INTERNATIONAL REAL ESTATE REVIEW
1999 Vol. 2 No 1: pp. 126 - 142

Expectation and Housing Price Dynamics Following Deregulation in Korea

Chung-Ho Kim
Editorial Director, The Korean Center for Free Enterprise, Seoul, Korea or kch@cfe.org

Kyung-Hwan Kim
Professor, Department of Economics, Sogang University, CPO Box 1142, Seoul, Korea or kyungkim@ccs.sogang.ac.kr

This paper offers an explanation for the existence of price control on new houses in Korea, which is deemed both inefficient and inequitable. This phenomenon cannot be explained by the conventional model of rent-seeking or the capture theory of regulation. Instead, it is attributable to the popular belief that the removal of the price regulation will lead to the increase in the overall housing price by increasing the demand for existing houses that are a perfect substitute for new houses. However, the paper, using a stock-adjustment model of the housing market, demonstrates that the claimed outcome cannot materialize under perfect foresight or adaptive expectation. The outcome is possible in the short run under a peculiar expectation scheme of a self-fulfilling nature. But even in this case, the price increase will be a one-time event and in the long-run overall housing prices will fall below the level that would prevail if the price regulations were maintained.

Keywords

Price control, self-fulfilling expectation, short-term dynamics, Korea.

Introduction

Once a regulation is introduced, it generates benefits for some segments of the society. This makes it very difficult to lift the regulation even after it has

become unnecessary or undesirable for the society as a whole. Rent-seeking is a typical mechanism through which interest groups lobby for the continuation of regulations from which they draw benefits. Uncertainty about the short-term consequences and the nature of transition to a new equilibrium can be another barrier to removing a regulation, because short-run effects largely determine whether deregulation will be sustainable. This paper addresses the role of expectation on the short-run dynamics of deregulation. A particular reference is made to the price control on new apartments that has been enforced over the past two decades in South Korea so as to make new housing affordable to larger numbers of homebuyers[1].

The price control on new apartments and other accompanying regulations that will be discussed below are hard to justify on the grounds of efficiency and equity. They are inefficient because they reduce the quantity of houses supplied, lower the quality of housing, make the housing supply system less responsive to market signals, and limit the range of housing choices for consumers. They are also inequitable because their main beneficiary is the middle class, and not the poor. All these points are well known to housing experts and many policy-makers. In fact, the government began to uplift the price controls and accompanying regulations in 1996. In doing so, however, the government first removed the price control in those regions where they were no longer binding. Price control is still being enforced on apartments built on land supplied by the public sector. The main reason for this apparently illogical sequence of government policy moves towards the eventual removal of the price control is the fear that deregulation may raise the overall housing price (Kim and Kim 1998).

Within the framework of the standard market supply-demand model, it is difficult to understand why lifting the price control on new housing will raise the prices of existing houses. Decontrol will not reduce the supply of new

[1] One anonymous referee suggested that the persistence of the price regulation might be better explained using the Stiglerian capture theory (Stigler 1971). The theory views regulation as a capture of the policy makers by the well-organized beneficiary groups at the sacrifice of the ill-informed and hard-to-be-organized general public. However, it is not relevant in the context of the regulation discussed in this paper. The major beneficiary of the price control is the potential winners of the lottery, i.e. the right to purchase new apartments at below market prices. But they are too large in numbers to organize themselves as a special interest group. In fact, there is no such pressure group in existence. One might also suspect that some favors such as entry barriers are provided to the homebuilders as a compensation for the price regulation. It is true that a system of license does exist but it came into being long before the price regulation was introduced. In conclusion, the persistence of price control on new apartments in Korea cannot be explained by the Stiglerian theory of economic regulation.

houses and there is no reason to expect their demand to increase. However, the popular belief in Korea is that the demand for existing housing will increase. The reason, it is claimed, is that some consumers who have been waiting to purchase new houses at the controlled price will opt to buy from the existing stock, their perfect substitute, as decontrol eliminates the advantages of further waiting.

We believe that the above reasoning is based upon a misinterpretation of the concept of substitutes. Two commodities X and Y are called substitutes if the demand for one commodity increases as the market price of the other rises. Suppose the price of commodity X is set below the unfettered equilibrium level. When the price control is removed, can one say that the demand for commodity Y will increase because the price of its substitute rises? The answer is no, because it is not an increase of the equilibrium price. The true equilibrium price remains unchanged regardless of the artificial price control. In fact, the equilibrium price of commodity X will fall following decontrol because it will increase supply. This will decrease the demand for commodity Y, its substitute, thereby lowering the equilibrium price of Y.

Furthermore, the demand for existing houses is not likely to increase as a result of the removal of the price control on new houses, even if they are substitutes. The reason is that demand can materialize only when it is backed by purchasing power. The price control on new apartments allows potential homebuyers to purchase dwelling units that are larger than those they could afford in the absence of the regulation. Once the price control is removed, they can no longer buy the same quantity of housing with the same income. In other words, the planned demand under price control will not be fully realized in a deregulated setting. Moreover, the increase in new housing supply following decontrol will create turnovers of existing dwellings, thereby lowering their prices.

Despite all this, most Koreans fear that the removal of the price ceiling would raise the prices of existing houses. And that fear was so powerful that it cost the post of the Minister of Construction in 1989 after his announcement of a plan to decontrol created turmoil. We believe that the fear was real. In fact, we later demonstrate that such outcome can occur in the short run due to the self-fulfilling expectation, although it is not consistent with the long run equilibrium[2].

[2] For an excellent discussion of the role of expectation on the behavior of the stock market and the real estate market, see Shiller (1989).

The paper consists of four sections. Section 2 describes the mechanics of price control and accompanying regulations being enforced in South Korea. In section 3, three types of expectation are introduced and applied to examine the impact of deregulation. We first consider the perfect foresight and adaptive expectation schemes that are often assumed in the economics literature. It is demonstrated that housing prices will not rise when the price controls on new apartments are lifted under either expectation scheme. We then look at the peculiar expectation scheme in which people believe that the removal of the price control on new apartments will lead to the increase in housing price. It is shown that such expectations are self-fulfilling in the short term, i.e. housing prices will rise simply because people believe so. This is an example of self-fulfilling expectation even though economic agents are misinformed (Kirman 1983, p. 148). But the outcome lasts only for the short run since the increase in housing supply following deregulation exerts a downward pressure on housing prices. Concluding remarks are presented in section 4.

Mechanics of Price Control and Supplementary Regulations

The price control applies to any new dwelling supplied through residential development projects involving twenty units or more in South Korea. It was first introduced in 1977 in the form of a uniform price ceiling on all new houses. Since 1985, two different ceilings have applied varying with the size of dwelling. The controlled price was indexed to the costs of production since 1989, in order to stimulate housing supply. Despite its general coverage, the price control affects only apartments in practice. In the case of single-family dwelling and row houses, the developer suffers only a moderate profit loss if they opt for a project comprising less than twenty units in order to get around the price controls. However, the profit of the developer declines substantially in the case of apartments if the volume of production is reduced below the limit of twenty units. Therefore, the developer will not reduce the scale of operation in order to escape from the price control. Since the vast majority of new housing supply consists of apartments, the price control has far reaching implications.

Typically, a price ceiling reduces the quantity supplied of the good on which it is imposed (Kim, K. 1997, Kim and Kim 1998). However, a few characteristics of the Korean land market need to be considered before one can jump to the above general conclusion. The supply of housing is conditioned by the availability of developable land. One peculiar feature of the Korean housing market is that the supply of residential land is subject to government control. The Ministry of Construction and Transport (MOCT) estimates the amount of

land needed for residential, commercial, industrial development as well as infrastructure projects and then ensures that the 'necessary' amount of land be rezoned and developed. The Ministry also approves land use conversion, and issues permits for major residential land development projects exclusively to public agencies to prevent private developers from collecting large windfall profits. Consequently, large-scale land development projects are virtually monopolized by the public sector comprising the Korea Land Corporation (KLC), the Korea National Housing Corporation (KNHC) and local governments (Hannah, Kim and Mills 1993).

There are two reasons that make it difficult to claim that the price control reduces the supply of new housing measured in total floor space. Firstly, the governmental supply of residential land is determined independently of the price ceiling on new houses that are to be built on it. Secondly, the floor-area ratios and the land coverage ratios are also strictly controlled. However, considering the supplementary regulation on size distribution of new housing that is tied to the price control changes the above story. Since the market price approaches average production cost and since the average cost decreases as the size of the housing unit gets larger, it is natural that the market price of housing gets lower, the larger the unit. Interaction between the supply and demand will then produce the equilibrium size distribution. If the size distribution is somehow distorted by government regulation, then the consequent supply of housing will not match the relative intensity of demand for dwelling of different sizes. This can be interpreted as a reduction in the effective supply of housing although total floor space produced remains the same. In fact, that is what the Korean government has done.

When the uniform price ceiling is being enforced, there will be a natural tendency towards too many large houses and too few small houses being built. This will happen as the interests of the consumers and the producers coincide. Consumers prefer larger units because the difference between the market price and the regulated price gets larger with the size of the dwelling. It is also in the developer's best interest to maximize the share of the large units in a development project. This is because the controlled price on the large units (exceeding 85 square meters of net floor space) is higher than that on the smaller units while the cost of production of an apartment decreases with its size. Moreover, the risk of not being able to sell a dwelling unit declines with size because the demand for smaller units is weaker than that for larger units. The above expected outcome would be unacceptable in light of the alleged policy goal of the price control, i.e. making new houses affordable to households belonging to the middle income group or below. Therefore, it was a natural decision by government to introduce a supplementary regulation on the size distribution to go with the price control on new houses. The Korean

government has mandated land development projects to allocate at least 70% of developed residential sites to houses smaller than 85 square meters in net floor space, and 30% to those smaller than 60 square meters.

The combination of the price control and the regulation on size distribution led to the supply of new apartments concentrated around a few sizes rather than being spread over a continuum. This outcome represents a deviation from an equilibrium size distribution because the latter would resemble the distribution of income and wealth, which should be much more continuous. The fact that larger apartments command a higher price per floor space than smaller ones is further evidence of deviation from an unregulated equilibrium. The opposite would be true in the free market equilibrium, because the average cost of production of apartments decreases with size. As has been pointed out earlier, such deviation from equilibrium is equivalent to a reduction of new housing supply. In our discussion of the impact of the removal of the price control on the supply of new housing in this paper, supply refers to effective supply.

Expectation and the Impact of Deregulation on Housing Price

The Case of Perfect Foresight

In this section, we analyze the impact of lifting the price control on new apartments upon the overall housing prices when economic agents have perfect foresight using a stock-adjustment model of Muth (1972). Suppose that the demand for housing is a decreasing function of its current price and an increasing function of the expected future price, i.e. expected capital gains. Letting D_t be the demand in period t, P_t be the asset price of housing in time t and $P^e_{t,t+1}$ be the price of housing in $t+1$ expected at t, the housing demand function can be expressed as

$$D_t = a - bP_t + g\,(P^e_{t,t+1} - P_t), \forall t \geq 0 \qquad (1)$$

where a, b, g are positive constants. Under the assumption of perfect foresight, $P^e_{t,t+1} = P_{t+1}$, and therefore equation (1) can be modified as

$$D_t = a - bP_t + g\,(P_{t+1} - P_t), \forall t \geq 0 \qquad (1')$$

The price of housing in period t P_t is determined at the level at which the quantity demanded of housing D_t is equated with housing stock S_t. Housing stock at period t (S_t) is equal to sum of the previous period's stock (S_{t-1})

and the volume of new production during period $t-1$ that can be occupied in period t (H_{t-1})[3]. Thus,

$$S_t = S_{t-1} + H_{t-1} \tag{2}$$

As is done in a typical stock-adjustment model, new housing production is assumed to be equal to a fraction (w) of the gap between the long-run equilibrium housing stock (S^*) and the previous period's housing stock (S_{t-1}).

$$H_{t-1} = w(S^* - S_{t-1}) \tag{3}$$

Now suppose that the price of a new apartment is set at $\overline{P}$. Then the quantity of new housing produced in period $t-1$ is determined solely by the regulated price regardless of the market price of housing P_{t-1}. Since housing production increases with the controlled price, the parameter of new housing production w will be an increasing function of $\overline{P}$. That is,

$$w \equiv w(\overline{P}), w' \geq 0 .$$

Substituting equation (3) into equation (2) gives a first-order difference equation and the solution can be expressed as equation (4).

$$S_t = (S_0 - S^*)(1-w)^t + S^* \tag{4}$$

S_0 refers to the initial housing stock and it is assumed that $S_0 < S^*$, because no new housing will be produced otherwise.

Assuming that housing market clears in each period, we set equation (1') equal to equation (4) to obtain the following first-order difference equation in terms of housing price in period t and housing price in period $t+1$.

$$a - bP_t + g(P_{t+1} - P_t) = (S_0 - S^*)(1-w)^t + S^* \tag{5}$$

In equation (5), a, b, g, S_0, S^*, w are all constants. A trial solution to the difference equation can be written as

[3] To be precise, housing stock in time t is equal to the sum of housing stock in time t-1 and new housing production minus demolition during period t-1. One should interpret 'new housing production' in our paper as the net addition to housing stock.

$$P_t = A + B(1-w)^t \tag{6}$$

Since equation (6) implies $P_{t+1} = A + B(1-w)^{t+1}$, it follows that

$$P_{t+1} - P_t = B(1-w)^t[(1-w)-1] = -wB(1-w)^t \tag{7}$$

Substituting equation (6) and (7) into equation (5) and rearranging the terms, we obtain the following expression.

$$-B(b+gw)(1-w)^t + (a-bA) = (S_0 - S^*)(1-w)^t + S^* \tag{8}$$

Equation (8) implies that $-B(b+gw) = S_0 - S^*$ and $a - bA = S^*$. Therefore, the coefficients A and B are given as

$$A = \frac{a - S^*}{b}, \tag{9}$$

$$B = \frac{S^* - S_0}{b + gw} \ . \tag{10}$$

Substituting equations (9) and (10) into equation (6) gives a solution to difference equation (5) as the following.

$$P_t = \frac{a - S^*}{b} + \frac{S^* - S_0}{b + gw}(1-w)^t \tag{11}$$

Since 0 < (1- w)<1 , housing price under the assumption of perfect foresight is monotone decreasing in time t and converges to the long-run equilibrium level $P^* = (a - S^*)/b$ [4].

Our main concern is about the effect of a change in the controlled price ($\overline{P}$) upon overall price of housing (P_t). Taking note of the fact that coefficient w is an increasing function of $\overline{P}$, we differentiate equation (11) with respect to $\overline{P}$.

$$\frac{dP_t}{d\overline{P}} = \frac{dP_t}{dw}\frac{dw}{d\overline{P}} = -[\frac{S^* - S_0}{b + gw}(1-w)^{t-1} + g(1-w)^t \frac{S^* - S_0}{(b+gw)^2}]\frac{dw}{d\overline{P}} \tag{12}$$

[4] P* can be found by setting Pt+1 and Pt equal.

Since all the constants take positive values and $S^* > S_0$, $1-w>0$, $dw/d\overline{P} > 0$, it follows that $dP_t/dw < 0$, i.e. the overall price of housing falls if the controlled price on a new apartment is raised. Since lifting the price control means that the regulated price can be raised to the level that housing producers would choose to set, the deregulation will lead to an increase in the production of new housing and hence lower housing prices.

The Case of Adaptive Expectation

This section considers the impact of deregulation of the price control under the assumption of adaptive expectation. Economic agents with adaptive expectation update their expectations based on the revealed inaccuracy of their past expectations. The market price of housing is determined by the interaction between demand and supply as before. We also assume that housing supply is governed by the same mechanism introduced in the previous section.

The only difference from the case of perfect foresight lies in the price expectation that affects housing demand. Under perfect foresight, economic agents correctly predict future housing price. On the other hand, adaptive expectation implies that expected future price ($P^e_{t,t+1}$) is a weighted average of the past expectation ($P^e_{t-1,t}$) and the current price (P_t), i.e.

$$P^e_{t,t+1} = dP^e_{t-1,t} + (1-d)P_t \tag{13}$$

Substituting equation (13) into equation (1), we obtain the housing demand equation under adaptive expectation.

$$D_t = a - (b+gd)P_t + gdP^e_{t-1,t}\ ,\ \forall t \geq 0 \tag{14}$$

The equilibrium price of housing can be derived by setting housing demand given by equation (14) equal to housing supply given by equation (4). The equilibrium price in period t is

$$P_t = \frac{a + gdP^e_{t-1,t} - (S_0 - S^*)(1-w)^t - S^*}{b+gd} \tag{15}$$

Since $P^e_{t-1,t} = P_t$ and $t = \infty$ in the long-run equilibrium, the equilibrium price is equal to $P^* = a - S^*/b$, which is identical to the one that would prevail under

perfect foresight. Housing price converges monotonically to this equilibrium price.

It should be noted that the only parameter in equation (15) that is affected by the removal of the price control on new apartments is w, the housing supply parameter. Decontrol will make w larger, but it increases the housing stock only after one period because it takes time to complete new housing. Therefore, lifting the price control in period t will have no immediate impact on the market price of housing, and will lower the overall price of housing starting in period $t+1$ as the volume of new housing production increases following decontrol. Therefore, the popular belief that the removal of the price control will raise housing prices is not sustained.

The Case of Mixed Expectation

In the discussion above, we showed that the popular belief about the impact of the removal of the price control on overall housing prices cannot be justified under the assumption of perfect foresight or adaptive expectation. According to some surveys, however, a majority of the average citizens and some housing experts in Korea believe that decontrol will raise the price of existing housing. In this section, we provide an expectation scheme that is consistent with the popular belief. It turns out to be the case where individuals have adaptive expectation prior to decontrol but convert to a peculiar form of forward-looking expectation once decontrol takes place.

The Model

We suppose that housing demand function and the expectation scheme prior to the removal of the price control are the same as those under adaptive expectation.

$$D_t = a - bP_t + g\,(P^e_{t,t+1} - P_t) \qquad \forall t \geq 0$$
$$P^e_{t,t+1} = dP^e_{t-1,t} + (1-d)P_t \qquad \forall t \geq 0, t \neq t_c$$

Where t_c denotes the time of decontrol.

Once the price control is lifted, however, market participants change their expectation and believe that housing prices will rise in the next period by a fraction q of the difference between the regulated price ($\overline{P}$) and the market price P_t at the time of decontrol. That is,

$$P^e_{t,t+1} = dP^e_{t-1.t} + (1-d)P_t + q(P_t - \overline{P}), \text{ if } t = t_c$$

We assume that the regulated price is always below the equilibrium market price, i.e. $\overline{P} < P_t$, $\forall t \geq 1$, and that housing supply mechanism is the same as that described in the previous sections[5].

In order to analyze the impact of the removal of the price control upon the equilibrium price of housing, we need to find out how decontrol affects housing demand and supply. Decontrol will increase housing starts, but the stock of housing does not increase until the construction of new houses is completed after one period. On the other hand, housing demand increases immediately with the announcement of decontrol by a fraction qg of the gap between the market price and the controlled price. Since housing stock remains unchanged and housing demand increases following the removal of the price control on new housing in period t, the price of existing housing rises immediately.

However, the rise in housing prices is only a one-time change. The actual price of housing in time $t_c + 1$ (P_{t_c+1}) must be lower than what was expected in period t ($P^e_{t_c,t_c+1}$). And since $0 < d < 1$, it follows that $P^e_{t_c+1,t_t+2} < P^e_{t_c,t_c+1}$ and hence housing price starts falling in $t_c + 2$, and the pace accelerates as increased housing starts are completed. The housing price path becomes the same as that derived in section III starting from $t_c + 1$. The only difference is that the initial price level is higher than that considered in the previous section. Therefore, the long-run equilibrium price of housing will be the same as before, i.e. $(a - S^*)/b$.

To summarize, the overall housing price will rise immediately following decontrol, but start falling after one period. In fact, the overall housing price will fall below the level that would have prevailed had the price control on new houses been maintained, before it converges to the long-run equilibrium level that is identical to what would prevail under perfect foresight.

A Numerical Example

In this subsection, we present a simulation exercise about the impact of decontrol on the housing price path. In fact, such exercise is not necessary because we have already demonstrated the outcome using an analytic model.

[5] One should be reminded that the regulated price applies only to new houses whereas the equilibrium price refers to the overall housing price.

Instead, the simulation is done to visualize the impact of lifting the price control to those who find it difficult to believe it.

The model we use for simulation is essentially the same as that presented in the previous section. The difference is that the housing supply equation was modified to highlight the fact that deregulation of the price control makes new housing supply more sensitive to housing shortages. The modified model is given by

$$S_t = S_{t-1} + H_{t-1}$$

$$H_t = w(S^* - S_t)(\frac{\overline{P}}{P_t}), \text{ if } t < t_c$$

$$H_t = w(S^* - S_t), \text{ if } t \geq t_c$$

Since $\overline{P} < P_t$ by assumption, $w(\overline{P}/P_t) < w$.

To calibrate the model, we need to assign values of the parameters. However, the choice of parameter values is not crucial because our analytic result holds regardless of the parameter values. For the sake of illustration, the following values were assigned;

$a = 1{,}000$
$b = 3.75$
$g = 3.75$
$d = 0.5$
$q = 0.5$
$w = 0.01, 0.04, 0.1$
$S^* = 300$

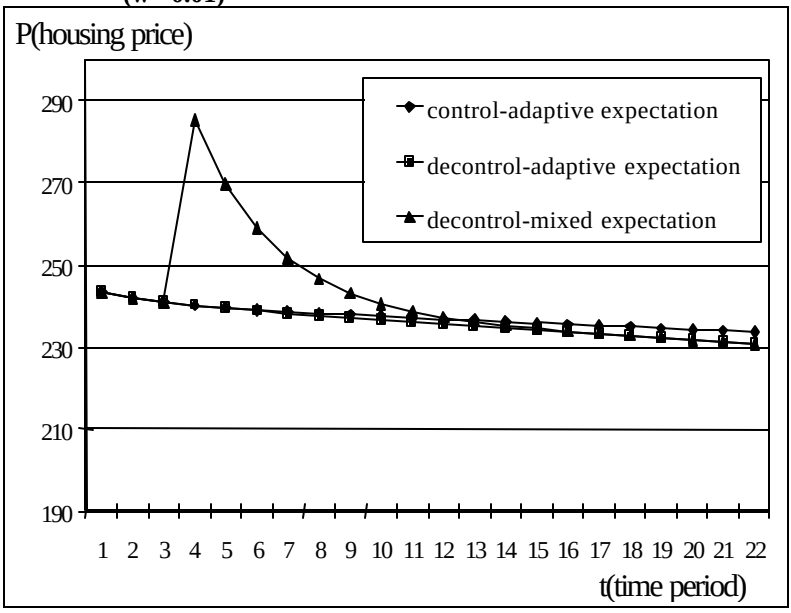
We consider three values for w in order to see how the housing price trend is affected by the responsiveness of housing supply. We assume that the controlled price ($\overline{P}$) is 150 and the price control is lifted in period 4, i.e. $t_c = 4$. Therefore, the controlled prices in period 1 through period 3 are 150 and it collapses to the market equilibrium price in period 4. We further assume that the housing price that is expected in period 0 to prevail in period 1 is 250. The size of the housing stock in period 1 is set at 100.

Simulation results are illustrated in figure 1, 2 and 3. In each figure, the curve labeled with ◆ denotes the housing price path with the continuation of the price control, that labeled with ■ indicates the price path when the price control is lifted and market participants have adaptive expectation, and that

labeled with ▲ refers to the housing price path following decontrol when market participants have adaptive expectation. Figure 1,2 and 3 are drawn for the three different values for w, namely, 0.01, 0.04, 0.1, respectively.

We can now examine the impact of decontrol using figure 1. If the price control is maintained, the housing price is seen to fall over time from 243 in period 1 to 234 in period 20. Now suppose that the price control is lifted in period 4. If people have a adaptive expectation, the housing price jumps to 285 immediately following decontrol. Their expectations are self-fulfilling in that housing price rises just because people expect it to do so. Even in this case, however, housing price starts falling in period 5. And by period 12, housing price falls below the level that would prevail if the price control were maintained. And the gap expands as the housing stock increases with the completion of new houses that were started at the announcement of decontrol. The gap closes as the housing stock approaches the long run equilibrium level at 300.

Figure 1: Expectation & Housing Price Path Following Decontrol (w =0.01)



It is interesting to compare the above outcome with that under the assumption of adaptive expectation. When market participants have adaptive expectation, the housing price remains unchanged as the price control is lifted in period 4. This is because the housing demand is not affected since housing price expectation is backward-looking and housing stock remains unchanged

until new housing construction is completed one period later. Thus housing price starts falling in period 5 as the housing stock increases. In short, housing price does not rise with decontrol if people have adaptive expectation, as we have demonstrated using our analytic model in section 3.

Figure 2: Expectation & Housing Price Path Following Decontrol (w =0.04)

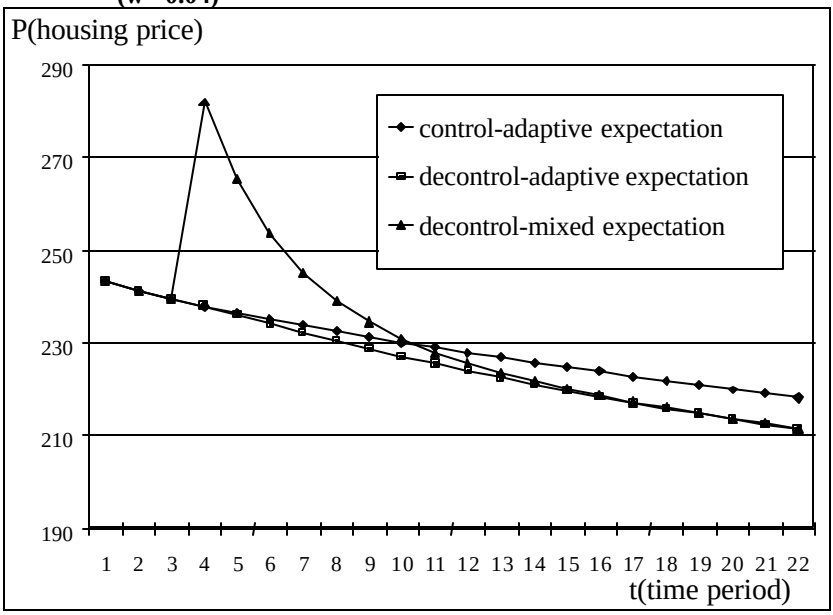
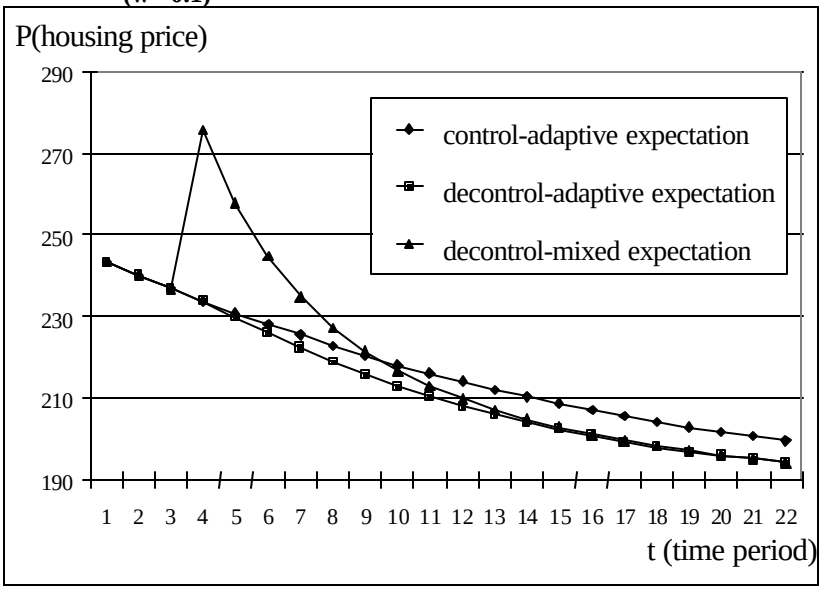


Figure 3: Expectation & Housing Price Path Following Decontrol (w =0.1)



Another point to notice is that the two price paths that prevail under the two different expectation schemes converge within a reasonably short period of time. This happens because the mixed expectation reverts to adaptive expectation after the price control is lifted. Eventually these two price paths as well as that under the price control all collapse to the same long-run equilibrium path.

Figures 2 and 3 reveal a similar pattern. One noticeable difference compared with figure 1 is that the housing price path following decontrol crosses the path that would prevail under the continuation of the price control earlier than in figure 1. In figure 1, the intersection of the two paths took place in period 12, whereas it takes place in period 10 and period 9, respectively, in figures 2 and 3. This happens because housing stock increases by a larger amount following decontrol if the supply of new housing is more responsive.

In summary, the simulation exercise has confirmed the following propositions that have already been proven using an analytic model.

(i) Under the assumption of adaptive expectation, housing price is unaffected by the removal of the price control for some time. And

housing price starts falling as the increased housing starts are completed and the stock of housing expands accordingly.

(ii) When people have a mixed expectation of the form we considered in section IV, housing price does rise immediately at the announcement of decontrol. Nevertheless, the price increase lasts for only one period and eventually housing price falls below the level that would have prevailed had the price control continued.

(iii) The magnitude of the drop in housing price following decontrol is the larger the greater the elasticity of new housing supply.

Concluding Remarks

The price control on new apartments and other regulations that go with it have distorted the Korean housing market in many respects over the past two decades. The policy was also inequitable because it benefited mainly middle and high-income groups, and definitely not low-income households (Kim 1997). Despite these criticisms on efficiency and equity grounds, the price control has been maintained for political reasons (Kim and Kim 1998). One key element of the political aspect of the price control is the popular belief that decontrol will raise the price of existing housing.

In this paper, we demonstrated that such belief can be justified only under a peculiar type of expectation, and that, even under such circumstances, the price increase lasts for only a short while. We do not know the exact expectation mechanism that governs the actual behavior of most participants in the Korean housing market. But if housing price ever proves to rise following decontrol, it must be a result of self-fulfilling expectation. More importantly, housing price will soon fall below the level that would prevail if the price control were maintained.

If we can change the expectation mechanism held by the majority of the market participants, we will be able to avoid the temporary increase in the price of existing housing stock following the removal of the price control. Housing experts and the mass media can make a valuable contribution to this process by helping rectifying market participants rectify the self-fulfilling expectation they have.

Finally, the supply of new housing needs to be made more elastic in order to maximize the positive impact of decontrol. This can be done by increasing the supply of developable land through relaxation of land use control.

References

Hannah, L. M., Kim, K-H., and Mills, E.S. (1993). Land Use Controls and Housing Prices in Korea, *Urban Studies* **30**, 3, 147-156

Kim, C-H and Kim, K-H. (1998). The Political Economy of Government Policy on Real Estate in Korea: Torn Between De-regulation and Anti-speculation, CFE Papers on the *Korean Economy 2*, The Korean Center for Free Enterprise, Seoul, Korea, forthcoming in *Urban Studies*, 2000.

Kim, K-H. (1997). Government Intervention and Performance of the Housing Sector in Korea, paper presented at the *International Seminar on Housing Policy*, organized by the Korean Association for Housing Policy Studies and the Korean Housing Institute, Seoul, Korea.

Kirman, A. (1983). On Mistaken Beliefs and Resultant Equilibria, in: *Individual Forecasting and Aggregate Outcomes: Rational Expectations Examined*, Frydman, R. and Phelps, E.S. (eds.), Cambridge University Press, Cambridge, Mass.

Muth, R. F. (1972). The Demand for Non-Farm Housing, in: *Readings in Urban Economics*, Edel, M. and Rothenberg, J. (eds.), MacMillan, New York, 227-45.

Shiller, R. J. (1989). *Market Volatility*, MIT Press, Cambridge, Mass.

Stigler, G. (1971). The Theory of Economic Regulation, *Bell Journal of Economics and Management Science* **2**, 1, 1-21.