

Seasonality in the Housing Market

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Seasonal demand patterns, the impact of the weather on construction, and other influences create uneven levels of home building activity in the course of each year. In recent years, the number of single family housing starts in May or June has been, on average, nearly 50 percent greater than in December or January. The extent of seasonal variation in construction activity is obscured in the seasonally-adjusted statistics that are most commonly reported. While seasonally-adjusted data are valuable for identifying trends, the demand for labor and materials depends on the actual number of homes built, not the seasonally-adjusted annual rates.

The seasonal pattern of construction over the past decade has been somewhat less pronounced than in earlier decades. In the 1960s and 1970s, single family starts in May and June were closer to twice the average for December and January (Figure 1). The recent movement to somewhat reduced seasonality in

home building probably reflects shifts in demand factors, such as reduced influence of the school year and seasonal mobility patterns, as well as changes in the technology and organization of home building. Unusually mild winter weather in the past few years, as well as labor shortages in the late 1990s that encouraged full utilization of the available labor supply, may have also played a role.

While single-family starts generally peak during the April to June period, multifamily starts are spread more evenly across the year, with the largest number often occurring in October. October has 31 days, no major holidays, and relatively mild weather. October is also the start of the federal government's fiscal year, and in the past that may have meant the initiation of some government-supported projects, although direct government support has been so limited recently that it should no longer be much of a factor. An October start, along with an average time from start to completion of nine months

for multifamily structures, means completion during peak demand in the late summer (Figure 2).

Seasonal patterns in housing starts are more pronounced in the Midwest and Northeast than in the South and West, presumably because of harsher winters.¹ But the reduced seasonality in the latest decade is not simply due to a shift of construction to the sunbelt. All regions exhibited reduced seasonality. In the Midwest, the region with the greatest seasonality, 20.7 percent of total starts from 1992 to 2001 occurred in May and June, with only 9.2 percent in January and February. During 1972 to 1981, 23.0 percent of Midwest starts were in May and June, and 7.1 percent were in January and February.

The month that typically accounts for the largest number of sales contracts for new homes is March. In the 1970s, the peak months for sales were April and May, but there has been a shift toward sales earlier in the year, perhaps reflecting the increased share of new homes that are pre-sold. Indeed, with that shift, February has become an above-average month for sales, despite having only 28 or 29 days and weather that is not especially conducive to shopping for a new home.

Seasonal Mobility

Home buyers tend to move in the summer. Renters are even more likely to move in the summer. While the reasons for moving in the summer are most obvious for households with school-age children, even households without children are more likely to move at that time.² The traditional seasonal pattern of moves is self-

Figure 1. Total Starts in Each Month: Comparison of Decades

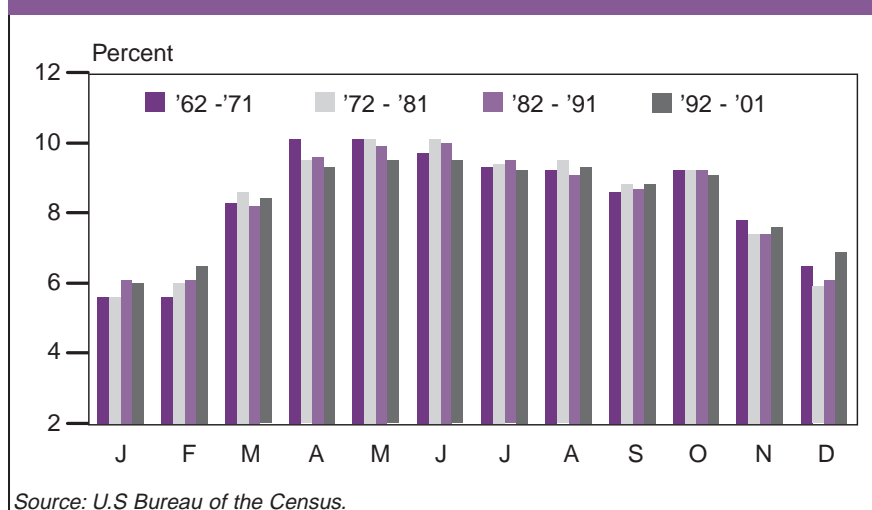


Table 1. Percentage of Housing Starts in Each Month

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total Starts												
U.S.												
1962-1971	5.6	5.6	8.3	10.1	10.1	9.7	9.3	9.2	8.6	9.2	7.8	6.5
1972-1981	5.6	6.0	8.6	9.5	10.1	10.1	9.4	9.5	8.8	9.2	7.4	5.9
1982-1991	6.1	6.1	8.2	9.6	9.9	10.0	9.5	9.1	8.7	9.2	7.4	6.1
1992-2001	6.0	6.5	8.4	9.3	9.5	9.5	9.2	9.3	8.8	9.1	7.6	6.9
Northeast												
1962-1971	3.7	3.6	6.8	11.5	11.2	10.3	10.5	9.8	8.8	9.3	8.4	6.3
1972-1981	4.2	3.5	7.2	9.4	10.1	10.6	10.6	10.4	9.3	9.9	8.6	6.3
1982-1991	5.0	4.2	7.2	9.5	9.7	10.5	10.0	10.4	9.2	10.0	8.6	5.8
1992-2001	5.2	5.3	7.5	9.0	9.3	9.9	9.9	9.6	9.0	9.5	8.7	7.0
Midwest												
1962-1971	3.7	3.8	7.3	11.2	10.7	10.8	9.5	10.1	9.0	10.0	8.2	5.7
1972-1981	3.3	3.8	7.0	9.5	11.5	11.4	10.2	10.6	9.7	10.6	7.7	4.6
1982-1991	3.8	4.0	7.0	10.0	10.8	11.6	10.3	9.9	9.5	10.2	7.7	5.2
1992-2001	4.2	5.0	7.7	9.5	10.3	10.4	9.5	10.0	9.1	10.4	8.0	6.0
South												
1962-1971	6.3	6.6	9.2	9.1	9.5	9.3	8.9	8.9	8.4	9.0	7.8	6.9
1972-1981	6.3	7.3	9.7	9.5	9.5	9.3	8.9	8.9	8.4	8.7	7.3	6.2
1982-1991	7.0	7.1	9.0	9.6	9.6	9.3	9.0	8.5	8.4	8.8	7.3	6.3
1992-2001	6.7	7.3	8.7	9.2	9.3	9.0	8.9	8.8	8.5	8.9	7.5	7.2
West												
1962-1971	7.6	7.0	8.8	9.7	9.9	9.0	8.9	8.4	8.3	8.5	7.1	6.9
1972-1981	7.0	6.9	8.6	9.4	10.0	9.9	9.1	9.0	8.4	8.5	6.7	6.3
1982-1991	6.7	6.9	8.3	9.4	9.9	9.8	9.6	9.0	8.4	8.7	6.8	6.5
1992-2001	6.7	6.7	8.6	9.2	9.4	9.5	9.2	9.4	8.9	8.3	7.2	6.9
Single-Family Starts												
U.S.												
1962-1971	5.2	5.5	8.4	10.3	10.4	10.0	9.5	9.5	8.6	9.1	7.5	6.0
1972-1981	5.1	5.8	8.4	9.7	10.4	10.4	9.8	9.7	8.9	9.0	7.2	5.5
1982-1991	5.8	6.1	8.4	9.8	10.2	10.2	9.6	9.2	8.7	8.9	7.3	5.9
1992-2001	6.0	6.4	8.6	9.4	9.7	9.7	9.2	9.3	8.7	8.9	7.5	6.6
Northeast												
1984-1991	5.2	4.2	7.1	10.1	10.0	10.8	10.3	9.7	8.9	9.8	8.0	5.8
1992-2001	5.0	4.8	7.4	9.1	9.6	10.3	9.9	9.8	9.2	9.3	8.4	7.2
Midwest												
1984-1991	3.5	4.0	7.5	10.4	11.2	11.8	10.6	9.7	9.5	9.7	7.2	4.8
1992-2001	4.3	4.9	7.9	9.7	10.5	10.7	9.6	9.8	9.3	9.9	7.7	5.8
South												
1984-1991	7.0	7.4	9.1	9.9	9.9	9.5	8.9	8.7	8.4	8.5	6.7	6.1
1992-2001	6.7	7.4	8.9	9.3	9.4	9.2	8.8	8.9	8.5	8.6	7.3	6.9
West												
1984-1991	6.8	7.1	9.0	9.8	10.1	9.7	9.8	8.7	8.0	8.5	6.7	6.0
1992-2001	6.5	6.8	9.0	9.3	9.5	9.6	9.3	9.3	8.6	8.3	7.2	6.6
Multifamily Starts												
U.S.												
1962-1971	6.2	5.7	8.0	9.7	9.7	9.3	9.0	8.8	8.5	9.3	8.4	7.4
1972-1981	6.5	6.4	8.9	9.0	9.6	9.4	8.6	9.0	8.5	9.5	7.9	6.7
1982-1991	6.7	6.3	7.9	9.3	9.3	9.6	9.3	9.0	8.7	9.6	7.8	6.5
1992-2001	6.3	6.6	7.5	8.8	9.0	8.5	9.0	9.3	9.0	10.1	8.3	7.7
Northeast												
1984-1991	6.1	4.7	7.3	9.0	8.3	9.9	8.7	11.5	8.8	10.6	9.4	5.5
1992-2001	6.3	7.8	8.1	8.5	7.6	8.0	9.9	8.6	8.4	10.3	10.0	6.5
Midwest												
1984-1991	5.2	4.4	6.8	9.8	9.9	11.0	9.3	9.6	9.1	10.5	8.1	6.3
1992-2001	3.6	5.3	7.0	8.5	9.5	9.4	8.8	10.9	8.4	12.7	9.1	6.9
South												
1984-1991	8.1	7.5	9.2	10.5	9.0	9.6	9.0	7.3	7.9	8.8	7.2	5.9
1992-2001	6.9	6.9	8.0	8.8	9.0	7.9	9.1	8.5	8.8	9.8	8.1	8.3
West												
1984-1991	7.4	7.1	7.6	9.7	9.6	9.8	9.1	9.2	8.6	8.7	6.5	6.7
1992-2001	7.4	6.6	6.9	8.9	9.0	9.1	8.9	9.7	9.9	8.5	7.4	7.8

Source: Bureau of the Census.

reinforcing. For those buying or renting existing homes, there are more homes available for occupancy in the summer to choose from, including those offered by movers with school-age children. Similarly, home sellers might prefer to offer their homes when the largest number of home seekers are in the market.

The share of home-buying households with school age children has declined slightly. In 1985, according to the American Housing Survey, 32 percent of (new and existing) home buyers had children aged 6 to 17, but in 2001, the share with school age children was 28 percent.

Data on existing home sales reported by the National Association of Realtors are primarily counted at time of closing, rather than at the time a sales contract is signed or a deposit taken. The existing home sales numbers are highest in June and August, reflecting the end and beginning of the school year (Figure 4). Unlike the patterns for new construction and new home sales, the pattern for existing home sales was not less seasonal during the latest decade than in the 1980s. Moreover, with more than 30 percent occurring during June to August, compared to less than 18 percent during December to February (or January to March) the seasonal pattern for existing home sales is more pronounced than for new home construction or sales. The seasonal pattern of existing home sales is fairly consistent among the four major regions, although sales in the West are slightly less concentrated in the summer months.

Completions

If demand and mobility are highest in the summer, as the data on existing home sales indicate, it would be reasonable to expect completions of new homes to also occur

Figure 2. Single and Multifamily Starts in Each Month: 1992-2001

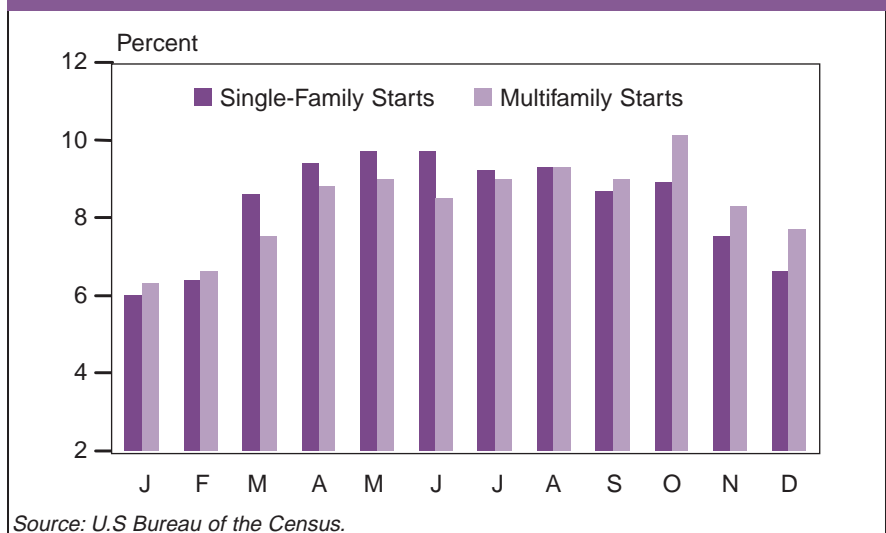


Figure 3. Total Starts in Each Month: Regions 1992-2001

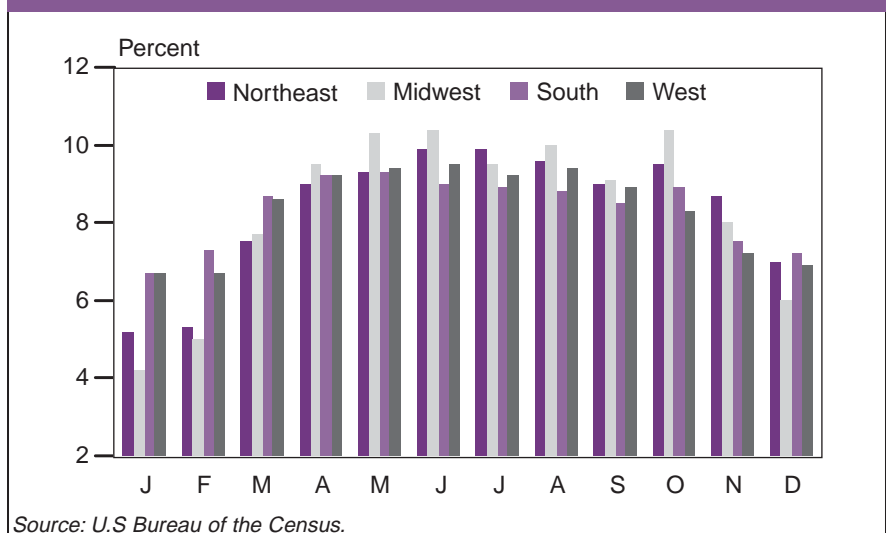


Figure 4. New and Existing Home Sales and Completions in Each Month: 1992-2001

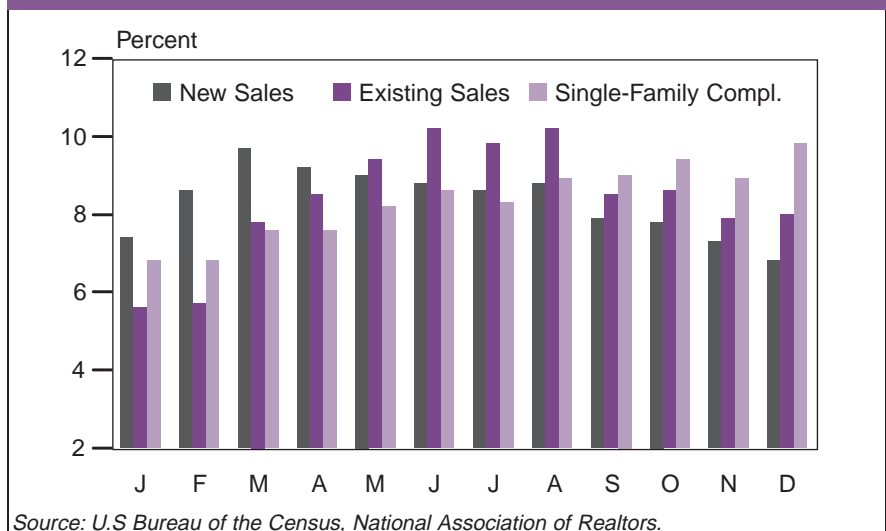


Table 2. Percentage of Home Sales and Completions in Each Month

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
New Single-Family Home Sales												
U.S.												
1963-1971	7.1	7.6	9.1	9.2	9.5	9.2	9.4	9.5	8.2	8.0	7.0	6.3
1972-1981	7.2	8.1	9.5	9.6	9.6	9.1	8.8	9.2	8.3	7.9	6.7	6.0
1982-1991	7.3	8.2	10.1	9.7	9.5	9.1	8.4	8.4	7.9	8.0	7.0	6.5
1992-2001	7.4	8.6	9.7	9.2	9.0	8.8	8.6	8.8	7.9	7.8	7.3	6.8
Northeast												
1982-1991	6.8	6.7	9.7	9.0	9.5	9.5	8.8	8.3	8.0	8.6	8.2	6.8
1992-2001	6.2	8.4	8.6	9.7	8.9	9.4	8.2	9.2	8.8	7.8	7.3	7.5
Midwest												
1982-1991	5.6	7.4	10.2	10.5	10.5	9.5	8.6	8.8	8.2	8.1	7.0	5.7
1992-2001	6.3	8.4	10.2	9.9	9.3	9.4	8.5	8.7	7.6	8.1	7.4	6.3
South												
1982-1991	7.6	8.5	10.3	9.6	9.2	8.9	8.4	8.3	7.9	7.7	6.9	6.7
1992-2001	7.7	8.7	9.5	8.9	8.9	8.7	8.7	8.7	8.0	7.8	7.3	7.1
West												
1982-1991	8.0	8.8	10.0	9.9	9.4	9.0	8.0	8.2	7.6	7.9	6.9	6.5
1992-2001	7.7	8.6	9.8	9.3	9.0	8.5	8.6	8.9	8.0	7.8	7.0	6.6
Existing Single-Family Home Sales												
U.S.												
1982-1991	6.0	6.3	8.4	8.9	9.5	10.0	9.4	9.9	8.6	8.6	7.5	6.9
1992-2001	5.6	5.7	7.8	8.5	9.4	10.2	9.8	10.2	8.5	8.6	7.9	8.0
Northeast												
1982-1991	6.0	5.8	7.7	8.5	9.4	10.0	10.0	10.4	9.2	9.2	7.1	6.7
1992-2001	6.0	5.9	7.3	8.0	8.7	10.3	10.2	10.3	8.5	8.7	8.0	8.1
Midwest												
1982-1991	5.5	6.9	8.9	9.7	9.8	10.3	9.5	10.0	8.2	8.2	6.6	6.4
1992-2001	5.3	5.8	7.8	8.6	9.6	10.5	10.0	10.2	8.8	8.3	7.5	7.5
South												
1982-1991	6.3	6.2	8.4	8.7	9.3	9.6	9.3	9.8	8.3	8.6	8.4	7.3
1992-2001	5.3	5.7	7.8	8.3	9.2	10.2	9.5	10.4	8.6	8.5	8.0	8.5
West												
1982-1991	6.0	6.1	8.5	8.5	9.5	10.4	8.9	9.7	8.9	8.9	7.6	7.1
1992-2001	6.2	5.4	8.0	9.0	9.6	10.0	9.8	9.8	7.9	8.9	7.9	7.7
Single-Family Completions												
U.S.												
1972-1981	7.1	6.9	7.3	7.5	8.0	9.0	8.4	9.2	9.3	9.4	8.7	9.2
1982-1991	7.1	6.5	7.2	7.6	7.8	8.8	8.6	9.2	9.3	9.7	8.7	9.5
1992-2001	6.8	6.8	7.6	7.6	8.2	8.6	8.3	8.9	9.0	9.4	8.9	9.8
Northeast												
1984-1991	7.7	6.2	7.5	7.7	7.3	8.6	8.2	8.5	9.2	10.1	9.2	9.7
1992-2001	6.9	6.9	7.0	7.2	8.1	8.8	8.4	8.9	9.0	9.4	9.3	10.0
Midwest												
1984-1991	6.6	5.5	6.4	6.9	7.7	8.6	8.7	9.4	10.3	10.3	9.7	10.0
1992-2001	6.5	6.0	6.8	7.6	8.1	8.8	8.5	9.0	9.5	10.0	9.7	9.5
South												
1984-1991	7.4	7.1	7.6	7.9	8.0	9.1	8.7	9.1	9.0	8.9	8.0	9.2
1992-2001	6.8	7.1	8.0	7.7	8.2	8.6	8.4	8.9	8.8	9.2	8.5	9.8
West												
1984-1991	7.4	7.2	7.4	7.8	7.9	8.6	8.5	9.2	9.2	9.6	8.1	9.1
1992-2001	6.9	7.0	7.8	7.8	8.3	8.5	8.1	8.7	8.9	9.2	8.9	9.9
Multifamily Units Completed												
U.S.												
1972-1981	7.8	7.2	8.4	7.9	8.0	9.1	8.3	8.5	9.2	8.9	8.1	8.5
1982-1991	7.6	7.1	7.9	8.0	8.4	9.1	8.5	9.6	8.5	9.0	7.5	8.8
1992-2001	6.7	6.6	7.4	7.7	8.1	9.1	9.2	10.4	8.7	8.7	8.2	9.3
Northeast												
1984-1991	8.1	6.7	7.1	8.5	8.7	9.2	7.9	9.1	9.1	7.7	7.1	10.8
1992-2001	7.4	5.7	6.5	8.5	10.2	8.1	10.7	6.9	8.6	9.6	8.5	9.5
Midwest												
1984-1991	7.3	6.4	7.1	7.6	7.4	8.6	8.6	11.5	9.5	10.0	7.3	8.8
1992-2001	6.2	6.8	7.5	7.9	7.9	9.5	9.0	11.9	9.0	7.7	7.7	8.8
South												
1984-1991	7.9	7.3	8.8	8.1	9.2	9.7	8.8	9.0	8.4	7.9	7.1	7.8
1992-2001	6.7	6.8	6.9	7.8	8.2	9.3	8.8	10.6	8.5	9.0	8.3	9.1
West												
1984-1991	7.7	7.8	8.1	8.6	7.8	8.8	8.8	8.8	7.9	9.1	7.3	9.3
1992-2001	6.8	6.3	8.3	7.2	7.5	8.7	9.5	10.0	8.7	8.7	8.4	9.9

Source: Bureau of the Census; NAR.

mainly in the summer. That's true for multifamily structures, for which August is the peak month, yet single family completions over the past decade have been highest in December. This may have something to do with incentives for builders to finish up before the end of year. The much larger share of completions in December than in January may also reflect tax advantages for home buyers of completion and closing before the end of the year.

The larger number of single-family completions in December, and even October, than in August or September may not adequately reflect the preferences of home buyers regarding time of the year to move in. After all, most new home buyers are selling existing homes, and if those close in the summer, completion of a new home in late fall may not be ideal.

Seasonality in production activity means that resources are idle during part of the year. As a result of the seasonal differences, the industry is not as productive and efficient as it could be. Eliminating seasonal downtime could lower average costs and enhance the ability to retain skilled workers. The cost to individual businesses and to the overall economy of seasonality in construction was a focus of government and academic scrutiny in the past, but has gotten little attention since the 1970s. A number of other countries have explicit policies to encourage more construction in the winter, in order to minimize seasonal unemployment.³

Although snow, rain, and cold represent difficulties for construction, those factors are not insur-

mountable barriers, and if it weren't for seasonality in housing demand, more housing starts would probably occur in the winter. Technological changes in home building have made it easier to build in the winter. These include new concrete products and prefabricated structural wood components such as trusses and wall panels.

Builders could build at a steady rate year-round if they started homes on a speculative basis in the winter, for sale in the peak summer season. The trend in the home building industry has, in fact, been in the opposite direction, away from speculative construction of homes for sale. Building pre-sold homes reduces risks for builders and lenders, and allows customers to choose the features and designs they prefer.

Current patterns of demand and industry practice may make it difficult to meet customer preferences for delivery. If they want homes delivered in the summer, home buyers could place orders earlier in the year, but failure to do so doesn't necessarily mean that they prefer delivery late in the year. One way to address preferences for summer deliveries, if such preferences exist, would be by streamlining the construction process to complete homes in less time. The average time between start and completion among homes built for sale increased from 4.9 months in the early 1990s to 5.6 months in 2001, although only 25 percent of for-sale homes (i.e., excluding those built on the customer's land) took more than six months to complete in 2001. The increased average time to completion partly reflects the fact that homes have gotten bigger and more elabo-

rate. Extending construction time may be a step in the wrong direction as far as customer satisfaction. Shorter construction times, however, would increase the seasonal swings in output and employment.

¹ There have been a number of studies, including several emanating from the Federal Reserve, on the impact of weather on home building, with most indicating that unusual weather has an impact on the number of starts only in the winter. These studies were mainly concerned with unusual weather, rather than the regular, expected, seasonal differences in weather conditions. See J.C. Musgrave, "Measuring the influences of weather on housing starts," *Construction Review*, January 1968, pp. 4-7; N. Edward Coulson and Richard Christian, "The Dynamic Impact of Unseasonable Weather on Construction Activity," *Real Estate Economics* 24 (2), 1996, pp. 179-194; Mark T. Cammarota, "The Impact of Unseasonable Weather on Housing Starts" *Journal of the American Real Estate and Urban Economics Association* 17(3), 1989, pp. 300-313; James T. Fergus, "Where, When, and How Much Does Abnormal Weather Affect Housing Construction," *Journal of Real Estate Finance and Economics* 18(1), January 1999, pp. 63-87

² See John L. Goodman, Jr., "A Housing Market Model of the Seasonality in Geographic Mobility," *Journal of Real Estate Research* 8(1), Winter 1993, pp. 117-137.

³ See Kenneth T. Rosen, *Seasonal Cycles in the Housing Market: Patterns, Costs, and Policies* (MIT Press, 1979), also David D. Martin, "Seasonal Unemployment in the Construction Industry," *Construction Review*, January 1970, pp. 4-9.

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