

Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examencommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information	
Name	Jan Ruttenberg
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Telephone number	
Private e-mail address	

Studio	
Name / Theme	Housing market analysis
Teachers / tutors	Harry Boumeester, Philip Koppels
Argumentation of choice of the studio	The Dutch housing market concerns all of us: everyone needs a home to live in. For the last few years, the prices on the Amsterdam housing market increased exorbitantly. For myself, a deeper knowledge of market forces and external factors that drive it was required. Hence, the choice for this graduation studio.

Graduation project	
Title of the graduation project	The Amsterdam housing market and its (lack of) affordability explained by two models and a comparison.
Goal	
Location:	Amsterdam/Arnhem
The posed problem,	Amongst other things, the rising house prices not only risk the affordability of those entering the market, but also of those who have been residing in Amsterdam for a longer period of time
research questions and	The main research question is: "to what extent does the current state of the Amsterdam housing market influence the affordability for prolonged inhabitants of the city?"
design assignment in which these result.	A time series analysis model and a hedonic price model.
1. What are the social (marital status, age, education, family composition, origin) economic (job type, income, capital, income spent on housing) differences between buyers on the Amsterdam market and the average Dutch buyer?	

2. What are the physical (number of rooms, floor area, age, garden etc.) and financial (housing type) and differences between the housing supply on the Amsterdam market and Arnhem?
3. Can the market value in the residential sector of Amsterdam be explained by the use of house price models?
4. To what extent do the rising house prices in Amsterdam have an impact on the taxes and thereby the disposable income of households in the [o.o. sector]?

Process

Method description

1. Descriptive analysis; analysis of theoretical and practical literature about the housing market and existing time regression and hedonic price models
2. Hedonic price model; regression of factors that explain the revealed preferences of residents of Amsterdam and Arnhem
3. Time series analysis; decomposing the house price trend line from the period 1995-2017 by identifying and subtracting (economic) factors that determine the trend line.

Literature and general practical preference

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Reflection

Relevance

The media have been extensively reporting about the Amsterdam housing market for the last years, considering the constant period of growth from the first quarter of 2015, and a staggering 12,9% annual increase since the first quarter of 2013. Only last quarter the house prices in Amsterdam had a decline (Rooijers, 2017). This raises questions about the affordability of housing in the capital of the Netherlands and the probability of a bubble in the market which could lead to a price correction towards the equilibrium (Himmelberg, Mayer, & Sinai, 2005, p. 68) and thus credit problems for people who bought their houses during the build-up of the bubble (Hekwolter of Hekhuis, Nijskens, & Heeringa, 2017). Besides, this increase doesn't only affect the affordability of new inhabitants of the city, but possibly also for the inhabitants who acquired a house before this growing streak started, since the current price increase has an extensive influence on (housing) taxes and rent levels.

Next to these societal influences of the rising prices, it is also interesting to test the current conditions against economical models that reflect and/or simulate the house prices development. These models are often designed and tested, although they mostly do not cover local housing markets [fill in correct sources]. Furthermore, the (partial) economical explanation of the current trends is something that arouses the interest of many researchers [fill in suiting sources]. Finally, the consequences of affordability on societal changes are a topic that is often covered by social

researchers.

Time planning

January 7th, 2018	Hand in P2 report
January 15th, 2018	P2 presentation
January 26th, 2018	Case study methods deadline (3 ECTS)
March 5th-16th, 2018	P3 presentation
April 12th, 2018	Building history exam (3 ECTS)
April 20th, 2018	Deadline P4 application
May 21st-June 1st, 2018	P4 presentation
June 25th-July 6th, 2018	P5 presentation