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5 Housing Market Regulations and Housing Market Performance in the United States, Germany, and Japan

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Housing markets in most countries feature strong government involvement. This involvement typically takes the form of direct subsidies (e.g., housing allowances, public housing), tax incentives (e.g., mortgage interest deduction), and market regulations (e.g., tenure protection legislation), among other policy instruments. There are several objectives for this activist role of the government. First, it is claimed that housing markets are inefficient and need counterbalancing government actions to achieve pareto efficiency. A second motive is the belief that everybody merits reasonable housing and that society ought to provide this housing if an individual cannot afford it. Third, supporting housing consumption and investment serves as a convenient mechanism to redistribute income and wealth.

Many pages have been filled with discussions of these motives.[1] I do not want to repeat the merits and pitfalls of these arguments in this paper. Rather I want to concentrate on those programs that are intended to ensure social protection and analyze whether they achieve this goal and whether they have side effects on the performance of the housing market. In particular, I want to determine whether the social protection comes at the expense of economic flexibility hindering equilibrating market forces.

This task is complicated by the fact that housing markets are by no account good textbook examples of neoclassical spot markets. Market imperfections abound even in the absence of state intervention, particularly in the rental but

1. See, for example, the textbook by Mills and Hamilton (1984).

also in the owner-occupied housing market segment. Housing is a durable good where prices are not necessarily defined by one-period spot market conditions alone. Therefore, expectations based on imperfect foresight play an important role in determining housing prices. High monetary and nonmonetary transaction costs are involved when consumption is changed by moving, creating thin or even missing markets. Property rights of the rental unit are given up only temporarily, giving the seller a strong incentive to care who the buyer is. And since the tenant's characteristics will be revealed only after some time, the problems of moral hazard and incomplete contracts hamper the functioning of the invisible hand. As is well known, if the two sources of potential inefficiency—intrinsic market imperfections and government intervention—are confused, inaccurate policy analysis and policy recommendations may occur when first-best solutions are proposed in a second-best environment. An important task of this paper is therefore to disentangle the effects of government intervention and the effects of intrinsic housing market imperfections.

Such an analysis is considerably eased by the possibility of comparing different countries. Empirical analysis of government intervention in one country alone frequently faces the impossibility of a with-and-without analysis, due to the fact that policy regime changes in a country are rare and that most housing market interventions are federal functions. Hence, time series data often have little temporal variation or are confounded by other historical changes, and cross-sectional data in a single country feature virtually no policy variation at all. In contrast, a cross-national comparison exploits the policy differences at a given point or during a short period of time. I draw empirical conclusions by comparing evidence in Germany and Japan with evidence from the United States. In all of these three countries, there is substantial government involvement in the housing markets. However, the programs that are in effect have very different intentions and designs. Moreover, they apparently create very different housing market outcomes. Examples are the different proportions of owner-occupancy and different mobility rates in the three countries.

Of course, international comparisons suffer from the confounding effects of cultural and attitudinal differences. The countries to be compared should not be so unequal as to make comparisons meaningless but should be sufficiently different to feature policy differences. This subtle balance restricts the choice of countries and requires a careful analysis that controls for other confounding factors. Germany and Japan have standards of living roughly comparable to that of the United States. They have become somewhat "Americanized" since World War II, particularly with respect to consumption patterns, but their histories and geographic features have led to very different policies.

I set the stage in section 5.1 with a summary of stylized facts about the German and the Japanese housing markets in comparison with the U.S. housing market. The policy discussion begins in section 5.2, with a brief description and evaluation of five types of government programs: tenants' protection legis-

lation, housing allowance programs, the provision of public and social housing, indirect subsidies toward homeownership, and transaction regulations. Not all programs exist in all three countries, and some are designed quite differently; but the basic framework is shared in all three countries. However, it is not my intention to produce an exhaustive list of government programs in Germany, Japan, and the United States. Rather, these fives types of government intervention exemplify the main differences in how to approach housing policy in the three countries and therefore allow an assessment of efficacy and side effects of housing programs in general.

Sections 5.3 and 5.4 are devoted to more in-depth studies of the effects of the German tenants' protection legislation and of the U.S. and German homeownership subsidies. I will relate the extent of these policies to measures of housing market performance, particularly flexibility. This is a difficult part of the paper, since measurement and even definition of economic performance and flexibility are vague. I will look at indicators such as cyclical stability and speed of adjustment to changing economic and demographic conditions on the macroeconomic level, as well as at housing affordability and mobility at the microeconomic level. The paper finishes with a synthesis in section 5.5.

5.1   Housing Market Facts in the United States, Germany, and Japan

This section summarizes the most important stylized facts about housing markets in Germany, Japan and the United States. Data sources are detailed in appendix A. For Germany, the data represent West Germany only. Due to its former political system and the inability of the current government to resolve the many land and house ownership disputes, the former East Germany still features a housing "market" totally dominated by state-administrated rental housing. However, the demographic structure of East Germany closely resembles that of West Germany, so that when the intended privatization of land and buildings finally takes place, East German housing consumption patterns should converge quickly to the West German ones.

5.1.1   Background: Demography, Income, Savings

I begin with a brief summary of those background facts that are most important to characterize housing markets.

The expected future *population size and structure* are very different among the three countries. While the population of the United States is projected to increase during the next forty years, albeit at a smaller rate than between 1950 and now, Japan's population is expected to stabilize at around half the current size of the U.S. population, and the German population is forecasted to decline substantially to about 80 percent of its current size (table 5.1).

However, there are two reasons to be cautious when drawing quick conclusions about future housing markets. First, immigration may completely upset

Table 5.1   **Population Size**

	Population (millions)			Immigration (thousands)		
	1950	1990	2030	1970	1980	1989
United States	152.3	248.5	302.2	373	531	1,091
West Germany	50.0	62.1	48.7	1.043	752	1,522
Japan	83.7	122.8	122.1	7.3	23.1	

Sources: OECD 1988. StAB, StJB, Kanemoto 1992.

Note: Immigration figures in Japan refer to changes in the stock of foreigners 1970–80 and 1980–90.

Table 5.2   **Population Structure**

	Average Household Size			% Aged 65 and More		
	1970	1980	1990	1950	1990	2030
United States	3.11	2.75	2.63	8.1%	12.2%	19.5%
West Germany	2.74	2.48	2.22	9.4	15.5	25.8
Japan	3.9	3.4	3.28	5.2	11.4	20.0

Sources: StJB, JHC, StAb, OECD 1988.

these projections. While the decline in the German population shown in table 5.1 (left panel) is about a third of a million per annum, actual net immigration in 1989 exceeded 1.5 million (right panel). Immigration into Germany is very high compared to the United States and Japan. It is expected to remain at about 1 million per year for the near future. Immigration into Japan is all but nonexisting. The United States, although much larger, has a lower *absolute* number of immigrants. Even if one doubles the U.S. figures to roughly account for unreported illegal immigration, per capita immigration into Germany still runs about 2.5 times higher than total per capita immigration into the United States.

The second reason to be cautious drawing conclusions about housing is that *population* counts do not translate one-to-one into *household* numbers. Table 5.2 (left panel) depicts the average household size in each of the three countries. Household size declines steadily in all countries and is substantially lower in Germany than in the United States or Japan. Part of this is due to the increasing percentage of elderly, who are most likely to live in single-person households. As the right panel of table 5.2 shows, this development is not likely to stop during the next forty years when the population aging process will reach its peak. Population aging is very pronounced in Germany; it is also very fast (although with a lower base) in Japan; and it is both slower and less dramatic in the United States.

The most important economic determinant of individual housing choices is *income*. Per capita gross domestic product (GDP) is substantially higher in the

Table 5.3   Household Income (1990 U.S. $)

	GDP per Capita, 1988	Net Household Income 1987	Income Distribution					
			Lower 20%	2d 20%	3rd 20%	4th 20%	9th 10%	Upper 10%
United States	$21,612	$41,085	4.7%	11.0%	17.4%	25.0%	16.9%	25.0%
West Germany	15,648	30,981	6.8	12.7	17.8	24.1	15.3	23.4
Japan	15,788	34,432	8.7	13.2	17.5	23.1	15.1	22.4

Sources: StAB 1991, 434, 843; StJB 1988, 554; Kanemoto 1992; World Bank, *World Development Record,* table 30.

Note: The income distribution figures represent the share of total income in the respective percentile. The data are from 1984 for West Germany, from 1979 for Japan, and from 1985 for the United States.

United States, compared to both Germany and Japan, as table 5.3 demonstrates. Amounts are in 1990 U.S. dollars converted by Organization for Economic Cooperation and Development (OECD) purchasing power parities.[2] Due to different household sizes and tax structures, this translates into a 16 percent lower net household income in Japan compared to the United States, and a 25 percent lower net household income in West Germany. Most of the difference between Germany and the United States is due to the 20 percent lower work hours in Germany and thus reflects different preferences for leisure rather than welfare differences.[3]

Moreover, income distributions differ dramatically (table 5.3, right panel). While the lowest 20 percent in the income distribution hold 6.8 to 8.7 percent of total income in Germany and Japan, they have only 4.7 percent in the United States. Conversely, the richest decile earns a quarter of total income in the United States but only 23.4 percent in Germany and only 22.4 percent in Japan. It is necessary to take these income differences into account when comparing housing consumption.

Finally, table 5.4 depicts the *macroeconomic parameters* most important for the housing market: Until 1990, Japan featured high gross national product (GNP) growth rates compared to the United States and Germany and a dramatically higher aggregate savings rate. Since 1990, Japanese GNP growth has somewhat slowed down, and the personal savings rate has fallen to the German level. As is well known, the United States features not only very low savings rates by international standards but also a unprecedented decline in savings during the past twenty years.

2. Precisely, DM and yen amounts have been inflated to 1990 by the domestic consumer price index (CPI) deflator (see *Economic report of the president, statistical tables* 1992, table B-105) and then converted into dollars using the purchasing power parities listed in OECD (1992).

3. In 1990, German workers averaged 1,506 hours, U.S. workers 1,847 hours.

Table 5.4   **GNP Growth and Savings**

	Annual GNP Growth			Aggregate Savings Rate		
	1971/75	1981/85	1990	1970	1980	1990
United States	2.3%	2.5%	1.0%	7.8%	5.8%	2.2%
West Germany	2.1	1.2	4.5	18.1	9.8	12.6
Japan	4.5	3.8	5.6	27.0	18.3	20.3

Sources: EcRep, statistical tables; Organization for Economic Cooperation and Development, *National Accounts.*

Table 5.5   **Housing Consumption**

		Floor Space of New Dwellings	
	Rate of Owner-Occupancy	Total	Per Person
United States	64.0%	149.0 m^2	56.0 m^2
West Germany	39.3	86.1	36.8
Japan	61.4	75.9	21.4

Sources: AHS 1987; GWZ 1987; JKDS 1988; and Kanemoto 1992.

Note: The Japanese numbers are multiplied by 1.15 to account for measurement differences in floor space (see Kanemoto 1992).

5.1.2   Housing Consumption

There are striking differences in housing consumption among the three countries. Most notable are the differences in tenure choice and dwelling size. Table 5.5 presents 1987/88 data.

Ownership rates are high in Japan and the United States but very low in Germany: 64 percent of all American households live in owner-occupied housing, 61.4 percent in Japan, but only 39.3 percent in Germany. Americans also have the largest dwellings. Newly constructed houses have on average 149 m^2 in the United States, while German houses have on average 86 m^2 and Japanese houses only 76 m^2. A correction for household size amplifies the relative smallness of Japanese dwellings: A Japanese person consumes on average 21.4 m^2, while a German person has about 1.7 times as much and an American 2.6 times as much space as a Japanese.

Table 5.6 gives a more detailed decomposition of housing demand. The differences in tenure choice are echoed in the differences between structure types. Whereas in Germany single-family structures (including duplexes) and multifamily structures have almost equal shares, single-family homes constitute the overwhelming share of structures in the United States. In all three countries, rental dwellings are much smaller than owner-occupied dwellings. This is most pronounced in Japan.

Table 5.6   **Housing Consumption by Tenure, Structure Type, and Dwelling Size**

Tenure	Structure Type		Dwelling Size		
	Single Family	Multi-family	1–4 Rooms	5+ Rooms	Total per Parameter
United States, 1987					
Rental	11.9%	24.1%	22.4%	13.6%	36.0%
Owner-occupied	55.7	8.3	8.7	55.3	64.0
Total	67.5	22.5	31.1	68.9	100.0
West Germany, 1987					
Rental	15.0	45.7	47.7	13.0	60.7
Owner-occupied	33.0	6.3	10.9	28.4	39.3
Total	48.0	52.0	58.6	41.4	100.0
Japan, 1988					
Rental	6.9	31.0	35.1	2.8	37.9
Owner-occupied	53.9	8.1	14.5	47.6	62.1
Total	60.8	39.1	49.6	50.4	100.0

Sources: United States: AHS 1987. West Germany: GWZ 1987. Japan: JHC 1988; Kanemoto 1992.

Table 5.7   **Mobility Rates**

	United States	West Germany	Japan
Total % of households having moved within 12 months	17.6%	6.6%	9.6%
Age of mover			
20–24 years	35.2	42.9	20.1
25–29	31.8	21.5	19.0
30–44	17.9	9.2	9.3
45–54	10.2	3.5	4.9
55–64	7.1	3.5	3.8
65–74	4.9	1.7	3.9
75 and above	4.7	2.0	4.5
Tenure			
Rental housing	37.5	9.0	19.8
Owner-occupied	8.5	3.4	3.6

Sources: AHS 1987; GWZ 1987; JHC 1988.

5.1.3 Mobility

The striking difference in internal mobility rates across countries is important to note for an analysis of market flexibility. Mobility rates in Germany are about three times lower than in the United States (table 5.7). Although German mobility is high at young ages, it virtually ceases after age 35. Of course, U.S. mobility rates also decline with age. However, Americans aged

75 and above move more frequently than heads of German households who are over age 35.[4] Japanese mobility rates are, on average, in between those of Germany and the United States. However, their age pattern is quite different. Mobility among the young is much lower, because first-home buying age is very late in Japan. In turn, mobility among the elderly is relatively high, mostly due to the Japanese tradition of taking in elderly parents.[5]

5.1.4   Housing Supply

I now turn to the supply side of the housing market. Table 5.8 presents the suppliers of the standing stock. In addition to differences in rental-owner shares, the rental housing segment itself features different suppliers. In Germany, almost a tenth of the housing stock is provided by public or nonprofit housing agencies. This percentage is a little lower in Japan, although, as a share of rental housing, public providers are more important in Japan. This contrasts with the United States, where the share of public housing is little more than 1 percent of total housing. Section 5.2.1 will explain that public housing in Germany and Japan is very different from public housing in the United States. Japan also has a substantial share of employer-provided housing, another segment cushioned from free-market mechanisms.

In all three countries, new construction is a small proportion of the total supply. Table 5.9 shows that this is particularly true for West Germany, while Japan had the most active new-construction segment. To account for the different business cycle phases in the three countries, I took averages from 1974 to 1988. During this time and on a per capita basis, U.S. construction activity was 60 percent of the Japanese, and the German about one-half. Neither Germany nor the United States ever reached new-construction activities as intense as the Japanese (almost 14 units per 1,000 inhabitants in 1988) nor did the U.S. and Japan ever drop as low as Germany in 1988 (only 3.4 units per 1,000 inhabitants).

5.1.5   Housing Market

Housing market features such as vacancy rates and the size of the second-hand market are very different in the three countries. The left panel of table 5.10 depicts vacancy rates for the three countries. The German vacancy rate is very low in comparison to both Japan and the United States. This vacancy rate fluctuates somewhat during the business cycle. However, the relative differences among the three countries are remarkably stable.

Germany and Japan have very thin second-hand markets in the single-family home market segment, in comparison to the United States. The right panel of table 5.10 displays the number of existing home sales, both absolute and rela-

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4. The mobility rate for Germans aged thirty-five and above is 3.7 percent (SOEP 1987).

5. Regarding transactions costs, it is noteworthy that built-in kitchens are commonly part of rented dwellings in the United States, while they commonly belong to the household in Germany and Japan and are therefore being moved or sold in case of a move.

Table 5.8 **Housing Suppliers**

	United States 1988		West Germany 1989		Japan 1988	
Owner-occupied	64.0%		39.3%		62.1%	
Private rental	34.6	(96.1%)	51.4	(84.7%)	26.2	(69.0%)
Public/nonprofit	1.4	(3.9)	9.3	(15.3)	7.6	(20.0)
Employer-provided	—	—	—	—	4.2	(11.1)

Sources: StAb 1991; StBA (FS5.1) 1989; JHC 1988.

Note: Numbers in parentheses are percentages of rental housing.

Table 5.9 **New Construction (completed units), 1974–1988**

	Average		Minimum			Maximum		
	Units [000]	Per Capita	Year	Units [000]	Per Capita	Year	Units [000]	Per Capita
United States	1,549	6.8	1982	1,006	4.3	1978	1,868	8.4
West Germany	360	5.8	1988	209	3.4	1974	604	9.7
Japan	1,374	11.5	1983	1,137	9.6	1988	1,684	13.8

Sources: U.S. Department of Commerce, *Construction Review;* StBA(FS-5.1) 1989; JHC 1988; Kanemoto 1992.

Note: Per capita refers to number of newly constructed units per one thousand inhabitants.

Table 5.10 **Housing Market Features**

		Existing Home Sales	
	Vacancy Rate	Units [000]	Units per 1,000 Households
United States (1987)	8.9%	3,530	39.4
West Germany (1987)	2.7	69	2.7
Japan (1988)	9.4	152	4.1

Sources: AHS 1987 and StAb 1991; StJB 1988; JKDS 1990.

Note: The Japanese vacancy rate includes vacant second homes and unusable units.

tive to the number of households. In the United States, this market is almost fifteen times larger than in Germany and about ten times larger than in Japan. While it is very common in the United States to buy a used home, little more than 20 percent of homeowners do this in Germany. Most German first-home buyers move into new custom-built houses.

In summary, Germany has a relatively small market of newly built houses, a very thin second-hand market of single-family homes, and a thin rental segment since the vacancy rate is dominated by the rental sector. In this respect, it is very different from both Japan and the United States. Of course, this difference is mirrored in the low mobility rate.

5.1.6 Housing Prices

To conclude this *tour d'horizon* on U.S., German, and Japanese housing markets, table 5.11 presents housing prices in relation to income. At a first and superficial glance (columns 1 and 2), housing affordability does not seem to differ much across the three countries. However, this picture is deceiving. For one, the differences in metropolitan areas are much larger. Kanemoto (1992) reports that housing prices in Tokyo and Osaka are about twice as large as in New York and Los Angeles. Moreover, table 5.11 reports *expenditures* not corrected for differences in dwelling size and quality. They therefore say little about housing *prices*. In fact, as shown above, Japanese houses are much smaller than U.S. and German ones. I therefore calculate the price per square meter in relation to annual household income (column 3). Measured this way, housing is on average more than twice as expensive in Japan and Germany as in the United States.

A more careful computation for metropolitan areas in the United States and West Germany is presented by Börsch-Supan (1985) and is based on quality corrections by hedonic regressions for 1978.[6] Quality-corrected structure costs were about 80 percent higher in German cities than in U.S. Standard Metropolitan Statistical Areas (SMSAs). The main factor, however, is the 4.5-fold higher average price of land in German cities leading to a 40 percent share of land in total house values. The higher prices result in about 30 percent less consumption of housing (measured as a hedonic index composed of space and other housing quality attributes) and more than 40 percent less consumption of land.[7]

Table 5.12 provides a rough calculation of average land price and its changes over time in relation to income. Land values were computed from national accounting data and refer to arable land. Arable land is a small proportion of land in Japan, a much larger proportion in the United States, and virtually all land in Germany. It is also noteworthy that Japanese land values are dominated by the Tokyo area, while U.S. land values include substantial quantities of agricultural land.

Two observations stand out in table 5.12. First, Japan experienced a dramatic increase in land prices that was unparalleled in the United States and Germany. Second, arable land prices in 1988 are more than ten-fold in Germany and more than two hundred–fold in Japan in comparison to the United States. The stark contrast between the scarcity of land in Japan and central Europe and the abundance of land in North America is one of the basic facts that shape the housing markets in the three countries.

6. Based on the *American Housing Survey* (AHS) and the *Wohnungsstichprobe* (Housing Census) in 1978. Since then, Germany has not collected data on housing quality and household characteristics comparable to the AHS.

7. Average lot size in the United States is 1,578 m², in Germany only 922 m².

Table 5.11   **Housing Expenditures and Affordability of New Housing**

	Housing Expenditure Share	New-House Price Divided by Annual income	Price per m² Divided by Annual Income
United States (1987)	19.6%	3.4	0.023
West Germany (1986)	21.1	4.6	0.053
Japan (1989)	18.6	4.4	0.058

Sources: StAB 1991; StJB 1988; JKDS 1990; Kanemoto 1992; author's calculations.

Table 5.12   **Land Prices**

	Land Value per Arable km² / GNP per Capita				
	1970	1975	1980	1985	1988
United States	0.3	0.3	0.5	0.4	0.4
West Germany	5.7	6.3	5.6	5.1	5.5
Japan	49.5	56.2	65.2	69.7	110.1

Sources: Author's calculations based on Boone and Sachs 1989. For size of arable land: Kanemoto 1992, 667.

5.2   Housing Policies in the United States, Germany, and Japan

The discussion in the preceding section shows that the differences in housing consumption among the three countries are to some degree explainable by the relative scarcity of land in Japan and Germany, resulting in high land prices and substitution toward smaller dwelling sizes in comparison to the United States. One might be tempted to attribute the difference in the proportion of owner-occupied (and mostly single-family) homes between Germany and the United States to the same mechanism—if it were not for the large proportion of owner-occupied houses in Japan. Similarly, the striking differences in mobility and vacancy rates rates do not fit into such a simple explanation.

My main claim in this paper is that many differences are, to a large degree, generated by housing policies, particularly by homeownership subsidies and rental housing regulations. To this end, this section provides a brief description of the main housing policy programs in effect in the three countries since the midseventies.[8] Each subsection concludes with a short evaluation in terms of social protection and economic flexibility, and appendix B provides a summary of the programs.

8. Since housing choices are long-term decisions, it is important to look at the recent past as well as the current policy environment.

5.2.1 Public and Social Housing

The very first program to protect low-income households in terms of housing needs in the *United States* was the public housing program enacted in 1937. The public housing program was massive in the 1960s (the stock almost doubled from 593,000 units in 1960 to 1.1 million units ten years later) but has lost its importance since then. It never provided state-supplied housing for more than a small proportion of households. In 1960, 1.12 percent of all housing units were public housing, 1.82 percent ten years later at its peak, 1.64 percent in 1980, and only 1.41 percent in 1988.

As shown in table 5.8, Germany and Japan have considerably larger proportions of public and nonprofit housing. The associated programs, however, are very different from the U.S. public housing program.

German "social housing" is provided for by private nonprofit organizations that effectively operate under a rate-of-return constraint. Social housing is means-tested, but this test is applied only when households move into the unit. A large proportion of social housing is, in fact, used by households who have advanced into the middle class since their move. Moreover, unlike the concentrated multiunit public housing buildings in the United States, social housing in Germany is scattered throughout the community and is frequently located in small buildings.

In *Japan,* about a third of the public housing is not means-tested at all. Even in the most stringent means-tested "type 2 public housing," the annual income limit is $15,000.[9]

The problems of the U.S. public housing program are well-known. It is a textbook example (e.g., Mills and Hamilton 1984) of a policy failure because it failed to provided adequate housing and at the same time hindered economic flexibility. It turned out an economic failure because it was too expensive per housing unit provided—an advantage only to the construction industry. And it was a social failure because it accelerated the formation of ghettos and fostered discrimination. The German social housing program shares the problems of high supply costs (Barnbrook and Mayo 1985). It does, however, provide decent housing for low-income families—actually, sufficiently decent to attract many middle-class misusers of the program.

5.2.2 Rental Housing Subsidies

Private rental housing is indirectly subsidized in the three countries, primarily by subsidies to the construction of new multifamily homes and by accelerated depreciation schedules. In all three countries, expenses related to the provision of rental housing (including mortgage interest and depreciation) are deducted from rental income. Moreover, these expenses can often be used to

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9. Precisely, 4,287,999 yen for type 1 and 3,359,999 yen for type 2 public rental housing (Kanemoto 1992).

offset income other than rental income. This mechanism is regarded as the most important subsidy toward rental housing and provides a scheme to arbitrage income taxes between renters with low marginal tax rates and landlords with high marginal tax rates.[10] Poterba (1984) provides a theoretical model of tenure selection along these lines.

Currently, the tax incentives for rental housing are not symmetric to those for owner-occupancy (see section 5.2.4). They are actually substantially lower. In the *United States,* the accelerated depreciation schedule for rental housing was abolished in the 1986 Tax Reform Act.[11] Moreover, capital gains on rented property are taxed in the United States, while owner-occupiers enjoy rollover provisions; and the transferability of tax losses to other income sources has been limited in the United States. Higher subsidies apply when housing is supplied to low-income families who were granted so-called Section 8 certificates.[12]

In *Germany,* owner-occupiers can use faster depreciation schedules than owners of rental property (although both are accelerated).[13] There is no capital gains tax unless real estate is sold within two years after purchase. Real estate losses can be used to offset other income without limitation. Similar to the U.S. Section 8 programs, higher subsidies apply if apartments are rented to low-income households.

Germany, unlike Japan and the United States, has adopted a direct subsidy of rental housing consumption in form of housing allowances (*Wohngeld*).[14] German housing allowances are fairly widespread entitlements. They cover about 11 percent of all renters (StJB 1990). About a third of all recipients are pensioners. The subsidy depends on the rent paid, income, and family size, similar to the housing gap formula applied in the U.S. Experimental Housing Allowances Program. The subsidy is rather deep: the average subsidy accounts for 33.2 percent of total rental expenditures.

It is important to note that although the amount of housing allowances granted is tied to the actual rent, housing allowances are paid as cash transfers to the household, not to the landlord. Therefore, two essential differences stand out in comparison with the rental subsidies in the United States. First, German housing allowances are entitlements, as opposed to the U.S. Section 8 certifi-

10. Rosen (1992, 436). Whether this is regarded as a subsidy depends on how comprehensive an income definition one applies.

11. Poterba (1992) provides an updated analysis of the effects of the 1986 Tax Reform Act on housing investment.

12. CBO (1988) provides a synopsis of the many programs that are and were in effect. The variants of the Section 8 program account for 71 percent of all rental housing subsidies.

13. However, Germany recently has introduced an emergency housing program with an accelerated depreciation schedule for newly built rental housing.

14. A large number of Japanese employers pay housing allowances. However, there is no tax incentive involved, as they constitute taxable income for the worker and are treated like wages for the firm. Employers pay nontaxable commuting allowances that are substantial. Their effect on housing consumption in terms of tenure and size is only indirect.

cates, which are rationed. Second, housing allowances are cash income, while most of the Section 8 certificates are in kind.[15]

In terms of social protection, the German housing allowances system has succeeded in preventing low-income families from living in lower than standard quality houses. Welfare recipients are able to cover their rent almost completely by housing allowances. This is unlike the United States, where the Congressional Budget Office classifies 36 percent of low-income households as having affordability problems and 14 percent as living in substandard housing (CBO 1988).

Because the German housing allowances are like cash income, distortions to consumption choices are small, at least in comparison to in-kind transfers. Moreover, discrimination is less of an issue, because housing allowances are granted to a large income segment and recipients do not have to reveal their status. In this respect, economic flexibility—interpreted here as noninterference in consumer and supplier choices—does not appear to be tangibly hampered by the German housing allowances program.

5.2.3   Rental Housing Market Regulations

There is no general tenants' legislation in the *United States*. Rent and eviction control legislation is at the discretion of the state or municipal level of jurisdiction. Some states and municipalities have enacted rather strict rent and eviction controls (most prominently New York), but most states and municipalities have none.

In addition to direct and indirect subsidies, Germany and Japan also regulate the rental housing market by tenants' protection legislations. In *Germany*, this legislation consists of two provisions. First, the law prohibits eviction of tenants aside from exceptional circumstances such as refusal to pay rent. Second, rent increases are limited by the average rent increase in the community. In addition, they are capped at 30 percent in three years. However, the initial rent level is unregulated. (More detail is provided in section 5.3.)

Japan has a more informal, but de facto even stricter rent and eviction control than Germany has.[16] Rental contracts are shielded by a special law from the general liberty of contract provisions in the Japanese civil law. This implies that a landlord must go to court and prove a "just cause" to change the contract (e.g., to increase the rent or to evict the tenant). In determining a just cause, the court compares the "need" of the tenant with that of the landlord. Obviously, few landlords are needier than their tenants. This clause therefore applies essentially only to tenants not paying rent. For land the law specifies a

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15. The new Section 8 program allows renters to keep the difference between maximum eligible subsidy and actual rent. About 32 percent of Section 8 certificates are subject to this program variant.

16. The law was liberalized in 1991. Except for the possibility of legal temporary leases in the case of temporary job transfers (including sabbaticals), the "liberation" appears rather marginal. See Kanemoto (1991).

thirty-year contract period, none for housing. Specifying a short contract period, even if agreed to by both parties, is deemed ineffective. This leads to the absurd situation that there is no guarantee that a landlord can return to the unit after a temporary rental (e.g., during a sabbatical).

The rent control part of the Japanese tenants' protection legislation is similar to the German one. Initial rents are determined freely between owner and tenant, but rent increases thereafter must go through court, which is time consuming and costly. As in clauses specifying contract periods, the court may deem invalid all provisions in the contract that specify rent increases, even if both parties have originally agreed on such clauses.

Although there are many similarities between the Japanese and the German tenants' protection legislation, there is a crucial difference that renders the Japanese legislation much stricter. The burden of proof is on the tenant's side in Germany, while in Japan the landlord has to go to court.

It appears obvious that the stringent German and Japanese tenants' protection laws impede economic flexibility. Many Japanese authors claim that the Japanese tenants' protection legislation is the main cause for the scarcity of rental housing in Japan (Kanemoto 1992). In Germany, however, the balance between rental and owner-occupied housing is reversed. Thus, the claim of limited economic flexibility is less convincing. Whether tenants' protection laws achieve social protection is also not clear. Protection from arbitrary eviction may come at high rent levels and depressed supply, consequences of impeded economic flexibility. Section 5.3 will therefore provide an extended analysis of the effectiveness of tenants' protection legislation in Germany and the United States by comparing municipalities with and without rent control.[17]

5.2.4 Homeownership Subsidies

In spite of the many subsidies and regulations in the rental segment of the housing market, the major impact of housing policies from a U.S. perspective is actually in the owner-occupied market segment. In the *United States,* mortgage interest for home and land can be deducted from personal income taxes. The associated tax losses are ten times as large as all rental subsidies, including the public housing program. In *Germany,* accelerated accounting depreciation of the building can be deducted from personal income taxes, and a substantial tax credit is given to families with children who build new owner-occupied homes. In addition, savings toward down payments are subsidized. *Japan* subsidizes housing primarily by low-interest loans. The rationing rules favor people who buy a new house for themselves or build their own new house. In addition, Japan has a small tax credit for owner-occupancy. Imputed rental income escapes taxation in all three countries. Capital gains of owner-occupancy are not taxed in Germany and remain effectively tax free in the United States.

17. Unfortunately, there are no good microdata to extend this analysis to Japan.

More details of the applicable homeownership subsidies are provided in section 5.4. They were substantially higher in the United States than in Germany, although this difference has decreased due to recent changes in the tax laws. Due to the progressive tax structure, homeownership subsidies generally favor the middle class and the rich. Whether they also socially protect the poor depends on the highly controversial filtering effect. Because homeownership subsidies substantially exceed the subsidies toward rental housing, they are tilting the tenure choice toward owner-occupancy, which does not clearly hinder economic flexibility. By smoothing housing consumption over the business cycle, the subsidies may actually foster economic flexibility. Section 5.4 provides a more extended analysis.

5.2.5   Owner-Occupied Housing Market Regulations

Many regulations constrain consumption choices also in the owner-occupied housing market segment. Land use regulations, building codes, and zoning rules are interesting subjects for an investigation of the balance between social protection and economic flexibility but are beyond the scope of this paper (e.g., see Börsch-Supan, Kanemoto, and Stahl 1992).

Worth pointing out, however, are the very high transaction taxes accompanying a real estate sale in Japan. Three types of taxes are due: a real estate acquisition tax, a registration tax, and a stamp duty. For used houses, these taxes amount to between 8 and 10 percent of assessed values, which in turn are reconstruction costs minus a generous allowance for depreciation; the total is about 2 percent for newly constructed houses.[18] The effect of these transaction taxes on economic flexibility is clearly visible in table 5.10. Japan has only about 10 percent of the existing-home sales in the United States relative to the number of households.

Note that Germany has even less of a second-hand market than Japan. However, neither Germany nor the United States has substantial transaction taxes. As with the homeownership rates, one explanation alone does not explain all country-specific phenomena in these international comparisons.

5.3   Effects of Tenants' Protection Legislation

Tenants' protection legislation—the combination of rent controls and prohibition of eviction—is an intervention that quite prominently exemplifies the tension between social protection and economic flexibility.

Proponents of social protection claim that the legislation shields helpless tenants from exploitation and arbitrary eviction. They argue that it is necessary

18. The real estate acquisition tax is 3 percent for residential land and structures. The registration tax is 5 percent, and the stamp duty is 60,000 yen for the median-valued house (Kanemoto 1992).

to counterbalance the weak position of a tenant in a seller's market with a regulate pricing scheme. Specifically, proponents claim that without price regulation a landlord can exploit the exit barriers of high moving costs, thus gaining local monopoly power with the opportunity to raise rents. Proponents of the legislation also argue that the legislation would restrict or eliminate arbitrary and discriminatory eviction, which inflicts high moving costs on the tenants.

In terms of economic flexibility, on the other hand, opponents of tenants' protection legislation argue that crucial property rights—the right to evict an unpleasant tenant—are only given up against compensation for the money value of those rights. This would result in higher rents and depressed supply, which they claim will ultimately reduce tenants' utility. Opponents of the legislation also claim that it deters mobility and therefore creates housing market inflexibility in times of economic and demographic changes.

The aim of this section is an assessment of the positive and normative effects of tenants' protection legislation. I will first describe the German tenants' protection legislation and discuss its potential impacts on rent schedules, housing supply, and welfare. I will then exploit the diversity of U.S. rent and eviction regulations to evaluate the actual impact.

5.3.1   The German Tenants' Protection Legislation

In Germany, the *Wohnraumkündigungsschutzgesetz* (Law for the Protection of Tenants from Arbitrary Eviction) governs rental contracts. Versions of this law have been in effect since 1971. The law was strengthened in 1975, then weakened in 1983 and again in 1987, when short-term leases and prearranged rent changes were permitted. The law consists of two provisions. First, eviction is prohibited except under three conditions. Eviction is permitted (1) if the tenant severely breaches the contract (e.g., does not pay the rent); (2) if the landlord or a close relative wants to move into the unit and has a just cause for doing so; or (3) if the landlord is severely inhibited in the appropriate economic usage of his property (e.g., conversion into office space in areas assigned by zoning laws as a business district). The courts have been very restrictive on the two latter clauses and rarely permit such evictions.

The rent is not regulated when a new tenant moves in (usury is prohibited by general law). However, the second provision of the law indexes the rent for the sitting tenant. This rent regulation permits the landlord to pass on only cost increases, the annuitized value of upgrading and modernization expenses, and some part of general housing appreciation. Any rent increase is subject to the following procedure: The landlord has to quote the rent of three comparable units in the neighborhood. The landlord can then raise the rent up to the average rent of these units unless the rent increase exceeds 20 percent (nominally) within the last three years (30 percent before 1987). This procedure is time consuming, particularly if the tenant appeals (e.g., because the tenant has detected a cheaper comparable unit in the neighborhood). Therefore, the rent

level for sitting tenants is effectively the lagged rent of comparable newly rented units (assuming a steady nominal rent increase).

5.3.2   Effects: Theory

There has been a long debate about the effects of rent and eviction control (e.g., the surveys of Olsen [1972, 1987]). Clearly, in a perfect neoclassical market any kind of restriction of property rights interferes with the pareto efficient market equilibrium. Hence, there is always a transfer scheme that could offset potential losses by renters and make both tenants and landlords better off if such controls were abandoned. This is the basic argument of the opponents of tenants' protection legislation.

In the case of the German (and the Japanese) legislation, which features free initial rents, this line of reasoning needs sophistication. Eekhoff (1981) shows that the primary effect of introducing this price regulation is a heavily front-loaded payment schedule, depicted in figure 5.1, which keeps profits at the prelegislation level. Losses (area B in fig. 5.1) in the second phase of the lease are compensated for by profits (area A) from the high initial rent in the first phase. The resulting actual rent profile is indicated by the bold horizontal line.

The argument made most frequently by opponents of tenants' protection legislation—namely, that the landlord's reduced profit expectations will reduce supply, raise initial rents, and thus make tenants and landlords worse off—is
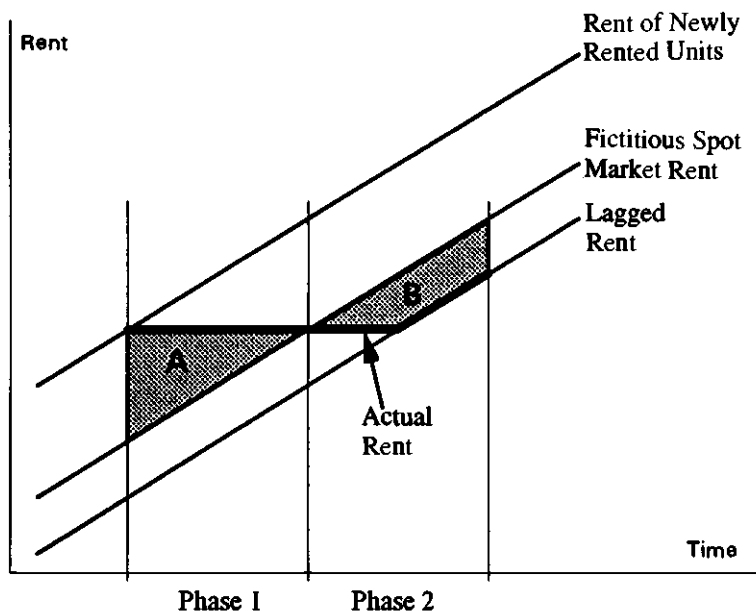

Fig. 5.1   Effect of price regulation
Source: Adapted from Eeckhoff 1981.

therefore incorrect in a perfect neoclassical environment. It is incorrect because initial rents can always be set sufficiently high to equilibrate the losses (are B in fig. 5.1) and the profits (area A). The legislation changes the timing of the rent streams but not their present discounted value. Hence, at least for perfectly anticipated length of tenure and perfect capital markets, there will be no effect on the landlords' profits or the tenant's utility.

The argument may, however, work in an imperfect rental housing market. Eekhoff (1981) points out that only the risk-neutral landlord is able to diversify the risk of having a tenant excessively enjoying his indexed rent in the second phase of his tenure. A risk-averse landlord, however, will charge a premium for this risk, resulting in even higher initial rents, which will reduce the tenant's utility.

Eckart (1983) presents another handle that makes the argument against tenants' protection work. The presence of liquidity constraints creates an intertemporal distortion because the tenant will be restricted in his or her housing consumption by the large initial rent. Eckart shows that under the assumption of either an expectation of increasing real rents or a perfectly elastic supply, the tenants' utility will indeed be reduced. However, Eckart also gives conditions under which this distortion actually increases the tenant's utility, contrary to the common belief and the assertions in Eekhoff (1981).

These arguments show that an assessment of the welfare effects of rent and eviction control is complicated and potentially ambiguous in a second-best world. In a highly stylized rental housing market model (Börsch-Supan 1986), I combine several second-best features with the main ingredients of the German tenants' protection legislation. These features include heterogeneity of landlords and tenants, and incomplete and asymmetric information. More precisely, tenants and landlords may belong to different types who do not like each other but cannot determine at the time of contract whether they match. Moreover, tenants and landlords cannot specify contracts that are contingent on a match or mismatch because this is subjective and cannot be verified in court. Nor can tenants and landlords form contracts that are binding for both sides because this is considered unethical in the court.[19]

The main result of this model is that tenants' protection legislation may or may not be pareto improving, depending on the balance between the mobility costs to the tenant who is evicted and the costs of a bad tenant to the landlord who is prohibited from evicting. If psychic and monetary moving costs inflicted on the evicted tenant are high, tenants' protection legislation is pareto improving. However, if the psychic and monetary costs inflicted on the landlord who is forced to keep a costly or unpleasant tenant are high, tenants' protection legislation reduces welfare.

19. In fact, tenants may always breach a rental contract as long as they provide a successor tenant. The lack of binding contracts is the crucial market failure in this model (see Schwager 1991).

In conclusion, theory alone cannot determine whether the German-type rent and eviction control is indeed a social protection of tenants against their landlords' greed or, in turn, whether rent and eviction control is an obstacle to the invisible hand that would otherwise achieve efficiency.

5.3.2   Effects: Evidence in West Germany

One implication of an effective German-type rent and eviction control is the growing gap between spot market rents and rents of sitting tenants, depicted in figure 5.1. In the absence of rent and eviction controls, landlords may increase the rent of sitting tenants because they can exploit their local monopoly power. I will therefore construct an empirical test of the efficacy of rent and eviction control, based on the relation between rent levels of sitting tenants and their length of tenure. The test consists in relating the rent differential between new and sitting tenants to the existence of rent and eviction control. If these controls were effective, the rent differential should be large in comparison to areas without rent and eviction control.

The gap between spot market rents and rents of sitting tenants—commonly termed tenure discount—can be estimated from long panel data or from cross-sectional data. In cross-sectional data this is measured as the difference in rent paid for comparable units by households that moved in at different times. Units are kept comparable by controlling for housing quality and neighborhood characteristics as well as tenants' and landlords' characteristics by applying hedonic regression techniques. A function of the form $R = f(t; X)$ is estimated in which the observed rent R depends on the length of tenure t, holding the vector X of housing quality, neighborhood, tenant, and landlord characteristics constant. Behring, Börsch-Supan, and Goldrian (1988) estimate a nonlinear rent profile for sitting tenants relative to the spot market rent level, based on 1 percent of West German households in 1978. The results, stratified by degree of urbanization, are displayed in table 5.13.

After one year of tenure, tenants pay 2 percent less rent than new tenants in comparable units. The discounts then increase quickly in the first five years of tenure, until they level off for very long lengths of tenure. They are essentially

Table 5.13   **Tenure Discounts in West Germany**

Length of Tenure (years)	High-Density Metropolitan Areas			Low-Density Urban Areas		Rural Areas
	Center	Suburbs	Environs	Center	Suburbs	
1	2%	2%	2%	2%	2%	2%
5	8	9	11	10	10	10
10	13	15	20	16	19	17
14 and more	19	25	27	19	25	26

Source: Behring, Börsch-Supan, and Goldrian 1988.

flat after a tenure of fourteen years and amount to more than a quarter of the rent a new tenant would pay.

The regression suffers from selectivity bias since high-rent contracts are more likely to be terminated than low-rent contracts. In order to perform a Heckman-type correction, data from at least two cross sections are required. Unfortunately no comparable German data set in a second year is available. Using U.S. data, Guasch and Marshall (1983) were able to perform such a selectivity correction. Their evidence, however, is inconclusive. Judging from their results, it appears most likely that positive, possibly smaller, tenure discounts would remain after a correction in the German data.[20]

The German tenants' protection legislation seems to be perfectly reflected in German rent profiles. However, this analysis suffers from the missing counterfactual. This counterfactual can only be provided by housing markets without tenants' protection legislation.

5.3.3   Rent Control in the United States

As opposed to Germany and Japan, there is no general tenants' legislation in the United States. Rent and eviction control legislation is at the discretion of the state or municipality. Some states and municipalities in the United States have enacted rather strict rent and eviction controls, but most have none and therefore do provide the counterfactual mentioned above.

Information about the presence of controls in the Standard Metropolitan Statistical Areas (SMSAs) of the United States during the years 1974–77 was collected by Baird (1980), Thibodeau (1981), and the National Multi-Housing Council (1982).

Since eviction and rent control laws vary a great deal across municipalities, I do not describe them in detail here. A rather comprehensive list can be found in the publications of the National Multi-Housing Council.

From this information, I construct two measures to assess whether the rental housing market in a specific SMSA was influenced by rent or eviction control. The stricter measure includes all SMSAs in which rent and eviction control was *in effect* in at least one jurisdiction; the weaker measure also includes SMSAs in which rent and eviction control was *pending*. Pending means that state legislation had been enacted so that municipalities could easily introduce rent and eviction control. Also included in this category are SMSAs in which rent control was a hot political issue or was rejected only by a small margin in the municipal government. The idea of this second category is to include all SMSAs in which landlords effectively faced or at least perceived an incentive to restrain themselves when pondering rent increases or eviction.

20. Ideally, one should analyze rent profiles over time for a given unit. This kind of panel data is not available. While the *American Housing Survey* provides geographic and structural information, units cannot be linked over time. In turn, panels such as the U.S. PSID and the German SOEP do not have sufficient structural information and do not disclose the municipality. Hence, I cannot test the interesting hypothesis that in areas with rent control larger tenure discounts will occur over time in the presence of (unexpected) housing price increases.

5.3.4   Effects: Evidence in the United States

Using the same methodology as in Germany, I employ estimated tenure discounts for fifty-nine Standard Metropolitan Statistical Areas based on hedonic regressions performed by Malpezzi, Ozanne, and Thibodeau (1980).[21] The rent profiles are based on the *Annual Housing Surveys* 1974–77 and were computed from the same cross-sectional hedonic specification as those by Behring, Börsch-Supan, and Goldrian for West Germany. The fifty-nine SMSAs are then categorized by their rent control legislation according to the two measures described in section 5.3.3.

Table 5.14 presents the results for a ten-year tenure length. The estimated shape is the same as in Germany: The percentage discounts increase quickly in the first five years of tenure, then level off and are essentially flat after twelve–fifteen years. As stated earlier, the percentages test the hypothesis that at long tenures rental prices will be lower in areas with rent and eviction control. The result, however, is astounding. Large and significant tenure discounts are also present in metropolitan areas in the United States in which rent and eviction control has never been in effect and which exemplify the spirit of free enterprise, such as Phoenix, Arizona. Average and median tenure discounts are highest where rent and eviction control is pending, but they are lowest where rent and eviction control is in effect. The difference between SMSAs completely with and without rent control is not statistically significant. Figure 5.2 plots the distribution of tenure discounts. The scatter plots for SMSAs with enacted and without any rent control are very similar. Moreover, a regression of the city-specific tenure discounts controlling for the number of housing units per capita, new construction per capita, net immigration rate, per capita income, and unemployment rate shows a significant effect of pending controls but cannot reject the hypothesis that tenure discounts are unaffected by rent and eviction control actually in place (see table 5.15).

These numbers do not provide convincing evidence that tenants' protection is a major explanation of tenure discounts. We have to accept them as a universal and independent phenomenon of rental housing markets. On average, landlords give discounts for a sitting tenant rather than exploit their monopoly power in order to extract the value of moving costs. To be precise, the result says that, whatever their causes, discounts cannot significantly be associated with rent and eviction control.

The theoretical analysis in Börsch-Supan (1986) provides a motivation for tenure discounts in an unregulated rental housing market: Landlords pay premiums to keep pleasant tenants from moving, because their move incurs a positive probability of drawing an unpleasant tenant.

21. Follain and Malpezzi (1980) and Goodman and Kawai (1982) estimate tenure discounts as a linear function of the length of tenure and arrive at much lower estimates. Due to the linearity, the estimates of Follain and Malpezzi tend to be biased downward, whereas the specification by Malpezzi, Ozanne, and Thibodeau (1980) suggests an upward bias due to the colinearity with their age-of-dwelling variable. Barnett (1979), Noland (1980), and Lowry (1981) reproduce estimates almost identical to the nonlinear specification of table 5.14.

Table 5.14   Tenure Discounts and Rent Control in the United States, 1974–1977

SMSAs without Enacted or Pending Rent and Eviction Control		SMSAs with Pending Rent and Eviction Control	
SMSA	Discount after 10 Years	SMSA	Discount after 10 Years
Minneapolis, MN	13.3%	Rochester, NY	22.6%
Dallas, TX	13.5	Anaheim, CA	25.0
Madison, WI	14.1	Springfield, MA	26.3
Las Vegas, NV	14.4	San Bernardino, CA	28.9
Cleveland, OH	16.7	San Diego, CA	29.5
Chicago, IL	17.9	Buffalo, NY	31.2
Omaha, NE	17.9	Honolulu, HI	33.7
Colorado Springs, CO	18.1	Providence, RI	34.3
St. Louis, MO	18.2	Albany, NY	36.4
Memphis, TN	18.4		
Indianapolis, IN	18.5	Mean	29.8%
Fort Worth, TX	18.6	Median	29.5
Hartford, CT	18.8	Standard deviation	1.53
Atlanta, GA	21.3		
Kansas City, KS/MO	22.0		
Portland, OR	22.0		
San Antonio, TX	22.3		
Phoenix, AZ	22.5		
Birmingham, AL	23.2		
Tacoma, WA	23.5		
Milwaukee, WI	23.7		
Newport News, VA	23.8		
New Orleans, LA	24.1		
Seattle, WA	24.2	SMSAs with Enacted Rent and Eviction Control	
Philadelphia, PA	24.4		
Raleigh, NC	24.6		
Louisville, KY	25.1	SMSA	Discount after 10 Years
Columbus, OH	25.3		
Detroit, MI	25.5		
Orlando, FL	25.5	Miami, FL	13.7%
Wichita, KS	26.3	Washington, DC	18.6
Denver, CO	26.6	Newark, NJ	18.9
Oklahoma City, OK	26.9	Los Angeles, CA	19.0
Cincinnati, OH	27.2	Paterson, NJ	19.8
Grand Rapids, MI	28.6	Sacramento, CA	19.9
Houston, TX	30.8	Baltimore, MD	21.1
Salt Lake City, UT	31.0	San Francisco, CA	22.2
Allentown, PA	32.4	Boston, MA	30.2
Pittsburgh, PA	33.0	New York, NY	31.0
Spokane, WA	34.2		
Mean	23.0%	Mean	21.4%
Median	23.6	Median	19.9
Standard deviation	1.68	Standard deviation	0.85

Note: Standard deviation denotes standard deviation of the mean.

Source: Author's computations (see text).
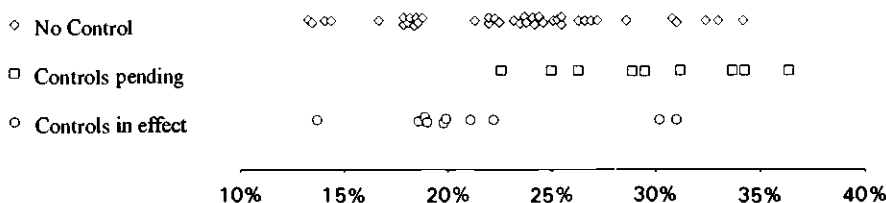
Fig. 5.2   Tenure discounts after 10 years in 59 U.S. SMSAs
Source: Author's computations.

Table 5.15   Determinants of Tenure Discounts in the United States

Dependent Variable: Discount		
Independent Variable	Estimated Coefficient	t-Statistic
Constant	38.10	3.11
Controls in effect	1.07	0.50
Controls pending	6.08	2.86
Housing stock per capita	18.08	0.46
Permits per capita	−66.68	−0.52
Net migration per capita	0.0335	0.20
Average household income	−0.00443	−2.58
Unemployment rate	0.326	0.49
Number of observations		58
R-squared		0.254
Standard error of the regression		5.348
Durbin-Watson statistic		1.746

Source: Author's calculations.
Note: Ordinary least squares.

The lack of differences between SMSAs with and without controls does not exclude the existence of a minority of landlords who do not grant tenure discounts but rather exploit their local monopoly. In this sense, tenants' protection legislation provides social protection as an insurance for the tenant who does not know *a priori* which type of landlord is offering the lease.

Has rent and eviction control hindered economic flexibility? We have two yardsticks by which to measure economic flexibility in this respect. First, we look at whether mobility is suppressed by an effective rent and eviction control. Second, we investigate how the supply of rental housing reacts to differences in the stringency of the tenants' protection legislation.

The cross-national evidence and time series evidence on mobility rates contradict each other. As depicted in table 5.7, mobility rates are much lower in Germany and Japan than in the United States. This matches with the stringency
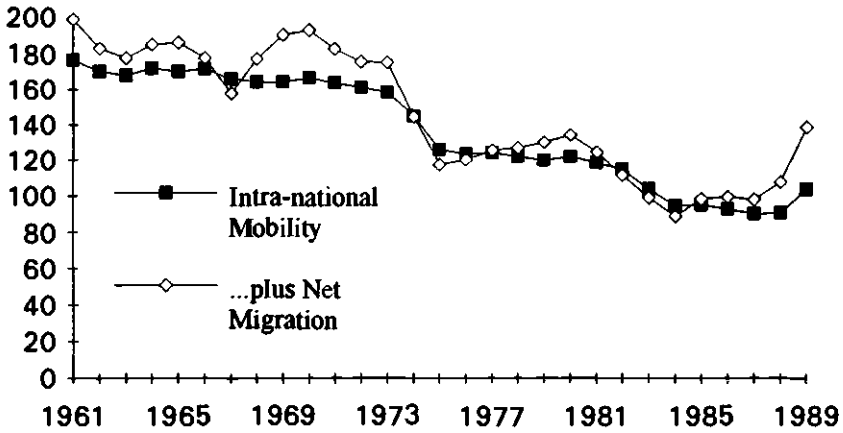
Fig. 5.3 German mobility rates (per thousand households)
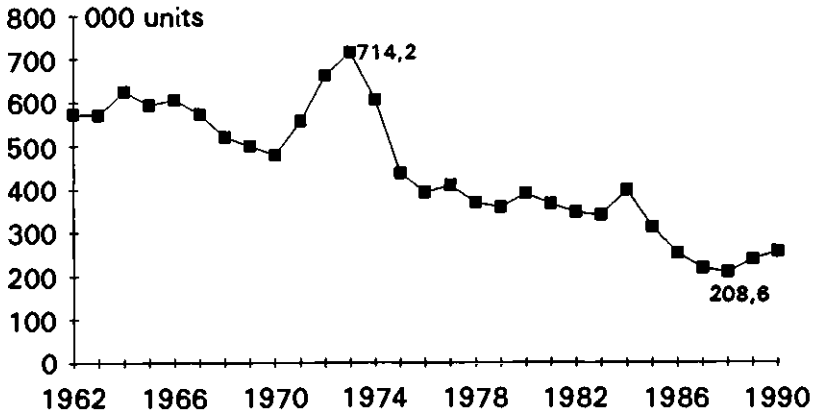*Source:* StJB, various years.

Fig. 5.4   New construction in Germany (thousands of units)
Source: StBA (FS-5.1).

of the tenants' protection legislation in these countries. However, German time series data display no reaction in mobility rates when the law was introduced in 1971 and no response to the liberalization of the tenants' protection legislation after the change of government in 1983 and after the change in the law in 1987 (fig. 5.3). Rather, mobility rates continued their secular decline. Similarly, the supply of newly constructed rental housing buildings was unaffected by changes in the law (fig. 5.4). Weighing the cross-national against the time series evidence, I conclude that the case against tenants' protection rests on weak empirical grounds.

5.4   The Effects of Homeownership Subsidies

One might wonder why a section on homeownership subsidies belongs in a paper on social protection and economic flexibility. As already mentioned in section 5.2.4, homeownership subsidies protect mainly the incomes of those households who have sufficiently high marginal tax rates to actually be able to apply the tax advantages. However, because the homeownership subsidies are quantitatively so important and because it is claimed that they, although indirectly, also help the poor, it is imperative to study them in more detail.

5.4.1   Homeownership Subsidies in the United States

The reduction in the personal income tax liability for owner-occupiers is the most prominent housing policy instrument in the United States. The United States subsidizes owner-occupancy by the deduction of mortgage interest. There is no upper limit on the deductible amount. However, the subsidy is effective only when deductions are itemized, wiping out this subsidy for low-income families. On the other end of the income distribution, the value of this subsidy is marginally reduced by the itemized-deduction phaseout.[22]

In addition, imputed rental income is not taxed, while property taxes can be deducted from personal income taxes. Property taxes can be substantial in the United States, even after deduction from the federal personal income tax. Nominal property tax rates range from 0.0 to 6.0 percent. They are at the discretion of the municipalities but, in some states, are capped by upper limits set by the state legislation. Because of generous rollover provisions, housing appreciation effectively escapes the U.S. capital gains taxation.

5.4.2   Homeownership Subsidies in Germany

In Germany the main mechanism for subsidizing homeownership is an accelerated depreciation allowance that can be deducted from federal income taxes.[23] The accelerated depreciation schedule provides, for eight years, a deduction of 5 percent of structure costs below $150,000.[24] It is applicable only to owner-occupied homes. Each individual can use this schedule only once in his or her life. Once the eight years are over, no further depreciation allowance is granted. It is important to note that this tax write-off depends on the value of the structure but not on the value of the land and that it is independent of the loan-to-value ratio. This changes the optimal capital-to-land ratio and tilts the symmetry between borrowing and lending.

Mortgage interest is deductible for rented buildings but generally not for owner-occupied homes. From time to time, however, when the government

22. This phaseout eliminates up to 20 percent of the deductions.

23. There are three basic depreciation schedules in Germany: an "accelerated schedule" with a cap on time and value, a "degressive schedule" applicable only to new structures, and the omnibus linear depreciation schedule. The first one is not applicable for rented property.

24. The temporary emergency housing act increased this percentage to 6 for the first four years.

feels that housing construction needs more encouragement, the government introduces temporary mortgage interest deduction programs. At the end of 1991, for example, the German government announced that for a limited time (until repeal) it will be possible to deduct up to $5,500 annually of mortgage interest payments during the first three years of a newly constructed building. A similar program was in effect from 1983 through 1987.

Families with children enjoy another important tax advantage if they build a new home and claim the accelerated depreciation deduction. For each child, this credit is $1,800 annually for eight years.

Imputed rental income of owner-occupancy is not taxed in Germany. Germany has a negligible property tax, due to both low assessed values and low nominal property tax rates. Income through capital gains is tax free unless the real estate is sold within two years of purchase.

A bizarre loophole in the German tax law that was closed in 1983 is worth mentioning because it shows how owner-occupiers react to the special features of the tax law. Until 1983, full mortgage interest could be deducted in addition to the accelerated depreciation allowances plus all maintenance expenses in houses with two dwelling units. This included also those two-unit houses that had one unit owner-occupied and the other unit "rented" to a family member without actual money ever flowing. Not too surprisingly, this "fake two-family house" was very popular until the loophole was closed (in 1977 it constituted 17.3 percent of all buildings, about 40 percent of all one- and two-unit owner-occupied houses).

Finally, savings for the down payment were subsidized by a special incentive program when they were funneled into building societies.[25] Until recently, this subsidy was both deep and widespread. About 50 percent of all households had a building society savings account, and the subsidy reached 33 percent of annual savings.[26] In 1990 this program was severely reduced. The maximum subsidy rate is now 10 percent.

5.4.3   Homeownership Subsidies in Japan

Japan subsidizes housing primarily by low-interest loans. The rationing rules favor people who buy a new house for themselves or build their own new house. There are upper limits for these loans, and it is usually necessary to complement them with commercial loans. Eligibility is also dependent on income, house price, and floor space. For incomes below $53,000, the subsidy amounts to an interest reduction of about 2 percent; for higher income households the reduction is about 1.5 percent. About 53 percent of all newly constructed houses received some form of public interest subsidy.

Neither mortgage interest nor depreciation is deductible from the Japanese federal income tax. There is, however, a small, newly introduced tax credit for

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25. See Börsch-Supan and Stahl (1991) for a detailed description and analysis.
26. For a median-income family with three children saving DM 936 annually.

owner-occupancy, currently 1 percent of the remaining balance of the mortgage, up to about \$1,000 annually for the first six years after purchasing a house.

Imputed rental income of owner-occupancy is not taxed in Japan. In most Japanese municipalities, the nominal property tax rate is 1.4 percent, and only 3.5 percent of the Japanese municipalities have property tax rates between 1.4 and 2.1 percent of assessed values. However, assessed values are low, and both residential land and newly constructed buildings (up to three years old) are subject to substantially reduced rates. On average, Japanese homeowners pay twice as much in property taxes as Germans but less than half as much as Americans. Capital gains are taxable when the house is sold. Moreover, the substantial transaction taxes summarized in section 5.2.5 apply in this case.

5.4.4   Effects: Theory

The homeownership subsidies reduce the user cost of housing. Because the magnitude of these subsidies depends on different facets of housing choices in the three countries, they have different impacts on housing consumption. In the *United States,* mortgage and property tax payments are reduced by the homeownership subsidies in proportion to the marginal personal income tax rate if deductions are itemized. The subsidy is then

$$HS_{USA} = (i_m m + p_e) \cdot t \cdot V,$$

where i_m denotes the mortgage interest rate, m the loan-to-value ratio, p_e the effective property tax rate, t the marginal personal income tax, and V the value of the home.

Hence, the subsidy tilts housing decisions toward larger and more expensive homes financed by higher loan-to-value ratios.

In *Germany,* homeownership subsidies[27] in the first years after construction currently consist of the depreciation deduction, the (temporary) mortgage interest deduction, and the child supplement:

$$HS_{GER} = CS + t \cdot (L^{max} + d \cdot s \cdot V^{max}),$$

where d denotes the applicable accelerated depreciation rate and s the share of construction costs in total value. The subsidies are independent of the house value, unless the caps V^{max} on total value and L^{max} on the loan are lower than actual total value and actual loan. However, these caps are low, so this is rarely the case. Because the subsidies depend on the structure-to-land ratio as the only housing choice–related variable, housing decisions are less tilted to more expensive projects and do not favor high loan-to-equity ratios as in the United States. However, there is an incentive to substitute housing capital for land.

In *Japan,* user costs are reduced by the interest subsidy and the small tax credit TC.

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27. I abstract from the effect of the savings subsidies.

Hence, the subsidy

$$HS_{JAP} = TC + r \cdot L^{max}$$

depends on the interest gap between market and subsidized interest rate r and the cap L^{max} for subsidized loans. However, subsidies do not depend on the marginal tax rates, as they do in Germany and in the United States. When we compare the three countries, Japan has the least and the United States the most distortive homeownership subsidies, with Germany in between.

The homeownership subsidies have been much more substantial in the United States than in Germany. Table 5.16 compares the homeownership subsidies in the United States and in Germany for typical income levels and house values in the first few years of a new home. The subsidies changed considerably from 1978 to 1992. In 1992, the subsidies in Germany remain smaller for expensive houses but not for small houses. Moreover, the child supplement is large, so for families with two or more children the homeownership subsidies in Germany are now larger than in the United States. Japan has even higher subsidies for median-income families. However, these subsidies decrease dramatically for larger incomes.

By decreasing the user costs of housing, the homeownership subsidies foster new construction. Because the U.S. and German subsidies mainly affect households with high marginal tax rates, this new construction takes place at the top end of the quality scale. However, it is claimed that this mechanism unfreezes housing at lower quality levels in a chain reaction and therefore pro-

Table 5.16   **Homeownership Subsidies, 1978 and 1992 (1990 U.S. dollars)**

Value	United States	West Germany
	Lower Middle Class Household in 1978	
$100,000	$1,865	$ 662
240,000	3,870	1,383
400,000	3,870	1,383
	Upper Middle Class Household in 1978	
$100,000	$2,546	$1,163
240,000	5,594	2,366
400,000	8,220	2,366

		Median Income Household in 1992	
Value	United States	West Germany [+ Child supplement]	Japan
$100,000	$1,604	$2,503 [+1,675]	$ 4,018
200,000	3,207	3,498 [+1,675]	7,115
300,000	4,811	3,996 [+1,675]	10,211

Sources: Börsch-Supan 1985; author's calculations based on 1990 tax codes.

Note: Married couple, 20 percent equity-to-loan ratio in the United States and Japan, 40 percent land-to-value ratio in Germany. Lower-middle-class income in 1978 = $32,000; upper middle class = $50,000. Child supplement is for each child.

vides more, thus also cheaper, housing for lower-income groups. In this sense, subsidies for the rich help protect the poor. This "filtering" mechanism is described in Sweeney (1974). Its working depends on the speed of this chain reaction, thus on the possibility and costs of moving. Mobility is also the key issue in terms of economic flexibility. Owner-occupied housing is said to tie people to particular pieces of property, thus decreasing the willingness to move when labor market changes may require relocation of labor.

5.4.5   Evidence

In order to gauge the evidence, we will ask three questions. First, do home-ownership subsidies induce substitution from rental to owner-occupied housing? Second, do we observe filtering? Third, is mobility reduced when owner-ship is high?

We have noted already in section 5.1 that the difference in ownership rates between Germany and the United States corresponds to the historical differences in homeownership subsidies. Table 5.17 gives a more careful look at this matter by conditioning on income. The exercise exemplifies the problems of an international comparison. Columns 2 and 3 depict ownership rates by income for the United States in 1987, while columns 4–9 present corresponding rates for Germany. But what is corresponding? Columns 4 and 5 hold relative social status constant and compute ownership rates for the corresponding income percentiles. German ownership rates are much lower, reflecting what we have seen in table 5.5. Columns 6 and 7 convert the income categories in column 1 by the ratio of the two countries' average income. Since income is distributed more equally in Germany, this results in much fewer households in the top and bottom income categories. Measured this way, ownership rates are still much lower in Germany than in the United States but not as drastically as in columns 4 and 5. Finally, columns 8 and 9 use purchasing power parities for conversion. Since German income levels are lower than U.S. ones, this shifts many well-to-do Germans into relatively low U.S. income categories. Even here, however, German ownership rates are lower than American ones.

These tables are suggestive but do not separate the effects of homeownership subsidies from other cross-country differences. For a more causal link between ownership rates and homeownership subsidies, I refer to the Börsch-Supan (1985) study based on 1978 data. In that paper, I estimated discrete choice housing demand equations for a sample of married couples in urban areas, conditional on the differences in tax advantages and other explanatory variables such as income and age.[28] In order to separate the effect of preference differences from differences in the tax treatment, I simulated each country's choice between renting and owning at the other country's tax laws and preferences. Table 5.18 summarizes the results.

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28. The choices include renting versus owning, single-family versus multifamily house, and small versus large unit.

Table 5.17   Homeownership by Income, 1987

	United States		Equivalent Income Distribution		Equivalent Average HH-Income		Purchasing Power Parity	
			West Germany					
Annual Net Income [1986 $thousands] (1)	Ownership rate (2)	Percent Households (3)	Ownership rate (4)	Percent Households (5)	Ownership rate (6)	Percent households (7)	Ownership rate (8)	Percent Households (9)
< 6.0	36.2%	8.8%	21.8%	8.8%	—	1.0%	21.7%	5.1%
6.0–12.0	45.9	12.3	24.2	12.3	22.5%	7.8	24.3	22.7
12.0–21.0	51.9	17.1	31.4	17.1	26.5	24.7	37.5	40.7
21.0–30.0	60.0	14.6	36.5	14.6	35.2	22.6	50.7	20.9
30.0–42.0	68.3	16.3	41.6	16.3	45.4	26.8	62.1	8.5
42.0–60.0	79.3	15.9	48.6	15.9	58.6	12.5	72.3	1.3
≥ 60.0	89.1	15.8	61.8	15.8	70.4	4.6	—	0.3

Sources: AHS 1987; SOEP 1987; JCHS 1988.

Notes: Column 1: Income converted using U.S. CPI and Deutsche Marks-to-dollar conversion rates as explained in notes 3, 4, and 5. Columns 2 and 3: Ownership rates based on JCHS and CPS (see sources above). Columns 4 and 5: Ownership rates by income groups corresponding to percentiles of U.S. income distribution. Columns 6 and 7: ownership rates by income groups: currency conversion by ratio of average household incomes in the United States and West Germany. Columns 8 and 9: Ownership rates by income groups; currency conversion by 1987 purchasing power parity.

Table 5.18		Simulated Homeownership Rates, 1978				
Simulation	(1)	(2)	(3)	(4)	(5)	(6)
Basic data	U.S.	U.S.	U.S.	German	German	German
Preferences	U.S.	German	U.S.	German	U.S.	German
Tax Laws	U.S.	U.S.	German	German	German	U.S.
Homeownership	76.9%	79.4%	70.5%	42.2%	39.8%	80.3%

Source: Börsch-Supan 1985.

The table presents six simulations. The first three are run on the U.S. sample, the second three on the German sample. Simulations 1 and 4 represent the baseline ownership rates.[29] Simulations 2 and 5 isolate the effects of preference differences, while simulations 3 and 6 isolate the effects of the different tax laws.[30]

Predicting either country with the other country's preferences does not change the tenure choice very much. However, predicting each country's housing consumption at the other country's tax code effective at that time produces drastic shifts into ownership in Germany and a substantial but much small corresponding shift toward rental housing in the United States. The asymmetry is due to tax law peculiarities and the discrepancy in land prices. Because Germany has very high land prices (in addition to higher structure costs), Germans could deduct a much higher proportion of their income under the 1978 U.S. tax code than Americans actually did at that time. Hence, simulated ownership rates jump from 42 percent to 80 percent. In turn, the German tax code was unfavorable to high house values but provided tax advantages comparable to the United States for typical U.S.-priced houses. Thus, the simulated change is much smaller than the corresponding one based on German data.

As a third piece of evidence on the effectiveness of homeownership subsidies, I look at changes over time. Since 1978 the tax laws have changed dramatically (see table 5.16). These changes are also reflected in the homeownership rates, as table 5.19 demonstrates. Ownership rates decreased in the United States, while they increased in Germany. Moreover, the increase in Germany is largest at middle-class and high incomes, that is, for those who have marginal tax rates above 25 percent (the top rate is 52 percent).

In summary, we have rather conclusive evidence that homeownership subsidies do induce substitution toward ownership. What does this mean in terms of social protection? The evidence for induced new construction is less overwhelming because price elasticities of housing are rather low. More important, there appears to be little direct evidence for the filtering process. Mills and Hamilton (1984), for example, state that the process had an adverse effect for

29. Due to the estimation procedure, the predicted market shares at the baseline specification are exactly the observed market shares.

30. Of course, because these simulations are drastic interferences with the steady states, they are qualitative guidelines rather than accurate quantitative predictions.

Table 5.19   **Changes in Homeownership by Income Categories, 1974/78–1987**

United States				Germany			
Annual Net Income	Ownership Ratio			Annual Net Income	Ownership Ratio		
(1990 U.S. $ thousands)	1974	1978	Change	(1990 U.S. $ thousands)	1978	1987	Change
$ < 6.0	42.8%	36.2%	−6.6%	$ < 8.0	23.9%	23.6%	−0.3%
6.0–12.0	48.7	45.9	−2.8	8.0–12.0	25.2	24.0	−1.2
12.0–21.0	53.8	51.9	−1.9	12.0–16.0	29.5	30.6	+1.1
21.0–30.0	58.7	60.0	+1.3	16.0–25.0	36.2	42.5	+6.3
30.0–42.0	69.3	68.3	−1.0	25.0–30.0	42.3	49.1	+6.8
42.0–60.0	78.6	79.3	+0.7	30.0–40.0	50.6	58.3	+7.7
≥ 60.0	86.2	89.1	+2.9	≥ 40.0	61.6	68.0	+6.4
Total	64.7	64.0	−0.7	Total	37.6	39.3	+1.7

Sources: AHS 1974 and CPS 1987 as quoted from JCHS 1988; WS 1978 and SOEP 1987.

the United States because it created abandoned houses in the city centers. For Germany, a large and carefully designed study by Weissbarth and Thomae (1978) shows that the filtering process works well in supplying medium-quality housing but that the moving chains are rather short. Thus, the filter process is unlikely to reach those households who really need social protection.

The evidence on mobility is unambiguous (see table 5.7). Mobility rates are dramatically lower for those households who live in owner-occupied housing. Moves occur 4.4 times more frequently for renters in the U.S. and 2.6 times more often in Germany. Thus, indirectly by encouraging homeownership, the subsidies hinder economic flexibility by reducing mobility in general and inter-regional mobility in particular.

A final issue is worth mentioning. It is claimed that the homeownership subsidies help flatten the business cycle. Tax deductions that rest on marginal tax rates do not accomplish this aim, because they are smaller in times of low income. However, the German system of subsidized dedicated savings contracts has this effect because it detaches mortgage interest rates in building societies from the business cycle. This effect is indeed visible in figure 5.5. This figure plots construction put in place as percentage deviation from a linear trend. Except for the boom in the early 1970s, the German time series is smoother than the U.S. one. As mentioned above, subsidies to the building society system were severely reduced in the 1980s. It would be premature, however, to ascribe the increasing amplitude of the building cycle in the 1980s solely to this policy change.

5.5 Conclusions

This international comparison provides us with a rich but by no means simple collection of results. Housing markets in the United States, Germany, and
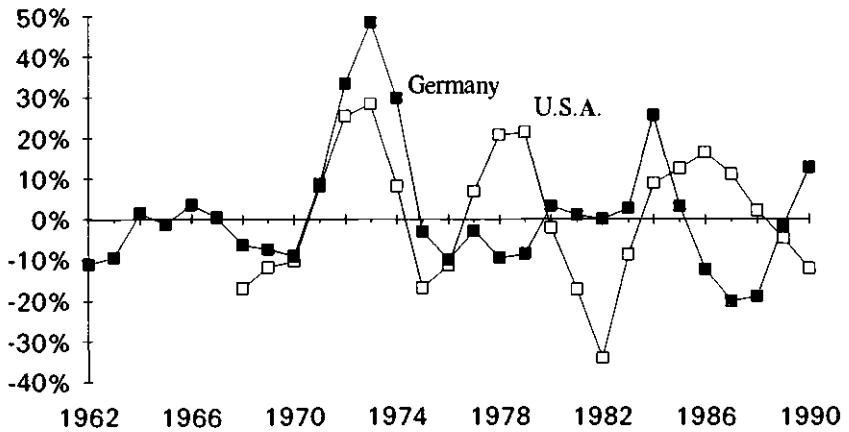
Fig. 5.5 Newly constructed units in West Germany and the United States (percentage deviation from linear trend)
Sources: U.S. Department of Commerce, *Construction Review;* StBA (FS-5.1).

Japan respond to the incentives provided by the various government programs. For some programs, the reactions are strong and unambiguous, such as the response of homeownership rates to homeownership subsidies. In all three countries, housing subsidies favor homeownership, but they do so much more strongly in the United States and Japan. This also solves the puzzle of why the United States and Japan have high and Germany a low ownership share although the United States has low but Germany and Japan very high land and housing prices.

However, the response to rent and eviction control is much less clear. It is claimed that the Japanese tenants' protection legislation is the cause for drying out the rental housing market in Japan. Unfortunately, we have no data to test this claim. In Germany, rent profiles are in line with those predicted under rent and eviction control. However. they are also similar in those areas of the United States where no controls exist. In fact, there is no statistically detectable influence of rent and eviction control on the evolution of rental prices for sitting tenants.

What does all of this mean in terms of social protection and economic flexibility? There is no evidence at all that homeownership subsidies help the poor by filtering abundant housing on higher quality levels down to the poor. In turn, the evidence clearly links high homeownership rates with low mobility, and the causes are obvious as homeownership ties people to their property. Insofar as mobility helps economic flexibility, homeownership subsidies are thus hindering economic flexibility. The German housing financing system— in which the government used to subsidize savings in building societies that are detached from the capital market—had the positive effect of smoothing the business cycle; thus, it reduced construction industry unemployment in recession periods and cooled down labor market stress in boom periods.

Rent and eviction control of the German design (i.e., with unregulated initial rents) appears to be a successful insurance mechanism protecting tenants from being exploited. The evidence on economic flexibility—again, measured in terms of the willingness to move—is less than perfect. Clearly, Germany and Japan, with their omnipresent controls, have lower mobility than the United States. However, time series do not react to changes in the stringency of the laws, and mobility is lower in Germany than in Japan although the controls are tighter in Japan.

This chapter could not analyze all housing-related issues affecting economic flexibility and social protection without crowding out the space this volume can provide. Important topics not dealt with here are land use regulations, zoning, and building codes. The jury is still out in a fascinating case.

Appendix A
Data Sources

The following data sources have been used in constructing the tables:

Germany

StJB: *Statistical Yearbook of the Federal Republic of Germany*
StBA (FS-5.1): Statistisches Bundesamt, Fachserie 5.1
VZ: Volkszählung (Census of Population)
GWZ: Gebäude- und Wohnungszählung (Census of Housing)
SOEP: Sozio-Ökonomisches Panel (Socioeconomic Panel)

Japan

JHC: Japanese Housing Census (Housing Survey of Japan)
JMC: Japanese Ministry of Construction, *Construction Dynamics Series*
JKDS: Juutaku Keizai Data Shu (Collection of Economic Housing Data)

United States

StAb: *Statistical abstract of the United States*
EcRep: *Economic report of the president, statistical tables*
AHS: *American housing survey*
CPS: *Current population survey*
USCCR: U.S. Bureau of the Census, *Construction reports*
JCHS: Joint Center of Housing Studies, *The state of the nation's housing*
PSID: *Panel studies of income dynamics*

Data Availability

Except for the microdata sets (SOEP, PSID) and the JCHS reports, all data are available in printed volumes edited by the German, Japanese, and U.S.

government printing offices, respectively. The JCHS *Reports on the state of the nation's housing* are available from the Joint Center for Housing Studies of Harvard University, Cambridge, Massachusetts 02138. The German Socioeconomic Panel (SOEP) is available in public use form with English documentation from the International Aging Project at the Maxwell School, Syracuse University, Syracuse, New York 13244.

Appendix B
A Summary of Housing Policies

	United States	Germany	Japan
Public and social housing	Government provided, means-tested, scarce	Provided by nonprofit organizations, means-tested only at move	Government provided, only partially means-tested (if so, generous)
Rental housing subsidies to landlord	No accelerated depreciation, capital gains taxed, limited transferability of tax losses	Accelerated depreciation, capital gains essentially tax free, full transferability of tax losses	None
Housing allowances (to renter)	Limited number of Section 8 certificates, partially in kind and partially like cash	Entitlement to *Wohngeld*, deep subsidy, like cash	None
Rent and eviction control	Varies by local jurisdiction, most have none	Federal law restricts eviction and limits rent increases for sitting tenants	All changes in rental contracts subject to a "just cause" claim in court
Homeownership subsidies	Mortgage interest and property tax deductible from income tax, imputed rent not taxed	Depreciation and small part of mortgage interest deductible from income tax, imputed rent not taxed, additional tax credits for families with children	Mortgage interest subsidies, small tax credit

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