From Central Planning to Market Systems: Implications of Economic Reforms for the Construction and Building Industries

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Abstract

Housing market reforms in Eastern Europe and the former Soviet Union are having enormous impacts on the construction and building materials industries. This article describes the current structure and performance of the construction industry in Eastern Europe and the former Soviet Union, identifies key technical and institutional problems posed by housing reforms, and outlines an agenda of research and technical assistance to help construction and building materials industries in transition economies cope with the impacts of housing market reforms.

Introduction

This article reviews the implications of current market reforms in the housing construction and building materials industries in Eastern Europe and the former Soviet Union. Housing market reforms promise to alter dramatically the structure and performance of residential construction enterprises, building materials producers, and suppliers.

The housing production track record in most Eastern European countries and the former USSR has been disappointing: production has not matched demand, and housing shortages have sharply escalated. At present, these countries are receiving very little research and technical assistance for assessing their various options—especially privatization, reorganization, and liquidation options—for restructuring their residential construction industries. This article attempts to identify the critical issues on which such research and technical assistance should focus.

By all measures, housing conditions in Eastern Europe and the former Soviet Union are going from bad to worse. After a decade of economic slowdown, 1990 ushered in an 11 percent decline in Eastern Europe's industrial output. Housing production is plummeting as economic hardships repress consumer demand, macroeconomic retrenchment cuts state-funded housing construction, and rising inflation pushes up construction costs.

It is of paramount importance that housing market reforms in these countries succeed. Such improvements not only will help alleviate persistent housing shortages and improve the quality of life for millions of households, but also will enhance macroeconomic performance (Renaud 1991). An efficient housing market can improve labor mobility and facilitate economic transition within regions and sectors (Mayo and Stein 1988). A well-functioning market also can promote the creation of an efficient and innovative financial sector. The reduction of housing subsidies subsequent to the increased efficiency of the housing market can reduce public expenditures and lessen inflationary pressures (Telgarsky and Struyk 1990).

The process of housing market reforms is extremely complicated. Most reforms have begun with initiatives that mobilize sources of credit for construction finance, restructure property rights, and reform the highly subsidized system of rents. As new systems of housing finance are established, housing and building materials production systems need to be transformed from highly centralized production-oriented systems into highly decentralized demand-oriented industries capable of responding to changing consumer demands (Matras and Renaud 1991).

While there are signs that the reforms are starting to stimulate structural change in the construction and building materials sectors in some countries (Hungary and, to a lesser extent, Poland), in other countries (Bulgaria and the states of the former Soviet Union) there has been little change. Why have the effects to date been so uneven among countries? Also, what can be done to facilitate the structural transformation of construction and building materials industries? Unfortunately, little research is available that documents how to transform large, centralized, production-oriented enterprises into small, decentralized, demand-driven firms in an efficient manner.

There are considerable barriers to effective restructuring of the building industries, most notably the enormous difficulties small-scale entrepreneurs face operating in markets still dominated by large state-owned enterprises (SOEs) that have preferential access to materials, credit, and land. Other substantial problems facing new private housing developers include (1) a temporarily weakened demand for housing, (2) a residual monopolistic housing construction and building materials industry, (3) unequal access to scarce materials, (4) a lack of appropriate institutions and procedures to operate under new conditions, and (5) the need for new professionals to manage housing and building materials production companies (Matras 1989).

Housing conditions in Eastern Europe and the former Soviet Union

During the post-World War II period, the share of state funds invested in housing by Eastern European countries and the former USSR has been well below that found in western market economies. This pattern, illustrated in table 1, reflects the priority of centrally planned economies of channeling investment into "productive" sectors. During the 1950s and 1960s housing construction in these countries averaged one-half that found in European market economies. During the 1970s, political and economic conditions favored the increased production of housing, and output reached uniformly high levels. However, in Poland and Hungary, high rates of inflation in the construction sector dramatically pushed up housing costs. Thus, higher rates of investment in housing in Hungary and Poland did not lead to similar increases in housing

Table 1. **Percentage Share of Housing Investment in Total Investment Outlays**

Year	Former East Germany	Hungary	Poland	Former USSR
1955	13.1	21.8	15.1	18.9
1965	9.2	16.3	16.1	16.9
1970	6.8	15.9	13.8	16.4
1971	7.2	17.3	13.9	16.0
1972	8.2	18.7	13.2	15.5
1973	8.8	18.6	13.5	15.3
1974	8.9	18.3	13.1	14.7
1975	9.0	17.6	13.5	14.2
1976	9.3	17.2	13.9	14.0
1977	9.1	17.2	14.9	13.9
1978	10.0	16.1	16.1	13.5
1979	10.2	16.1	19.4	13.3
1980	10.6	17.8	22.2	14.0
1981	11.0	17.9	22.5	14.4
1982	11.1	19.0	24.9	14.8
1983	11.7	19.5	25.4	15.1
1984	12.4	21.5	23.6	15.7
1985	12.9	21.1	22.7	15.6
1986	13.1	20.7	21.7	15.9
1987	NA	18.9	23.2	NA

Source: Matras (1989).

construction. In the former USSR, increased housing investment during the early 1980s was actually associated with a decline in physical housing production. By the mid-1980s, economic conditions there deteriorated and investment in housing fell precipitously (Matras 1989).

Housing production and demand trends reveal that most Eastern European countries, as well as the former USSR, continue to suffer from severe shortages of housing (see table 2). In 1986, housing shortages ranged from 6.6 percent of the total housing stock in Hungary to 30.2 percent in the former USSR. Currently, in virtually all these countries, housing shortages are far greater than those found in other market economies with similar income levels. Most of the housing shortages occur in urban areas, where workers are concentrated and where housing production is more dependent on state-owned enterprises.

Table 2. **Estimates of Housing Shortage in Eastern Europe and USSR, 1986**

Country	Housing Shortage as a Percentage of Total Housing Stock
Bulgaria	27.4
Czechoslovakia	15.3
East Germany	17.1
Hungary	6.6
Poland	23.9
Romania	14.0
USSR	30.2
Yugoslavia	23.9

Source: Sillince (1990).

These shortages have caused considerable crowding. On average, there are 3.0 persons per housing unit in Eastern Europe versus 2.2 in West Germany. The units are smaller—on an average of 26.2 square meters per person—a mere 58 percent of the size of the average West German unit. Within Eastern Europe housing conditions vary considerably. In Poland and Yugoslavia, conditions are far worse—there are 3.5 persons per household and the average size of the units is only 21.5 square meters per person. While crowding has lessened and housing quality has increased in some Eastern European nations, little improvement was recorded during the 1970s in Poland and Czechoslovakia.

The economic recession of the 1980s had a severe impact on housing production in Eastern Europe. Between 1980 and 1988, housing production per 1,000 of population declined from 7.3 to 5.1 units (Telgarsky and Struyk 1990). Thus, the housing shortages reported in table 2 have increased in most nations as production has failed to keep pace with population growth and household formation.

While macroeconomic conditions pushed housing production down in both the public and private sector, the declines were far greater in the public sector. Between 1980 and 1989, public housing production fell by between 26 and 83 percent in the five Eastern European nations listed in table 3. Only in the former USSR did public housing production slightly increase. Private housing production declined from 1.3 to 19 percent in the five Eastern European nations but increased by 26 percent in the former USSR.

Since the 1960s, despite the overall shortage of housing, housing quality has dramatically improved. As illustrated in table 4, crowding has receded as the stock of dwelling units per 1,000 of population has increased. Newly built units are larger and have better amenities, such as piped water, indoor plumbing, and private baths or showers.

On the other hand, there are serious problems with the quality of new housing construction, particularly units built by industrialized large-panel systems. Such units have poor soundproofing features and are difficult to heat (McCutcheon 1989). Incidents of poor quality control and inspection abound, and in some cases, completed units are unfit for occupancy despite the fact that they have been inspected and "approved." The following quote captures the essence of the quality problem:

> I seldom see my neighbors, but thanks to the excellent sound-conducting properties of the partitions, ceilings and floors, I know them all by their first names. I know immediately when my right-hand neighbor's baby has a tummyache in the morning.... I was imprudent enough to get a dog. The caretaker and the neighbor above have dogs. And the moment the caretaker's dog begins to bark, my Rex replies. They are soon joined by the neighbor's dog, and within two minutes the whole house seems to be barking. (DiMaio 1974, p. 90)

Poor quality and technological backwardness are common to most SOE-produced goods, not just to housing products. As a recent World Bank discussion paper commented, "Despite massive investments in science education and technical training, socialist country SOEs have tended to be relatively poor technological innovators, and indeed they have tended to operate below existing technology frontiers" (Lee and Nellis 1990).

Table 3. **Total Housing Production in Eastern Europe 1980–1989 (in Thousands of Units)**

Public Housing Production, 1980–1989

Year	Bulgaria	CSFR	Hungary	Poland	Former USSR	Yugoslavia	Total
1980	56.5	101.8	34.6	161.4	1,757.0	48.7	2,160.0
1986	40.3	61.5	9.5	127.6	1,860.0	45.2	2,144.1
1987	45.3	60.2	9.8	131.0	2,006.0	38.1	2,290.4
1988	42.4	65.7	6.1	125.5	1,934.0	36.3	2,210.0
1989	26.2	64.4	5.9	95.2	1,809.0	NA	2,000.7
Percent Change 1980–1989*	–53.6	–36.7	–82.9	–41.0	3.0	–25.5	–5.3

Private Housing Production, 1980–1989

Year	Bulgaria	CSFR	Hungary	Poland	Former USSR	Yugoslavia	Total
1980	17.7	32.4	54.5	55.7	247.0	88.1	495.4
1986	15.6	24.6	59.9	57.4	240.0	84.8	482.3
1987	18.3	24.8	47.4	60.4	259.0	82.2	492.1
1988	20.4	24.4	44.5	64.1	296.0	83.1	532.5
1989	14.4	26.8	45.6	55.0	310.0	NA	451.8
Percent Change 1980–1989*	–18.6	–17.3	–16.3	–1.3	25.5	–5.7	10.9

Total Housing Production

Year	Bulgaria	CSFR	Hungary	Poland	Former USSR	Yugoslavia	Total
1980	74.2	134.2	89.1	217.1	2,004.0	136.8	2655.4
1986	55.9	86.1	69.4	185.0	2,100.0	130.0	2626.4
1987	63.6	85.0	57.2	191.4	2,265.0	120.3	2782.5
1988	62.8	90.1	50.6	189.6	2,230.0	119.4	2742.5
1989	40.6	91.2	51.5	150.2	2,119.0	NA	2452.5
Percent Change 1980–1989*	–45.3	–32.0	–42.2	–30.8	5.7	–12.7	–2.6

* Percent change figures for Yugoslavia are based on 1980–1988 data. Total change figures exclude Yugoslavia data.

Table 4. **Improving Quality of Centrally Planned Economies' Housing Stock**

Year	Dwellings per 1,000 Population	Average Size of Dwelling (sq m)	Percentage of Dwellings with Piped Water	Indoor Plumbing	Bath/ Shower
Former East Germany					
1960	318	NA	66	33	22
1970	355	55.0	82	39	39
1986	416	64.3	NA	68	76
Hungary					
1960	277	NA	22.7	16.1	17.0
1970	302	61.5	35.1	26.4	30.8
1987	366	NA	77.7	67.2	73.7
Poland					
1960	236	NA	18.8	10.3	6.2
1970	248	54.3	47.3	32.9	29.5
1984	277	67.9	78.9	65.4	63.9
Former USSR*					
1960	NA	NA	NA	NA	NA
1970	235	46.8	78.9	75.8	60.7
1980	252	55.5	91.8	89.7	82.8
Yugoslavia					
1961	220	44.8	NA	NA	NA
1971	245	49.6	33.6	26.2	24.5
1984	290	60.7	70.0	NA	54.2

* Installations: urban housing stock only.

Source: Matras (1989).

Another frequently mentioned problem with industrialized housing projects is their remoteness. Virtually all SOE-built projects are very large, often exceeding several thousand units. In most cases they are located at considerable distances from employment centers and transit lines. Residents of these remote projects find commuting difficult and have trouble getting access to services. Unfortunately, this pattern will not change unless building technologies are altered; large-scale construction systems are not well suited for small sites close to urban centers.

Quality problems are widespread in large-scale industrial-built projects throughout Eastern Europe and the former USSR. Such projects are built by large production-oriented SOEs that, until recently, have not been concerned with consumer demands for quality. Consumers have had no choice but to take what was produced.

The SOEs' sole objective has been to build housing to meet the production targets set by the state. Typically, SOEs rush the completion of housing units in the fourth quarter to meet annual production targets. For example, in some republics of the former USSR, over 50 percent of annual housing production is completed during the fourth quarter of the year, and these housing units are of notoriously poor quality (Andrusz 1984). While massive production of housing may have been necessary to close the housing shortage gap, such large-scale enterprises are certainly not a desirable form of housing production for a consumer-driven housing market.

The large-scale socialist building industry

Reflecting the orientation of massive state intervention in the production of goods and services, housing delivery in most centrally planned economies has been dominated by large, state-owned enterprises. In most instances, these companies operate as monopolies, dominating housing markets in metropolitan areas and regions. The supply system is driven by production targets, usually based on floor space, not demand. There is little innovation in housing design, especially relating to user preferences, comfort, or livability.

Until 1980, most housing in Eastern Europe was built by the public sector, with Bulgaria, Czechoslovakia, Poland, and the former USSR having the most socialized form of housing production (see table 5). In contrast, the state has had a lesser role in housing production in Hungary and Yugoslavia.

Table 5. **Public Housing Production as a Percentage of Total Housing Construction, 1980–1989**

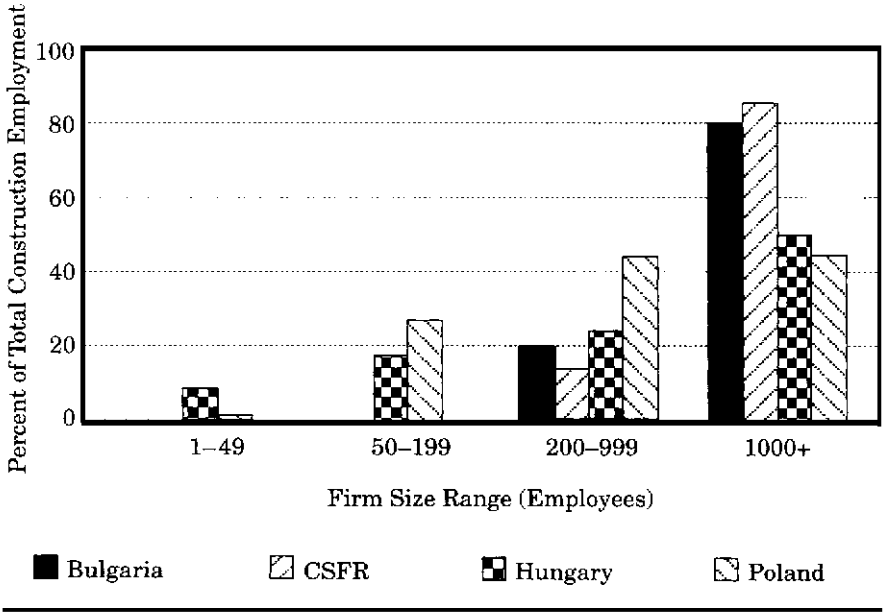
Year	Bulgaria	CSFR	Hungary	Poland	Former USSR	Yugoslavia	Total*
1980	76.1	75.9	38.8	74.3	87.7	35.6	81.3
1986	72.1	71.4	13.7	69.0	88.6	34.8	81.6
1987	71.2	70.8	17.1	68.4	88.6	31.7	82.3
1988	67.5	72.9	12.1	66.2	86.7	30.4	80.6
1989	64.5	70.6	11.5	63.4	85.4	NA	81.6

* Total is sum of all public housing production in the six countries, divided by total housing production.

Source: United Nations (1991).

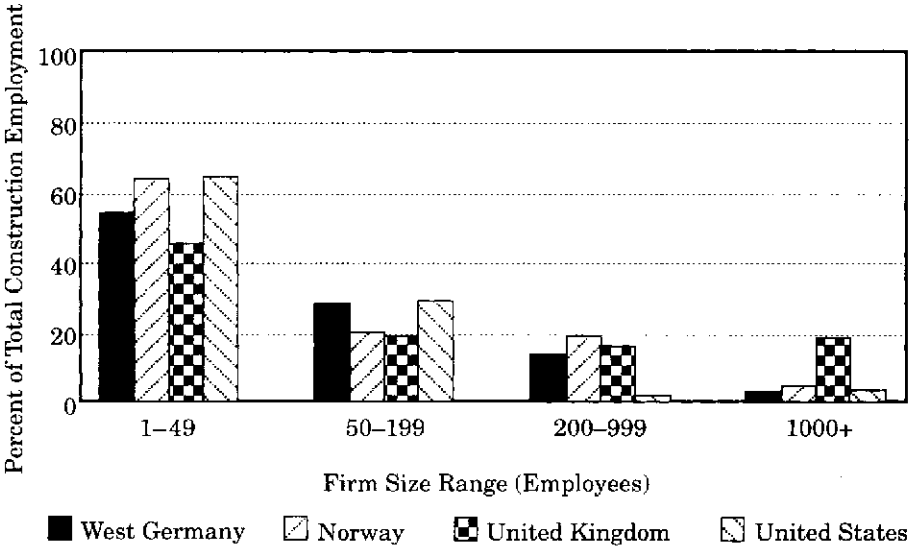
Perhaps the most direct manifestation of the massive state intervention in the housing delivery system is that a few very large firms dominate the residential construction industry. This pattern is found in the housing delivery systems of most centrally planned economies. As shown in figure 1, enterprises with more than 1,000 employees dominate the construction industries of Bulgaria, Czechoslovakia, Hungary, and Poland. These large firms, many of which are vertically integrated, frequently monopolize the entire housing market of a metropolitan area. In St. Petersburg, for example, one firm produces virtually all of the apartment flats. Even in China, another centrally planned economy where housing reforms have been under way for nearly a decade, usually 5 to 10 firms (all controlled by local governments) dominate the market (World Bank 1991). In sharp contrast, figure 2 illustrates that in market economies, such as West Germany, Norway, the United Kingdom, and the United States, the construction industry is highly decentralized, with between 45 and 65 percent of total construction industry employment spread among small firms.

Figure 1. **Structure of Construction Industry Share of Employment by Firm Size, 1989**



Source: United Nation (1991).

Figure 2. **Structure of Construction Industry Share of Employment by Firm Size, 1987–1989**



Source: United Nations (1991).

Concentrating construction activities in the hands of such large firms is problematic (Hajduk 1990). These firms are production-oriented and tend to ignore consumer demand. The very large "kombinats" tend to concentrate on building technologies that are appropriate for large-scale industrialized production and rely on inflexible one-model production aimed at maximizing economies of scale.

Efforts are under way to restructure the construction industries in the Eastern European countries and the former USSR, making them more like those found in western market economies (compare figures 1 and 2). In Poland, reforms have been put in place and modest results are starting to show. In Hungary, similar reforms were launched, with dramatic results by 1989. A brief sketch of these two nations' construction industries and their reforms follows.

A profile of the Polish and Hungarian housing industries

The Polish construction industry provides a useful reference point for understanding the highly centralized structure of socialist housing systems. Prior to 1981, construction decisions in Poland

were controlled by central planners, who made decisions about the allocation of funds to SOEs for housing production. All intermediary institutions followed the directives of the central planners, providing funds and building materials for project execution. All activities of the SOEs were centrally controlled, including the type and quantity of product, output prices, wages, the type of building technologies used, and how financial resources were used. SOE accounting and financial controls focused on compliance with the rules and regulations and provided little insight into the financial performance of the enterprises. No incentives existed to promote higher productivity, and unprofitable enterprises routinely received subsidies.

The state closely regulated contracts between SOEs and subcontractors. A socialist investor could procure materials only from other socialist enterprises. Little importance was attached to the prices of the subcontracted materials or services, because parties faced only "soft" budget constraints. This process of subcontracting completely precluded small private firms from participating in the construction process of the SOEs. They were forbidden from entering into contracts with SOEs, and the SOEs received priority in the distribution of building materials and building sites.

In 1981, Poland initiated a variety of reforms intended to increase the low productivity of the construction sector. These included limiting and eventually phasing out the use of command-distribution systems in favor of economic incentives (such as pricing, interest rates, and taxes) and market mechanisms (Matras 1989). Much attention was given to decentralizing construction activities to link local market conditions more closely with decision making. In particular, local authorities were given the right to establish housing construction enterprises, set credit policies and programs, and regulate housing development.

Despite the fact that in 1988 prices in Poland's social housing sector became "contractual" (i.e., based on negotiations between buyers and sellers), no incentives exist for SOEs to lower costs or find more productive ways of combining inputs to produce housing. Instead, soft budget constraints and market power have enabled SOEs to pass on cost escalations.

Consequently, the results of the reforms to date have been poor. Between 1981 and 1985, labor productivity in the residential construction sector has declined at an annual average of –0.6 percent (Matras 1989). A morass of conflicting regulations that distort economic relations and hinder construction industry reform still exists. Also, severe economic conditions have hampered construction activities.

More success has been achieved in promoting Poland's private sector activity. By 1989, there were signs that reforms aimed at increasing access to credit and building materials were working. According to the United Nations (1991), between 1980 and 1989 the number of Polish construction firms with fewer than 50 employees increased from 60 to 322, an increase of 262 firms. Firms employing over 1,000 workers declined by 154 (see table 6). However, despite the fact that linkages between SOEs and private firms are now legal, cooperation is limited by the small size of private firms and their continuing difficulties in procuring building materials. Notwithstanding these barriers, the fruits of restructuring look promising: the unit cost of Polish private housing constructors is 30 percent lower than that of the large kombinats. However, private enterprises still lack adequate access to construction equipment and construction credit (Matras 1989).

Table 6. **Distribution of Firms by Size of Employment, for Hungary and Poland, 1980, 1986, and 1989. Changes in the Structure of Eastern European Construction Industry, 1980, 1986, and 1989**

Size of Firm (number of employees)	Number of Firms, Hungary			Percent change	Number of Firms, Poland			Percent change
	1980	1986	1989	1980–1989	1980	1986	1989	1980–1989
Small (1–49)	4	322	1,082	26,950.0	60	163	322	426.7
Medium (50–199)	108	230	333	208.3	202	466	665	229.2
Large (200–999)	153	131	98	–35.9	721	804	741	2.8
Very Large (1,000+)	70	58	48	–31.4	355	285	201	–43.4
Total	335	741	1,561	366.0	1,338	1,718	1,929	44.2

Source: United Nations (1991)

In contrast to the slow changes taking place in Poland, the role of the large, state-owned enterprises in Hungary has been dramatically reduced. During 1989 and 1990, several of the very large kombinats discontinued operations. Commercial banks are suspending loans to unprofitable SOEs, and the remaining kombinats are starting to become more responsive to market demands.

Medium-sized firms (those with between 50 and 199 employees) are starting to grow, in spite of the fact that these firms are still having difficulties securing materials and building sites. The sharp

increase in competitive bidding for construction projects has helped these firms. The share of contracts awarded by bid increased from 3 percent in 1983 to 24 percent in 1988. During 1991, Hungary planned to promote construction industry productivity by privatizing firms, liberalizing rules for the importation of building materials, and providing technical assistance and training to builders and developers.

Housing and construction sector reforms in both Hungary and Poland suggest that efforts to shift from state-dominated centralized construction firms to more competitive private contractors are under way. In the case of Hungary, significant progress was made between 1980 and 1989, with the creation of over 1,000 small construction firms. In tandem with the growth of these small firms, large, state-owned enterprises declined by one-third. In Poland, on the other hand, restructuring has been modest.

A number of factors explain why the restructuring of the construction industry has been slower in Poland than in Hungary. First, housing reforms have been in play in Hungary much longer than in Poland; consequently, the environment there is more conducive to private-sector initiatives. Hungary's housing policy targets, set in 1960, called for a significant level of private housing. Subsequent reforms in 1971 called for the creation of multiple housing delivery channels, which provided the private sector with opportunities to produce commodity housing. Other housing reforms in the 1970s enabled "secondary incomes" to be used to finance the purchase of privately produced housing. On the supply side also, conditions in Hungary have been more conducive to small-scale private housing production. Hungary has channeled substantial resources into servicing land for residential development, and consequently there are ample opportunities for small-scale housing development, especially in suburban areas.

In contrast, because of its limited resources, Poland has not serviced enough land for residential development, and small firms have had difficulty gaining access to serviced sites. Another constraint is that residential construction technology in Poland has been much more focused on large-panel building systems than in Hungary. In 1988, 70 percent of all housing construction in Poland was based on large-panel systems. In Hungary, only 30 percent of the production in 1985 was based on such systems. Since Poland's building materials industry is oriented toward serving large-panel construction systems, it is difficult for small constructors to procure building materials appropriate for small-scale production.

Poland, as well as other transition economies, could benefit from a careful assessment of construction industry reforms in Hungary. Hungary's success in reforming its housing industry demonstrates the importance of creating appropriate market conditions in terms of effective demand, adequate housing finance, an adequate supply of serviced land, appropriate construction technology, and favorable contracting and pricing of materials and services.

Conclusions: Reforming the construction and building industry

The residential construction industries of centrally planned economies must be reformed to meet the demands of a free-market economy. Under the old system of central planning, property development was based on an allocation system, not on the demands of users. Accordingly, construction firms have responded to a variety of production signals, such as economies of large-scale production, systemization, and standardization. In many centrally planned economies, this situation inevitably fostered the emergence of large, vertically integrated housing companies (McCutcheon 1988).

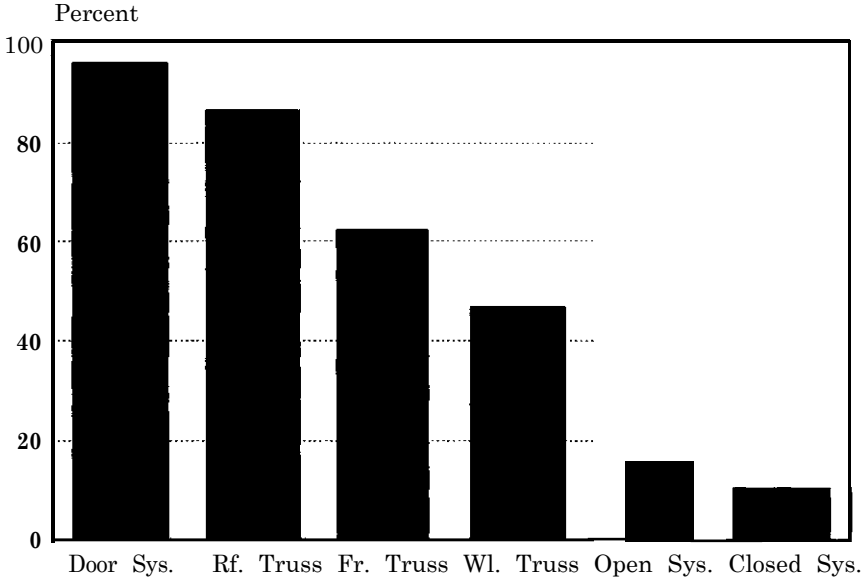
In a market system, users (i.e., demanders) decide what types of properties to purchase and where, and the construction industry adjusts to their demands. This system means more product diversity and an emphasis on quality, price, and flexibility. Experience in market economies suggests that housing supply can best respond to these demands when housing developers are small, diversified, and flexible in terms of output and types of units produced.

The implications of shifting to a demand-driven system are enormous: large public housing companies need to be privatized, reorganized, or, in some cases, liquidated. The playing field must be made level so that new private enterprises can enter housing markets and secure needed building materials, building sites, and construction financing.

There are numerous technological implications reflected in these reforms. The most obvious is that the large, highly centralized approaches to building construction are no longer appropriate. What technical and building materials changes are necessary to facilitate the restructuring of highly centralized construction firms? Can other technologies, such as factory-assembled building components, be combined with site-built construction methods to encourage decentralized, flexible building operations?

The North American experience is particularly relevant on the question of what new building technologies are more appropriate for smaller firms (Dowall 1991). Despite efforts to revolutionize the home-building industry by way of government programs such as "Operation Breakthrough," residential construction technology is still oriented to site-built methods. In the North American market, manufactured housing or modular housing accounts for about 25 percent of annual housing production. The remaining 75 percent is site built, where a multitude of building materials are joined together to construct a housing unit. However, more and more housing components are being assembled in factories and trucked to building sites. Builders are using factory-produced open- and closed-wall systems, pre-hung window and door systems, floor and roof trusses, and wet core bathroom systems (see figure 3).

Figure 3. **North American Home Builder's Use of Factory-Built Components**



Source: National Association of Homebuilders (1987).

Unlike the former USSR and Eastern Europe, the overall structure of the residential construction industry in North America is highly decentralized. Most firms are small and tend to operate in one geographic area. Larger firms that operate in several markets rely on decentralized, autonomous profit centers. Virtually all firms have very low overheads and make great use of subcontractors to

construct housing. With such low overheads, builders are better positioned to respond quickly to market changes.

As the Eastern European and former USSR construction industry restructures itself, new, more decentralized building technologies are required, and builders will need to develop market-oriented skills. Many of the firms that have been operating as large-scale kombinats should be privatized. Others should be reorganized to operate as decentralized profit centers.

The historical record for reforming state-owned construction enterprises is not bright. Through the 1960s and 1970s, virtually all SOEs have made major efforts to increase operational efficiency. In most cases, policies focused on decentralizing activities to the level of the firm, making it sensitive to prices, costs, and consumer demand. It also was argued that increased enterprise autonomy would lead to increased technological innovation (Lee and Nellis 1990). Reviews of these programs indicate that the reforms were partial in nature and did not go far enough, ignoring the basic lack of incentives provided by the socialist central planning framework and the prevalence of soft budget constraints.

In the future, the principal path of reform will be to privatize the construction and building materials industries. This process will not occur overnight, and it is technically and politically difficult (Cowan 1990). The construction industry policy makers and analysts simply lack experience in efforts to privatize or radically reorganize public corporations.

Given the urgency of housing market reforms in Eastern Europe and the former USSR, agencies that offer aid should take a leading role in research and technical assistance on how best to restructure the construction and building materials industries. The following research questions need to be addressed:

1. What are the best ways to reshape the size, ownership, and specializations of building enterprises?

2. What kinds of new technologies, construction methods, and building materials are best suited for a restructured construction and building-materials industry?

3. What are the best methods for encouraging the application of these new technologies?

4. What are the best methods for fully integrating the construction and building materials industry into the overall macro-market economies of Eastern Europe and the former USSR?

5. How should the procedures used by governments to provide land and finance capital to construction firms be changed to encourage the restructuring of the construction and building materials industry?

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References

Andrusz, Gregory D. 1984. *Housing and Urban Development in the USSR.* Albany: State University of New York Press.

Cowan, L. Gray. 1990. *Privatization in the Developing World.* New York: Greenwood Press.

DiMaio, Alfred John. 1974. *Soviet Urban Housing: Problems and Policies.* New York: Praeger.

Dowall, David. 1991. "An Overview of the North American Housing Production System." In *Housing Policy Reforms in Eastern Europe.* Washington, DC: The Economic Development Institute of the World Bank.

Hajduk, Henryk. 1990. "Restructuring of the House Building Industry in Poland." Paper prepared for Housing Reforms in Socialist Economies Policy and Research Seminar. Washington, DC: The World Bank, (June 12–13).

Lee, Barbara, and John Nellis. 1990. "Enterprise Reform and Privatization in Socialist Economies." World Bank Discussion Paper 104. Washington, DC: The World Bank.

Matras, Hanna. 1989. "Structure and Performance of the Housing Sector of the Centrally Planned Economies: USSR, Hungary, Poland, GDR and Yugoslavia." Report INU 53. Washington, DC: Infrastructure and Urban Development Department, The World Bank.

Matras, Hanna, and Bertrand Renaud. 1991. "Housing Reforms in Central and Eastern Europe." Paper prepared for Seminar on Housing Policy Reforms in Eastern Europe, The Economic Development Institute of the World Bank. Prague, Czechoslovakia, (May).

Mayo, Stephen K., and James I. Stein. 1988. "Housing and Labor Market Distortions in Poland: Linkages and Policy Implications." Report INU 25. Washington, DC: Infrastructure and Urban Development Department, The World Bank.

McCutcheon, R. 1988. "Industrialised House Building, 1956–1976." Habitat *International* 12(1):95–104.

_____ 1989. "The Role of Industrialised Building in Soviet Union Housing Policies." *Habitat International* 13(4)43-61.

National Association of Homebuilders. 1987. *Survey of Homebuilders.* Washington, DC: National Association of Homebuilders.

Renaud, Bertrand. 1991. "Housing Reform in Socialist Countries." Paper prepared for Seminar on Housing Policy Reforms in Eastern Europe, The Economic Development Institute of the World Bank. Prague, Czechoslovakia, (May).

Sillince, J.A.A. 1990. *Housing Policies in Eastern Europe and the Soviet Union.* London: Routledge.

Telgarsky, Jeffrey P., and Raymond J. Struyk. 1990. *Toward a Market-Oriented Housing Sector in Eastern Europe: Developments in Bulgaria, Czechoslovakia, Hungary, Poland, Romania, and Yugoslavia.* Washington, DC: The Urban Institute Press.

United Nations. 1991. *Annual Bulletin of Housing and Building Statistics for Europe.* New York: United Nations.

The World Bank. 1991. *China Urban Housing Reform: Issues and Implementation Options.* Washington, DC: Environment, Human Resources and Urban Development Operations Division, China and Mongolia Department, The World Bank.