBS=958; Sm.Est.=1.0462)	-0.27596	0.09602	-2.87387
d5_Compression-ignition internal combustion pis...	0.43706	0.12374	3.53217
lag5_ln_intensity	-0.05896	0.02011	-2.93220
const (r-square=0.0303; NOBS=919; Sm.Est.=1.0413)	-0.24836	0.09505	-2.61310
d5_Turbines; hydraulic water wheels and regulat...	-0.00786	0.00982	-0.80008
lag5_ln_intensity	-0.05402	0.01923	-2.80932
const (r-square=0.0435; NOBS=944; Sm.Est.=1.0497)	-0.29121	0.10462	-2.78340
d5_Turbo-jets, turbo-propellers and other gas t...	-0.14031	0.11798	-1.18934
lag5_ln_intensity	-0.06391	0.02172	-2.94291
const (r-square=0.0328; NOBS=965; Sm.Est.=1.0523)	-0.27714	0.10525	-2.63312

(continued...)

d5_Engines and motors; n.e.s. (eg reaction engi...	0.02981	0.05099	0.58466
lag5_ln_intensity	-0.06088	0.02158	-2.82130
const (r-square=0.0345; NOBS=967; Sm.Est.=1.0523)	-0.28738	0.10670	-2.69328
d5_Pumps; for liquids, whether or not fitted wi...	-0.10962	0.24164	-0.45364
lag5_ln_intensity	-0.06317	0.02175	-2.90381
const (r-square=0.0333; NOBS=968; Sm.Est.=1.052)	-0.28699	0.10299	-2.78644
d5_Air or vacuum pumps, air or other gas compre...	-0.04861	0.07244	-0.67100
lag5_ln_intensity	-0.06297	0.02120	-2.96999
const (r-square=0.0357; NOBS=962; Sm.Est.=1.0524)	-0.26288	0.10186	-2.58070
d5_Air conditioning machines; comprising a moto...	-0.12318	0.19980	-0.61652
lag5_ln_intensity	-0.05779	0.02113	-2.73503
const (r-square=0.0346; NOBS=948; Sm.Est.=1.0509)	-0.29313	0.10474	-2.79853
d5_Furnace burners for liquid fuel, for pulveri...	0.00019	0.06880	0.00280
lag5_ln_intensity	-0.06401	0.02163	-2.95947
const (r-square=0.0318; NOBS=963; Sm.Est.=1.0523)	-0.27969	0.10318	-2.71079
d5_Furnaces and ovens; industrial or laboratory...	0.01405	0.09478	0.14825
lag5_ln_intensity	-0.06155	0.02102	-2.92764
const (r-square=0.1064; NOBS=965; Sm.Est.=1.0488)	-0.26638	0.09480	-2.81008
d5_Refrigerators, freezers and other refrigerat...	-0.23619	0.05013	-4.71184
lag5_ln_intensity	-0.05915	0.01905	-3.10503
const (r-square=0.0325; NOBS=967; Sm.Est.=1.0522)	-0.28164	0.10427	-2.70114
d5_Machinery, plant or laboratory equipment for...	-0.01662	0.02366	-0.70249
lag5_ln_intensity	-0.06191	0.02139	-2.89384
const (r-square=0.0496; NOBS=942; Sm.Est.=1.0428)	-0.26016	0.09513	-2.73480
d5_Machines; calendering or other rolling machi...	-0.05129	0.01927	-2.66194
lag5_ln_intensity	-0.05613	0.01916	-2.92880
const (r-square=0.0327; NOBS=966; Sm.Est.=1.0522)	-0.28092	0.10071	-2.78933
d5_Centrifuges, including centrifugal dryers; f...	-0.08088	0.56223	-0.14385
lag5_ln_intensity	-0.06177	0.02059	-3.00031
const (r-square=0.037; NOBS=967; Sm.Est.=1.0519)	-0.27871	0.10300	-2.70575
d5_Dish washing machines; machinery for cleanin...	-0.11543	0.15776	-0.73168
lag5_ln_intensity	-0.06142	0.02122	-2.89481
const (r-square=0.0317; NOBS=957; Sm.Est.=1.0525)	-0.27428	0.10494	-2.61369
d5_Weighing machines; excluding balances of a s...	-0.01371	0.01745	-0.78545
lag5_ln_intensity	-0.06049	0.02145	-2.82007
const (r-square=0.1439; NOBS=964; Sm.Est.=1.0455)	-0.24388	0.09762	-2.49827
d5_Mechanical appliances for projecting, disper...	-0.41034	0.12656	-3.24213
lag5_ln_intensity	-0.05406	0.01955	-2.76462
const (r-square=0.0319; NOBS=966; Sm.Est.=1.0522)	-0.28127	0.10397	-2.70521
d5_Pulley tackle and hoists other than skip hoi...	0.00365	0.04789	0.07625
lag5_ln_intensity	-0.06185	0.02131	-2.90190
const (r-square=0.0322; NOBS=964; Sm.Est.=1.0523)	-0.28410	0.10608	-2.67806
d5_Derricks, cranes, including cable cranes, mo...	-0.00560	0.07351	-0.07619
lag5_ln_intensity	-0.06239	0.02179	-2.86351

(continued...)

const (r-square=0.061; NOBS=962; Sm.Est.=1.0506)	-0.26100	0.09886	-2.64018
d5_Fork-lift and other works trucks; fitted wit...	0.19125	0.13394	1.42784
lag5_ln_intensity	-0.05692	0.02064	-2.75760
const (r-square=0.0532; NOBS=967; Sm.Est.=1.0507)	-0.29737	0.10383	-2.86392
d5_Lifting, handling, loading or unloading mach...	0.25572	0.16768	1.52502
lag5_ln_intensity	-0.06512	0.02117	-3.07589
const (r-square=0.0449; NOBS=963; Sm.Est.=1.051)	-0.29604	0.10256	-2.88650
d5_Bulldozers, graders, levellers, scrapers, an...	0.21515	0.17781	1.20999
lag5_ln_intensity	-0.06448	0.02134	-3.02144
const (r-square=0.0395; NOBS=964; Sm.Est.=1.052)	-0.29197	0.10648	-2.74201
d5_Moving, grading, levelling, scraping, excava...	-0.04746	0.03364	-1.41095
lag5_ln_intensity	-0.06411	0.02178	-2.94315
const (r-square=0.0554; NOBS=967; Sm.Est.=1.0503)	-0.26578	0.10314	-2.57680
d5_Machinery parts; used solely or principally ...	0.21874	0.13080	1.67226
lag5_ln_intensity	-0.05816	0.02118	-2.74615
const (r-square=0.0401; NOBS=954; Sm.Est.=1.0513)	-0.30733	0.10777	-2.85180
d5_Agricultural, horticultural or forestry mach...	-0.06932	0.05381	-1.28819
lag5_ln_intensity	-0.06730	0.02232	-3.01514
const (r-square=0.0443; NOBS=954; Sm.Est.=1.0498)	-0.28594	0.10093	-2.83303
d5_Harvesting and threshing machinery, straw an...	0.14431	0.11380	1.26814
lag5_ln_intensity	-0.06218	0.02067	-3.00860
const (r-square=0.0599; NOBS=948; Sm.Est.=1.0477)	-0.29447	0.10353	-2.84436
d5_Milking machines and dairy machinery	-0.04727	0.02015	-2.34605
lag5_ln_intensity	-0.06414	0.02161	-2.96864
const (r-square=0.0364; NOBS=911; Sm.Est.=1.0439)	-0.27279	0.10107	-2.69895
d5_Presses, crushers and similar machinery; use...	-0.01177	0.01488	-0.79093
lag5_ln_intensity	-0.05987	0.02113	-2.83352
const (r-square=0.0356; NOBS=950; Sm.Est.=1.0503)	-0.28991	0.10618	-2.73036
d5_Agricultural, horticultural, forestry, poult...	-0.03117	0.04172	-0.74702
lag5_ln_intensity	-0.06323	0.02199	-2.87513
const (r-square=0.052; NOBS=957; Sm.Est.=1.0502)	-0.30263	0.10554	-2.86761
d5_Machines for cleaning, sorting, grading seed...	-0.07755	0.03003	-2.58254
lag5_ln_intensity	-0.06605	0.02193	-3.01208
const (r-square=0.04; NOBS=968; Sm.Est.=1.0518)	-0.28126	0.10361	-2.71453
d5_Machinery n.e.s. in this chapter, for the in...	-0.07097	0.04420	-1.60566
lag5_ln_intensity	-0.06191	0.02143	-2.88886
const (r-square=0.0478; NOBS=949; Sm.Est.=1.0445)	-0.25967	0.09602	-2.70443
d5_Machinery; for making pulp of fibrous cellul...	0.06792	0.04164	1.63103
lag5_ln_intensity	-0.05611	0.01935	-2.90033
const (r-square=0.0637; NOBS=946; Sm.Est.=1.0473)	-0.28646	0.10055	-2.84882
d5_Book-binding machinery; including book-sewin...	-0.06129	0.02460	-2.49191
lag5_ln_intensity	-0.06201	0.02124	-2.92007
const (r-square=0.034; NOBS=966; Sm.Est.=1.0521)	-0.28362	0.10426	-2.72023
d5_Machines; for making up paper pulp, paper or...	-0.03251	0.05275	-0.61623

(continued...)

lag5_ln_intensity	-0.06233	0.02142	-2.90938
const (r-square=0.0436; NOBS=927; Sm.Est.=1.0457)	-0.27838	0.10737	-2.59264
d5_Machinery and apparatus; for type founding o...	-0.02734	0.02058	-1.32870
lag5_ln_intensity	-0.06067	0.02241	-2.70727
const (r-square=0.0349; NOBS=966; Sm.Est.=1.052)	-0.28032	0.10514	-2.66620
d5_Printing machinery; machines for uses ancill...	0.09536	0.10562	0.90291
lag5_ln_intensity	-0.06159	0.02161	-2.85078
const (r-square=0.0316; NOBS=808; Sm.Est.=1.0327)	-0.23649	0.09626	-2.45687
d5_Textile machinery; for extruding, drawing, t...	0.01190	0.03470	0.34293
lag5_ln_intensity	-0.05038	0.01975	-2.55036
const (r-square=0.034; NOBS=931; Sm.Est.=1.0431)	-0.27216	0.09518	-2.85935
d5_Textile machinery; spinning, doubling, twist...	0.02759	0.04573	0.60340
lag5_ln_intensity	-0.05815	0.01938	-3.00087
const (r-square=0.0377; NOBS=890; Sm.Est.=1.0421)	-0.26313	0.09953	-2.64380
d5_Weaving machines (looms)	-0.04929	0.02881	-1.71104
lag5_ln_intensity	-0.05497	0.02031	-2.70610
const (r-square=0.0323; NOBS=955; Sm.Est.=1.0493)	-0.28006	0.10131	-2.76430
d5_Knitting machines, stitch-bonding machines a...	-0.02383	0.12228	-0.19490
lag5_ln_intensity	-0.06096	0.02076	-2.93643
const (r-square=0.0457; NOBS=951; Sm.Est.=1.0484)	-0.28426	0.09954	-2.85570
d5_Machinery, auxiliary; for use with machines ...	0.09566	0.06899	1.38653
lag5_ln_intensity	-0.06176	0.02054	-3.00758
const (r-square=0.0608; NOBS=775; Sm.Est.=1.0265)	-0.24186	0.09306	-2.59896
d5_Machinery; for manufacture or finishing felt...	-0.06813	0.03178	-2.14394
lag5_ln_intensity	-0.04968	0.01922	-2.58447
const (r-square=0.0322; NOBS=954; Sm.Est.=1.0518)	-0.28063	0.10420	-2.69328
d5_Household or laundry-type washing machines; ...	0.01802	0.04655	0.38717
lag5_ln_intensity	-0.06167	0.02145	-2.87516
const (r-square=0.0364; NOBS=963; Sm.Est.=1.0504)	-0.29643	0.10298	-2.87850
d5_Machinery (not of heading no. 8450) for wash...	-0.02915	0.08497	-0.34305
lag5_ln_intensity	-0.06443	0.02129	-3.02576
const (r-square=0.0511; NOBS=967; Sm.Est.=1.0516)	-0.28113	0.10453	-2.68952
d5_Sewing machines; other than book-sewing mach...	-0.20149	0.11207	-1.79791
lag5_ln_intensity	-0.06171	0.02170	-2.84465
const (r-square=0.0374; NOBS=953; Sm.Est.=1.049)	-0.29930	0.10285	-2.91013
d5_Machinery for preparing, tanning or working ...	-0.02482	0.05378	-0.46155
lag5_ln_intensity	-0.06458	0.02104	-3.06916
const (r-square=0.0365; NOBS=937; Sm.Est.=1.0472)	-0.27047	0.10099	-2.67811
d5_Converters, ladles, ingot moulds and casting...	0.01689	0.01114	1.51588
lag5_ln_intensity	-0.05967	0.02097	-2.84539
const (r-square=0.0437; NOBS=938; Sm.Est.=1.042)	-0.28400	0.09817	-2.89310
d5_Metal-rolling mills and rolls therefor	-0.07148	0.05385	-1.32725
lag5_ln_intensity	-0.06102	0.02012	-3.03254
const (r-square=0.0457; NOBS=927; Sm.Est.=1.0422)	-0.29674	0.10342	-2.86933

(continued...)

d5_Machine-tools; for working any material by r...	0.08182	0.08751	0.93507
lag5_ln_intensity	-0.06426	0.02157	-2.97955
const (r-square=0.0392; NOBS=906; Sm.Est.=1.0367)	-0.27602	0.09580	-2.88120
d5_Machining centres, unit construction machine...	-0.00912	0.06587	-0.13847
lag5_ln_intensity	-0.05885	0.01967	-2.99164
const (r-square=0.0319; NOBS=959; Sm.Est.=1.0493)	-0.26832	0.10267	-2.61348
d5_Lathes for removing metal	0.00876	0.01548	0.56611
lag5_ln_intensity	-0.05917	0.02105	-2.81022
const (r-square=0.0324; NOBS=966; Sm.Est.=1.0523)	-0.28793	0.10503	-2.74155
d5_Machine-tools; (including way-type unit head...	-0.00940	0.04523	-0.20783
lag5_ln_intensity	-0.06321	0.02128	-2.97067
const (r-square=0.0343; NOBS=963; Sm.Est.=1.0509)	-0.26955	0.10378	-2.59741
d5_Machine-tools; for deburring, sharpening, gr...	0.05249	0.04277	1.22735
lag5_ln_intensity	-0.05902	0.02107	-2.80091
const (r-square=0.0309; NOBS=965; Sm.Est.=1.0512)	-0.27738	0.10286	-2.69662
d5_Machine-tools; for planing, shaping, slottin...	-0.00787	0.02607	-0.30174
lag5_ln_intensity	-0.06065	0.02088	-2.90492
const (r-square=0.0327; NOBS=967; Sm.Est.=1.0521)	-0.28511	0.10472	-2.72269
d5_Machine-tools; (including presses) for worki...	-0.02512	0.06614	-0.37987
lag5_ln_intensity	-0.06261	0.02150	-2.91157
const (r-square=0.0474; NOBS=957; Sm.Est.=1.048)	-0.30552	0.10388	-2.94111
d5_Machine-tools; n.e.s. for working metal, sin...	-0.02252	0.01674	-1.34518
lag5_ln_intensity	-0.06580	0.02161	-3.04525
const (r-square=0.0363; NOBS=967; Sm.Est.=1.0518)	-0.27877	0.10435	-2.67150
d5_Machine-tools; for working stone, ceramics, ...	-0.04230	0.04426	-0.95566
lag5_ln_intensity	-0.06131	0.02143	-2.86117
const (r-square=0.0369; NOBS=967; Sm.Est.=1.0518)	-0.28526	0.10357	-2.75424
d5_Machine-tools; (including machines for naili...	-0.01103	0.01138	-0.96889
lag5_ln_intensity	-0.06267	0.02132	-2.93888
const (r-square=0.0823; NOBS=968; Sm.Est.=1.0485)	-0.22939	0.09735	-2.35645
d5_Machine-tools; parts suitable for use with t...	0.43672	0.18707	2.33456
lag5_ln_intensity	-0.05009	0.01937	-2.58624
const (r-square=0.0679; NOBS=961; Sm.Est.=1.0496)	-0.29585	0.10331	-2.86362
d5_Tools for working in the hand, pneumatic or ...	0.43901	0.20281	2.16466
lag5_ln_intensity	-0.06394	0.02101	-3.04399
const (r-square=0.0847; NOBS=964; Sm.Est.=1.0481)	-0.29430	0.10219	-2.87982
d5_Machinery and apparatus for soldering, brazi...	-0.03441	0.01140	-3.01806
lag5_ln_intensity	-0.06452	0.02128	-3.03186
const (r-square=0.0316; NOBS=954; Sm.Est.=1.0526)	-0.27016	0.10423	-2.59201
d5_Calculating machines, accounting machines, c...	-0.04059	0.04744	-0.85568
lag5_ln_intensity	-0.05971	0.02117	-2.82009
const (r-square=0.0362; NOBS=968; Sm.Est.=1.052)	-0.28052	0.10492	-2.67350
d5_Automatic data processing machines and units...	0.13970	0.15046	0.92847
lag5_ln_intensity	-0.06188	0.02160	-2.86548

(continued...)

const (r-square=0.0355; NOBS=949; Sm.Est.=1.0498)	-0.29021	0.10486	-2.76770
d5_Office machines n.e.s.; hectograph, stencil ...	-0.02994	0.04785	-0.62576
lag5_ln_intensity	-0.06302	0.02168	-2.90710
const (r-square=0.0486; NOBS=967; Sm.Est.=1.0515)	-0.27944	0.10219	-2.73444
d5_Machinery; parts and accessories (not covers...	0.27669	0.22472	1.23125
lag5_ln_intensity	-0.06170	0.02112	-2.92219
const (r-square=0.0369; NOBS=968; Sm.Est.=1.0521)	-0.28948	0.10739	-2.69563
d5_Machinery for sorting, screening, separating...	-0.06744	0.06857	-0.98340
lag5_ln_intensity	-0.06354	0.02195	-2.89439
const (r-square=0.038; NOBS=928; Sm.Est.=1.0375)	-0.26517	0.09345	-2.83762
d5_Machines; for assembling electric or electro...	0.03121	0.02448	1.27491
lag5_ln_intensity	-0.05589	0.01899	-2.94364
const (r-square=0.0391; NOBS=929; Sm.Est.=1.0495)	-0.29337	0.10577	-2.77354
d5_Automatic goods-vending machines (eg postage...	-0.06582	0.07542	-0.87280
lag5_ln_intensity	-0.06398	0.02177	-2.93912
const (r-square=0.0322; NOBS=967; Sm.Est.=1.0522)	-0.28390	0.10551	-2.69082
d5_Machinery; for working rubber or plastics or...	-0.01493	0.07154	-0.20871
lag5_ln_intensity	-0.06236	0.02161	-2.88537
const (r-square=0.0317; NOBS=932; Sm.Est.=1.049)	-0.26728	0.10118	-2.64169
d5_Machinery; for preparing or making up tobacc...	0.00894	0.02000	0.44699
lag5_ln_intensity	-0.05936	0.02071	-2.86562
const (r-square=0.0962; NOBS=968; Sm.Est.=1.0487)	-0.28761	0.10287	-2.79577
d5_Machinery and mechanical appliances; having ...	0.74377	0.18560	4.00743
lag5_ln_intensity	-0.06265	0.02143	-2.92358
const (r-square=0.0321; NOBS=967; Sm.Est.=1.0522)	-0.28293	0.10441	-2.70980
d5_Moulding boxes for metal foundry, moulding p...	0.00053	0.10423	0.00505
lag5_ln_intensity	-0.06216	0.02138	-2.90766
const (r-square=0.0343; NOBS=967; Sm.Est.=1.0521)	-0.28075	0.10381	-2.70455
d5_Taps, cocks, valves and similar appliances f...	0.10973	0.20094	0.54606
lag5_ln_intensity	-0.06155	0.02126	-2.89488
const (r-square=0.0532; NOBS=964; Sm.Est.=1.0513)	-0.29563	0.10340	-2.85906
d5_Ball or roller bearings	-0.06725	0.02568	-2.61831
lag5_ln_intensity	-0.06488	0.02136	-3.03703
const (r-square=0.0882; NOBS=968; Sm.Est.=1.049)	-0.24200	0.09667	-2.50335
d5_Transmission shafts (including cam and crank...	0.52074	0.28843	1.80541
lag5_ln_intensity	-0.05367	0.01970	-2.72397
const (r-square=0.0877; NOBS=952; Sm.Est.=1.0472)	-0.26790	0.09845	-2.72115
d5_Gaskets and similar joints of metal sheeting...	0.61086	0.22278	2.74206
lag5_ln_intensity	-0.05836	0.02050	-2.84743
const (r-square=0.0418; NOBS=959; Sm.Est.=1.051)	-0.27780	0.10331	-2.68915
d5_Machinery parts; not containing electrical c...	0.13269	0.08641	1.53554
lag5_ln_intensity	-0.06071	0.02138	-2.83959
const (r-square=0.035; NOBS=968; Sm.Est.=1.0519)	-0.27393	0.10316	-2.65553
d5_Electric motors and generators (excluding ge...	0.08543	0.08557	0.99834

(continued...)

lag5_ln_intensity	-0.06043	0.02113	-2.86043
const (r-square=0.0357; NOBS=967; Sm.Est.=1.0519)	-0.27777	0.10492	-2.64757
d5_Electric generating sets and rotary converters	0.03085	0.02828	1.09075
lag5_ln_intensity	-0.06120	0.02145	-2.85368
const (r-square=0.035; NOBS=957; Sm.Est.=1.0504)	-0.28882	0.10320	-2.79864
d5_Electric motors and generators; parts suitab...	0.02583	0.05431	0.47552
lag5_ln_intensity	-0.06292	0.02122	-2.96523
const (r-square=0.0501; NOBS=968; Sm.Est.=1.0513)	-0.29190	0.10261	-2.84475
d5_Electric transformers, static converters (eg...	-0.18654	0.10414	-1.79126
lag5_ln_intensity	-0.06408	0.02116	-3.02845
const (r-square=0.0383; NOBS=960; Sm.Est.=1.0503)	-0.29467	0.10402	-2.83273
d5_Electro-magnets; permanent magnets, intended...	0.08002	0.09498	0.84247
lag5_ln_intensity	-0.06409	0.02144	-2.98874
const (r-square=0.0664; NOBS=955; Sm.Est.=1.0489)	-0.27702	0.09824	-2.81979
d5_Cells and batteries; primary	-0.11603	0.04339	-2.67424
lag5_ln_intensity	-0.06053	0.01986	-3.04818
const (r-square=0.0745; NOBS=965; Sm.Est.=1.0502)	-0.27448	0.10409	-2.63693
d5_Electric accumulators, including separators ...	-0.20075	0.05869	-3.42020
lag5_ln_intensity	-0.06078	0.02156	-2.81962
const (r-square=0.0386; NOBS=958; Sm.Est.=1.052)	-0.28625	0.10410	-2.74966
d5_Electro-mechanical tools; for working in the...	-0.04163	0.01970	-2.11280
lag5_ln_intensity	-0.06306	0.02144	-2.94165
const (r-square=0.0492; NOBS=962; Sm.Est.=1.0512)	-0.27463	0.10336	-2.65691
d5_Electro-mechanical domestic appliances; with...	-0.15074	0.06395	-2.35714
lag5_ln_intensity	-0.06056	0.02134	-2.83783
const (r-square=0.0398; NOBS=917; Sm.Est.=1.0466)	-0.30605	0.10976	-2.78827
d5_Shavers and hair clippers; with self-contain...	0.00447	0.06450	0.06931
lag5_ln_intensity	-0.06635	0.02279	-2.91090
const (r-square=0.0497; NOBS=962; Sm.Est.=1.0501)	-0.29597	0.10768	-2.74850
d5_Lighting or visual signalling equipment (exc...	0.15080	0.11627	1.29697
lag5_ln_intensity	-0.06468	0.02208	-2.92874
const (r-square=0.0561; NOBS=941; Sm.Est.=1.0478)	-0.31316	0.10931	-2.86474
d5_Lamps; portable, electric, designed to funct...	-0.23380	0.10600	-2.20566
lag5_ln_intensity	-0.06762	0.02281	-2.96394
const (r-square=0.0324; NOBS=964; Sm.Est.=1.0524)	-0.28254	0.10368	-2.72518
d5_Industrial or laboratory electric (including...	0.01044	0.06573	0.15885
lag5_ln_intensity	-0.06205	0.02126	-2.91918
const (r-square=0.0419; NOBS=968; Sm.Est.=1.0515)	-0.28877	0.10331	-2.79507
d5_Electric (electrically heated gas) soldering...	-0.09951	0.06352	-1.56656
lag5_ln_intensity	-0.06348	0.02129	-2.98187
const (r-square=0.0772; NOBS=968; Sm.Est.=1.0494)	-0.26792	0.10042	-2.66800
d5_Electric water, space, soil heaters; electro...	-0.32503	0.13210	-2.46053
lag5_ln_intensity	-0.05890	0.02055	-2.86609
const (r-square=0.0347; NOBS=968; Sm.Est.=1.0518)	-0.27439	0.10438	-2.62878

(continued...)

d5_Line telephony or line telegraphy apparatus;...	-0.05791	0.06753	-0.85749
lag5_ln_intensity	-0.06028	0.02135	-2.82348
const (r-square=0.0333; NOBS=966; Sm.Est.=1.0521)	-0.27697	0.10410	-2.66059
d5_Microphones and stands therefor; loudspeaker...	-0.06444	0.08578	-0.75118
lag5_ln_intensity	-0.06085	0.02124	-2.86510
const (r-square=0.0384; NOBS=820; Sm.Est.=1.0408)	-0.31066	0.11404	-2.72417
d5_Turntables, record players, cassette-players...	0.01557	0.03170	0.49117
lag5_ln_intensity	-0.06493	0.02384	-2.72354
const (r-square=0.028; NOBS=758; Sm.Est.=1.039)	-0.24972	0.08710	-2.86707
d5_Magnetic tape recorders and other sound reco...	-0.00055	0.00173	-0.31672
lag5_ln_intensity	-0.05130	0.01854	-2.76643
const (r-square=0.0321; NOBS=956; Sm.Est.=1.0528)	-0.28560	0.10798	-2.64497
d5_Video recording or reproducing apparatus	0.03321	0.08223	0.40391
lag5_ln_intensity	-0.06284	0.02209	-2.84495
const (r-square=0.0377; NOBS=943; Sm.Est.=1.0482)	-0.30339	0.10594	-2.86391
d5_Sound or video recording apparatus; parts th...	0.00226	0.07479	0.03021
lag5_ln_intensity	-0.06529	0.02191	-2.97957
const (r-square=0.0364; NOBS=943; Sm.Est.=1.0522)	-0.28766	0.10852	-2.65084
d5_Media, unrecorded; prepared, for sound recor...	0.06308	0.07283	0.86612
lag5_ln_intensity	-0.06283	0.02228	-2.82072
const (r-square=0.0326; NOBS=966; Sm.Est.=1.0523)	-0.28476	0.10426	-2.73123
d5_Transmission apparatus for radio-telephony, ...	0.03152	0.07948	0.39659
lag5_ln_intensity	-0.06266	0.02132	-2.93920
const (r-square=0.048; NOBS=957; Sm.Est.=1.0496)	-0.29152	0.10840	-2.68937
d5_Radar apparatus, radio navigational aid appa...	0.09664	0.04581	2.10946
lag5_ln_intensity	-0.06351	0.02252	-2.82038
const (r-square=0.057; NOBS=949; Sm.Est.=1.0497)	-0.26161	0.09979	-2.62177
d5_Radio-telephony, radio-telegraphy or radio-b...	-0.14665	0.04035	-3.63467
lag5_ln_intensity	-0.05709	0.02029	-2.81366
const (r-square=0.0351; NOBS=968; Sm.Est.=1.0519)	-0.26654	0.09975	-2.67193
d5_Television receivers (including video monito...	-0.04573	0.03401	-1.34477
lag5_ln_intensity	-0.05858	0.02030	-2.88565
const (r-square=0.0375; NOBS=966; Sm.Est.=1.052)	-0.29179	0.10473	-2.78608
d5_Transmission apparatus; parts suitable for u...	0.09067	0.10280	0.88200
lag5_ln_intensity	-0.06410	0.02151	-2.97945
const (r-square=0.0387; NOBS=937; Sm.Est.=1.0454)	-0.28679	0.10614	-2.70205
d5_Signalling, safety or traffic control equipm...	0.01967	0.01839	1.06949
lag5_ln_intensity	-0.06217	0.02194	-2.83346
const (r-square=0.0333; NOBS=964; Sm.Est.=1.0521)	-0.27765	0.10481	-2.64924
d5_Signalling apparatus; electric sound or visu...	0.07162	0.11205	0.63917
lag5_ln_intensity	-0.06121	0.02149	-2.84785
const (r-square=0.035; NOBS=959; Sm.Est.=1.0506)	-0.28976	0.10358	-2.79744
d5_Electrical capacitors; fixed, variable or ad...	-0.01639	0.03763	-0.43563
lag5_ln_intensity	-0.06307	0.02138	-2.94968

(continued...)

const (r-square=0.0895; NOBS=961; Sm.Est.=1.0464)	-0.28740	0.10117	-2.84072
d5_Electrical resistors (including rheostats an...	-0.04993	0.02645	-1.88790
lag5_ln_intensity	-0.06267	0.02042	-3.06886
const (r-square=0.1592; NOBS=964; Sm.Est.=1.0446)	-0.27909	0.09776	-2.85483
d5_Circuits; printed	1.08594	0.25013	4.34146
lag5_ln_intensity	-0.06199	0.02046	-3.02898
const (r-square=0.0557; NOBS=967; Sm.Est.=1.0496)	-0.30083	0.10776	-2.79167
d5_Electrical apparatus for switching, protecti...	-0.05104	0.03877	-1.31656
lag5_ln_intensity	-0.06577	0.02208	-2.97906
const (r-square=0.0396; NOBS=968; Sm.Est.=1.0519)	-0.27299	0.10614	-2.57190
d5_Electrical apparatus for switching, protecti...	-0.26085	0.35163	-0.74182
lag5_ln_intensity	-0.06021	0.02177	-2.76546
const (r-square=0.0335; NOBS=967; Sm.Est.=1.0522)	-0.28427	0.10394	-2.73504
d5_Boards, panels, consoles, desks, cabinets, b...	-0.04002	0.08366	-0.47831
lag5_ln_intensity	-0.06240	0.02131	-2.92804
const (r-square=0.0814; NOBS=965; Sm.Est.=1.0484)	-0.30020	0.10688	-2.80861
d5_Electrical apparatus; parts suitable for use...	0.46226	0.22043	2.09705
lag5_ln_intensity	-0.06492	0.02151	-3.01798
const (r-square=0.035; NOBS=965; Sm.Est.=1.0526)	-0.28001	0.10337	-2.70871
d5_Lamps; electric filament or discharge lamps,...	0.04329	0.08201	0.52792
lag5_ln_intensity	-0.06153	0.02124	-2.89657
const (r-square=0.0349; NOBS=946; Sm.Est.=1.0494)	-0.28337	0.10512	-2.69564
d5_Thermionic, cold cathode or photo-cathode va...	-0.01861	0.03465	-0.53699
lag5_ln_intensity	-0.06198	0.02165	-2.86294
const (r-square=0.0339; NOBS=967; Sm.Est.=1.0521)	-0.28376	0.10456	-2.71384
d5_Diodes, transistors, similar semiconductor d...	0.04925	0.06400	0.76953
lag5_ln_intensity	-0.06242	0.02146	-2.90820
const (r-square=0.0458; NOBS=962; Sm.Est.=1.0509)	-0.29170	0.10327	-2.82466
d5_Electronic integrated circuits and microasse...	0.17973	0.13767	1.30553
lag5_ln_intensity	-0.06396	0.02132	-3.00049
const (r-square=0.0334; NOBS=967; Sm.Est.=1.052)	-0.28508	0.10496	-2.71624
d5_Electrical machines and apparatus; having in...	-0.05729	0.10618	-0.53955
lag5_ln_intensity	-0.06262	0.02153	-2.90789
const (r-square=0.0467; NOBS=967; Sm.Est.=1.052)	-0.27106	0.10354	-2.61792
d5_Insulated wire, cable and other electric con...	-0.17350	0.12612	-1.37567
lag5_ln_intensity	-0.05966	0.02127	-2.80465
const (r-square=0.0722; NOBS=949; Sm.Est.=1.0473)	-0.28156	0.09863	-2.85472
d5_Carbon electrodes, carbon brushes, lamp carb...	0.12471	0.04745	2.62814
lag5_ln_intensity	-0.06065	0.02029	-2.98860
const (r-square=0.0459; NOBS=940; Sm.Est.=1.0435)	-0.24987	0.09971	-2.50586
d5_Electrical insulators of any material	-0.11654	0.09030	-1.29053
lag5_ln_intensity	-0.05442	0.02012	-2.70457
const (r-square=0.0368; NOBS=917; Sm.Est.=1.0435)	-0.28221	0.09982	-2.82712
d5_Insulating fittings; for electrical machines...	0.02273	0.06471	0.35133

(continued...)

lag5_ln_intensity	-0.06014	0.02034	-2.95674
const (r-square=0.0476; NOBS=932; Sm.Est.=1.0438)	-0.31807	0.10443	-3.04588
d5_Electrical parts; of machinery or apparatus,...	-0.04712	0.03166	-1.48846
lag5_ln_intensity	-0.06825	0.02208	-3.09152
const (r-square=0.1119; NOBS=959; Sm.Est.=1.0463)	-0.23158	0.09973	-2.32198
d5_Tractors; (other than tractors of heading no...	0.43691	0.13108	3.33315
lag5_ln_intensity	-0.05040	0.02017	-2.49820
const (r-square=0.0403; NOBS=918; Sm.Est.=1.048)	-0.29560	0.11074	-2.66917
d5_Vehicles; for the transport of goods	0.06217	0.07563	0.82198
lag5_ln_intensity	-0.06399	0.02299	-2.78347
const (r-square=0.0406; NOBS=941; Sm.Est.=1.0471)	-0.30835	0.10734	-2.87277
d5_Works trucks, self-propelled, (not fitted wi...	-0.02149	0.03009	-0.71423
lag5_ln_intensity	-0.06641	0.02242	-2.96149
const (r-square=0.0337; NOBS=874; Sm.Est.=1.0422)	-0.28586	0.09928	-2.87929
d5_Trailers and semi-trailers; other vehicles, ...	-0.00394	0.01047	-0.37669
lag5_ln_intensity	-0.06096	0.02028	-3.00512
const (r-square=0.0459; NOBS=749; Sm.Est.=1.0273)	-0.23282	0.10137	-2.29676
d5_Aircraft launching gear, deck-arrestor or si...	0.02978	0.01649	1.80567
lag5_ln_intensity	-0.04931	0.02029	-2.43028
const (r-square=0.0323; NOBS=964; Sm.Est.=1.052)	-0.27680	0.10168	-2.72239
d5_Optical fibres and optical fibre bundles; op...	0.02399	0.07618	0.31491
lag5_ln_intensity	-0.06093	0.02098	-2.90412
const (r-square=0.0369; NOBS=962; Sm.Est.=1.0511)	-0.28060	0.10459	-2.68290
d5_Lenses, prisms, mirrors and other optical el...	0.05539	0.04764	1.16279
lag5_ln_intensity	-0.06147	0.02164	-2.84072
const (r-square=0.0407; NOBS=928; Sm.Est.=1.0473)	-0.30864	0.10745	-2.87227
d5_Binoculars, monoculars, other optical telesc...	-0.01223	0.04884	-0.25051
lag5_ln_intensity	-0.06737	0.02209	-3.04980
const (r-square=0.06; NOBS=942; Sm.Est.=1.0444)	-0.29091	0.10536	-2.76114
d5_Cameras, photographic (excluding cinematogra...	-0.08391	0.07877	-1.06518
lag5_ln_intensity	-0.06252	0.02181	-2.86671
const (r-square=0.0403; NOBS=921; Sm.Est.=1.0464)	-0.30374	0.10479	-2.89854
d5_Cinematographic cameras and projectors, whet...	-0.00798	0.01392	-0.57293
lag5_ln_intensity	-0.06598	0.02183	-3.02257
const (r-square=0.0401; NOBS=912; Sm.Est.=1.0421)	-0.29131	0.09951	-2.92751
d5_Image projectors, other than cinematographic...	-0.01615	0.01044	-1.54751
lag5_ln_intensity	-0.06205	0.02051	-3.02600
const (r-square=0.0324; NOBS=511; Sm.Est.=1.0368)	-0.22543	0.07524	-2.99630
d5_Photo-copying apparatus; incorporating an op...	-0.02127	0.01328	-1.60146
lag5_ln_intensity	-0.04111	0.01648	-2.49417
const (r-square=0.0318; NOBS=954; Sm.Est.=1.0515)	-0.27906	0.10520	-2.65259
d5_Photographic (including cinematographic) lab...	-0.01539	0.07865	-0.19571
lag5_ln_intensity	-0.06121	0.02162	-2.83085
const (r-square=0.0483; NOBS=936; Sm.Est.=1.0489)	-0.28891	0.10634	-2.71688

(continued...)

d5_Microscopes, compound optical; including tho...	0.18413	0.14764	1.24720
lag5_ln_intensity	-0.06248	0.02217	-2.81893
const (r-square=0.053; NOBS=850; Sm.Est.=1.0356)	-0.31521	0.10900	-2.89179
d5_Microscopes (excluding optical microscopes) ...	0.00335	0.04667	0.07181
lag5_ln_intensity	-0.06804	0.02270	-2.99757
const (r-square=0.0851; NOBS=961; Sm.Est.=1.0477)	-0.26362	0.09934	-2.65360
d5_Liquid crystal devices not constituting arti...	0.37393	0.11319	3.30360
lag5_ln_intensity	-0.05849	0.02052	-2.85110
const (r-square=0.0819; NOBS=950; Sm.Est.=1.0461)	-0.27502	0.10411	-2.64156
d5_Navigational instruments and appliances; dir...	-0.20778	0.12668	-1.64015
lag5_ln_intensity	-0.05963	0.02134	-2.79410
const (r-square=0.0441; NOBS=967; Sm.Est.=1.0514)	-0.29216	0.10696	-2.73155
d5_Surveying (including photogrammetrical surve...	-0.06603	0.05376	-1.22839
lag5_ln_intensity	-0.06429	0.02204	-2.91736
const (r-square=0.0412; NOBS=927; Sm.Est.=1.0457)	-0.30357	0.10361	-2.92978
d5_Balances; of a sensitivity of 5cg or better,...	0.05026	0.02738	1.83565
lag5_ln_intensity	-0.06441	0.02104	-3.06080
const (r-square=0.0321; NOBS=953; Sm.Est.=1.0518)	-0.27857	0.10436	-2.66920
d5_Drawing, marking-out, mathematical calculati...	0.00885	0.01009	0.87665
lag5_ln_intensity	-0.06114	0.02144	-2.85189
const (r-square=0.0327; NOBS=965; Sm.Est.=1.0522)	-0.28212	0.10482	-2.69133
d5_Instruments and appliances used in medical, ...	-0.04387	0.10587	-0.41436
lag5_ln_intensity	-0.06205	0.02149	-2.88789
const (r-square=0.0481; NOBS=589; Sm.Est.=1.0195)	-0.24260	0.07561	-3.20878
d5_Orthopaedic appliances; including crutches, ...	-0.02363	0.06182	-0.38219
lag5_ln_intensity	-0.04730	0.01549	-3.05369
const (r-square=0.0485; NOBS=963; Sm.Est.=1.0517)	-0.28358	0.10236	-2.77051
d5_X-ray, alpha, beta, gamma radiation apparatu...	0.21875	0.15574	1.40454
lag5_ln_intensity	-0.06216	0.02070	-3.00232
const (r-square=0.0369; NOBS=955; Sm.Est.=1.0509)	-0.29239	0.10269	-2.84730
d5_Machines and appliances for testing the hard...	0.08534	0.16654	0.51242
lag5_ln_intensity	-0.06386	0.02115	-3.01943
const (r-square=0.0342; NOBS=967; Sm.Est.=1.0522)	-0.28365	0.10460	-2.71168
d5_Hydrometers and similar floating instruments...	0.01594	0.01448	1.10091
lag5_ln_intensity	-0.06239	0.02148	-2.90442
const (r-square=0.0773; NOBS=967; Sm.Est.=1.0495)	-0.26342	0.10391	-2.53505
d5_Instruments, apparatus for measuring or chec...	0.54383	0.18994	2.86312
lag5_ln_intensity	-0.05729	0.02163	-2.64895
const (r-square=0.0766; NOBS=967; Sm.Est.=1.0497)	-0.28966	0.10417	-2.78067
d5_Instruments and apparatus; for physical or c...	0.54887	0.21670	2.53291
lag5_ln_intensity	-0.06294	0.02183	-2.88326
const (r-square=0.1056; NOBS=967; Sm.Est.=1.0481)	-0.27318	0.09946	-2.74655
d5_Gas, liquid or electricity supply or product...	-0.08495	0.02107	-4.03138
lag5_ln_intensity	-0.06002	0.02062	-2.91124

(continued...)

const (r-square=0.0314; NOBS=956; Sm.Est.=1.0526)	-0.27876	0.10611	-2.62712
d5_Revolution counter, production counters, tax...	0.02134	0.06456	0.33056
lag5_ln_intensity	-0.06144	0.02169	-2.83234
const (r-square=0.0326; NOBS=968; Sm.Est.=1.0521)	-0.28521	0.10577	-2.69640
d5_Instruments, apparatus for measuring, checki...	-0.02951	0.07134	-0.41368
lag5_ln_intensity	-0.06265	0.02179	-2.87591
const (r-square=0.0383; NOBS=967; Sm.Est.=1.0518)	-0.28657	0.10518	-2.72451
d5_Measuring or checking instruments, appliance...	0.11526	0.13409	0.85958
lag5_ln_intensity	-0.06288	0.02155	-2.91809
const (r-square=0.0459; NOBS=967; Sm.Est.=1.051)	-0.28732	0.10452	-2.74893
d5_Regulating or controlling instruments and ap...	-0.19568	0.13619	-1.43679
lag5_ln_intensity	-0.06305	0.02150	-2.93188
const (r-square=0.0374; NOBS=960; Sm.Est.=1.0513)	-0.28016	0.10379	-2.69928
d5_Machines and appliances, instruments or appa...	-0.07329	0.10244	-0.71541
lag5_ln_intensity	-0.06148	0.02141	-2.87193
const (r-square=0.074; NOBS=628; Sm.Est.=1.0232)	-0.24045	0.07858	-3.06009
d5_Wrist-watches, pocket-watches, stop-watches ...	-0.07426	0.06132	-1.21099
lag5_ln_intensity	-0.04886	0.01605	-3.04504
const (r-square=0.0763; NOBS=596; Sm.Est.=1.0187)	-0.24743	0.07340	-3.37105
d5_Wrist-watches, pocket-watches, stop-watches ...	0.14769	0.06170	2.39357
lag5_ln_intensity	-0.04708	0.01515	-3.10799
const (r-square=0.0663; NOBS=518; Sm.Est.=1.0127)	-0.25262	0.06977	-3.62079
d5_Clocks; with watch movements, excluding cloc...	-0.00194	0.04069	-0.04765
lag5_ln_intensity	-0.04787	0.01512	-3.16594
const (r-square=0.0374; NOBS=509; Sm.Est.=1.0127)	-0.18834	0.07446	-2.52947
d5_Instrument panel clocks and clocks of a simi...	0.03182	0.05620	0.56622
lag5_ln_intensity	-0.03599	0.01513	-2.37892
const (r-square=0.046; NOBS=587; Sm.Est.=1.019)	-0.24992	0.07820	-3.19578
d5_Clocks, other, n.e.s.	0.00578	0.06402	0.09034
lag5_ln_intensity	-0.04876	0.01622	-3.00535
const (r-square=0.0669; NOBS=567; Sm.Est.=1.0138)	-0.24960	0.06410	-3.89411
d5_Time of day recording apparatus and apparatu...	-0.03370	0.03074	-1.09633
lag5_ln_intensity	-0.04825	0.01397	-3.45306
const (r-square=0.0441; NOBS=563; Sm.Est.=1.0159)	-0.22120	0.06746	-3.27887
d5_Time switches; with clock, watch movement or...	0.01992	0.04243	0.46958
lag5_ln_intensity	-0.04216	0.01389	-3.03618
const (r-square=0.1521; NOBS=438; Sm.Est.=1.0072)	-0.20898	0.06706	-3.11635
d5_Watch movements; complete and assembled	-0.09077	0.02503	-3.62608
lag5_ln_intensity	-0.04089	0.01473	-2.77575
const (r-square=0.0873; NOBS=453; Sm.Est.=1.0054)	-0.19276	0.06498	-2.96647
d5_Clock movements; complete and assembled	0.01033	0.00915	1.12865
lag5_ln_intensity	-0.03825	0.01428	-2.67869
const (r-square=0.0641; NOBS=399; Sm.Est.=1.0052)	-0.16644	0.04666	-3.56700
d5_Watch or clock movements, complete, unassemb...	0.00142	0.01616	0.08789

(continued...)

lag5_ln_intensity	-0.03197	0.01024	-3.12343
const (r-square=0.0621; NOBS=407; Sm.Est.=1.0076)	-0.18401	0.06003	-3.06528
d5_Watch cases and parts thereof	-0.00012	0.00005	-2.51769
lag5_ln_intensity	-0.03572	0.01331	-2.68382
const (r-square=0.0775; NOBS=344; Sm.Est.=1.0046)	-0.16189	0.06355	-2.54733
d5_Clock cases and cases of a similar type for ...	-0.00695	0.00698	-0.99598
lag5_ln_intensity	-0.03018	0.01369	-2.20530
const (r-square=0.0713; NOBS=539; Sm.Est.=1.0112)	-0.23939	0.06710	-3.56748
d5_Clock or watch parts; n.e.s. in chapter 91	-0.00185	0.00017	-10.78686
lag5_ln_intensity	-0.04626	0.01465	-3.15732
const (r-square=0.0406; NOBS=694; Sm.Est.=1.0296)	-0.20979	0.08551	-2.45332
d5_Military weapons; other than revolvers, pist...	-0.01981	0.01326	-1.49466
lag5_ln_intensity	-0.04734	0.01757	-2.69497
const (r-square=0.0386; NOBS=758; Sm.Est.=1.0346)	-0.25720	0.09679	-2.65714
d5_Revolvers and pistols; other than those of h...	-0.00334	0.00581	-0.57552
lag5_ln_intensity	-0.05712	0.02063	-2.76888
const (r-square=0.1857; NOBS=911; Sm.Est.=1.0401)	-0.25974	0.10025	-2.59081
d5_Firearms; other similar devices (eg sporting...	-0.06681	0.01055	-6.33315
lag5_ln_intensity	-0.05751	0.02049	-2.80612
const (r-square=0.0578; NOBS=827; Sm.Est.=1.0427)	-0.31312	0.12039	-2.60081
d5_Firearms; (eg spring, air or gas guns and pi...	-0.04369	0.07088	-0.61641
lag5_ln_intensity	-0.06792	0.02529	-2.68548
const (r-square=0.0434; NOBS=904; Sm.Est.=1.0465)	-0.30172	0.10913	-2.76478
d5_Firearms; parts and accessories of articles ...	-0.01504	0.01561	-0.96369
lag5_ln_intensity	-0.06596	0.02271	-2.90490
const (r-square=0.0643; NOBS=917; Sm.Est.=1.045)	-0.29097	0.10144	-2.86825
d5_Bombs, grenades, torpedoes, mines, missiles ...	-0.02684	0.02093	-1.28229
lag5_ln_intensity	-0.06358	0.02119	-3.00030
const (r-square=0.0357; NOBS=639; Sm.Est.=1.0203)	-0.18198	0.07952	-2.28831
d5_Arms; swords, cutlasses, bayonets, lances an...	0.00666	0.00994	0.67015
lag5_ln_intensity	-0.04024	0.01690	-2.38150
const (r-square=0.0413; NOBS=967; Sm.Est.=1.0513)	-0.28621	0.10419	-2.74698
d5_Lamps, light fittings; including searchlight...	-0.08283	0.06788	-1.22018
lag5_ln_intensity	-0.06285	0.02146	-2.92897
const (r-square=0.0407; NOBS=960; Sm.Est.=1.0526)	-0.28326	0.10552	-2.68455
d5_Buildings; prefabricated	-0.03133	0.02144	-1.46134
lag5_ln_intensity	-0.06238	0.02175	-2.86760
const (r-square=0.0647; NOBS=957; Sm.Est.=1.0506)	-0.28201	0.10192	-2.76692
d5_Games; funfair, table or parlour, articles t...	0.51130	0.17922	2.85299
lag5_ln_intensity	-0.06223	0.02097	-2.96810
const (r-square=0.0392; NOBS=953; Sm.Est.=1.0509)	-0.28529	0.10524	-2.71096
d5_Roundabouts, swings, shooting galleries, oth...	-0.05105	0.02374	-2.15045
lag5_ln_intensity	-0.06266	0.02181	-2.87336

(continued...)

Table L.6: Regression results of HS-4digit products in the machine industry [1995-2017]

Wood and wood products industry

	parameter	std_errors	t-stat
const (r-square=0.1168; NOBS=828; Sm.Est.=1.0271)	-0.24055	0.05512	-4.36444
d5_Fuel wood, in logs, billets, twigs, faggots ...	-0.03202	0.04939	-0.64819
lag5_ln_intensity	-0.08148	0.01913	-4.25880
const (r-square=0.1097; NOBS=805; Sm.Est.=1.0259)	-0.23971	0.04974	-4.81957
d5_Wood in the rough, whether or not stripped o...	0.00680	0.01217	0.55904
lag5_ln_intensity	-0.08082	0.01676	-4.82117
const (r-square=0.133; NOBS=818; Sm.Est.=1.0254)	-0.24484	0.05006	-4.89077
d5_Hoopwood; split poles; piles, pickets, stake...	-0.05011	0.03576	-1.40138
lag5_ln_intensity	-0.08490	0.01668	-5.08973
const (r-square=0.1108; NOBS=600; Sm.Est.=1.0228)	-0.22053	0.03820	-5.77322
d5_Wood wool; wood flour	-0.00480	0.04641	-0.10351
lag5_ln_intensity	-0.07302	0.01116	-6.54210
const (r-square=0.1208; NOBS=718; Sm.Est.=1.0234)	-0.21644	0.04033	-5.36681
d5_Railway or tramway sleepers (cross-ties) of ...	0.08558	0.04910	1.74291
lag5_ln_intensity	-0.07298	0.01259	-5.79691
const (r-square=0.0972; NOBS=892; Sm.Est.=1.0322)	-0.23385	0.05559	-4.20646
d5_Wood sawn or chipped lengthwise, sliced, pee...	0.02817	0.12890	0.21851
lag5_ln_intensity	-0.07944	0.01918	-4.14131
const (r-square=0.1095; NOBS=862; Sm.Est.=1.0266)	-0.22884	0.05145	-4.44809
d5_Veneer sheets and sheets for plywood (splice...	-0.11389	0.09369	-1.21569
lag5_ln_intensity	-0.07620	0.01739	-4.38303
const (r-square=0.0989; NOBS=880; Sm.Est.=1.0313)	-0.22966	0.05589	-4.10894
d5_Wood (including strips, friezes for parquet ...	-0.04368	0.03495	-1.24977
lag5_ln_intensity	-0.07807	0.01927	-4.05243
const (r-square=0.1047; NOBS=869; Sm.Est.=1.0281)	-0.22639	0.05718	-3.95914
d5_Particle board and similar board; of wood or...	-0.06857	0.08014	-0.85565
lag5_ln_intensity	-0.07600	0.01949	-3.89981
const (r-square=0.0957; NOBS=859; Sm.Est.=1.0274)	-0.22565	0.04655	-4.84704
d5_Fibreboard of wood or other ligneous materia...	-0.01662	0.02218	-0.74928
lag5_ln_intensity	-0.07528	0.01559	-4.82975
const (r-square=0.1077; NOBS=872; Sm.Est.=1.0293)	-0.22562	0.05486	-4.11245
d5_Plywood, veneered panels and similar laminat...	-0.12164	0.07890	-1.54172
lag5_ln_intensity	-0.07599	0.01910	-3.97837
const (r-square=0.0983; NOBS=843; Sm.Est.=1.0263)	-0.23029	0.04533	-5.08036
d5_Densified wood, in blocks, plates, strips or...	0.00026	0.01425	0.01798
lag5_ln_intensity	-0.07675	0.01509	-5.08479
const (r-square=0.1248; NOBS=856; Sm.Est.=1.0285)	-0.22482	0.04412	-5.09592
d5_Wooden frames; for paintings, photographs, m...	-0.08939	0.07335	-1.21876
lag5_ln_intensity	-0.07566	0.01458	-5.18858
const (r-square=0.0951; NOBS=885; Sm.Est.=1.0321)	-0.22890	0.05647	-4.05331
d5_Packing cases, boxes, crates, drums and simi...	0.01363	0.05927	0.23004

(continued...)

lag5_ln_intensity	-0.07805	0.01953	-3.99683
const (r-square=0.1005; NOBS=828; Sm.Est.=1.0308)	-0.22924	0.04728	-4.84888
d5_Casks, barrels, vats, tubs and other coopers...	0.03635	0.04030	0.90222
lag5_ln_intensity	-0.07863	0.01597	-4.92477
const (r-square=0.0936; NOBS=853; Sm.Est.=1.0312)	-0.23192	0.04649	-4.98876
d5_Tools, tool bodies, tool handles, broom or b...	-0.00790	0.00986	-0.80104
lag5_ln_intensity	-0.07983	0.01587	-5.03081
const (r-square=0.1352; NOBS=892; Sm.Est.=1.0306)	-0.23667	0.05781	-4.09405
d5_Builders' joinery and carpentry of wood, inc...	-0.21592	0.09621	-2.24415
lag5_ln_intensity	-0.07963	0.01997	-3.98748
const (r-square=0.1175; NOBS=866; Sm.Est.=1.0279)	-0.23336	0.05002	-4.66492
d5_Tableware and kitchenware, of wood	-0.10379	0.11711	-0.88624
lag5_ln_intensity	-0.07838	0.01673	-4.68587
const (r-square=0.0973; NOBS=884; Sm.Est.=1.032)	-0.23188	0.05312	-4.36520
d5_Wood marquetry and inlaid wood; caskets and ...	-0.01488	0.07410	-0.20077
lag5_ln_intensity	-0.07887	0.01841	-4.28353
const (r-square=0.0965; NOBS=880; Sm.Est.=1.0319)	-0.22852	0.05535	-4.12877
d5_Wooden articles n.e.s. in heading no. 4414 t...	-0.04361	0.13903	-0.31368
lag5_ln_intensity	-0.07822	0.01916	-4.08167
const (r-square=0.0612; NOBS=431; Sm.Est.=1.0184)	-0.16044	0.04460	-3.59736
d5_Natural cork, raw or simply prepared; waste ...	-0.01341	0.01851	-0.72447
lag5_ln_intensity	-0.05104	0.01544	-3.30558
const (r-square=0.1415; NOBS=481; Sm.Est.=1.0175)	-0.26349	0.04472	-5.89189
d5_Natural cork, debacked or roughly squared, o...	-0.00474	0.01594	-0.29726
lag5_ln_intensity	-0.07970	0.01373	-5.80302
const (r-square=0.1005; NOBS=787; Sm.Est.=1.0296)	-0.20837	0.04752	-4.38457
d5_Cork; articles of natural cork	-0.03249	0.01127	-2.88176
lag5_ln_intensity	-0.07209	0.01594	-4.52158
const (r-square=0.1357; NOBS=848; Sm.Est.=1.028)	-0.23873	0.05449	-4.38122
d5_Agglomerated cork (with or without a binding...	-0.04057	0.01550	-2.61684
lag5_ln_intensity	-0.08155	0.01847	-4.41592
const (r-square=0.1198; NOBS=813; Sm.Est.=1.0279)	-0.26804	0.05543	-4.83530
d5_Plaits and similar products of plaiting mate...	0.02396	0.07502	0.31942
lag5_ln_intensity	-0.08844	0.01898	-4.65880
const (r-square=0.1038; NOBS=862; Sm.Est.=1.0279)	-0.22830	0.05499	-4.15193
d5_Basketwork, wickerwork and other articles, m...	-0.06002	0.11230	-0.53450
lag5_ln_intensity	-0.07563	0.01811	-4.17514

Table L.7: Regression results of HS-4digit products in the wood and wood product industry [1995-2017]

Textile industry

	parameter	std_errors	t-stat
const (r-square=0.1296; NOBS=941; Sm.Est.=1.0304)	-0.28647	0.08594	-3.33325
d5_Leather of bovine or equine animals, without...	-0.04274	0.00496	-8.61222
lag5_ln_intensity	-0.08171	0.02395	-3.41242
const (r-square=0.0588; NOBS=898; Sm.Est.=1.0295)	-0.26548	0.08783	-3.02274
d5_Sheep or lamb skin leather, without wool on,...	-0.00886	0.00877	-1.01031
lag5_ln_intensity	-0.07631	0.02487	-3.06839
const (r-square=0.0585; NOBS=838; Sm.Est.=1.0269)	-0.25015	0.08885	-2.81540
d5_Leather; goat or kid skin, without hair on, ...	0.10285	0.07960	1.29209
lag5_ln_intensity	-0.07308	0.02509	-2.91213
const (r-square=0.0477; NOBS=909; Sm.Est.=1.0265)	-0.25781	0.08977	-2.87173
d5_Leather; of animals n.e.s. in chapter 41, wi...	-0.00233	0.01666	-0.13975
lag5_ln_intensity	-0.07348	0.02495	-2.94536
const (r-square=0.0711; NOBS=785; Sm.Est.=1.0217)	-0.29388	0.09119	-3.22255
d5_Chamois (including combination chamois) leather	-0.00529	0.01777	-0.29773
lag5_ln_intensity	-0.08361	0.02512	-3.32923
const (r-square=0.0761; NOBS=789; Sm.Est.=1.0241)	-0.31923	0.09594	-3.32739
d5_Patent leather and patent laminated leather,...	0.00445	0.02081	0.21376
lag5_ln_intensity	-0.09102	0.02629	-3.46152
const (r-square=0.0594; NOBS=851; Sm.Est.=1.021)	-0.27096	0.09273	-2.92191
d5_Composition leather with a basis of leather ...	0.00657	0.01180	0.55697
lag5_ln_intensity	-0.07517	0.02565	-2.92998
const (r-square=0.0686; NOBS=890; Sm.Est.=1.0265)	-0.31679	0.08917	-3.55272
d5_Saddlery and harness for any animal (includi...	-0.07374	0.06214	-1.18664
lag5_ln_intensity	-0.08944	0.02467	-3.62542
const (r-square=0.0837; NOBS=944; Sm.Est.=1.0333)	-0.29015	0.08847	-3.27963
d5_Trunks; suit, camera, jewellery, cutlery cas...	0.45713	0.24195	1.88939
lag5_ln_intensity	-0.08289	0.02546	-3.25504
const (r-square=0.1138; NOBS=938; Sm.Est.=1.0335)	-0.29978	0.07921	-3.78467
d5_Articles of apparel and clothing accessories...	0.48045	0.19620	2.44879
lag5_ln_intensity	-0.08528	0.02242	-3.80361
const (r-square=0.0592; NOBS=925; Sm.Est.=1.0334)	-0.28323	0.09280	-3.05218
d5_Leather or composition leather articles n.e....	-0.02497	0.01904	-1.31168
lag5_ln_intensity	-0.08149	0.02659	-3.06447
const (r-square=0.048; NOBS=927; Sm.Est.=1.0305)	-0.27317	0.09430	-2.89665
d5_Tanned or dressed furskins (including heads,...	-0.00775	0.01438	-0.53908
lag5_ln_intensity	-0.07703	0.02725	-2.82678
const (r-square=0.0576; NOBS=931; Sm.Est.=1.0341)	-0.28660	0.09142	-3.13513
d5_Articles of apparel, clothing accessories an...	-0.02275	0.01994	-1.14085
lag5_ln_intensity	-0.08228	0.02668	-3.08357
const (r-square=0.0682; NOBS=845; Sm.Est.=1.0272)	-0.33206	0.09939	-3.34093
d5_Artificial fur and articles thereof	-0.00169	0.00891	-0.18931

(continued...)

lag5_ln_intensity	-0.09340	0.02758	-3.38678
const (r-square=0.0139; NOBS=391; Sm.Est.=1.0193)	-0.14057	0.13970	-1.00619
d5_Raw silk (not thrown)	0.02928	0.06224	0.47048
lag5_ln_intensity	-0.04332	0.04014	-1.07924
const (r-square=0.1613; NOBS=380; Sm.Est.=1.0138)	0.05361	0.14861	0.36076
d5_Silk waste (including cocoons unsuitable for...	0.18784	0.05982	3.14005
lag5_ln_intensity	0.01529	0.04341	0.35228
const (r-square=0.0711; NOBS=567; Sm.Est.=1.0163)	-0.25762	0.11341	-2.27163
d5_Silk; yarn (other than yarn spun from silk w...	-0.00686	0.04109	-0.16702
lag5_ln_intensity	-0.07336	0.03154	-2.32642
const (r-square=0.0202; NOBS=414; Sm.Est.=1.0151)	-0.18487	0.16116	-1.14710
d5_Yarn spun from silk waste, not put up for re...	0.01490	0.05522	0.26992
lag5_ln_intensity	-0.05133	0.04566	-1.12419
const (r-square=0.0604; NOBS=525; Sm.Est.=1.0159)	-0.26522	0.10343	-2.56420
d5_Silk yarn and yarn spun from silk waste, put...	-0.00314	0.00258	-1.21616
lag5_ln_intensity	-0.07337	0.02865	-2.56045
const (r-square=0.0663; NOBS=904; Sm.Est.=1.0272)	-0.30323	0.09006	-3.36693
d5_Woven fabrics of silk or of silk waste	-0.00067	0.00045	-1.50044
lag5_ln_intensity	-0.08639	0.02482	-3.48058
const (r-square=0.059; NOBS=832; Sm.Est.=1.0302)	-0.31533	0.10395	-3.03348
d5_Wool, not carded or combed	0.00208	0.00242	0.86016
lag5_ln_intensity	-0.08903	0.02973	-2.99463
const (r-square=0.0684; NOBS=762; Sm.Est.=1.0242)	-0.30864	0.10863	-2.84127
d5_Waste of wool or of fine or coarse animal ha...	0.01032	0.02287	0.45115
lag5_ln_intensity	-0.08465	0.03085	-2.74371
const (r-square=0.1054; NOBS=353; Sm.Est.=1.0145)	-0.30168	0.16223	-1.85962
d5_Wool, or fine or coarse animal hair; garnett...	0.00015	0.00285	0.05368
lag5_ln_intensity	-0.08307	0.04580	-1.81397
const (r-square=0.1448; NOBS=822; Sm.Est.=1.0236)	-0.26234	0.10594	-2.47627
d5_Wool and fine or coarse animal hair; carded ...	-0.05216	0.01997	-2.61186
lag5_ln_intensity	-0.07224	0.03002	-2.40672
const (r-square=0.0794; NOBS=829; Sm.Est.=1.0212)	-0.28895	0.09817	-2.94339
d5_Yarn of carded wool, not put up for retail sale	-0.02849	0.02342	-1.21652
lag5_ln_intensity	-0.08061	0.02735	-2.94762
const (r-square=0.0651; NOBS=860; Sm.Est.=1.0268)	-0.31643	0.10410	-3.03976
d5_Yarn of combed wool, not put up for retail sale	-0.00883	0.02575	-0.34307
lag5_ln_intensity	-0.08871	0.02905	-3.05385
const (r-square=0.0366; NOBS=628; Sm.Est.=1.019)	-0.24543	0.10412	-2.35717
d5_Yarn of fine animal hair (carded or combed),...	-0.05659	0.10620	-0.53291
lag5_ln_intensity	-0.06805	0.02921	-2.32976
const (r-square=0.0813; NOBS=834; Sm.Est.=1.0233)	-0.29257	0.10010	-2.92259
d5_Yarn of wool or of fine animal hair, put up ...	-0.01133	0.00516	-2.19714
lag5_ln_intensity	-0.08176	0.02794	-2.92665
const (r-square=0.0815; NOBS=390; Sm.Est.=1.023)	-0.40540	0.17027	-2.38091

(continued...)

d5_Yarn of coarse animal hair or of horsehair (...	-0.00516	0.00566	-0.91238
lag5_ln_intensity	-0.11520	0.04778	-2.41105
const (r-square=0.0586; NOBS=904; Sm.Est.=1.0234)	-0.27444	0.08539	-3.21375
d5_Woven fabrics of carded wool or of carded fi...	-0.00552	0.02252	-0.24523
lag5_ln_intensity	-0.07678	0.02354	-3.26134
const (r-square=0.0722; NOBS=911; Sm.Est.=1.0262)	-0.29177	0.08593	-3.39555
d5_Woven fabrics of combed wool or of combed fi...	0.10148	0.07645	1.32744
lag5_ln_intensity	-0.08250	0.02358	-3.49830
const (r-square=0.0763; NOBS=545; Sm.Est.=1.0195)	-0.28789	0.13450	-2.14048
d5_Woven fabrics of coarse animal hair or of ho...	0.01297	0.00537	2.41526
lag5_ln_intensity	-0.07716	0.03772	-2.04585
const (r-square=0.084; NOBS=865; Sm.Est.=1.0282)	-0.27548	0.09903	-2.78182
d5_Cotton waste (including yarn waste and garne...	-0.08926	0.06218	-1.43564
lag5_ln_intensity	-0.07617	0.02865	-2.65861
const (r-square=0.0439; NOBS=777; Sm.Est.=1.0289)	-0.26455	0.11757	-2.25023
d5_Cotton, carded or combed	-0.00312	0.00137	-2.26909
lag5_ln_intensity	-0.07278	0.03404	-2.13800
const (r-square=0.0589; NOBS=877; Sm.Est.=1.0235)	-0.27038	0.08932	-3.02706
d5_Cotton sewing thread, whether or not put up ...	0.00455	0.01168	0.38950
lag5_ln_intensity	-0.07603	0.02454	-3.09831
const (r-square=0.0569; NOBS=923; Sm.Est.=1.0309)	-0.27516	0.09723	-2.82988
d5_Cotton yarn (other than sewing thread), cont...	0.07668	0.07184	1.06735
lag5_ln_intensity	-0.07743	0.02805	-2.76016
const (r-square=0.0589; NOBS=849; Sm.Est.=1.0258)	-0.29649	0.09627	-3.07990
d5_Cotton yarn (other than sewing thread), cont...	0.00261	0.00744	0.35054
lag5_ln_intensity	-0.08251	0.02683	-3.07566
const (r-square=0.0667; NOBS=865; Sm.Est.=1.0206)	-0.27627	0.08883	-3.11009
d5_Cotton yarn (other than sewing thread), put ...	-0.00250	0.00504	-0.49710
lag5_ln_intensity	-0.07749	0.02449	-3.16376
const (r-square=0.0646; NOBS=943; Sm.Est.=1.0343)	-0.31244	0.09083	-3.44004
d5_Woven fabrics of cotton, containing 85% or m...	-0.04680	0.05478	-0.85435
lag5_ln_intensity	-0.08896	0.02597	-3.42574
const (r-square=0.0651; NOBS=937; Sm.Est.=1.0324)	-0.28364	0.09124	-3.10867
d5_Woven fabrics of cotton, containing 85% or m...	-0.08531	0.03571	-2.38904
lag5_ln_intensity	-0.08069	0.02609	-3.09303
const (r-square=0.0584; NOBS=919; Sm.Est.=1.0276)	-0.28805	0.08685	-3.31644
d5_Woven fabrics of cotton, containing less tha...	0.00807	0.03377	0.23897
lag5_ln_intensity	-0.08187	0.02405	-3.40455
const (r-square=0.0654; NOBS=926; Sm.Est.=1.0313)	-0.29814	0.09418	-3.16570
d5_Woven fabrics of cotton, containing less tha...	-0.06569	0.05584	-1.17652
lag5_ln_intensity	-0.08488	0.02683	-3.16412
const (r-square=0.0629; NOBS=912; Sm.Est.=1.0278)	-0.30790	0.08930	-3.44785
d5_Other woven fabrics of cotton, n.e.s. in cha...	0.00294	0.03239	0.09088
lag5_ln_intensity	-0.08672	0.02492	-3.47925

(continued...)

const (r-square=0.0677; NOBS=719; Sm.Est.=1.0202)	-0.33183	0.09885	-3.35694
d5_Flax, raw or processed but not spun; flax to...	-0.00736	0.02080	-0.35407
lag5_ln_intensity	-0.09192	0.02756	-3.33505
const (r-square=0.0184; NOBS=474; Sm.Est.=1.0154)	-0.18132	0.11764	-1.54131
d5_True hemp (cannabis sativa L.), raw or proce...	-0.00160	0.00923	-0.17321
lag5_ln_intensity	-0.04952	0.03396	-1.45802
const (r-square=0.0841; NOBS=553; Sm.Est.=1.0204)	-0.30386	0.11728	-2.59092
d5_Jute and other textile bast fibres (not flax...	0.01355	0.01100	1.23240
lag5_ln_intensity	-0.08386	0.03207	-2.61529
const (r-square=0.0662; NOBS=772; Sm.Est.=1.0194)	-0.32157	0.09319	-3.45051
d5_Flax yarn	-0.03450	0.01981	-1.74097
lag5_ln_intensity	-0.08879	0.02625	-3.38274
const (r-square=0.0517; NOBS=635; Sm.Est.=1.018)	-0.19746	0.10639	-1.85593
d5_Yarn of jute or of other textile bast fibres...	0.13685	0.05712	2.39571
lag5_ln_intensity	-0.05643	0.02974	-1.89739
const (r-square=0.0797; NOBS=745; Sm.Est.=1.0197)	-0.30706	0.09781	-3.13929
d5_Yarn of other vegetable textile fibres; pape...	0.00741	0.01116	0.66392
lag5_ln_intensity	-0.08671	0.02665	-3.25389
const (r-square=0.0642; NOBS=898; Sm.Est.=1.0248)	-0.28817	0.08577	-3.35964
d5_Woven fabrics of flax	0.00424	0.02647	0.16032
lag5_ln_intensity	-0.08230	0.02347	-3.50683
const (r-square=0.1089; NOBS=749; Sm.Est.=1.0203)	-0.27753	0.09414	-2.94805
d5_Woven fabrics of jute, other textile bast fi...	0.13886	0.08560	1.62230
lag5_ln_intensity	-0.07880	0.02585	-3.04807
const (r-square=0.0744; NOBS=779; Sm.Est.=1.0181)	-0.28219	0.10290	-2.74244
d5_Woven fabrics of other vegetable textile fib...	0.09523	0.08015	1.18817
lag5_ln_intensity	-0.07822	0.02832	-2.76215
const (r-square=0.0673; NOBS=925; Sm.Est.=1.0278)	-0.29815	0.08325	-3.58139
d5_Sewing thread of man-made filaments, whether...	0.04736	0.05885	0.80467
lag5_ln_intensity	-0.08444	0.02305	-3.66292
const (r-square=0.0572; NOBS=887; Sm.Est.=1.0241)	-0.27868	0.09156	-3.04380
d5_Synthetic filament yarn (other than sewing t...	-0.01389	0.01694	-0.81963
lag5_ln_intensity	-0.07822	0.02532	-3.08958
const (r-square=0.0824; NOBS=746; Sm.Est.=1.0221)	-0.30794	0.09906	-3.10857
d5_Artificial filament yarn (other than sewing ...	-0.00875	0.00459	-1.90560
lag5_ln_intensity	-0.08534	0.02737	-3.11774
const (r-square=0.0656; NOBS=783; Sm.Est.=1.0214)	-0.29171	0.10534	-2.76934
d5_Man-made filament yarn (other than sewing th...	0.00063	0.00407	0.15585
lag5_ln_intensity	-0.08158	0.02881	-2.83148
const (r-square=0.0674; NOBS=942; Sm.Est.=1.0342)	-0.29841	0.09084	-3.28517
d5_Woven fabrics of synthetic filament yarn, in...	0.13567	0.12892	1.05234
lag5_ln_intensity	-0.08532	0.02646	-3.22479
const (r-square=0.0637; NOBS=918; Sm.Est.=1.0281)	-0.30324	0.08636	-3.51146
d5_Woven fabrics of artificial filament yarn in...	0.03392	0.03064	1.10727

(continued...)

lag5_ln_intensity	-0.08614	0.02380	-3.61880
const (r-square=0.0554; NOBS=862; Sm.Est.=1.0221)	-0.25506	0.09600	-2.65680
d5_Waste (including noils, yarn waste and garne...	0.01622	0.01666	0.97318
lag5_ln_intensity	-0.07107	0.02668	-2.66390
const (r-square=0.0712; NOBS=815; Sm.Est.=1.0205)	-0.28383	0.09873	-2.87475
d5_Synthetic staple fibres, carded, combed or o...	0.06503	0.05325	1.22117
lag5_ln_intensity	-0.07807	0.02751	-2.83759
const (r-square=0.0497; NOBS=504; Sm.Est.=1.0183)	-0.29299	0.13405	-2.18568
d5_Artificial staple fibres, carded, combed or ...	-0.01706	0.03354	-0.50853
lag5_ln_intensity	-0.07889	0.03750	-2.10355
const (r-square=0.0554; NOBS=905; Sm.Est.=1.025)	-0.26570	0.08722	-3.04647
d5_Sewing thread of man-made staple fibres, whe...	-0.03024	0.07639	-0.39583
lag5_ln_intensity	-0.07548	0.02407	-3.13661
const (r-square=0.0712; NOBS=919; Sm.Est.=1.0267)	-0.30132	0.08167	-3.68960
d5_Yarn (other than sewing thread) of synthetic...	-0.10707	0.11749	-0.91136
lag5_ln_intensity	-0.08584	0.02235	-3.84131
const (r-square=0.067; NOBS=840; Sm.Est.=1.0245)	-0.30997	0.09753	-3.17832
d5_Yarn (other than sewing thread) of artificia...	0.00841	0.02662	0.31589
lag5_ln_intensity	-0.08632	0.02698	-3.19911
const (r-square=0.0747; NOBS=838; Sm.Est.=1.0206)	-0.30082	0.09905	-3.03701
d5_Yarn (not sewing thread), of man-made staple...	-0.01733	0.02333	-0.74300
lag5_ln_intensity	-0.08496	0.02712	-3.13265
const (r-square=0.0596; NOBS=932; Sm.Est.=1.0305)	-0.27844	0.08692	-3.20355
d5_Woven fabrics of synthetic staple fibres, co...	0.10272	0.11188	0.91814
lag5_ln_intensity	-0.07940	0.02469	-3.21557
const (r-square=0.0766; NOBS=919; Sm.Est.=1.0283)	-0.31076	0.08569	-3.62659
d5_Woven fabrics of synthetic staple fibres, co...	0.15960	0.09960	1.60237
lag5_ln_intensity	-0.08845	0.02386	-3.70744
const (r-square=0.0746; NOBS=924; Sm.Est.=1.0306)	-0.31190	0.09031	-3.45380
d5_Woven fabrics of synthetic staple fibres, co...	-0.04063	0.02741	-1.48231
lag5_ln_intensity	-0.08871	0.02546	-3.48444
const (r-square=0.0615; NOBS=934; Sm.Est.=1.033)	-0.29900	0.08973	-3.33202
d5_Woven fabrics of synthetic staple fibres, n....	0.06908	0.08364	0.82582
lag5_ln_intensity	-0.08535	0.02564	-3.32851
const (r-square=0.0785; NOBS=920; Sm.Est.=1.0266)	-0.26021	0.08625	-3.01683
d5_Woven fabrics of artificial staple fibres	0.17432	0.07972	2.18671
lag5_ln_intensity	-0.07338	0.02409	-3.04570
const (r-square=0.0561; NOBS=937; Sm.Est.=1.0347)	-0.30196	0.09434	-3.20075
d5_Wadding of textile materials and articles th...	-0.01558	0.02527	-0.61682
lag5_ln_intensity	-0.08627	0.02728	-3.16175
const (r-square=0.0461; NOBS=925; Sm.Est.=1.0323)	-0.27518	0.09389	-2.93088
d5_Felt; whether or not impregnated, coated, co...	-0.00231	0.05638	-0.04096
lag5_ln_intensity	-0.07788	0.02703	-2.88112
const (r-square=0.0581; NOBS=940; Sm.Est.=1.034)	-0.30832	0.09211	-3.34717

(continued...)

d5_Nonwovens; whether or not impregnated, coate...	-0.02000	0.08537	-0.23431
lag5_ln_intensity	-0.08832	0.02638	-3.34787
const (r-square=0.0601; NOBS=898; Sm.Est.=1.0256)	-0.29507	0.08969	-3.28979
d5_Rubber thread and cord, textile covered; tex...	-0.00305	0.02633	-0.11567
lag5_ln_intensity	-0.08335	0.02494	-3.34186
const (r-square=0.056; NOBS=751; Sm.Est.=1.0193)	-0.25720	0.10378	-2.47833
d5_Yarn; metallised, whether or not gimped, of ...	0.00831	0.03707	0.22406
lag5_ln_intensity	-0.07180	0.02883	-2.49014
const (r-square=0.0897; NOBS=826; Sm.Est.=1.0198)	-0.25295	0.10373	-2.43858
d5_Yarn and strip and the like of heading no. 5...	-0.05925	0.02032	-2.91549
lag5_ln_intensity	-0.07041	0.02883	-2.44216
const (r-square=0.0517; NOBS=928; Sm.Est.=1.0316)	-0.27832	0.09411	-2.95754
d5_Twine, cordage, ropes and cables, whether or...	-0.02853	0.05923	-0.48169
lag5_ln_intensity	-0.07859	0.02728	-2.88095
const (r-square=0.0994; NOBS=919; Sm.Est.=1.0287)	-0.25464	0.09132	-2.78835
d5_Twine, cordage or rope; knotted netting, mad...	-0.05923	0.02246	-2.63714
lag5_ln_intensity	-0.07227	0.02626	-2.75211
const (r-square=0.076; NOBS=906; Sm.Est.=1.0286)	-0.26272	0.10142	-2.59048
d5_Articles of yarn, strip or the like of headi...	-0.06026	0.02501	-2.40975
lag5_ln_intensity	-0.07397	0.02918	-2.53467
const (r-square=0.0794; NOBS=938; Sm.Est.=1.0338)	-0.29787	0.08848	-3.36641
d5_Carpets and other textile floor coverings; k...	0.07951	0.05769	1.37826
lag5_ln_intensity	-0.08510	0.02524	-3.37227
const (r-square=0.0528; NOBS=947; Sm.Est.=1.0346)	-0.29831	0.09137	-3.26477
d5_Carpets and other textile floor coverings; w...	-0.00224	0.01075	-0.20888
lag5_ln_intensity	-0.08472	0.02634	-3.21692
const (r-square=0.0767; NOBS=940; Sm.Est.=1.0339)	-0.26408	0.08664	-3.04794
d5_Carpets and other textile floor coverings; t...	0.12717	0.08850	1.43685
lag5_ln_intensity	-0.07492	0.02522	-2.97131
const (r-square=0.0627; NOBS=869; Sm.Est.=1.0276)	-0.29173	0.08918	-3.27139
d5_Carpets and other textile floor coverings; o...	0.03360	0.05387	0.62369
lag5_ln_intensity	-0.08136	0.02485	-3.27393
const (r-square=0.0889; NOBS=936; Sm.Est.=1.0338)	-0.27995	0.08818	-3.17483
d5_Carpets and other textile floor coverings; n...	0.24427	0.13341	1.83106
lag5_ln_intensity	-0.07978	0.02563	-3.11304
const (r-square=0.1202; NOBS=918; Sm.Est.=1.0246)	-0.28203	0.07721	-3.65262
d5_Fabrics; woven pile and chenille fabrics, ot...	0.25074	0.11444	2.19111
lag5_ln_intensity	-0.08066	0.02127	-3.79275
const (r-square=0.0481; NOBS=865; Sm.Est.=1.0256)	-0.24209	0.10241	-2.36394
d5_Fabrics; terry towelling and similar woven t...	-0.01283	0.00700	-1.83204
lag5_ln_intensity	-0.06766	0.02904	-2.32992
const (r-square=0.0677; NOBS=707; Sm.Est.=1.0193)	-0.28732	0.10628	-2.70350
d5_Gauze; other than narrow fabrics of heading ...	0.00054	0.00459	0.11718
lag5_ln_intensity	-0.07839	0.02954	-2.65331

(continued...)

const (r-square=0.0653; NOBS=919; Sm.Est.=1.0278)	-0.29496	0.08303	-3.55234
d5_Tulles and other net fabrics; not including ...	0.08465	0.08176	1.03533
lag5_ln_intensity	-0.08366	0.02298	-3.64093
const (r-square=0.0699; NOBS=734; Sm.Est.=1.0242)	-0.25603	0.10660	-2.40172
d5_Tapestries; hand-woven, (gobelins, flanders,...	-0.00854	0.00133	-6.40432
lag5_ln_intensity	-0.07195	0.02955	-2.43486
const (r-square=0.0703; NOBS=922; Sm.Est.=1.0268)	-0.27584	0.07982	-3.45586
d5_Fabrics; narrow woven, other than goods of h...	0.11421	0.09447	1.20899
lag5_ln_intensity	-0.07784	0.02216	-3.51347
const (r-square=0.1048; NOBS=917; Sm.Est.=1.0254)	-0.28189	0.07698	-3.66194
d5_Labels, badges and similar articles; of text...	0.27081	0.12055	2.24645
lag5_ln_intensity	-0.08013	0.02120	-3.78028
const (r-square=0.093; NOBS=912; Sm.Est.=1.0257)	-0.30031	0.09363	-3.20739
d5_Braids in the piece; ornamental trimmings in...	0.21554	0.09309	2.31541
lag5_ln_intensity	-0.08493	0.02597	-3.27069
const (r-square=0.0637; NOBS=673; Sm.Est.=1.0197)	-0.26992	0.11166	-2.41733
d5_Fabrics, woven; of metal thread and metallis...	0.01437	0.01232	1.16606
lag5_ln_intensity	-0.07513	0.03094	-2.42807
const (r-square=0.0503; NOBS=916; Sm.Est.=1.0295)	-0.27380	0.08503	-3.21993
d5_Embroidery; in the piece, in strips or in mo...	0.01973	0.04083	0.48311
lag5_ln_intensity	-0.07788	0.02393	-3.25391
const (r-square=0.074; NOBS=881; Sm.Est.=1.0229)	-0.28825	0.08820	-3.26823
d5_Quilted textile products; in the piece, comp...	0.07234	0.03260	2.21904
lag5_ln_intensity	-0.08104	0.02417	-3.35284
const (r-square=0.0937; NOBS=874; Sm.Est.=1.0231)	-0.27530	0.08492	-3.24193
d5_Textile fabrics, gum or amylaceous substance...	0.09565	0.06111	1.56508
lag5_ln_intensity	-0.07775	0.02321	-3.35005
const (r-square=0.0637; NOBS=820; Sm.Est.=1.0215)	-0.26291	0.10149	-2.59059
d5_Textile fabrics; tyrecord of high tenacity y...	0.04607	0.03091	1.49025
lag5_ln_intensity	-0.07266	0.02812	-2.58429
const (r-square=0.0712; NOBS=933; Sm.Est.=1.0295)	-0.28149	0.08316	-3.38474
d5_Textile fabrics impregnated, coated, covered...	0.15654	0.19660	0.79626
lag5_ln_intensity	-0.08000	0.02337	-3.42265
const (r-square=0.0441; NOBS=913; Sm.Est.=1.0307)	-0.27104	0.10032	-2.70185
d5_Textile fabrics; otherwise impregnated, coat...	0.00219	0.06273	0.03495
lag5_ln_intensity	-0.07606	0.02900	-2.62285
const (r-square=0.1212; NOBS=732; Sm.Est.=1.0161)	-0.28552	0.10626	-2.68699
d5_Textile wicks, woven, plaited or knitted; fo...	0.16286	0.07737	2.10507
lag5_ln_intensity	-0.08128	0.02950	-2.75569
const (r-square=0.0497; NOBS=881; Sm.Est.=1.0272)	-0.27400	0.09915	-2.76360
d5_Textile hosepiping and similar textile tubin...	-0.00895	0.01544	-0.57976
lag5_ln_intensity	-0.07636	0.02801	-2.72596
const (r-square=0.0768; NOBS=875; Sm.Est.=1.0257)	-0.24798	0.10036	-2.47092
d5_Textiles; transmission or conveyor belts or ...	0.12011	0.06922	1.73520

(continued...)

lag5_ln_intensity	-0.06911	0.02858	-2.41796
const (r-square=0.0529; NOBS=928; Sm.Est.=1.0309)	-0.28663	0.09460	-3.02983
d5_Textile products and articles for technical ...	-0.02350	0.03507	-0.67016
lag5_ln_intensity	-0.08054	0.02734	-2.94612
const (r-square=0.0674; NOBS=912; Sm.Est.=1.0237)	-0.26742	0.08559	-3.12457
d5_Fabrics; pile fabrics, including "long pile"...	-0.08213	0.10364	-0.79249
lag5_ln_intensity	-0.07558	0.02342	-3.22663
const (r-square=0.0856; NOBS=932; Sm.Est.=1.0289)	-0.29072	0.08325	-3.49226
d5_Fabrics; knitted or crocheted, other than th...	0.21811	0.12726	1.71393
lag5_ln_intensity	-0.08199	0.02367	-3.46325
const (r-square=0.0545; NOBS=933; Sm.Est.=1.0347)	-0.30222	0.09432	-3.20408
d5_Coats; men's or boys' overcoats, car-coats, ...	-0.01274	0.08311	-0.15329
lag5_ln_intensity	-0.08642	0.02731	-3.16410
const (r-square=0.0559; NOBS=944; Sm.Est.=1.0346)	-0.29944	0.09186	-3.25964
d5_Coats; women's or girls' overcoats, car-coat...	0.03553	0.02143	1.65762
lag5_ln_intensity	-0.08538	0.02651	-3.22106
const (r-square=0.0532; NOBS=946; Sm.Est.=1.0346)	-0.29906	0.09154	-3.26714
d5_Suits, ensembles, jackets, blazers, trousers...	-0.00672	0.07420	-0.09058
lag5_ln_intensity	-0.08499	0.02642	-3.21646
const (r-square=0.0644; NOBS=946; Sm.Est.=1.0343)	-0.28994	0.08890	-3.26135
d5_Suits, ensembles, jackets, dresses, skirts, ...	-0.24089	0.17075	-1.41080
lag5_ln_intensity	-0.08227	0.02577	-3.19294
const (r-square=0.1506; NOBS=943; Sm.Est.=1.0322)	-0.27031	0.08374	-3.22798
d5_Shirts; men's or boys', knitted or crocheted	0.98001	0.41772	2.34610
lag5_ln_intensity	-0.07896	0.02351	-3.35801
const (r-square=0.0554; NOBS=943; Sm.Est.=1.0346)	-0.29349	0.08798	-3.33594
d5_Blouses, shirts and shirt-blouses; women's o...	-0.04037	0.06040	-0.66829
lag5_ln_intensity	-0.08366	0.02562	-3.26521
const (r-square=0.0638; NOBS=944; Sm.Est.=1.034)	-0.30766	0.08598	-3.57825
d5_Underpants, briefs, nightshirts, pyjamas, ba...	-0.08824	0.10996	-0.80245
lag5_ln_intensity	-0.08755	0.02448	-3.57565
const (r-square=0.0619; NOBS=944; Sm.Est.=1.0327)	-0.28463	0.08806	-3.23222
d5_Slips, petticoats, briefs, panties, nightdre...	-0.13426	0.12795	-1.04936
lag5_ln_intensity	-0.08104	0.02501	-3.24094
const (r-square=0.0643; NOBS=945; Sm.Est.=1.0344)	-0.28656	0.08462	-3.38648
d5_T-shirts, singlets and other vests; knitted ...	-0.18176	0.15237	-1.19289
lag5_ln_intensity	-0.08163	0.02471	-3.30369
const (r-square=0.0549; NOBS=946; Sm.Est.=1.0347)	-0.29705	0.09149	-3.24660
d5_Jerseys, pullovers, cardigans, waistcoats an...	-0.14760	0.33564	-0.43975
lag5_ln_intensity	-0.08429	0.02648	-3.18307
const (r-square=0.0539; NOBS=944; Sm.Est.=1.0328)	-0.29460	0.09075	-3.24612
d5_Garments and clothing accessories, babies'; ...	-0.03699	0.23460	-0.15767
lag5_ln_intensity	-0.08371	0.02554	-3.27737
const (r-square=0.0509; NOBS=930; Sm.Est.=1.0338)	-0.28924	0.09450	-3.06086

(continued...)

d5_Track suits, ski suits and swimwear; knitted...	-0.01337	0.09166	-0.14581
lag5_ln_intensity	-0.08231	0.02737	-3.00765
const (r-square=0.0659; NOBS=905; Sm.Est.=1.0296)	-0.30841	0.08916	-3.45927
d5_Garments made up of knitted or crocheted fab...	-0.02970	0.03189	-0.93149
lag5_ln_intensity	-0.08835	0.02478	-3.56604
const (r-square=0.0554; NOBS=938; Sm.Est.=1.0346)	-0.30383	0.09358	-3.24671
d5_Garments; knitted or crocheted, n.e.s. in ch...	0.04517	0.07531	0.59972
lag5_ln_intensity	-0.08675	0.02708	-3.20381
const (r-square=0.0596; NOBS=944; Sm.Est.=1.0344)	-0.30413	0.09141	-3.32697
d5_Hosiery; panty hose, tights, stockings, sock...	0.06933	0.04711	1.47164
lag5_ln_intensity	-0.08641	0.02642	-3.27096
const (r-square=0.0605; NOBS=924; Sm.Est.=1.0316)	-0.29892	0.08838	-3.38227
d5_Gloves, mittens and mitts; knitted or crocheted	0.13820	0.22425	0.61627
lag5_ln_intensity	-0.08603	0.02525	-3.40707
const (r-square=0.066; NOBS=940; Sm.Est.=1.0321)	-0.29381	0.08925	-3.29210
d5_Clothing accessories; made up, knitted or cr...	0.12154	0.08418	1.44385
lag5_ln_intensity	-0.08389	0.02541	-3.30122
const (r-square=0.0966; NOBS=946; Sm.Est.=1.032)	-0.30840	0.09332	-3.30472
d5_Overcoats, car-coats, capes, cloaks, anoraks...	-0.14720	0.10093	-1.45851
lag5_ln_intensity	-0.08706	0.02690	-3.23641
const (r-square=0.0571; NOBS=946; Sm.Est.=1.0341)	-0.29999	0.09140	-3.28235
d5_Coats; women's or girls' overcoats, carcoats...	-0.02557	0.05856	-0.43664
lag5_ln_intensity	-0.08498	0.02635	-3.22517
const (r-square=0.0929; NOBS=947; Sm.Est.=1.0328)	-0.25304	0.08645	-2.92708
d5_Suits, ensembles, jackets, blazers, trousers...	-0.32767	0.16953	-1.93275
lag5_ln_intensity	-0.07143	0.02496	-2.86129
const (r-square=0.0543; NOBS=947; Sm.Est.=1.0345)	-0.29608	0.09081	-3.26041
d5_Suits, ensembles, jackets, dresses, skirts, ...	-0.09378	0.24017	-0.39045
lag5_ln_intensity	-0.08392	0.02611	-3.21444
const (r-square=0.1129; NOBS=942; Sm.Est.=1.0328)	-0.32059	0.09234	-3.47186
d5_Shirts; men's or boys' (not knitted or croch...	0.76200	0.43368	1.75705
lag5_ln_intensity	-0.09218	0.02561	-3.59873
const (r-square=0.0649; NOBS=946; Sm.Est.=1.0342)	-0.31450	0.08774	-3.58435
d5_Blouses, shirts and shirt-blouses; women's o...	0.11222	0.09761	1.14968
lag5_ln_intensity	-0.08973	0.02490	-3.60364
const (r-square=0.0558; NOBS=940; Sm.Est.=1.0328)	-0.29006	0.08795	-3.29816
d5_Singlets and other vests, underpants, briefs...	-0.06303	0.07026	-0.89709
lag5_ln_intensity	-0.08242	0.02502	-3.29397
const (r-square=0.0646; NOBS=936; Sm.Est.=1.0313)	-0.31915	0.08538	-3.73784
d5_Singlets and other vests, slips, petticoats,...	0.01749	0.03157	0.55381
lag5_ln_intensity	-0.09096	0.02385	-3.81316
const (r-square=0.0557; NOBS=946; Sm.Est.=1.0344)	-0.30266	0.09289	-3.25839
d5_Garments and clothing accessories; babies' (...	-0.06193	0.11476	-0.53963
lag5_ln_intensity	-0.08572	0.02676	-3.20360

(continued...)

const (r-square=0.0617; NOBS=934; Sm.Est.=1.0343)	-0.31774	0.09135	-3.47825
d5_Garments made up of fabrics of heading no. 5...	-0.09790	0.10112	-0.96820
lag5_ln_intensity	-0.09070	0.02611	-3.47364
const (r-square=0.0677; NOBS=946; Sm.Est.=1.0341)	-0.29309	0.08462	-3.46343
d5_Track suits, swimwear and other garments (no...	-0.23006	0.16730	-1.37511
lag5_ln_intensity	-0.08303	0.02444	-3.39657
const (r-square=0.06; NOBS=941; Sm.Est.=1.0325)	-0.30767	0.08401	-3.66242
d5_Brassieres, girdles, corsets, braces, suspen...	-0.00758	0.00813	-0.93127
lag5_ln_intensity	-0.08784	0.02362	-3.71812
const (r-square=0.0636; NOBS=823; Sm.Est.=1.0263)	-0.27898	0.09773	-2.85465
d5_Handkerchiefs (not knitted or crocheted)	0.11633	0.06802	1.71025
lag5_ln_intensity	-0.07959	0.02777	-2.86625
const (r-square=0.2551; NOBS=933; Sm.Est.=1.0272)	-0.25947	0.07556	-3.43409
d5_Shawls, scarves, mufflers, mantillas, veils ...	0.80321	0.13468	5.96389
lag5_ln_intensity	-0.07473	0.02093	-3.57130
const (r-square=0.0974; NOBS=922; Sm.Est.=1.0296)	-0.28221	0.08264	-3.41476
d5_Ties, bow ties and cravats (not knitted or c...	0.34063	0.14935	2.28080
lag5_ln_intensity	-0.08017	0.02327	-3.44443
const (r-square=0.0531; NOBS=916; Sm.Est.=1.03)	-0.29044	0.09297	-3.12395
d5_Gloves, mittens and mitts (not knitted or cr...	0.01673	0.00958	1.74707
lag5_ln_intensity	-0.08206	0.02633	-3.11645
const (r-square=0.0687; NOBS=935; Sm.Est.=1.0338)	-0.29214	0.08847	-3.30204
d5_Clothing accessories n.e.s.; parts of garmen...	0.10341	0.09511	1.08723
lag5_ln_intensity	-0.08378	0.02565	-3.26599
const (r-square=0.0549; NOBS=931; Sm.Est.=1.0315)	-0.28160	0.09498	-2.96503
d5_Blankets and travelling rugs	0.09580	0.07898	1.21292
lag5_ln_intensity	-0.07961	0.02727	-2.91952
const (r-square=0.0624; NOBS=947; Sm.Est.=1.0345)	-0.29570	0.09079	-3.25708
d5_Bed linen, table linen, toilet linen and kit...	0.16127	0.17939	0.89899
lag5_ln_intensity	-0.08394	0.02616	-3.20881
const (r-square=0.0931; NOBS=926; Sm.Est.=1.0302)	-0.31271	0.08004	-3.90722
d5_Curtains (including drapes) and interior bli...	-0.17325	0.06085	-2.84722
lag5_ln_intensity	-0.08852	0.02257	-3.92226
const (r-square=0.0546; NOBS=931; Sm.Est.=1.0342)	-0.30325	0.08879	-3.41524
d5_Furnishing articles; excluding those of head...	-0.00134	0.03500	-0.03833
lag5_ln_intensity	-0.08669	0.02539	-3.41468
const (r-square=0.05; NOBS=939; Sm.Est.=1.0343)	-0.28900	0.09157	-3.15596
d5_Sacks and bags, of a kind used for the packi...	0.00318	0.08958	0.03548
lag5_ln_intensity	-0.08247	0.02646	-3.11700
const (r-square=0.083; NOBS=929; Sm.Est.=1.0311)	-0.29348	0.09470	-3.09917
d5_Tarpaulins, awnings and sunblinds, tents, sa...	-0.14292	0.05154	-2.77314
lag5_ln_intensity	-0.08287	0.02717	-3.04957
const (r-square=0.053; NOBS=946; Sm.Est.=1.0346)	-0.29869	0.09172	-3.25645
d5_Textiles; made up articles n.e.s. in chapter...	0.02031	0.21748	0.09337

(continued...)

lag5_ln_intensity	-0.08492	0.02647	-3.20798
const (r-square=0.1165; NOBS=862; Sm.Est.=1.0262)	-0.32609	0.11267	-2.89427
d5_Textiles; sets of woven fabric and yarn, wit...	-0.09123	0.02591	-3.52028
lag5_ln_intensity	-0.09192	0.03144	-2.92389
const (r-square=0.0526; NOBS=924; Sm.Est.=1.0287)	-0.27842	0.08581	-3.24451
d5_Footwear; waterproof, with outer soles and u...	-0.00292	0.01110	-0.26333
lag5_ln_intensity	-0.07933	0.02384	-3.32733
const (r-square=0.0571; NOBS=942; Sm.Est.=1.0346)	-0.30255	0.09117	-3.31861
d5_Footwear; with outer soles and uppers of rub...	0.15880	0.19543	0.81257
lag5_ln_intensity	-0.08619	0.02638	-3.26714
const (r-square=0.078; NOBS=947; Sm.Est.=1.0338)	-0.30425	0.08972	-3.39126
d5_Footwear; with outer soles of rubber, plasti...	0.30013	0.13278	2.26043
lag5_ln_intensity	-0.08640	0.02576	-3.35443
const (r-square=0.0559; NOBS=943; Sm.Est.=1.0347)	-0.29490	0.09052	-3.25805
d5_Footwear; with outer soles of rubber, plasti...	0.12700	0.18568	0.68400
lag5_ln_intensity	-0.08395	0.02623	-3.20026
const (r-square=0.0557; NOBS=944; Sm.Est.=1.0346)	-0.29491	0.09111	-3.23687
d5_Footwear; other footwear n.e.s. in chapter 64	0.05521	0.04904	1.12579
lag5_ln_intensity	-0.08388	0.02637	-3.18098
const (r-square=0.0565; NOBS=945; Sm.Est.=1.0345)	-0.29635	0.09152	-3.23795
d5_Footwear; parts of footwear; removable in-so...	-0.05785	0.08937	-0.64730
lag5_ln_intensity	-0.08442	0.02638	-3.19961
const (r-square=0.0519; NOBS=678; Sm.Est.=1.0178)	-0.22283	0.09293	-2.39780
d5_Hat-forms, hat bodies and hoods of felt, nei...	-0.00348	0.02232	-0.15585
lag5_ln_intensity	-0.06510	0.02622	-2.48300
const (r-square=0.0652; NOBS=568; Sm.Est.=1.0171)	-0.24660	0.12218	-2.01829
d5_Hat-shapes; plaited or made by assembling st...	-0.06242	0.04972	-1.25524
lag5_ln_intensity	-0.06944	0.03415	-2.03347
const (r-square=0.0637; NOBS=876; Sm.Est.=1.0229)	-0.29065	0.09175	-3.16796
d5_Hats and other headgear; plaited or made by ...	-0.00105	0.00225	-0.46739
lag5_ln_intensity	-0.08239	0.02561	-3.21700
const (r-square=0.0737; NOBS=947; Sm.Est.=1.0334)	-0.27567	0.08638	-3.19142
d5_Hats and headgear; knitted or crocheted, or ...	0.47390	0.29161	1.62512
lag5_ln_intensity	-0.07910	0.02497	-3.16805
const (r-square=0.0629; NOBS=917; Sm.Est.=1.0303)	-0.31200	0.08855	-3.52354
d5_Headgear; n.e.s. in chapter 65, whether or n...	0.02070	0.03892	0.53181
lag5_ln_intensity	-0.08863	0.02481	-3.57297
const (r-square=0.0484; NOBS=852; Sm.Est.=1.0237)	-0.24013	0.09786	-2.45389
d5_Head-bands, linings, covers, hat foundations...	-0.04188	0.04980	-0.84087
lag5_ln_intensity	-0.06721	0.02779	-2.41798
const (r-square=0.0447; NOBS=915; Sm.Est.=1.03)	-0.27089	0.10099	-2.68235
d5_Glass fibres (including glass wool) and arti...	-0.01247	0.01991	-0.62634
lag5_ln_intensity	-0.07544	0.02927	-2.57747
const (r-square=0.0769; NOBS=781; Sm.Est.=1.02)	-0.24546	0.09461	-2.59438

(continued...)

d5_Parachutes (including dirigible) and rotochu...	-0.04164	0.02798	-1.48800
lag5_ln_intensity	-0.06953	0.02612	-2.66162
const (r-square=0.0203; NOBS=510; Sm.Est.=1.0037)	-0.08739	0.02505	-3.48802
d5_Watch straps, watch bands, watch bracelets a...	0.01239	0.01737	0.71321
lag5_ln_intensity	-0.01934	0.00793	-2.43944
const (r-square=0.0917; NOBS=931; Sm.Est.=1.0315)	-0.27200	0.09311	-2.92137
d5_Mattress supports; articles of bedding (eg m...	-0.12927	0.05502	-2.34942
lag5_ln_intensity	-0.07717	0.02702	-2.85557
const (r-square=0.0556; NOBS=836; Sm.Est.=1.0262)	-0.26249	0.08500	-3.08806
d5_Travel sets; for personal toilet, sewing, sh...	0.12983	0.25244	0.51431
lag5_ln_intensity	-0.07466	0.02384	-3.13138

Table L.8: Regression results of HS-4digit products in the textiles industry [1995-2017]

Non-specified industry

	parameter	std_errors	t-stat
const (r-square=0.139; NOBS=447; Sm.Est.=1.025)	-0.17563	0.07626	-2.30294
d5_Human hair; unworked, whether or not washed ...	0.02224	0.01003	2.21708
lag5_ln_intensity	-0.06810	0.02512	-2.71059
const (r-square=0.1051; NOBS=1001; Sm.Est.=1.0478)	-0.21690	0.06021	-3.60220
d5_Pharmaceutical goods	0.07023	0.13773	0.50986
lag5_ln_intensity	-0.07914	0.01746	-4.53183
const (r-square=0.1844; NOBS=990; Sm.Est.=1.0416)	-0.20344	0.06395	-3.18107
d5_Candles, tapers and the like	-0.42753	0.09524	-4.48901
lag5_ln_intensity	-0.07448	0.01900	-3.91975
const (r-square=0.0973; NOBS=922; Sm.Est.=1.0411)	-0.20264	0.06811	-2.97506
d5_Ferro-cerium and other pyrophoric alloys in ...	-0.07330	0.07454	-0.98332
lag5_ln_intensity	-0.07223	0.01952	-3.69954
const (r-square=0.1139; NOBS=1004; Sm.Est.=1.0474)	-0.21122	0.05762	-3.66554
d5_Monofilament of which any cross-sectional di...	-0.18097	0.18633	-0.97127
lag5_ln_intensity	-0.07751	0.01641	-4.72455
const (r-square=0.1065; NOBS=1009; Sm.Est.=1.0478)	-0.21086	0.05680	-3.71254
d5_Tubes, pipes and hoses and fittings thereof ...	-0.05535	0.18534	-0.29863
lag5_ln_intensity	-0.07765	0.01648	-4.71108
const (r-square=0.0996; NOBS=996; Sm.Est.=1.0473)	-0.21139	0.06387	-3.30991
d5_Floor coverings of plastics, self-adhesive o...	0.14202	0.29793	0.47668
lag5_ln_intensity	-0.07781	0.01849	-4.20756
const (r-square=0.112; NOBS=1012; Sm.Est.=1.0476)	-0.20788	0.05710	-3.64069
d5_Self-adhesive plates, sheets, film, foil, ta...	0.36925	0.38262	0.96505
lag5_ln_intensity	-0.07649	0.01655	-4.62270
const (r-square=0.1073; NOBS=1010; Sm.Est.=1.0477)	-0.21278	0.05827	-3.65154
d5_Plastic plates, sheets, film, foil and strip...	0.16550	0.48670	0.34005
lag5_ln_intensity	-0.07824	0.01698	-4.60862
const (r-square=0.106; NOBS=1005; Sm.Est.=1.0477)	-0.21244	0.05870	-3.61912
d5_Plastic plates, sheets, film, foil and strip...	0.04160	0.26292	0.15821
lag5_ln_intensity	-0.07798	0.01701	-4.58326
const (r-square=0.1486; NOBS=997; Sm.Est.=1.0456)	-0.21203	0.05972	-3.55048
d5_Sanitary ware; baths, shower-baths, wash-bas...	-0.39356	0.08730	-4.50805
lag5_ln_intensity	-0.07756	0.01756	-4.41640
const (r-square=0.106; NOBS=1013; Sm.Est.=1.0477)	-0.20615	0.05611	-3.67418
d5_Plastic articles for the conveyance or packi...	-0.04356	0.01867	-2.33366
lag5_ln_intensity	-0.07609	0.01635	-4.65275
const (r-square=0.1109; NOBS=1009; Sm.Est.=1.0471)	-0.20571	0.05767	-3.56709
d5_Tableware, kitchenware, other household arti...	-0.24298	0.35732	-0.68000
lag5_ln_intensity	-0.07592	0.01663	-4.56447
const (r-square=0.1201; NOBS=1006; Sm.Est.=1.0477)	-0.20951	0.05668	-3.69614
d5_Plastics; builders' wares n.e.s. or included	-0.36884	0.39110	-0.94307

(continued...)

lag5_ln_intensity	-0.07699	0.01658	-4.64404
const (r-square=0.104; NOBS=1012; Sm.Est.=1.0478)	-0.20550	0.05637	-3.64574
d5_Articles of plastics and articles of other m...	0.13264	0.80957	0.16384
lag5_ln_intensity	-0.07594	0.01634	-4.64723
const (r-square=0.1164; NOBS=989; Sm.Est.=1.0466)	-0.21878	0.06260	-3.49507
d5_Compounded rubber, unvulcanised, in primary ...	0.22526	0.12075	1.86554
lag5_ln_intensity	-0.07976	0.01814	-4.39683
const (r-square=0.0906; NOBS=976; Sm.Est.=1.0463)	-0.20564	0.06834	-3.00888
d5_Unvulcanised rubber in other forms (eg rods,...	0.04632	0.06892	0.67204
lag5_ln_intensity	-0.07545	0.01969	-3.83207
const (r-square=0.0852; NOBS=883; Sm.Est.=1.0409)	-0.19637	0.07089	-2.77016
d5_Vulcanised rubber thread and cord	0.04409	0.09153	0.48176
lag5_ln_intensity	-0.07134	0.02017	-3.53747
const (r-square=0.1052; NOBS=1005; Sm.Est.=1.0478)	-0.21319	0.05927	-3.59699
d5_Plates, sheets, strip, rods and profile shap...	-0.02643	0.15769	-0.16764
lag5_ln_intensity	-0.07833	0.01742	-4.49734
const (r-square=0.1093; NOBS=1008; Sm.Est.=1.0477)	-0.21247	0.05744	-3.69871
d5_Tubes, pipes and hoses, of vulcanised rubber...	-0.10281	0.29328	-0.35056
lag5_ln_intensity	-0.07804	0.01662	-4.69649
const (r-square=0.1323; NOBS=1000; Sm.Est.=1.0461)	-0.20801	0.06174	-3.36915
d5_Conveyor or transmission belts or belting, o...	0.21296	0.09727	2.18934
lag5_ln_intensity	-0.07568	0.01808	-4.18641
const (r-square=0.1287; NOBS=1008; Sm.Est.=1.0462)	-0.19266	0.05735	-3.35932
d5_New pneumatic tyres, of rubber	0.57450	0.24655	2.33019
lag5_ln_intensity	-0.07194	0.01690	-4.25797
const (r-square=0.1213; NOBS=995; Sm.Est.=1.0458)	-0.20396	0.05962	-3.42124
d5_Retreaded or used pneumatic tyres of rubber;...	0.19501	0.08830	2.20841
lag5_ln_intensity	-0.07462	0.01697	-4.39638
const (r-square=0.1051; NOBS=981; Sm.Est.=1.0475)	-0.20565	0.06413	-3.20670
d5_Inner tubes, of rubber	0.08771	0.09206	0.95270
lag5_ln_intensity	-0.07624	0.01879	-4.05710
const (r-square=0.1092; NOBS=1000; Sm.Est.=1.0477)	-0.22044	0.06038	-3.65077
d5_Hygienic or pharmaceutical articles (includi...	-0.03889	0.10740	-0.36205
lag5_ln_intensity	-0.08050	0.01754	-4.58839
const (r-square=0.1114; NOBS=996; Sm.Est.=1.0469)	-0.21358	0.06402	-3.33638
d5_Articles of apparel and clothing accessories...	0.26104	0.26506	0.98480
lag5_ln_intensity	-0.07858	0.01846	-4.25763
const (r-square=0.113; NOBS=1011; Sm.Est.=1.0474)	-0.20446	0.05678	-3.60087
d5_Articles of vulcanised rubber other than har...	0.50294	0.46855	1.07340
lag5_ln_intensity	-0.07548	0.01659	-4.54879
const (r-square=0.1042; NOBS=980; Sm.Est.=1.046)	-0.21141	0.06303	-3.35406
d5_Hard rubber (eg ebonite) in all forms, inclu...	-0.03622	0.02574	-1.40718
lag5_ln_intensity	-0.07733	0.01837	-4.20902
const (r-square=0.0857; NOBS=901; Sm.Est.=1.0422)	-0.19248	0.07339	-2.62246

(continued...)

d5_Articles of apparel and clothing accessories...	0.00874	0.07203	0.12138
lag5_ln_intensity	-0.07203	0.02123	-3.39212
const (r-square=0.024; NOBS=289; Sm.Est.=1.013)	-0.05364	0.03803	-1.41047
d5_Articles of gut (other than silk-worm gut), ...	0.01819	0.00537	3.38606
lag5_ln_intensity	-0.01541	0.01310	-1.17604
const (r-square=0.0667; NOBS=701; Sm.Est.=1.0382)	-0.16931	0.07132	-2.37399
d5_Maps and hydrographic or similar charts of a...	0.01988	0.21135	0.09406
lag5_ln_intensity	-0.06055	0.02002	-3.02456
const (r-square=0.0962; NOBS=885; Sm.Est.=1.0459)	-0.20606	0.06918	-2.97877
d5_Linoleum, whether or not cut to shape; floor...	-0.01328	0.06114	-0.21721
lag5_ln_intensity	-0.07576	0.02015	-3.76047
const (r-square=0.0931; NOBS=984; Sm.Est.=1.0458)	-0.20204	0.06591	-3.06536
d5_Textile fabrics, rubberised; other than thos...	0.20566	0.21885	0.93973
lag5_ln_intensity	-0.07362	0.01933	-3.80821
const (r-square=0.1208; NOBS=836; Sm.Est.=1.0362)	-0.21849	0.06800	-3.21323
d5_Footwear; with outer soles and uppers of rub...	-0.03911	0.02722	-1.43694
lag5_ln_intensity	-0.07696	0.02003	-3.84209
const (r-square=0.0897; NOBS=797; Sm.Est.=1.0394)	-0.18588	0.07384	-2.51737
d5_Footwear; with outer soles of rubber, plasti...	-0.04848	0.02082	-2.32812
lag5_ln_intensity	-0.06914	0.02084	-3.31830
const (r-square=0.1077; NOBS=995; Sm.Est.=1.0473)	-0.21596	0.06357	-3.39751
d5_Headgear; n.e.s. in chapter 65, whether or n...	0.25495	0.19273	1.32285
lag5_ln_intensity	-0.07942	0.01856	-4.27783
const (r-square=0.107; NOBS=996; Sm.Est.=1.0476)	-0.21772	0.06302	-3.45450
d5_Umbrellas; sun umbrellas (including walking ...	0.10412	0.14628	0.71177
lag5_ln_intensity	-0.07982	0.01845	-4.32671
const (r-square=0.0904; NOBS=780; Sm.Est.=1.0367)	-0.18576	0.07472	-2.48601
d5_Walking-sticks, seat-sticks, whips, riding-c...	0.02928	0.07953	0.36818
lag5_ln_intensity	-0.06977	0.02114	-3.29969
const (r-square=0.1115; NOBS=897; Sm.Est.=1.0363)	-0.18518	0.07182	-2.57837
d5_Trimmings, parts and accessories of articles...	-0.27367	0.15644	-1.74934
lag5_ln_intensity	-0.06777	0.02087	-3.24739
const (r-square=0.0951; NOBS=753; Sm.Est.=1.0374)	-0.16202	0.07714	-2.10031
d5_Skin and other parts of birds with their fea...	-0.50197	0.30852	-1.62703
lag5_ln_intensity	-0.06277	0.02189	-2.86694
const (r-square=0.0978; NOBS=977; Sm.Est.=1.0473)	-0.21186	0.06620	-3.20033
d5_Flowers, foliage and fruit, artificial, and ...	0.18048	1.42913	0.12629
lag5_ln_intensity	-0.07806	0.01910	-4.08717
const (r-square=0.0982; NOBS=731; Sm.Est.=1.0318)	-0.16592	0.06141	-2.70190
d5_Human hair, dressed, thinned, bleached or ot...	0.06636	0.03651	1.81775
lag5_ln_intensity	-0.06176	0.01843	-3.35165
const (r-square=0.0924; NOBS=915; Sm.Est.=1.0431)	-0.17868	0.06976	-2.56131
d5_Wigs, false beards, eyebrows and eyelashes, ...	0.21975	0.20357	1.07951
lag5_ln_intensity	-0.06792	0.02079	-3.26692

(continued...)

const (r-square=0.1006; NOBS=354; Sm.Est.=1.0057)	-0.08885	0.02741	-3.24174
d5_Pearls; natural or cultured, whether or not ...	-0.00732	0.00366	-2.00287
lag5_ln_intensity	-0.02757	0.00919	-3.00061
const (r-square=0.1337; NOBS=461; Sm.Est.=1.0115)	-0.12168	0.03186	-3.81894
d5_Diamonds, whether or not worked, but not mou...	0.03125	0.00421	7.42674
lag5_ln_intensity	-0.03517	0.01015	-3.46469
const (r-square=0.1463; NOBS=509; Sm.Est.=1.0138)	-0.14820	0.03810	-3.88955
d5_Precious (excluding diamond) and semi-precio...	-0.04686	0.01149	-4.07737
lag5_ln_intensity	-0.04030	0.01243	-3.24168
const (r-square=0.1285; NOBS=487; Sm.Est.=1.0158)	-0.16937	0.04619	-3.66692
d5_Synthetic, reconstructed precious, semi-prec...	0.07965	0.07502	1.06181
lag5_ln_intensity	-0.04918	0.01562	-3.14925
const (r-square=0.1759; NOBS=434; Sm.Est.=1.0114)	-0.15751	0.06093	-2.58483
d5_Dust and powder of natural or synthetic prec...	-0.11590	0.03223	-3.59629
lag5_ln_intensity	-0.04569	0.01856	-2.46179
const (r-square=0.1178; NOBS=671; Sm.Est.=1.0239)	-0.18554	0.04547	-4.08039
d5_Jewellery articles and parts thereof, of pre...	-0.01450	0.12017	-0.12070
lag5_ln_intensity	-0.05661	0.01438	-3.93561
const (r-square=0.1247; NOBS=611; Sm.Est.=1.0158)	-0.17734	0.04133	-4.29078
d5_Articles of goldsmiths' or silversmiths' war...	-0.00855	0.02088	-0.40967
lag5_ln_intensity	-0.04949	0.01322	-3.74300
const (r-square=0.078; NOBS=559; Sm.Est.=1.0103)	-0.12286	0.04208	-2.91993
d5_Articles of precious metal or of metal clad ...	-0.01477	0.00587	-2.51705
lag5_ln_intensity	-0.03317	0.01275	-2.60234
const (r-square=0.1119; NOBS=579; Sm.Est.=1.0152)	-0.16940	0.03871	-4.37614
d5_Articles of natural or cultured pearls, prec...	-0.05778	0.04065	-1.42125
lag5_ln_intensity	-0.04585	0.01213	-3.77844
const (r-square=0.1267; NOBS=621; Sm.Est.=1.0179)	-0.18158	0.04150	-4.37537
d5_Imitation jewellery	-0.07895	0.06073	-1.29990
lag5_ln_intensity	-0.05130	0.01342	-3.82334
const (r-square=0.0906; NOBS=898; Sm.Est.=1.0429)	-0.18462	0.05563	-3.31845
d5_Coin	0.00618	0.01314	0.47038
lag5_ln_intensity	-0.06932	0.01624	-4.26797
const (r-square=0.1142; NOBS=974; Sm.Est.=1.0477)	-0.21903	0.06052	-3.61879
d5_Machinery, plant or laboratory equipment for...	0.16607	0.10676	1.55565
lag5_ln_intensity	-0.08019	0.01765	-4.54439
const (r-square=0.1091; NOBS=983; Sm.Est.=1.0449)	-0.19994	0.06167	-3.24200
d5_Insulating fittings; for electrical machines...	-0.28990	0.15485	-1.87213
lag5_ln_intensity	-0.07326	0.01783	-4.10924
const (r-square=0.09; NOBS=986; Sm.Est.=1.0464)	-0.20504	0.06726	-3.04855
d5_Frames and mountings; for spectacles, goggle...	-0.11592	0.18044	-0.64241
lag5_ln_intensity	-0.07509	0.01961	-3.82834
const (r-square=0.1237; NOBS=999; Sm.Est.=1.0461)	-0.20288	0.05695	-3.56212
d5_Spectacles, goggles and the like; corrective...	-0.40684	0.21589	-1.88449

(continued...)

lag5_ln_intensity	-0.07452	0.01643	-4.53511
const (r-square=0.111; NOBS=1012; Sm.Est.=1.0477)	-0.19850	0.05171	-3.83859
d5_Instruments and appliances used in medical, ...	-0.32475	0.49849	-0.65147
lag5_ln_intensity	-0.07359	0.01523	-4.83298
const (r-square=0.1056; NOBS=997; Sm.Est.=1.0478)	-0.21898	0.06046	-3.62167
d5_Mechano-therapy, massage appliances; psychol...	0.01471	0.07446	0.19758
lag5_ln_intensity	-0.08004	0.01779	-4.49828
const (r-square=0.1086; NOBS=988; Sm.Est.=1.0465)	-0.21678	0.06299	-3.44135
d5_Breathing appliances and gas masks; excludin...	-0.08646	0.09100	-0.95003
lag5_ln_intensity	-0.07968	0.01853	-4.29989
const (r-square=0.1339; NOBS=615; Sm.Est.=1.0175)	-0.18854	0.04723	-3.99174
d5_Orthopaedic appliances; including crutches, ...	0.00353	0.04607	0.07652
lag5_ln_intensity	-0.05348	0.01509	-3.54352
const (r-square=0.1131; NOBS=1008; Sm.Est.=1.0477)	-0.20903	0.05699	-3.66799
d5_Instruments, apparatus and models, designed ...	-0.09106	0.05672	-1.60551
lag5_ln_intensity	-0.07706	0.01672	-4.60767
const (r-square=0.1987; NOBS=367; Sm.Est.=1.0066)	-0.10625	0.04086	-2.60018
d5_Watch cases and parts thereof	0.02521	0.00193	13.09221
lag5_ln_intensity	-0.03368	0.01256	-2.68064
const (r-square=0.0289; NOBS=298; Sm.Est.=1.0052)	-0.06342	0.03821	-1.65988
d5_Clock cases and cases of a similar type for ...	0.00154	0.00602	0.25539
lag5_ln_intensity	-0.01613	0.01187	-1.35876
const (r-square=0.0948; NOBS=456; Sm.Est.=1.0081)	-0.11100	0.03211	-3.45663
d5_Watch straps, watch bands, watch bracelets a...	-0.05596	0.01984	-2.82047
lag5_ln_intensity	-0.03134	0.00982	-3.19053
const (r-square=0.1003; NOBS=963; Sm.Est.=1.0453)	-0.20461	0.06124	-3.34133
d5_Pianos; including automatic pianos, harpsich...	0.03694	0.10271	0.35966
lag5_ln_intensity	-0.07443	0.01777	-4.18756
const (r-square=0.1368; NOBS=978; Sm.Est.=1.0459)	-0.21739	0.06270	-3.46719
d5_Musical instruments; string, n.e.s. in headi...	0.30899	0.17078	1.80924
lag5_ln_intensity	-0.08037	0.01868	-4.30216
const (r-square=0.1073; NOBS=945; Sm.Est.=1.043)	-0.21529	0.07078	-3.04147
d5_Musical instruments; wind, (eg clarinets, tr...	0.21879	0.20876	1.04805
lag5_ln_intensity	-0.07771	0.02047	-3.79590
const (r-square=0.111; NOBS=937; Sm.Est.=1.0408)	-0.17140	0.06549	-2.61722
d5_Musical instruments; percussion (eg drums, x...	0.70310	0.33101	2.12410
lag5_ln_intensity	-0.06417	0.01871	-3.42962
const (r-square=0.1143; NOBS=979; Sm.Est.=1.0456)	-0.20936	0.06457	-3.24257
d5_Musical instruments; the sound of which is p...	0.14140	0.16031	0.88207
lag5_ln_intensity	-0.07855	0.01903	-4.12722
const (r-square=0.0825; NOBS=869; Sm.Est.=1.04)	-0.18551	0.07019	-2.64277
d5_Musical boxes, fairground and mechanical str...	-0.03542	0.15878	-0.22309
lag5_ln_intensity	-0.07006	0.02014	-3.47777
const (r-square=0.1444; NOBS=952; Sm.Est.=1.0402)	-0.18704	0.07294	-2.56416

(continued...)

d5_Musical instrument parts (eg mechanisms for ...	0.87150	0.28920	3.01352
lag5_ln_intensity	-0.06926	0.02150	-3.22115
const (r-square=0.1118; NOBS=1010; Sm.Est.=1.0477)	-0.21310	0.05753	-3.70409
d5_Seats (not those of heading no. 9402), wheth...	-0.21455	0.28622	-0.74963
lag5_ln_intensity	-0.07816	0.01665	-4.69561
const (r-square=0.1073; NOBS=993; Sm.Est.=1.0467)	-0.21966	0.06144	-3.57505
d5_Furniture; medical, surgical, dental or vete...	0.26259	0.28798	0.91183
lag5_ln_intensity	-0.08046	0.01787	-4.50338
const (r-square=0.1649; NOBS=1011; Sm.Est.=1.0431)	-0.21177	0.05559	-3.80952
d5_Furniture and parts thereof, n.e.s. in chapt...	-0.74936	0.33545	-2.23391
lag5_ln_intensity	-0.07755	0.01614	-4.80480
const (r-square=0.1999; NOBS=1001; Sm.Est.=1.0415)	-0.21259	0.05943	-3.57728
d5_Mattress supports; articles of bedding (eg m...	-0.48364	0.13482	-3.58736
lag5_ln_intensity	-0.07771	0.01713	-4.53767
const (r-square=0.0852; NOBS=977; Sm.Est.=1.0463)	-0.20164	0.06853	-2.94224
d5_Lamps, light fittings; including searchlight...	-0.02415	0.13625	-0.17725
lag5_ln_intensity	-0.07356	0.01982	-3.71141
const (r-square=0.1086; NOBS=1007; Sm.Est.=1.0478)	-0.21417	0.05766	-3.71417
d5_Toys, other; reduced-size ("scale") models a...	0.07860	0.47696	0.16480
lag5_ln_intensity	-0.07863	0.01669	-4.71040
const (r-square=0.1316; NOBS=1009; Sm.Est.=1.0463)	-0.20380	0.05367	-3.79752
d5_Games; funfair, table or parlour, articles t...	-0.45555	0.18156	-2.50904
lag5_ln_intensity	-0.07457	0.01556	-4.79284
const (r-square=0.1439; NOBS=1007; Sm.Est.=1.0446)	-0.19705	0.05666	-3.47795
d5_Festive, carnival or other entertainment art...	1.35555	0.53503	2.53361
lag5_ln_intensity	-0.07447	0.01644	-4.52982
const (r-square=0.1028; NOBS=1007; Sm.Est.=1.0478)	-0.20747	0.05765	-3.59853
d5_Gymnastics, athletics, other sports (includi...	-0.02435	0.44641	-0.05454
lag5_ln_intensity	-0.07654	0.01690	-4.53013
const (r-square=0.1189; NOBS=979; Sm.Est.=1.0441)	-0.20565	0.06444	-3.19145
d5_Fishing rods, fish-hooks and other line fish...	-0.32654	0.14513	-2.24996
lag5_ln_intensity	-0.07413	0.01845	-4.01859
const (r-square=0.0966; NOBS=875; Sm.Est.=1.0459)	-0.20868	0.07099	-2.93946
d5_Ivory, bone, tortoise-shell, horn, antlers, ...	0.00216	0.03325	0.06483
lag5_ln_intensity	-0.07895	0.02069	-3.81668
const (r-square=0.0938; NOBS=981; Sm.Est.=1.0451)	-0.19389	0.06561	-2.95525
d5_Vegetable, mineral carving material and arti...	-0.06547	0.06669	-0.98170
lag5_ln_intensity	-0.07113	0.01901	-3.74123
const (r-square=0.1271; NOBS=1005; Sm.Est.=1.047)	-0.22474	0.05927	-3.79205
d5_Brooms, brushes (including parts of machines...	-0.37366	0.20328	-1.83819
lag5_ln_intensity	-0.08162	0.01703	-4.79420
const (r-square=0.084; NOBS=844; Sm.Est.=1.0421)	-0.17403	0.06741	-2.58168
d5_Hand sieves and hand riddles	0.08287	0.18311	0.45255
lag5_ln_intensity	-0.06862	0.02007	-3.41921

(continued...)

const (r-square=0.0933; NOBS=998; Sm.Est.=1.0458)	-0.19933	0.06005	-3.31957
d5_Buttons, press-fasteners, snap-fasteners and...	-0.00676	0.00375	-1.80016
lag5_ln_intensity	-0.07293	0.01749	-4.16959
const (r-square=0.0915; NOBS=1000; Sm.Est.=1.0454)	-0.19257	0.05858	-3.28754
d5_Slide fasteners and parts thereof	-0.14978	0.21421	-0.69922
lag5_ln_intensity	-0.07082	0.01699	-4.16933
const (r-square=0.1234; NOBS=1002; Sm.Est.=1.0471)	-0.21515	0.05892	-3.65161
d5_Pens; ball-point, felt tipped, other porous ...	0.67869	0.39072	1.73699
lag5_ln_intensity	-0.07871	0.01718	-4.58258
const (r-square=0.1239; NOBS=980; Sm.Est.=1.0455)	-0.21093	0.06901	-3.05651
d5_Pencils (not of heading no. 9608), crayons, ...	0.26583	0.15609	1.70304
lag5_ln_intensity	-0.07755	0.01997	-3.88403
const (r-square=0.0916; NOBS=958; Sm.Est.=1.044)	-0.17954	0.06599	-2.72053
d5_Slates and boards, with writing or drawing s...	-0.21674	0.09349	-2.31827
lag5_ln_intensity	-0.06589	0.01857	-3.54935
const (r-square=0.0796; NOBS=957; Sm.Est.=1.0454)	-0.19341	0.06556	-2.95023
d5_Stamps; date, numbering, sealing stamps and ...	-0.00649	0.05033	-0.12885
lag5_ln_intensity	-0.07102	0.01915	-3.70945
const (r-square=0.0904; NOBS=977; Sm.Est.=1.0463)	-0.20475	0.06594	-3.10527
d5_Typewriter, similar ribbons, inked, otherwis...	-0.05684	0.20742	-0.27403
lag5_ln_intensity	-0.07550	0.01909	-3.95474
const (r-square=0.1046; NOBS=994; Sm.Est.=1.0471)	-0.21343	0.06211	-3.43638
d5_Cigarette lighters and other lighters, wheth...	-0.03599	0.12904	-0.27888
lag5_ln_intensity	-0.07891	0.01809	-4.36109
const (r-square=0.057; NOBS=296; Sm.Est.=1.0214)	-0.11259	0.05031	-2.23763
d5_Smoking pipes (including pipe bowls) and cig...	-0.06747	0.06418	-1.05126
lag5_ln_intensity	-0.04672	0.01670	-2.79789
const (r-square=0.0975; NOBS=992; Sm.Est.=1.0468)	-0.20514	0.06709	-3.05784
d5_Combs, hair-slides and similar; hairpins, cu...	0.30721	0.36459	0.84264
lag5_ln_intensity	-0.07607	0.01942	-3.91783
const (r-square=0.1036; NOBS=932; Sm.Est.=1.0436)	-0.19307	0.07064	-2.73322
d5_Scent sprays and similar toilet sprays and m...	0.37805	0.20623	1.83313
lag5_ln_intensity	-0.07396	0.02065	-3.58082
const (r-square=0.1131; NOBS=966; Sm.Est.=1.0472)	-0.21135	0.06508	-3.24740
d5_Vacuum flasks and other vacuum vessels, comp...	0.43584	0.27652	1.57614
lag5_ln_intensity	-0.07838	0.01917	-4.08895
const (r-square=0.096; NOBS=974; Sm.Est.=1.0451)	-0.20512	0.06219	-3.29839
d5_Tailors' dummies and other lay figures; auto...	-0.08110	0.07617	-1.06477
lag5_ln_intensity	-0.07420	0.01795	-4.13459

Table L.9: Regression results of HS-4digit products in the non-specified industry [1995-2017]