

SPATIAL DISPARITIES AND HOUSING MARKET DEREGULATION IN THE RANDSTAD REGION

A COMPARISON WITH THE SAN FRANCISCO BAY AREA



Liou Cao

McKinsey & Company, Inc., New York Office, USA

Hugo Priemus

Delft University of Technology, The Netherlands

Summary

Since 1989, Dutch housing policy has been changing to allow more scope for market forces. This article will evaluate the spatial disparities related to these policy changes in the development of the housing market in the Randstad region of the Netherlands. The evaluation is placed in an international perspective by drawing a comparison between the Randstad and the San Francisco Bay Area in the United States. The comparison focuses on three specific aspects: suburbanization, spatial disparity in the distribution of household income, and spatial differentiation in the value of property. The results show that since the more market-oriented housing policy came into force, the Randstad has witnessed faster suburbanization and – to a certain extent – a greater disparity

in property value in urban and suburban areas than the San Francisco Bay Area, though the gaps in household income are narrower in the Randstad than in the Bay Area. The comparison draws attention to the policy implications of problems that are likely to be caused by suburbanization and property value segregation in the Randstad and presents a number of policy recommendations. Spatial policy, urban renewal policy, and tax and income policy can play a significant role in mitigating the spatial impacts of housing market deregulation on the Randstad.

KEY WORDS ★ household income ★ housing market deregulation ★ Netherlands ★ property values ★ spatial disparity ★ suburbanization ★ USA

Introduction

As the European Union becomes more of an economic reality and major global cities engage in economic restructuring, the Netherlands finds itself in a turbulent transition on many fronts, not least its housing markets. For a long time the Dutch housing market has been known for stringent and effective state regulation, mainly through the housing and spatial planning policy. This is reflected in some of its key characteristics: the strong position of the social rental sector, broad rent subsidies and rent regulation, and the generous provision of developable land by the municipalities (Badcock, 1994). However, since 1989, the Dutch government has pursued a more market-oriented housing policy (Boelhouwer and Priemus, 1990; Heerma, 1989),

which has had a significant impact on the development and spatial transformation of the Dutch housing market in the past decade and will continue to do so in the future.

This research will evaluate the spatial disparities between household income and property values resulting from the new market-oriented housing policy in the economic centre of the Netherlands – the Randstad region. The evaluation is presented by comparing the Randstad with one of the major metropolitan areas in the United States – the San Francisco Bay Area. At first glance, the Netherlands and the US are ‘worlds apart when it comes to housing markets and their policy contexts’ (Priemus, 2000). Clark and Dieleman (1996: 3) present the US housing system as market-driven and the Dutch housing system as a regulated housing market,

largely the result of government interventions. However, there are converging trends and Dutch urban areas are increasingly facing new challenges comparable with those in the US. The growth in personal wealth and the subsequent reliance on private automobiles as the preferred form of transportation in the Netherlands are generating threats of American-style urban sprawl and mismatches between the job market and the housing market. The growing racial and ethnic diversity in the Netherlands is also raising concerns about social polarization and concomitant housing market segregation. Moreover, since the housing policy was deregulated in 1989, the Dutch housing market has come closer to a free-market situation as in the US. Now that the Dutch government is gradually withdrawing from providing housing as a task of the welfare state and is allowing more scope for market forces, and given the processes of economic restructuring and globalization which are occurring all over the world, it may prove useful if we examine the changes in the Netherlands against a free-market 'benchmark', as in the US. This will help us to gauge the extent and pace of the transformation currently underway and to identify the policy, institutional, and financial factors behind the differences. Only when these factors have been singled out can policymakers in the Netherlands take steps to retain a healthy and egalitarian housing market and avoid or at least mitigate potential problems.

This article compares the patterns of housing market development in the two regions and addresses the following research questions. Is a more market-oriented housing policy leading to faster suburbanization, greater spatial disparity in household incomes and more spatial differentiation in property values? If so, has the housing market in the Randstad, since about 1990, been moving towards similar spatial disparities to those found in the San Francisco Bay Area?

The long history and special nature of the Dutch housing market within the context of the welfare state make the shift to a more market-oriented housing policy 'an unprecedented activity to say the least' (Boelhouwer, 2002). In transition from the 'top-down' or federal approaches to the 'bottom-up', more flexible, decentralized solutions to housing, it is important to determine how fast the Dutch housing situation, particularly in the Randstad, has

been heading in a more market-oriented direction and the potential spatial impacts of this movement.

Levels of suburbanization, housing market segregation, and social inequality have always been pretty mild in the Netherlands compared with the American situation. However, since the 1980s, changes in the role of the welfare state and housing policies in particular have clearly reflected the prevailing mood of privatization, deregulation and decentralization as well as the desire to cut budgets (Van Kempen et al., 2000). There have been growing concerns and vigorous debates on whether the housing market is heading towards the more free-market environment, accompanied by references and descriptions of what is happening in American cities: the erosion of the position of low-income households, the migration of higher-income populations to the suburbs, the concentration of ethnic minority groups, and increasing housing segregation and disparity in income (Blauw, 1991; Dieleman and Van Kempen, 1994; Hamnett, 1994; Kruythoff, 2003; Murie and Musterd, 1996; Van Kempen and Van Weesep, 1997; Van Kempen et al. 2000). Some observers argue that the Dutch housing market is edging towards the American model; others state that there are still large differences between Dutch and American housing markets (Van Weesep and Priemus, 1999).

As Dutch housing policy shows some convergence with that of the US and as some common socio-economic issues are emerging despite the institutional and historical differences, we will conduct an empirical comparison to assess the changes in the Dutch housing market in a bid to determine how far the patterns of change resemble or differ from those in the US. Within this context, we formulate our general expectation as follows. Since the implementation of a more market-oriented housing policy in 1989, the development of the Randstad housing market has shown increasing similarities to the development of the San Francisco Bay Area, despite the very different housing systems in the two regions.

Given the limited scope of this article and the data availability, we shall focus on how, since 1989, the dynamics of the Randstad housing market have followed the development of the Bay Area in three hypothetical respects:

- faster suburbanization;
- greater spatial disparity in household income within the Randstad;

- more spatial differentiation in property values within the Randstad.

The theory behind these hypotheses is that deregulation will automatically free up the housing market, which is currently characterized by rapid suburbanization (following dominant preferences for one-family homes in a green environment), and will subsequently lead to a greater disparity in household incomes and property values between urban environments (low incomes and low property values) and suburban environments (high incomes and high property values).

The article is structured as follows. First, we introduce the two study regions and their comparability. Then we compare briefly the housing models in the US and the Netherlands. Next we present the analysis and evidence from the two regions in order to compare the housing market development. In the subsequent section we deal with the three hypotheses presented earlier and reflect specifically on the situation of the Randstad. Finally, we formulate some policy implications and draw conclusions.

The study regions: a comparative overview

The Randstad region is the polycentric urban constellation in the western part of the Netherlands, anchored by four big cities: Amsterdam, Rotterdam, The Hague, and Utrecht (Figure 1).¹ In 2002 it had a population of 6.65m and accommodated 3.43m jobs.

With almost 44 percent of the population and 45 percent of the employment concentrated on just 21 percent of Dutch territory (<http://www.cbs.nl>, 1999; 2000), the Randstad is a highly urbanized area. The urban ring, composed of the four largest cities and 154 medium-sized and smaller cities, encircles a green open area called the 'Green Heart'. Since the concept of the Randstad region was first formulated in the 1950s, it has acquired a dominant position in many domains of Dutch policy making, in particular, spatial planning. Conservation of the Green Heart has a high policy priority, which is constantly at variance with the increasing urban expansion.

The San Francisco Bay Area, consisting of nine counties (Alameda, Contra Costa, Marin, Napa, San

Francisco, San Mateo, Santa Clara, Solano, and Sonoma) is home to about 6.78m people and 3.37m jobs (in 2000). With 101 cities and nearly 1,000 special districts, the Bay Area also has a polycentric urban spatial structure (Figure 1). The four largest cities are San José, San Francisco, Oakland, and Fremont. The Bay Area is renowned for its robust economy and exuberant growth, although that growth was affected by the economic slowdown and downturn in high-tech industries in the US. It has long served as an incubator for the high-tech industry and a centre for biotechnology research and product development.

The two urban regions (Figure 1) are comparable for three main reasons: their physical size and location, urban form, and economic performance. First of all, both are located along the coast and embody the spatial structure of an urban network composed of several similarly sized cities, none of them dominant. This urban form has certain spatial implications in the regional job concentration, commuting patterns, and housing distribution, which distinguish the San Francisco Bay Area from monocentric urban areas and other polycentric metropolises in the US such as Los Angeles and Washington, DC.

Situated along the North Sea, the Randstad region is an important gateway to Europe with a strong international orientation towards trade and finance. The San Francisco Bay Area is also emerging as a gateway to the Pacific Rim, excelling in finance, trade and high-tech industries. Interestingly, both regions have a 'hollow' centre embraced by a chain of cities – the Green Heart in the Randstad and the 'Blue Heart' (the Bay) in the San Francisco area. Again, this special common feature of the urban form imposes similar spatial implications on the distribution of the housing market in the two regions.

In addition, the two regions are comparable in size, with similar built-up areas, population density, and number of cities (Table 1),² which makes the San Francisco Bay Area the closest counterpart of the Randstad among the major American polycentric metropolises.

Last but not the least, the two urban areas share a lot in their underlying economic structure, as reflected in their employment composition (Table 2).³ Both regions have relatively large anchor sectors in professional services, trade and manufacturing. In

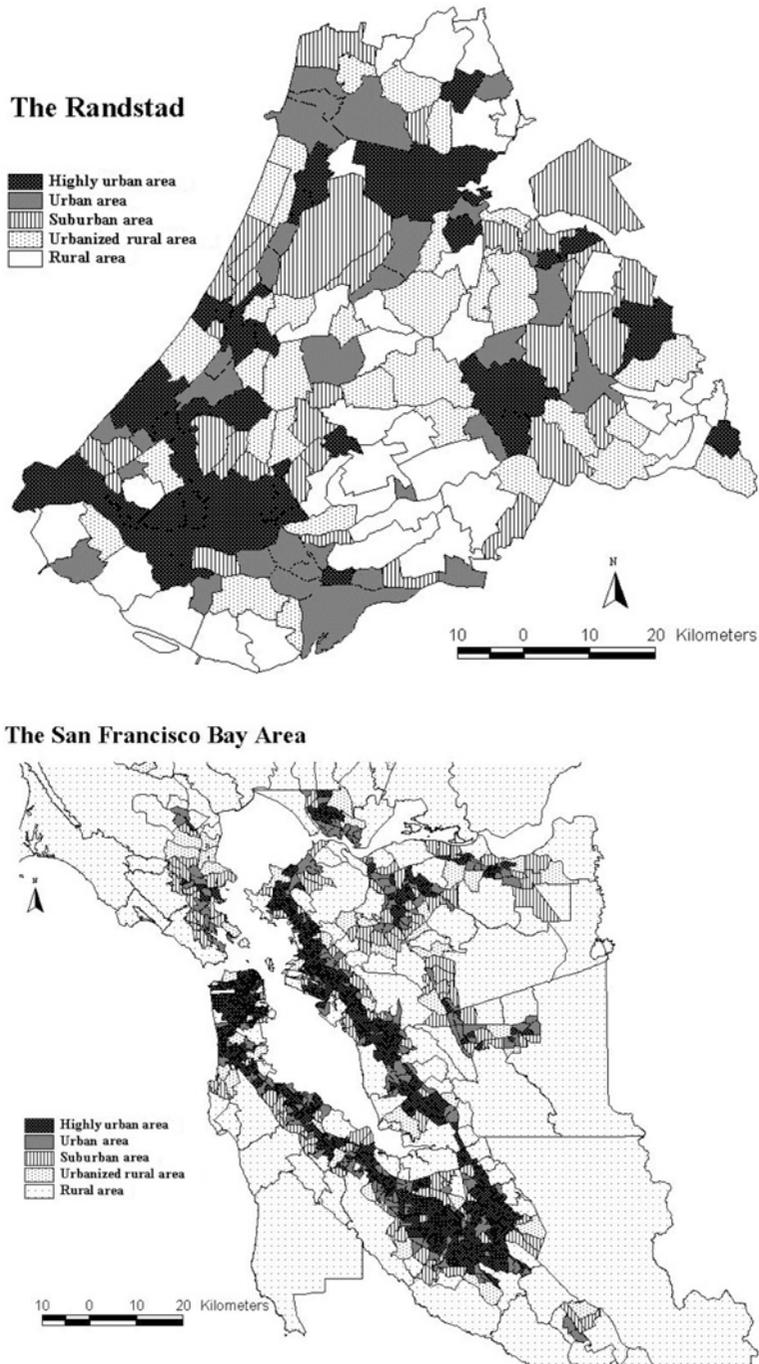


Figure 1 The five types of residential environments in the Randstad and the San Francisco Bay Area
 Source: OTB of TU Delft and US Census (2000).

Table 1 Size and population density of the two regions (2000)

	Randstad			San Francisco Bay Area				
<i>The Region</i>								
Population	6,363,123			6,783,760				
Land area (km ²)	5,831			18,242				
Built-up area (km ²) ^a	4,580			4,400				
Net population density ^b (persons per km ²)	1,389			1,542				
Number of cities/urban places	158			183				
<i>Four Biggest Cities</i>								
	Amsterdam	Rotterdam	The Hague	Utrecht	San José	San Francisco	Oakland	Fremont
Population	731,288	592,673	233,667	441,094	868,994	776,733	399,477	203,413
Land area (km ²)	200	270	99	84	452	123	146	194
Population density (persons per km ²)	3,656	2,195	2,360	5,251	1,923	6,315	2,736	1,049

Notes:

^a The built-up area in the Randstad is estimated by subtracting from the total land area the area of the 36 municipalities that are completely within the Green Heart boundary and without special status, then adding back the areas of built-up neighbourhoods (*buurten*) of those 36 municipalities. The built-up area in the San Francisco Bay Area is derived from the US Census (2000).

^b Net population density = Population/Built-up area, in the unit of persons per km².

Sources: CBS StatLine; Hoppenbrouwer et al. (2000); US Census (2000).

Table 2 Employment composition in the two regions

Randstad Region (2002)		San Francisco Bay Area (2000)	
Category	%	Category	%
Agriculture and fisheries	3.2	Agriculture, forestry, fishing and hunting, and mining	0.7
Manufacturing	10.1	Manufacturing	14.7
Construction	6.1	Construction	5.9
Trade	18.0	Trade (wholesale and retail)	14.2
Transport and communication	7.5	Transport and warehousing, utilities, and information	9.4
Service sector (not including public administration)	48.8	Service sector (not including public administration)	51.6
Civil services (public administration)	6.3	Public administration	3.6
Total jobs	3,428,493 = 100	Total jobs	3,366,503 = 100

Sources: CBS StatLine; US Census (2000).

particular, the five services sectors account for a surprisingly similar, high level of around 50 percent of the total employment. The similar employment structure suggests to a large extent comparable

orientations of economic development in both regions and similar demographic composition in terms of education, income, and lifestyle, including the preferences for housing.

In addition to the aforementioned similarities, both regions have a diverse population of various ethnicities. They are among the most accommodating urban areas for immigrants and minority groups in each country respectively, boasting a dynamic social and cultural environment.

However, the Bay Area and the Randstad differ in a number of institutional aspects. In the Bay Area the free market is the dominant institution for coordinating decisions. There are many incentives for accepting a job or starting a business. There are winners and losers, with large income differences. In the Randstad a set of welfare state institutions has developed in which risks are assumed more collectively. More people are unemployed and more people are ill partly because of the large financial compensations for unemployment and illness. The minimum legal income is rather high and income taxes are pretty progressive. There seems to be less stimulation for entrepreneurship than in the Bay Area.

The welfare arrangements in the Bay Area and the Randstad are indeed worlds apart.

The Netherlands: a changing housing model

Despite the many similarities shared by the two regions, many differences remain. Each country has a distinct housing system.

Private initiative prevails in the US housing market. Spatial planning is very often expressed in exclusionary zoning. It appears to be difficult to combine growth management and affordable housing. Public housing and private social housing are marginal. Owner-occupation is much favoured and has a high market share (65–70 percent). The role of the state and federal government in housing is modest.

The Netherlands has a large, differentiated social housing sector (36 percent). About 95 percent of all rents are regulated. Rent regulation in the US is more of an exception, but in the Netherlands it is the rule. The owner-occupied sector is increasing, but the market share (52 percent) is still much lower than in the US.⁴ Local governments still play a dominant role in land development and spatial planning (Badcock, 1994), although the influence of

private developers is increasing. Housing demand is supported by an unconditional entitlement to housing allowances. In the US, housing vouchers are a budgeted scheme and have a much lighter impact on housing affordability (Priemus et al., 2005).

In the US, housing resource allocation is governed largely by the information channels and incentives of the market. There is no national housing policy in the comprehensive sense in which the term is used in the Netherlands. American housing policy relies upon private enterprise to supply shelter for virtually all households in an allocation process realized by free markets (Hird et al., 1990). Although there are housing vouchers which help a number of very low-income families to choose and lease or purchase privately owned rental housing, housing subsidies tend to be indirect (e.g. tax exemptions) rather than direct (e.g. the construction of low-income housing units). As a result, they eliminate much of the federal and state control over local housing development that comes with direct benefits (Innes and Gruber, 2001). Local jurisdictions essentially determine growth patterns by making zoning rules and regulating residential construction. Recently, the problematic relation between growth management and affordable housing in the US has been extensively documented (Downs, 2004).

The Netherlands has a long tradition of ambitious national housing policy, urban renewal, and spatial planning (Bolan, 1999; Priemus, 1999). Until recently, the Dutch housing system was characterized by strong state control, large direct housing subsidies, and the powerful position of social rental housing (Ouwehand and Van Daalen, 2002). However, the strong government intervention has been constantly challenged by market influences. This tension has clearly manifested itself in the alternation of government policy and market forces on the one hand and the development of the welfare state on the other hand. The turning point in housing policy – when the government withdrew in favour of the market – was not reached until 1989 (Boelhouwer, 2002). The Dutch government's housing memorandum (Heerma, 1989) clearly promoted the operations of the housing market via 'more market, less government'. Numerous publications have described the new housing system that has evolved over the last decade (Boelhouwer and Priemus, 1990; Dieleman, 1996; Kruythoff, 1993; Priemus, 1995; 1999; Salet, 1999; Van Kempen

and Van Weesep, 1997; Van Weesep and Van Kempen, 1992). In short, the shifts in housing policy towards a free market are reflected in: (a) sharp reductions in subsidy outlays, deep cuts in the state housing budget, and the complete phasing out (in 1995) of property subsidies (e.g. subsidies for new construction) in favour of subject subsidies; (b) the fact that the majority of new housing construction takes place in the owner-occupied for-sale sector rather than the social rental sector, at the high end of the housing market; (c) the promotion of the sale of social rented dwellings; (d) more independent housing associations; and (e) a general policy attitude geared to freedom of choice for housing consumers and hence a looser rein on the market mechanism.

Comparison of housing market developments

Data

In the empirical analysis the data for the Randstad region were collected from various sources, including the StatLine databank of Statistics Netherlands (CBS), the Housing Market Monitor database (2003), the Land Registry (Kadaster) database (housing transactions), the Housing Demand Survey (WBO), and data and reports compiled by the OTB Research Institute for Housing, Urban and Mobility Studies at Delft University of Technology (TU Delft). The data for the San Francisco Bay Area were drawn mainly from

the US Censuses for 1990 and 2000 and some government reports.

We observed the housing market evolution across different residential environments by identifying five types of areas in the Randstad based on the average population density in each municipality: highly urban areas, urban areas, suburban areas, urbanized rural areas, and rural areas. These five categories are defined in such a way that there is roughly the same number of municipalities in each group. This method entails some degree of arbitrariness. Nevertheless, we see the average population density as a good indicator of the level of urbanization in an area. It also provides a common ground for the comparison between the two regions. Municipalities were chosen as the spatial analysis unit because of the data availability – this is the most refined geographic level for most of the datasets for the Randstad. The resulting grouping is largely consistent with people's perception of the Randstad region (Figure 1). For comparability purposes, the same definition of urbanization levels was applied to the San Francisco Bay Area (Figure 1), although the spatial analysis unit is at census tract level, because the municipal areas are not exhaustive, leaving a lot of unincorporated land. Table 3 shows five types of residential environment in each region in the year 2000.

Suburbanization

In this section we deal with the hypothesis that the speed of suburbanization in the Randstad has

Table 3 Five types of residential environment in the two regions (2000)

	Randstad		San Francisco Bay Area	
	Share of total population (%)	Average population density	Share of total population (%)	Average population density
Highly urban areas	55.4	3,084	61.5	4,007
Urban areas	19.3	1,414	14.0	1,598
Suburban areas	12.7	716	11.1	795
Urbanized rural areas	7.7	392	3.9	396
Rural areas	5.0	218	9.5	43
The whole region	6,363,123 = 100.0		6,783,760 = 100.0	

Sources: OTB of TU Delft; CBS StatLine; US Census (2000).

increased since 1989, resembling the development in the Bay Area.

The phenomenon of suburbanization and urban sprawl is well known in many American metropolitan areas. Since World War II, the growth of US cities has occurred mainly in low-density suburban areas. Various factors underlie this exodus – extensive use of automobiles, better and bigger houses, a higher quality environment, and better schools in the suburbs (Holzer, 1991; Kain, 1993). Many negative externalities accompany urban sprawl: traffic congestion, deterioration of city centres, income and race segregation, just to name a few. How quickly is American-style suburbanization happening in the Randstad, as Dutch households pursue individual quality-of-life goals at a time when the government is encouraging freedom of choice in housing consumption? We examine the trend in population and household growth in the two regions for 1990–2000 (Table 4).

The data presented above show several distinctive patterns of population and household developments in the Randstad compared with the San Francisco Bay Area. First of all, there was a clear and strong suburbanization trend in the Randstad between 1990 and 2000. During this period, population growth was highest in rural areas (18.7 percent) and in suburban areas (18.0 percent), followed by urbanized rural areas (17.3 percent), where the figures were all several times greater than for the highly urban areas (5.1 percent). The Randstad showed higher annual rates for the growth of household formation – an important demand factor in the market-driven housing system – in urbanized rural and rural areas (1.06 percent and 0.87 percent respectively) than the Bay Area (0.77 percent and -0.68 percent respectively). The annual population growth in the suburban areas of the Randstad (2.41 percent) was somewhat lower than in the San Francisco Bay Area (2.71 percent). Considering that the overall annual household growth rate was actually lower in the Randstad (0.91 percent) than in the Bay Area (1.01 percent), the rapid speed of household formation in the ex-urban areas of the Randstad is impressive. This trend can be further backed up by the observation that the annual household formation rates in the Randstad's four largest cities were much lower than in their counterparts in the Bay Area.

Second, the data show that between 1990 and 2000 the Randstad had a more apparent and rapid trend of suburbanization than the Bay Area. Although, like the Randstad, the Bay Area also had the fastest population growth in its suburban areas (27.2 percent), its urban areas and highly urban areas had much higher growth rates (20.3 percent and 13.7 percent respectively) than its urbanized rural (8.5 percent) and rural areas (-8.9 percent). In contrast, in the Randstad, the suburban, urbanized rural, and rural areas all had similarly high growth rates (18.0 percent, 17.3 percent, and 18.7 percent respectively), much higher than in the urban areas (Figure 1). The trend towards rapid suburbanization is also evident when we examine the growth rates of the four biggest cities in the two regions (Figure 2–3). During the past decade, the population of the four biggest cities in the Bay Area has grown considerably, while the population of the four largest cities in the Randstad has experienced only moderate growth, barely keeping up with the average growth pace of their category (highly urban areas). The Hague, within narrow municipal borders, did not show any population growth at all.

The data after 2000 suggest a certain re-urbanization in the Randstad – for various reasons. Probably the most important one is the Dutch spatial planning policy for the 'VINEX locations',⁵ which was published in 1990 by the Dutch Ministry of Housing, Spatial Planning and the Environment (Ministerie van VROM, 1990). According to the VINEX policy, new housing developments must be located within or adjacent to large and medium-sized cities, unless there is no alternative. Table 5 illustrates the number of concentrated housing units to be built at the designated VINEX locations in the Randstad region from 1995 to 2005. About 35 percent of the new houses had to be built within the existing built-up area of the cities. The housing projects at the 'VINEX locations' started around 1995 (Bontje, 2001). Considering the time needed to complete those projects, their impact would not be felt until the late 1990s, which corresponds with our findings on the recent recovery of the urban areas. Here, a remarkable contradiction emerges in Dutch planning: a tightening of spatial planning ambitions in combination with a strong deregulation of housing policies (Priemus, 1997; 1998).

In the period 1990–2000 we observe, however, a rapid suburbanization in the Randstad, which is in

Table 4 Population and household growth of the two regions (1990–2000)

		Randstad								
		Residential environments				Four biggest cities				
		Highly urban	Urban	Sub-urban	Urbanized rural	Rural	Amsterdam	Rotterdam	The Hague	Utrecht
<i>Population</i>										
1990		3,353,347	1,137,143	683,342	415,212	265,913	695,162	579,179	441,506	230,358
2000		3,525,492	1,228,571	806,492	486,949	315,619	731,288	592,673	441,094	233,667
Growth rate (1990–2000)		5.1%	8.0%	18.0%	17.3%	18.7%	5.2%	2.3%	-0.1%	1.4%
<i>Households</i>										
1995		1,682,504	525,627	305,199	193,969	113,960	399,007	294,284	224,210	130,566
2002		1,750,658	564,131	356,751	208,272	120,954	404,493	299,129	230,176	136,140
Annual growth rate		0.59%	1.04%	2.41%	1.06%	0.87%	0.20%	0.23%	0.39%	0.61%
		San Francisco Bay Area								
		Residential environments				Four biggest cities				
		Highly urban	Urban	Sub-urban	Urbanized rural	Rural	San José	San Francisco	Oakland	Fremont
<i>Population</i>										
1990		3,670,395	791,749	590,151	241,624	708,339	755,570	723,918	372,232	173,331
2000		4,173,140	952,525	750,418	262,046	645,631	868,994	776,733	399,477	203,413
Growth rate (1990–2000)		13.7%	20.3%	27.2%	8.5%	-8.9%	15.0%	7.3%	7.3%	17.4%
<i>Households</i>										
1990		1,396,307	299,389	214,862	83,257	248,803	243,068	305,984	144,762	60,130
2000		1,520,959	352,449	272,991	89,636	231,989	267,961	329,850	150,971	68,302
Annual growth rate		0.89%	1.77%	2.71%	0.77%	-0.68%	1.02%	0.78%	0.43%	1.36%

Sources: OTB of TU Delft; CBS StatLine; US Census (1990; 2000).

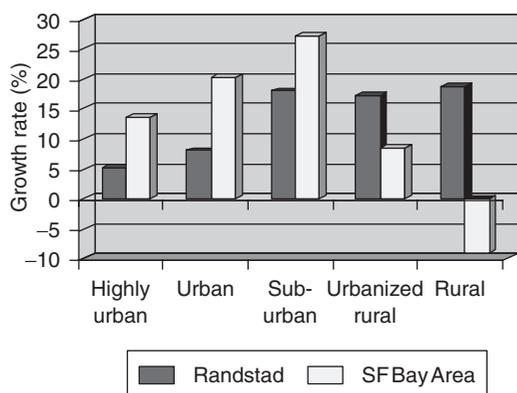


Figure 2 Population growth rates of the two regions, (1990–2000)

Sources: CBS StatLine and US Census (1990; 2000).

some respects even faster than in the Bay Area. This confirms our expectations.

Spatial disparity in household income

We expect the spatial disparity of household income in the Randstad to have increased since 1989, resembling the development in the Bay Area. This section will test this hypothesis.

In many urban regions in the US, one of the negative effects of urban sprawl is segregation in household income between central cities and their suburbs, with wealthier households fleeing to the suburbs and leaving the poor ones concentrated in the city. The gap in the average household income between urban and suburban areas has been widening to an alarming extent, even threatening the very existence of the central cities. Some of the suburbs are developing into edge cities (Garreau, 1991). In most cases, this income segregation happens alongside racial and ethnic segregation. The economic and social divides between urban communities and suburban areas are characteristic of most US metropolitan areas. The San Francisco Bay Area certainly exhibits some typical characteristics of this segregation (Table 6).

The evidence from Table 6 shows that in both 1989 and 1999, the urbanized rural areas and

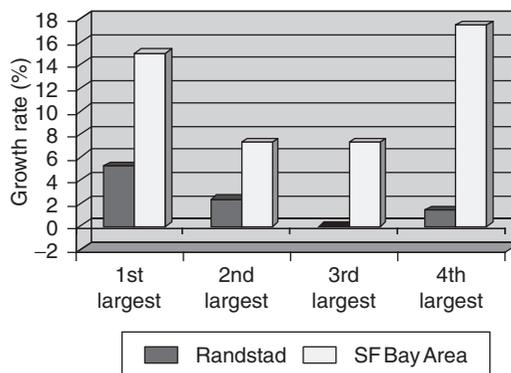


Figure 3 Population growth rates of the four largest cities in the two regions (1990–2000)

Sources: CBS StatLine and US Census (1990; 2000).

suburban areas in the Bay Area enjoyed the highest levels of median household income, while the highly urban areas had the second-lowest level of household income in 1989 and the lowest in 1999. The average gap in household income between the highly urban areas and urbanized rural areas was sizeable: around 40 percent.⁶ The fastest growth rate in median household income in different residential environments took place in the rural areas – 50.8 percent (adjusted for the Consumer Price Index: CPI) – and was several times greater than in highly urban and urban areas (16.7 percent and 10.9 percent respectively). If these growth rates continue, a further widening of the gap in household income between urban regions and rural areas will be inevitable.

In the Bay Area, the median household income in the highly urban areas in 1989 was *higher* than in the rural areas. Ten years later it was the other way around: the median household income in highly urban areas was lower than in rural areas. In the Randstad this was already the case in both 1994 and 2000. The differences in household income between rural areas and highly urbanized areas were smaller than in the Bay Area (1999).

Table 7 presents the average household income data for the Randstad in 1994 and 2000. From 1994 to 2000, as in the San Francisco Bay Area (1999), the average household income in the Randstad was lowest in highly urban areas and highest in urbanized rural and rural areas. However, there are

Table 5 House building programmes for VINEX locations in the Randstad (1995–2005)

Area	Number of dwellings to be built	Of which to be built within the existing built-up area	% of dwellings within the existing built-up area
<i>The four city region</i>			
Amsterdam	100,100	34,500	34.5
Rotterdam	53,000	28,000	52.8
Haaglanden	42,500	9,000	21.2
Utrecht	31,600	5,600	17.7
<i>Other urban areas</i>			
Haarlem-IJmond	6,800	3,100	45.6
Hilversum	4,500	3,350	74.4
Amersfoort	12,700	1,600	12.6
Leiden	11,840	8,000	67.6
Dordrecht	13,700	3,450	25.2
Randstad region total	276,740	96,600	34.9
<i>The whole country</i>			
In all 7 regions	295,200	101,000	34.2
In 19 urban areas	161,700	67,000	41.4
Dispersed development	146,500		
All country	603,400	168,000	27.8

Source: Ministerie van VROM (1996).

Table 6 Median household income (US\$) in the San Francisco Bay Area (1989 and 1999)

	1 Highly urban	2 Urban	3 Sub- urban	4 Urbanized rural	5 Rural	6 The region	7 Ratio 1:5
1989 (nominal)	38,655	51,344	52,461	54,686	35,918	44,723	1:0.929
1999 (nominal)	61,562	77,680	79,421	84,903	73,898	67,853	1:1.200
Growth (CPI adjusted ^a)	16.7%	10.9%	10.9%	13.8%	50.8%	11.2%	
The income gap between urbanized rural areas and highly urban areas in 1989:						41.5%	
The income gap between urbanized rural areas and highly urban areas in 1999:						37.9%	

Notes: ^aThe Consumer Price Index (CPI) for the metropolitan area of San Francisco-Oakland-San José is obtained from the US Department of Labor, Bureau of Labor Statistics [<http://www.bls.gov>]. The base period is 1982–4. The annual CPI for 1989 is 126.4, and for 1999 is 172.5.

Sources: US Census (1990; 2000).

significant differences. In the Randstad, the household income gap between urbanized rural areas and highly urban areas was much milder than in the Bay Area: 13.6 percent in 1994 and decreasing to 12.6 percent in 2000, which was only about one-third of the Bay Area's figures. The growth rates of the average household income were well balanced

across all five types of residential environments in the Randstad, after adjusting for the CPI, which stood in sharp contrast to the situation in the Bay Area. So, in general, the dramatic disparity in household income which is common in the urban and suburban areas in American metropolitan areas does not exist, or is at least not apparent, in the

Table 7 Average household income (€ in thousands) in the Randstad (1994 and 2000)

	1 Highly urban	2 Urban	3 Sub- urban	4 Urbanized rural	5 Rural	6 The region	7 Ratio 1:5
1994 (nominal)	22.1	23.1	24.5	25.1	24.9	23.9	1:1.127
2000 (nominal) ^a	27.0	28.0	30.1	30.4	30.5	29.2	1:1.130
Growth (CPI adjusted ^b)	7.6%	6.7%	8.2%	6.7%	7.9%	7.6%	
The income gap between urbanized rural areas and highly urban areas in 1994:						13.6%	
The income gap between urbanized rural areas and highly urban areas in 2000:						12.6%	

Notes:

^a Income data were not available for the years after 2000 as the article was written.

^b The Consumer Price Index (CPI) for the Netherlands is obtained from Statistics Netherlands (CBS) at: [http://www.cbs.nl]. The base period is 1995.

Source: Housing Market Monitor database (2003).

Randstad. This confirms the findings of Dieleman and Wallet (2003). The household income growth rates in various residential environments have been keeping pace with each other. This balanced growth pattern seems fairly stable for the study period. So, we have to reject the hypothesis that spatial disparity in household income in the Randstad has increased.

Spatial differentiation in property value

Finally, this section deals with the hypothesis that spatial differentiation in property values in the Randstad has increased since 1989, following similar trends in the Bay Area.

In the US, spatial differentiation in property value is an inevitable consequence of suburbanization and the segregation of household income. The willingness of wealthy households to pay for the more expensive houses and the high-end, spacious homes in the suburbs leads, through the decentralized market mechanism, to a much higher average property value in suburban neighbourhoods than in the city centre. Moreover, because much of the local municipality's revenue in the US comes from property tax, the practice of exclusionary zoning is rife in many suburban towns, thereby exacerbating the property value gap between the city and its surroundings. It is widely believed (and there is empirical evidence to show) that the urban-suburban contrast in the US is greater than

in most European countries, where the housing provision is more centralized and the property tax only comprises a small portion of the local municipality's income (Rusk, 1999; Wannop, 1995).

The economic boom of the 1990s has made the Bay Area one of the priciest residential environments in the US. The median value of owner-occupied houses has increased in the region by an average of 40.0 percent from 1989 to 1999. The urbanized rural areas had the highest median value of owner-occupied houses and enjoyed the highest growth rates at 50.3 percent (Table 8), while the highly urban areas had the lowest median value of owner-occupied housing and grew at the lowest rate of 39.0 percent. The difference in the median value of owner-occupied houses between urbanized rural areas and highly urban areas has increased from 10.6 percent in 1989 to 19.6 percent in 1999, almost doubling in ten years.

In the previous section we showed that the average gap in household income between the urbanized rural areas and highly urban areas in the Bay Area was about 38 percent in 1999, which was much greater in magnitude than the difference in the median owner-occupied housing value between the two areas (19.6 percent). This indicates a severe housing affordability crisis for low-income households in the central city, who have suffered a significant fall in household income compared with their suburban counterparts, while the property value in the cities is not proportionally lower than the property value in the suburbs.

Table 8 Median value of owner-occupied houses in the San Francisco Bay Area (in US\$), 1989 and 1999

	1 Highly urban	2 Urban	3 Sub- urban	4 Urbanized rural	5 Rural	6 The region	7 Ratio 1:5
1989	255,780	292,760	287,241	282,823	288,062	269,066	1:1.126
1999	355,424	414,400	409,416	425,014	408,667	376,596	1:1.150
Growth	39.0%	41.6%	42.5%	50.3%	41.9%	40.0%	
The value gap between urbanized rural areas and highly urban areas in 1989:						10.6%	
The value gap between urbanized rural areas and highly urban areas in 1999:						19.6%	

Sources: US Census (1990; 2000).

Table 9 Property value (of all housing) and transaction price (of existing owner-occupied housing) in the Randstad (1997 and 2001)

	1 Highly urban	2 Urban	3 Sub- urban	4 Urbanized rural	5 Rural	6 The region	7 Ratio 1:5
<i>Average WOZ value (in € thousands)</i>							
1997	86	88	108	108	105	99	1:1.221
2001	141	142	180	187	179	166	1:1.270
Growth	64.0%	61.4%	66.7%	73.1%	70.5%	67.7%	
The value gap between urbanized rural areas and highly urban areas in 1997:						25.6%	
The value gap between urbanized rural areas and highly urban areas in 2001:						32.6%	
<i>Average transaction price of the existing owner-occupied houses (in €)</i>							
1997	121,453	123,379	151,794	157,231	151,456	139,643	1:1.247
2001	191,156	188,355	251,346	266,087	245,121	225,754	1:1.282
Growth	57.4%	52.7%	65.6%	69.2%	61.8%	61.7%	
The price gap between urbanized rural areas and highly urban areas in 1997:						29.5%	
The price gap between urbanized rural areas and highly urban areas in 2001:						39.2%	

Sources: CBS StatLine; OTB of TU Delft; Kadaster database of housing transactions.

The comparable data for the Randstad tell a different story (Table 9). Two sets of data on property values are presented: the WOZ value (appraisal value, underpinning the amount of property tax) of the total housing stock, and the transaction prices for existing owner-occupied dwellings. The WOZ value is updated every four years and reflects the market value of each dwelling in the housing stock at the beginning of every four-year period. Therefore, the WOZ value is lagging behind for the years in-between. It is also biased to

some extent because the value of the rental housing is an estimate based on the quality of owner-occupied houses. Even so, the WOZ value is a good general indicator because it reflects the average value of the total housing stock, including both owner-occupied houses and the social rental sector; and it indicates the relative housing values across different areas fairly well. The transaction prices of the existing owner-occupied houses represent the true market value and are up-to-date. They are comparable with the values of owner-occupied

houses in the US. However, they are biased towards new dwellings and they only include a proportion of the total housing stock with a share of 52 percent for owner-occupied housing in the Netherlands.

First, the value gap observed between urbanized rural areas and highly urban areas was much greater in the Randstad (32.6 percent for WOZ value, and 39.2 percent for transaction prices) than in the Bay Area (19.6 percent). Moreover, this value/price gap had widened during 1997–2001. This was reflected in the fact that the WOZ value/transaction price rose faster in urbanized rural areas than in highly urban areas. Therefore, the property value differentiation has been ongoing and becoming more apparent in the Randstad.

When we compare the value ratio of highly urban and urbanized rural areas between the Bay Area (Table 8) and the Randstad (Table 9), we observe a larger gap in the Randstad at the end of the 1990s. Between 1997 and 2001 the value gap between highly urban and urbanized rural areas increased in the Netherlands.

Another important observation is that in the Randstad, the property value (or transaction price) gap – 32.6 percent in 2001 – is much greater than the average household income difference (12.6 percent in 2000) between the urbanized rural areas and highly urban areas. This is the complete opposite of the pattern in the Bay Area where the income gap was much greater than the property value gap. The contrast implies that: (a) some policies such as social support and the redistributive income tax scheme have effectively restrained the income differences in the Randstad; (b) the sheer size of the Dutch social housing sector (36 percent of the housing stock) to a large extent safeguards the balanced income mix of its tenants, both in urban and suburban areas; and (c) if the trend in property value differentiation continues without intervention, the household income mix can change towards income sorting and segregation, as the poorer households find it harder to afford the much more expensive properties in the suburbs.

The Dutch government, aware of the threat, has taken several steps to prevent the segregation of property value between cities and their surroundings from becoming entrenched and causing further disparities in income. Urban restructuring and renewal policies aim to improve the urban housing structure and redifferentiate urban housing stock by

replacing low-quality houses with high-end properties (Ministerie van VROM, 1997; Priemus, 1999). Under the VINEX policy, new housing construction must be designated to sites within or adjacent to the existing urban built-up areas. At least 70 percent of the houses built at VINEX locations are market-oriented dwellings. At most, 30 percent is social housing, but only a fraction of this is affordable to low-income households (Priemus, 1999). The VINEX policy has opened the door to more expensive, owner-occupied housing and a buoyant, owner-occupied housing market.

Since housing projects were admitted to VINEX locations (1995–2005), the price distribution pertaining to new dwellings sold in the Randstad has exhibited distinctively different patterns from the distribution pertaining to the value of existing housing stock and transaction prices (Boelhouwer, 2000; Boelhouwer and de Vries, 2002: Table 9, Appendix B). New owner-occupied dwellings⁷ in highly urban areas are no longer at the bottom of the price range. In 2002, the average selling price in highly urban areas (€283,066) was higher than in urbanized rural areas (€269,417), where the average WOZ value and transaction prices for existing owner-occupied housing were highest. From 1997 to 2002, the selling price of new dwellings has been rising faster in highly urban areas and the surroundings (urban and suburban) than in urbanized rural and rural areas (Table 10). This is in stark contrast to the trend in value in the existing dwellings.

Moreover, the wide property value gap observed in the existing housing stock between highly urban areas and urbanized rural areas has been reversed in new dwellings. In 1997, this reversal was already emerging, supported by the fact that the average price of new dwellings in urbanized rural areas was only about 16 percent higher than in highly urban areas, much narrower than the gap in the WOZ value or transaction prices of the existing housing stock. In 2002, the property value correction was in full swing as highly urban areas boasted a 5 percent higher average selling price for the new dwellings than the urbanized rural areas. In the four biggest cities in the Randstad, the growth rates in the selling prices of new dwellings were all higher than those in the urbanized rural and rural areas in the region. The average selling price for new dwellings in Amsterdam, in particular, was higher than the selling

Table 10 The price of newly sold owner-occupied dwellings in the Randstad (in €), 1997–2002

	1997	1998	1999	2000	2001	2002	Growth %
Highly urban	151,206	175,487	209,486	239,261	254,917	283,066	87.2
Urban	146,993	166,740	216,164	254,804	304,526	305,022	107.5
Suburban	158,756	176,841	213,462	237,051	323,921	340,807	114.7
Urbanized rural	174,581	187,224	219,242	221,256	242,293	269,417	54.3
Rural	164,199	188,459	235,610	213,165	313,051	271,237	65.2
Price difference between urbanized rural areas and highly urban areas	15.5%	6.7%	4.7%	-7.5%	-5.0%	-4.8%	
<i>Four biggest cities</i>							
Amsterdam	147,915	156,613	222,653	225,369	237,861	237,829	60.8
Rotterdam	135,551	136,048	167,265	171,372	202,606	228,845	68.8
The Hague	159,970	147,935	169,982	213,332	244,291	240,168	50.1
Utrecht	143,396	174,433	180,959	207,149	217,852	244,609	70.6
Regional	158,083	177,986	218,249	234,766	287,476	296,878	87.8

Source: OTB of TU Delft.

price in urbanized rural areas, from 1999 to 2001. Urban restructuring is clearly underway via the addition of the more expensive, newly constructed owner-occupied housing stock in the urban areas. The state is looking to redifferentiate the housing stock in the Randstad cities, modify the existing property distribution patterns via new construction, and thus prevent the property value gap between urban and rural areas from widening even further.

The hypothesis that the spatial differentiation of property values in the Randstad has increased since 1989 has been confirmed for the values of all housing and the transaction prices of existing owner-occupied housing. The development of prices of new owner-occupied dwellings in the Randstad shows a different pattern. The prices increased fastest in suburban areas, but the increase in urbanized rural and rural areas was much smaller than in urban and highly urban regions. Our expectation was therefore only partially confirmed.

Policy implications

Findings

The comparison above suggests that (among other possible factors) the introduction of a

market-oriented housing policy in the Netherlands has caused the development of the housing market in the Randstad to further resemble the situation in the Bay Area. The first hypothesis of rapid suburbanization in the Randstad has been confirmed to a large extent. The empirical evidence presented above illustrated that, between 1990 and 2000, the trend towards suburbanization has been even more prominent in the Randstad than in the Bay Area.

In most American metropolitan areas, massive suburbanization is usually accompanied by huge segregation in household income between poor city centres and the wealthy suburbs. The San Francisco Bay Area showed a 38 percent difference in average household income between its highly urban areas and urbanized rural areas in 1999. This has not happened in the Randstad, or at least not to that extent. In 2000, the disparity in household income between highly urban areas and urbanized rural areas was only about 13 percent. Although the second hypothesis has not been confirmed, the third (the property value differentiation) has been partly supported. Both in terms of the WOZ value of existing dwellings and the transaction prices of owner-occupied houses, the data showed a significant value gap between the highly urban areas and urbanized rural areas in the Randstad, with a magnitude which was even greater than that found in the Bay Area and which is still increasing. Recently,

the building programmes for expensive owner-occupied housing in and near the cities started a counter-development: as a result of urban renewal policy, including many post-1945 housing areas, the growth rates in the selling prices of new dwellings in the four biggest cities of the Randstad are higher than in the urbanized rural and rural areas. This development is expected to mitigate the threat of widening gaps in property value in the Randstad.

Implications

Concerns have been voiced in the Netherlands that, if housing market deregulation is combined with labour market adjustment and welfare cutbacks, thereby creating a more socially and spatially polarized society, the legacy of past urban management and housing provision could be jeopardized. The comparison between the Randstad and the San Francisco Bay Area helps to identify some of the theoretical implications, key policy issues and potential problems which are raised by the development of the housing market and should be brought to the attention of Dutch policymakers.

Rapid suburbanization

The San Francisco Bay Area had experienced several decades of suburbanization, long before the phenomenon emerged in the Randstad. Therefore, the consequences of suburbanization, some of which may take years to play out, can be clearly observed in the Bay Area, together with some possible solutions. In the Bay Area, low-density, suburban development has been the dominant form of urban growth in postwar decades. This pattern initially included suburban development and bedroom communities in the post-1945 period, and now includes a range of decentralized development patterns such as post-suburbs, edge cities and ex-urban development. Residential uses pioneered the decentralization of the Bay Area but businesses have followed close behind. Employment has rapidly decentralized during the 1980s and is becoming increasingly located in dispersed, subcentre nodes, or 'edge cities' outside the traditional central business districts (Garreau, 1991).

By designating new housing construction in areas within or adjacent to the existing cities, the VINEX policy has the potential to stop and even reverse the trend towards suburbanization, especially when employment as well as housing will be concentrated in VINEX locations. Some of these locations could develop into real edge cities. The VINEX policy is believed to be able to counter suburbanization. Without the VINEX locations, the suburbanization process and urban sprawl would have been stronger in the Randstad than they are at present.

Property value differentiation and household income differentiation

The widening gap in property values between urban areas and the surrounding suburbs could lead to income sorting and, potentially, racial and ethnic segregation, a widespread phenomenon in many American metropolitan areas. Although, as a metropolis, the Bay Area is not representative of dramatic differentiation in property value between urban centres and suburbs, it still exhibits a 20 percent gap. The surprisingly large property value differentiation in the Randstad looks alarming at first sight, but the growing differentiation in property value is not related to a growing spatial disparity in household incomes. In this respect we observe a remarkable difference between the Bay Area and the Randstad.

Policy implications

In the Netherlands, redistributive income tax policy, housing allowances and a number of social policy schemes have contained the income gaps between different residential environments. The Dutch government is tackling the problem of a growing bifurcation in property values between urban and suburban areas by adopting policies on urban renewal and the redifferentiation of urban housing stock. The urban restructuring goal is expected to be achieved by demolishing old, cheap dwellings; constructing high-quality, more expensive houses in the owner-occupied sector; and selling rental housing (Needham and Zwanikken, 1997; Vermeijden, 2001). In 2000, for the first time, the new urban dwellings built under the VINEX policy have shown some promising results with average selling prices exceeding those of the owner-occupied

dwellings built in the urbanized rural and rural areas. The pattern continued in 2001 and 2002. The development in the selling price of the five types of residential environments in the Randstad showed that, from 1997 to 2002, the urban and suburban areas experienced faster growth than the urbanized rural areas. The continuation of the urban renewal policy is essential in order to mitigate the current disparity in property value in the Randstad.

The expectations formulated in the Introduction have been only partly confirmed. In the Netherlands a freer housing market is indeed leading to increasing suburbanization but, because of the Dutch government's intensive urban renewal policy, it is not leading to a greater disparity in household incomes and property values. In addition, the Dutch government has consistently followed a comprehensive spatial policy, particularly in the period 1995–2005, which is mitigating the rapid suburbanization triggered by the deregulation of the housing market.

Theoretical implications

The empirical evidence fails to support a large part of the theoretical framework presented in the Introduction.

This framework is valid for the Bay Area, but not so much for the Randstad, where the spatial disparities of housing market deregulation are to a large extent mitigated by spatial policies, urban renewal policies, housing allowances, social arrangements and tax policy.

Our analysis therefore compels us to reformulate the theoretical framework. If the welfare state remains basically intact (social security, tax system), thereby guaranteeing a universal minimum income, then a more market-oriented housing policy need not lead to greater spatial disparities, as in the US. Furthermore, if the government continues to pursue a stringent spatial policy and works rigorously on urban renewal, no-one needs fear negative fall-out from a market-oriented housing policy. At the same time, an extensive system of housing allowances as an entitlement will ensure that low-income households also have a good chance of entering the housing market.

An increase in suburbanization is discernible in the Randstad as well as a certain widening in the disparity in property value. But we do not observe a

significant increase in the spatial disparity of household incomes. The increase in the spatial disparity of property value is not clearly reflected in spatial disparity of household incomes.

In 1978 and 1984 one of the authors of this article formulated the 'Iron Law of the Housing Market', which states that, in a deregulated housing market, the best dwellings (high quality and high price) will be occupied by the households with the highest income. The low-income households will have to content themselves with the less salubrious (and cheaper) segments of the market (Priemus, 1978: 180–84; 1984: 278–83). Our findings suggest that this 'Iron Law' applies across the whole spectrum of the Bay Area: higher house prices go hand in hand with high-income households. Hence, the spatial disparity of property values is strongly reflected in the spatial disparity of household incomes.

Progressive policy instruments such as income tax, social security, and housing allowances, and the role of housing associations (which are obliged under the Housing Act to give priority to households with a modest income) have prevented the Iron Law of the Housing Market from manifesting itself fully in the Randstad. Some politicians are unhappy about this and talk about a mismatch on the Dutch housing market: many low-income households live in rather expensive dwellings while a fair number of high-income households live in cheap housing (which illustrates the popularity of the social rented sector in the Netherlands).

Our findings demonstrate that housing policy may have become more market-oriented since 1990, but the housing system as a whole, as part of a broad welfare regime, is still more or less egalitarian. The Iron Law of the Housing Market has taken a grip in many countries, but not (yet?) in the Netherlands.

Conclusions

In conclusion, the comparative analysis between the development of the housing market in the Randstad and the San Francisco Bay Area as presented in this article shows that, since a more market-oriented housing policy has been in force in the Netherlands (1989), the housing market in the Randstad has witnessed fast suburbanization and – only to a certain extent – an increasing disparity in property

value. The evolution process has shown some similarities with the market-driven housing market in the Bay Area and indicates that changes in the relationship between the state and the market in Dutch housing may result in greater spatial disparities in property values. The comparison also unveils significant differences between the market in the Randstad and the Bay Area, in terms of the housing system, tax scheme, social policy, and institutional environment. It is more appropriate to view the market-oriented development in the Randstad housing market as the integrated result of the Dutch policy on housing, spatial planning, urban renewal, social security, and tax. The comparison draws attention to the problems that can be caused by suburbanization and disparities in property. The restructuring of the welfare state should not be regarded simply in terms of less government intervention in housing markets, but rather as a shift in the government's role from market controller to facilitator, monitor, and corrector when necessary. Given the ability of the Dutch government to adopt an ambitious spatial and urban renewal policy, and to bring about a redistribution of incomes via social security schemes and progressive taxes, the potential for a broadly defined 'market-oriented welfare model' to secure efficiency and equity goals in Dutch housing seems considerable (Nesslein, 1988). For the Netherlands and the Randstad the Iron Law of the Housing Market is still a long way off.

Notes

- ¹ There are various concepts of the Randstad. The delineation of the Randstad in this research follows the definition in the 'Regional Report on The Randstad' (Hoppenbrouwer et al., 2000), which includes only a small part of the area of Flevoland.
- ² Although the two regions differ enormously in their gross land areas, it is largely a misconception because much of the land in the San Francisco Bay Area is desert and mountains with no or very few settlements. Therefore the built-up area is a better measure of its metropolitan size.
- ³ Although some employment categories and definitions vary between the two countries, the grouping in Table 2 is mostly consistent in both regions.
- ⁴ In the Randstad, 45% of the housing stock is owner-occupied. Within the Randstad, the share of owner-occupation varies between 19% (four biggest cities) and 59% (least urbanized areas) (Kruythoff, 1993: 29–30).
- ⁵ VINEX stands for *Vierde Nota over de Ruimtelijke Ordening Extra (the Fourth Spatial Planning Memorandum Extra)*: Ministerie van VROM, 1990.
- ⁶ However, the income gap between these two areas has decreased from 41.5% in 1989 to 37.9% in 1999, largely owing to the prosperity of San Francisco as a financial and service centre on the west coast, and the thriving of the city of San José because of the IT boom.
- ⁷ The data are the sales prices of the newly sold owner-occupied dwellings in the Randstad. There are other datasets on the sales prices of the newly built owner-occupied dwellings. But the problem with those data is that the sales contracts may have been signed years before the dwellings are finished. As a result, the sales prices have a considerable time-lag. So the authors chose to use the sales prices of newly sold dwellings to capture the market prices of these dwellings more accurately.

References

- Badcock, B. (1994) 'The Strategic Implications for the Randstad of the Dutch Property System', *Urban Studies* 31 (3): 425–45.
- Blauw, W. (1991) 'Housing Segregation for Different Population Groups in the Netherlands', in E.D. Huttman (ed.) *Urban Housing Segregation of Minorities in Western Europe and the United States*, pp. 43–62. London: Duke University Press.
- Boelhouwer, P. (2000) 'Development of House Prices in the Netherlands: an International Perspective', *Journal of Housing and the Built Environment* 15: 11–28.
- Boelhouwer, P. (2002) 'Trends in Dutch Housing Policy and the Shifting Position of the Social Rented Sector', *Urban Studies* 39 (2): 219–35.
- Boelhouwer, P. and de Vries, P. (2002) 'Housing Production in the Netherlands: a Growing Misbalance between State and Market', article presented at the ENHR 2002 Conference 'Housing Cultures – Convergence and Diversity' (July), Vienna.
- Boelhouwer, P. and Priemus, H. (1990) 'Dutch Housing Policy Realigned', *Netherlands Journal of Housing and Environmental Research* 5: 105–19.
- Bolan, R. (1999) 'The Dutch Retreat from the Welfare State and its Implications for Metropolitan Planning', *Working Article*, Amsterdam Study Center for the Metropolitan Environment. University of Amsterdam.
- Bontje, M. (2001) 'Dealing with Deconcentration: Population Deconcentration and Planning Response in Polynucleated Urban Regions in North-west Europe', *Urban Studies* 38 (4): 769–85.
- Centraal Bureau voor de Statistiek (CBS), Netherlands Statistics (2003), StatLine. Accessed at: [www.cbs.nl].

- Clark, W.A.V. and Dieleman, F.M. (1996) *Households and Housing. Choice and Outcomes in the Housing Market*. New Brunswick, NJ: Center for Urban Policy Research.
- Dieleman, F.M. (1996) 'The Quiet Revolution in Dutch Housing Policy', *Tijdschrift voor Economische en Sociale Geografie* 87 (3): 275–82.
- Dieleman, F.M. and Van Kempen, R. (1994) 'The Mismatch of Housing Costs and Income in Dutch Housing', *Netherlands Journal of Housing and the Built Environment* 9: 159–72.
- Dieleman, F.M. and Wallet, C. (2003) 'Income Differences between Central Cities and Suburbs in Dutch Urban Regions', *Tijdschrift voor Economische en Sociale Geografie* 94 (2): 265–75.
- Downs, A. (ed.) (2004) *Growth Management and Affordable Housing. Do they Conflict?* Washington, DC: The Brookings Institution.
- Garreau, J. (1991) *Edge City, Life on the New Frontier*. New York: Doubleday.
- Hamnett, C. (1994) 'Social Polarization in Global Cities: Theory and Evidence', *Urban Studies* 31 (3): 401–24.
- Heerma, E. (1989) *Volkshuisvesting in de Jaren Negentig* [Housing in the Nineties]. The Hague: Sdu uitgeverij.
- Hird, J.A., Quigley, J.M. and Wiseman, M.L. (1990) 'Housing in San Francisco: Shelter in the Market Economy', in B. Harsman and J.M. Quigley (eds) *Housing Markets and Housing Institutions: an International Comparison*, pp. 157–205. Norwell, MA: Kluwer Academic Publishers.
- Holzer, H.J. (1991) 'The Spatial Mismatch Hypothesis: What has the Evidence Shown?' *Urban Studies* 28 (1): 105–22.
- Hoppenbrouwer, E., Meijers, E. and Romein, A. (2000) *Polycentric Urban Regions in the North Western Metropolitan Area: Regional Report on the Randstad*. Delft: OTB Research Institute for Housing, Urban and Mobility Studies, Delft University of Technology.
- Innes, J. and Gruber, J. (2001) 'Planning Styles in Conflict at the San Francisco Bay Area's Metropolitan Transportation Commission', *Working Article*. University of California at Berkeley: Institute of Urban and Regional Development.
- Kain, J.F. (1993) The Spatial Mismatch Hypothesis: Three Decades Later, *Housing Policy Debate* 3 (2): 371–460.
- Kruijthoff, H. (1993) *Residential Environments and Households in the Randstad* Delft: Delft University Press.
- Kruijthoff, H. (2003) 'Dutch Urban Restructuring Policy in Action against Socio-spatial Segregation: Sense or Nonsense?', *European Journal of Housing Policy* 3 (2): 193–215.
- Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer (VROM) (1990) *Vierde Nota over de Ruimtelijke Ordening Extra (VINEX)*. The Hague: Sdu Uitgevers.
- Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer (VROM) (1996) *Verstedelijking in Nederland 1995–2005: De Vinex-afspraken in beeld*. The Hague: Ministerie van VROM, Centrale Directie Voorlichting.
- Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer (VROM) (1997) *Nota Stedelijke Vernieuwing*. The Hague: Ministerie van VROM.
- Murie, A. and Musterd, S. (1996) 'Social Segregation, Housing Tenure and Social Change in Dutch Cities in the Late 1980s', *Urban Studies* 33 (3): 495–516.
- Needham, B. and Zwanikken, T. (1997) 'The Current Urbanization Policy Evaluated', *Netherlands Journal of Housing and the Built Environment* 12 (1): 37–55.
- Nesslein, S.T. (1988) 'Housing: the Market Versus the Welfare State Model Revisited', *Urban Studies* 25 (1): 95–108.
- Ouweland, A. and Van Daalen, G. (2002) *Dutch Housing Associations: a Model for Social Housing*. Delft: Delft University Press.
- Priemus, H. (1978) *Volkshuisvesting. Begrippen, problemen, beleid* [Housing. Concept, Problems, Policy]. Alphen aan den Rijn: Samsom.
- Priemus, H. (1984) *Verhuistheorieën en de verdeling van de woningvoorraad* [Residential Mobility Theories and the Distribution of the Housing Stock]. Delft: Delft University Press.
- Priemus, H. (1995) 'Redefining the Welfare State: Impact upon Housing and Housing Policy in the Netherlands', *Netherlands Journal of Housing and the Built Environment* 10 (2): 141–55.
- Priemus, H. (1997) 'Spatial Planning and Housing Policy: on the Ties that Bind', *Netherlands Journal of Housing and the Built Environment* 12 (1): 77–90.
- Priemus, H. (1998) Contradictions between Dutch Housing Policy and Spatial Planning', *Tijdschrift voor Economische en Sociale Geografie* 89 (1): 31–43.
- Priemus, H. (1999) 'Strengthening the Urban Housing Market: the Dutch Approach', *Environment and Planning B: Planning and Design* 26: 297–312.
- Priemus, H. (2000) 'Rent Subsidies in the USA and Housing Allowances in the Netherlands: Worlds Apart', *International Journal of Urban and Regional Research* 24 (3): 700–12.
- Priemus, H., Kemp, P.A. and Varady, D.P. (2005) 'Housing Vouchers in the United States, Great Britain and the Netherlands, Current Issues and Future Perspectives', *Housing Policy Debate* 16 (3–4): 575–609.
- Rusk, D. (1999) Conversations on Urban Policy: the USA and the Netherlands', in D.H. Frieling (ed.) *Planning Metropolis: Urban Growth and Social Patterns*, pp. 6–33. Amsterdam: Rob Stolk bv.
- Salet, W.G.M. (1999) 'Dutch Housing Policy in a Changing Welfare State', *Working Article*. Amsterdam Study Centre for the Metropolitan Environment, University of Amsterdam.

- Van Kempen, R. and Van Weeseep, J. (1997) 'Segregation, Housing and Ethnicity in Dutch Cities', *Tijdschrift voor Economische en Sociale Geografie* 88 (2): 188–95.
- Van Kempen, R., Schutjens, V.A.J.M. and Van Weeseep, J. (2000) 'Housing and Social Fragmentation in the Netherlands', *Housing Studies* 15 (4): 505–31.
- Van Weeseep, J. and Priemus, H. (1999) 'The Dismantling of Public Housing in the USA', *Netherlands Journal of Housing and the Built Environment* 14 (1): 3–12.
- Van Weeseep, J. and Van Kempen, R. (1992) 'Economic Change, Income Differentiation and Housing: Urban Response in the Netherlands', *Urban Studies* 29 (6): 979–90.
- Vermeijden, B. (2001) 'Dutch Urban Renewal, Transformation of the Policy Discourse 1960–2000', *Journal of Housing and the Built Environment* 16: 203–32.
- Wannop, U.A. (1995) *The Regional Imperative: Regional Planning and Governance in Britain, Europe and the United States*. London: Jessica Kingsley.

Correspondence to:

Hugo Priemus, Faculty of Technology, Policy and Management, Delft University of Technology, PO Box 5015, 2600 GA Delft, Jaffalaan 5, 2628 BX Delft, The Netherlands. [email: h.priemus@tudelft.nl]