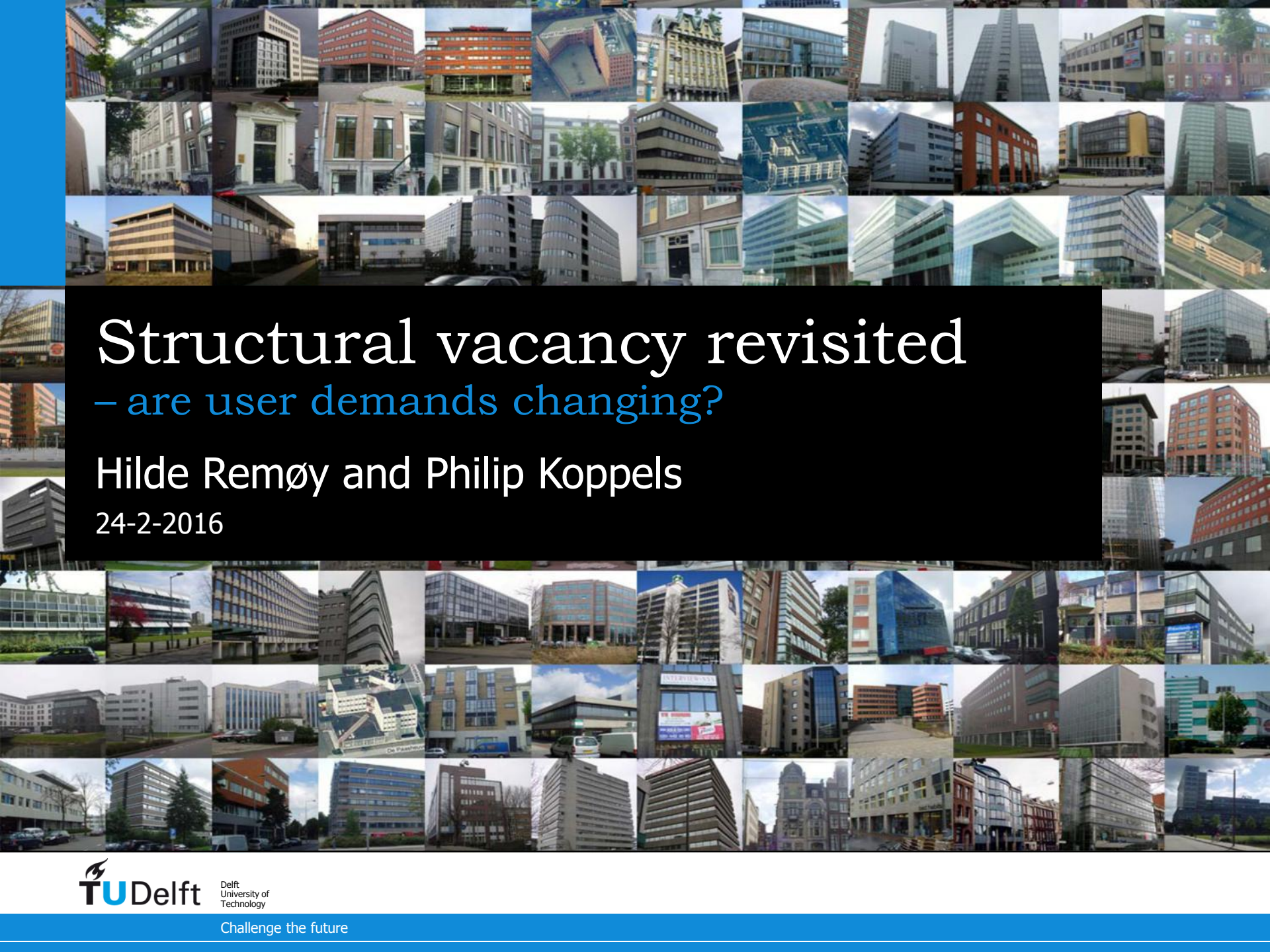




Structural vacancy revisited

– are user demands changing?

Hilde Remøy and Philip Koppels

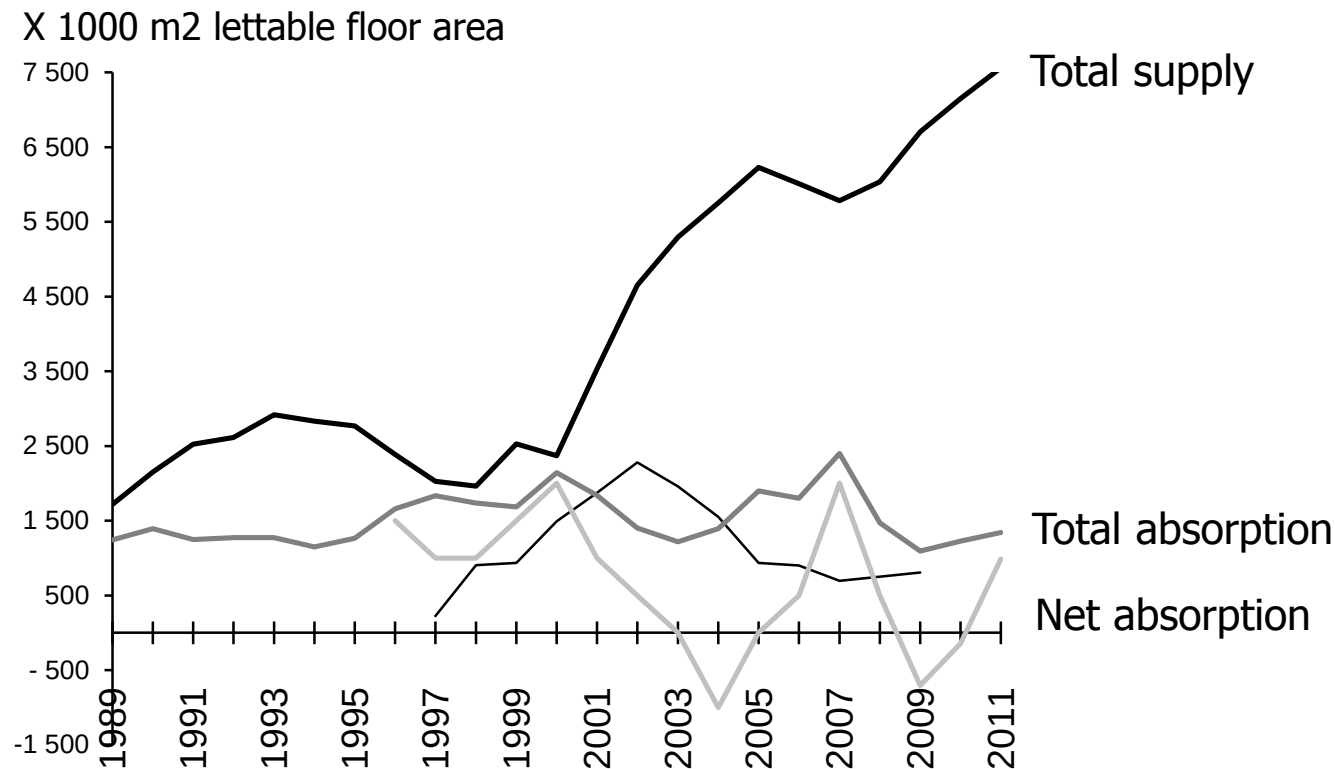
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Overview

- Increased vacancy risk
- Quality and obsolescence
- Quantitative study of supply
- Qualitative study of demand

Research objective

7 million m² vacant in the Dutch office market



Research objective

Vacancy risk becomes a threat to value

- structural vacancy: vacancy of the same space for 3 years or more
- Office user preferences important: push, pull and keep factors
- Physical characteristics of vacant offices represent 'veto criteria' for office users
- Are user preferences changing?

Data and method

Characteristics of vacant offices / user preferences

- Logistic regressions: 30% vacancy, studying 200 office buildings in Amsterdam in the period 2005-2010
- In depth interviews with 15 office organisations



Data and method

Selection of characteristics

- Literature study of characteristics that influence user preferences: Baum 1991, 1997, Bottom et. al. 1998, Korteweg 2002, Louw 1996
- Delphi study, interviewing office accommodation advisors: Remøy and Koppels 2007, showing the importance of functional and image characteristics of location and building
- Extensive list of location and building characteristics
- Uni-variate analyses
- Testing of several models

Characteristics of vacancy

Logistic regression model

- Year of construction
- Facade material
- Facade quality
- Entrance spatiality
- Structural grid
- Facade grid
- Quality of public space
- Green within 50 metres
- Workers amenities within 500 metres



Structural vacancy in 2005 - Variables in the Equation

		95% C.I. for EXP(B)			
		B	Exp(B)	Lower	Upper
Y.o.c reference year: 1995-	Year of construction 1950-1964	.542	1.720	.250	11.826
	1965-1979	-.538	.584	.049	6.928
	1980-1994	.339	1.404	.334	5.896
	Concrete composite	1.095	2.990	.433	20.659
Facade material reference: natural stone	Metal	-.245	.783	.139	4.401
	Bricks	-.368	.692	.105	4.554
	Glass	-.051	.950	.135	6.672
Facade quality reference: high quality	Poor quality	-.867	.420	.068	2.586
	Sufficient quality	.329	1.389	.333	5.793
	High quality street furniture	-.454	.635	.189	2.139
Entrance spatiality reference: >15	Entrance spatiality <8	-.833	.435	.092	2.045
	Entrance spatiality 8-15	-2.798**	.061	.005	.696
	Green within 50 m	-.027	.974	.869	1.091
Grid reference: >7.2m	Amenities within 500 m	-.928	.395	.114	1.377
	Structural grid <5.6 m	1.980**	7.245	1.143	45.926
	Structural grid 5.6-7.2 m	1.022	2.780	.555	13.915
Facade grid reference: >3.6 m	Facade grid <1.2 m	3.406**	30.135	1.803	503.717
	Facade grid 1.2-3.6 m	-.677	.508	.175	1.479
	Constant	-1.513	.220		

p<.1.* p<.05.** p<.01.***

Structural vacancy in 2006 - Variables in the Equation

		B	Exp(B)	95% C.I. for EXP(B)	
				Lower	Upper
Y.o.c reference year: 1995-	Year of construction 1950-1964	-1.460	.232	.033	1.635
	1965-1979	-.833	.435	.084	2.258
	1980-1994	-.587	.556	.175	1.765
Facade material reference: natural stone	Concrete composite	.063	1.065	.180	6.285
	Metal	.163	1.177	.242	5.722
	Bricks	-.940	.391	.068	2.260
	Glass	-.064	.938	.153	5.766
Facade quality reference: high quality	Poor quality	1.529**	4.614	1.029	20.698
	Sufficient quality	.602	1.825	.465	7.169
	High quality street furniture	-.376	.687	.242	1.949
Entrance spatiality reference: >15	Entrance spatiality <8	-.816	.442	.106	1.851
	Entrance spatiality 8-15	-1.188**	.305	.097	.961
	Green within 50 m	.031	1.031	.956	1.112
Grid reference: >7.2m	Amenities within 500 m	-.411	.663	.250	1.754
	Structural grid <5.6 m	1.158*	3.185	.861	11.782
	Structural grid 5.6-7.2 m	-.025	.975	.346	2.746
Facade grid reference: >3.6 m	Facade grid <1.2 m	.675	1.964	.165	23.356
	Facade grid 1.2-3.6 m	-.458	.632	.257	1.559
	Constant	-.847	.429		

Structural vacancy in 2007 - Variables in the Equation

		95% C.I. for EXP(B)			
		B	Exp(B)	Lower	Upper
Y.o.c reference year: 1995-	Year of construction 1950-1964	-.606	.545	.108	2.757
	1965-1979	-.367	.693	.152	3.149
	1980-1994	-.043	.957	.316	2.899
	Concrete composite	-.986	.373	.066	2.111
Facade material reference: natural stone	Metal	-.365	.694	.149	3.231
	Bricks	-1.588*	.204	.036	1.169
	Glass	-.416	.660	.113	3.862
Facade quality reference: high quality	Poor quality	2.278***	9.759	1.944	49.003
	Sufficient quality	2.097***	8.143	1.939	34.199
	High quality street furniture	-.594	.552	.204	1.498
	Entrance spatiality <8	-.452	.637	.184	2.198
Entrance spatiality reference: >15	Entrance spatiality 8-15	-1.021*	.360	.127	1.021
	Green within 50 m	.072**	1.075	1.003	1.152
	Amenities within 500 m	-.011	.989	.393	2.492
Grid reference: >7.2m	Structural grid <5.6 m	.934	2.545	.704	9.200
	Structural grid 5.6-7.2 m	.256	1.292	.494	3.379
	Facade grid <1.2 m	.161	1.174	.093	14.880
Facade grid reference: >3.6 m	Facade grid 1.2-3.6m	-.816*	.442	.183	1.065
	Constant	-1.470	.230		

p<.1.* p<.05.** p<.01.***

Structural vacancy in 2008 - Variables in the Equation

		B	Exp(B)	95% C.I.for EXP(B)	
				Lower	Upper
Y.o.c reference 1995-	Year of construction 1950-1964	-1.443	.236	.042	1.326
	1965-1979	.511	1.668	.456	6.103
	1980-1994	-.095	.910	.313	2.647
Facade material reference: natural stone	Concrete composite	-2.086**	.124	.024	.650
	Metal	-.989	.372	.088	1.567
	Bricks	-2.825***	.059	.011	.320
	Glass	-.735	.479	.101	2.273
Facade quality reference: high quality	Poor quality	2.586***	13.274	2.863	61.531
	Sufficient quality	1.999***	7.380	1.963	27.739
	High quality street furniture	.559	1.749	.660	4.639
Entrance spatiality reference: low	Entrance spatiality <8	.151	1.163	.371	3.647
	Entrance spatiality 8-15	-1.025**	.359	.133	.970
	Green within 50 m	-.022	.978	.910	1.051
	Amenities within 500 m	.144	1.155	.466	2.865
Grid reference: >7.2m	Structural grid <5.6 m	-.205	.814	.218	3.042
	Structural grid 5.6-7.2 m	-.039	.962	.408	2.270
Facade grid reference: >3.6 m	Facade grid <1.2 m	-.396	.673	.057	7.973
	Facade grid 1.2-3.6m	-.068	.934	.414	2.109
	Constant	-1.264	.282		

p<.1. * p<.05. ** p<.01. ***

Structural vacancy in 2009 - Variables in the Equation

		95% C.I. for EXP(B)			
		B	Exp(B)	Lower	Upper
Y.o.c reference 1995-	Year of construction 1950-1964	-1.092	.336	.065	1.729
	1965-1979	.433	1.542	.425	5.593
	1980-1994	-.115	.891	.311	2.556
	Concrete	-1.792**	.167	.036	.780
Facade material reference: natural stone	Metal	-1.666**	.189	.044	.807
	Bricks	-2.318**	.098	.022	.446
	Glass	-2.412**	.090	.016	.511
	Poor quality	1.643**	5.170	1.293	20.664
Facade quality reference: high quality	Sufficient quality	1.262**	3.532	1.017	12.263
	High quality street furniture	.821	2.274	.847	6.101
	Entrance spatiality <8	-.073	.930	.297	2.915
	Entrance spatiality 8-15	-1.173**	.309	.117	.816
Entrance spatiality reference: low	Green within 50 m	-.052	.949	.882	1.022
	Amenities within 500 m	-1.005**	.366	.154	.873
	Structural grid <5.6 m	-.730	.482	.120	1.939
	Structural grid 5.6-7.2 m	.117	1.124	.477	2.645
Grid reference: >7.2m	Facade grid <1.2 m	-.962	.382	.027	5.497
	Facade grid 1.2-3.6 m	-.178	.837	.376	1.862
	Facade grid				
	reference: >3.6 m				
Constant		.281	1.325		

p<.1.* p<.05.** p<.01.***

Structural vacancy in 2010 - Variables in the Equation

		95% C.I. for EXP(B)			
		B	Exp(B)	Lower	Upper
Y.o.c reference 1995-	Year of construction 1950-1964	-1.210	.298	.055	1.611
	1965-1979	.573	1.773	.482	6.524
	1980-1994	-.169	.844	.288	2.475
	Concrete	-1.813**	.163	.032	.830
Facade material reference: natural stone	Metal	-1.924**	.146	.031	.685
	Bricks	-2.784***	.062	.012	.322
	Glass	-1.745**	.175	.033	.927
	Poor quality	2.127***	8.387	1.799	39.113
Facade quality reference: high quality	Sufficient quality	1.973***	7.191	1.823	28.366
	High quality street furniture	.790	2.204	.808	6.010
Entrance spatiality reference: low	Entrance spatiality <8	-.339	.713	.218	2.330
	Entrance spatiality 8-15	-1.097**	.334	.127	.880
	Green within 50 m	-.075*	.928	.858	1.003
	Amenities within 500 m	-.685	.504	.206	1.231
Grid reference: >7.2m	Structural grid <5.6 m	-.596	.551	.135	2.244
	Structural grid 5.6-7.2 m	-.039	.962	.407	2.272
Facade grid reference: >3.6 m	Facade grid <1.2 m	-.064	.938	.083	10.561
	Facade grid 1.2-3.6 m	-.163	.850	.379	1.905
	Constant	-.110	.896		

p<.1.* p<.05.** p<.01.***

User preferences

Qualitative study

Interview results, most important push factors for office users 2011

- Organisation changes
- Environment/sustainability
- Low technical state of the building
- Extendibility
- Bad accessibility by public transportation
- Bad external appearance of the building
- Location not prestigious

User preferences

Qualitative study

Interview results, most important pull factors for office users 2011

- External appearance
- Extendibility
- Accessibility by car
- Prestigious location
- Low rent
- Attractive housing area nearby

Additional keep factors:

- History of the organisation

Results

- Logistic regression shows that attributes related to structural vacancy are changing: functional attributes less important, exterior appearance more important
- This complies with results from the interviews: more focus on exterior appearance, prestige of location
- Causes mentioned: high supply, possible to choose best alternative, functionality seen as 'veto' – less functional buildings not even considered
- Office organisations less positive about the future. Extendibility less important, current accommodation 'too large'

Conclusions / next steps

- Office user demand seem to change in a market of oversupply
- Buyers market: Quality and appearance of location and building become more important, less attractive buildings and locations rapidly become structurally vacant and obsolete

Next steps:

- Study of 'hidden vacancy' or 'rented vacancy'
- Study of vacancy cause: incentives for investors and developers
- Study of governmental interference in the market



Structural vacancy revisited

– are user demands changing?

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