Central Bank of the Republic of Turkey

Could Alfred Marshall be Held Responsible for What is Going on in Housing Markets?

Erdem Başçı

Deputy Governor

Euro50 Meeting
Washington DC, 12 October 2008

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The views expressed are of the author and do not necessarily reflect the views of the Central Bank of the Republic of Turkey.

Ladies and Gentlemen,

My talk will be on the housing market dynamics. As everyone now is well aware of, we experienced a very long boom episode and followed by a sharp and again prolonged bust in the prices of homes in many parts of the world. Before the bust that started in year 2007 the perception of a seemingly endless housing boom was widespread.

Many policy related reasons, like low interest for a prolonged time period, have been put forward in order to explain these significant and prolonged price swings. The tax deductibility of mortgage payments in the U.S. is another frequently cited distortion. A legal system that facilitates 'strategic defaults' or so called 'jingle mails' in case of negative equity is a third commonly cited reason. Presence of adjustable rate mortgages is a fourth frequently cited culprit.

But in fact in many different countries without such legal structures or economic policies, we observe similar prolonged boom-bust cycles in their housing markets as well.

The natural question then becomes whether there is a more fundamental structural economic reason that produces these cycles, a reason, which is not captured by the economic models of housing that we currently use.

In his 1990 paper titled ‘Speculative prices and popular models’ Robert J. Shiller[1] brings to our attention the observation that the economic theorist’s understanding of ‘equilibrium in the housing market’ is not shared at all by the man on the street.

Prices rise because there is ‘shortage of supply’ is the typical answer when people with little economic training are asked about the reason behind endured periods of price increases. But we, economists by training, know (!) that prices always adjust so that demand and supply are always equal to each other. But then given what has been and currently is happening in the housing market, could it be true that it is in fact *economic theory* that is missing something that the man on the street actually *knows*?

The answer is NO for economic theory in general, but YES in particular for the Marshallian models of housing demand. The Marshallian partial equilibrium model is missing two significant aspects. The first important aspect that is missing is the presence of rental contracts that obviously avoid immediate price adjustment for rents. Second is the possibility a housing demand curve that may be positively sloped at some range of prices.

The first aspect may give rise to a temporary disequilibrium and a mismatch between demand and supply for a relatively long period. The second aspect may give rise to the presence of more than one equilibrium house price. If you have more than one equilibria, we know that necessarily at least one of them turns out to be unstable.

But can a demand curve ever be positively sloped. Marshallian partial equilibrium theory says no, while general equilibrium theory admits this possibility. The intuition is the income effect that comes with higher prices, in case there is a group of people specialized in providing housing services.

Thanks to general equilibrium theorists like Kenneth Arrow, Leonid Hurwicz[2] and Frank Hahn[3], we know since 1958, although we usually tend to forget, that

[1] Shiller R. Jr. (1990), “Speculative Prices and Popular Models”, Journal of Economic Perspectives 4:2, 55-65.

uniqueness and stability of competitive general equilibrium is an almost impossible luxury to have. Uniqueness and stability of equilibrium hinges upon a condition called 'gross substitutability'. This condition basically requires all goods to be highly substitutable with every other good in the economy. This is something very unlikely to be true, if not impossible.

Let us take housing as an example. Can anyone conceivably substitute housing services for items like food and energy? Not very likely.

If not, and if in addition there is a high degree of specialization in provision of say food items (or energy items) versus housing services, a simple algebra shows that three rather than one price that equate demand and supply is a possibility. We go through this exercise with my coauthor Ismail Saglam in a recent Central Bank working paper, which is now available on our web site[4]. Out of the three market clearing prices the lowest and highest ones turn out to be stable, while the one in the middle is unstable. The range between the two stable equilibria depends on two things: the extent of specialization and degree of substitutability between housing and other goods. [On roots of housing bubbles see Başçı and Sağlam, 2008].

This has an interesting implication. Extreme specialization that usually comes together with trade and capital account liberalization may indeed be the fundamental structural reason for higher amplitude of worldwide housing cycles.

On the other hand, thanks to economists like Olivier Blanchard[5], Nobuhiro Kiyotaki, Guillermo Calvo[6], and Gregory Mankiw[7] among many others who reminded economists in the 80s of various reasons for the presence of 'sticky prices' and the

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[2] Arrow K.J. and L. Hurwicz (1958), "On the Stability of the Competitive Equilibrium", Econometrica 26, 522-552.
[3] Hahn F.H. (1958), "Gross Substitutes and the Dynamic Stability of General Equilibrium", Econometrica 26, 169-170.
[4] Başçı E. and İ. Sağlam (2008), "On Roots of Housing Bubbles", CBRT Working Paper No. 08/03 http://www.tcmb.gov.tr/research/discus/WP0803ENG.php.
[5] Blanchard, O. and N. Kiyotaki (1987), 'Monopolistic competition and the effects of aggregate demand'. American Economic Review 77, 647-66.
[6] Calvo, G. A. (1983), "Staggered Prices in a Utility-Maximizing Framework," Journal of Monetary Economics 12, 383-398.
[7] Mankiw, N. G. (1985), "Small Menu Costs and Large Business Cycles: A Macroeconomic Model", The Quarterly Journal of Economics 100(2), 529-537.

macro economic significance of this stickiness. In the housing market the presence of ‘rental contracts’ is an obvious natural obstacle against immediate market clearing.

Indeed a careful look at the subitems of the consumer price index in the U.S., or elsewhere, shows prolonged periods of real rent increases as well as decreases. The price adjustments here are indeed observed not to be rapid at all.

In short it is not economic theory itself but the linkage between sophisticated general equilibrium models that admit multiple equilibria and the speedy advice needs of policy makers fulfilled by rather simplistic models seems to be the weakest link in this case. As Robert J. Shiller has clearly demonstrated several times in his research, economic data usually do not match with predictions of overly simplistic theories.

It once again became obvious that we need a lot more theoretical and empirical work in order to reach a better understanding of the global economy that we all live in today.

Thank you.