Housing, economic growth and poverty: a literature review

Abstract

This paper reviews literature on the relationship between housing finance, economic growth and poverty. While it is evident that housing construction creates jobs, the review reveals that there is a need for more research to determine the long-term economic benefits of housing and whether housing finance in particular can be an effective tool in eradicating poverty. The limited evidence is due in part to limits in data and the need to utilize robust econometric techniques to determine the direction of causality in these relationships (i. e. does increased economic growth lead to increased demand for housing and hence housing construction and finance or does housing construction and finance lead to increased economic growth and lower poverty). Though little direct evidence was found, the financial deepening literature suggests that as housing finance deepens financial markets, it may play a role in poverty alleviation. This relationship should be investigated further.

1. Introduction

While the focus of this review is to summarize empirical evidence regarding the relationship between housing, economic growth and poverty, there is considerable stylized and anecdotal evidence that makes a case forhousingas a prescription for poverty. This literature is extensive although recent books on eradicating poverty in the developing world say very little explicitly about the role of housing. The End of Poverty by Jeffrey Sachs (2011), states that most would accept that fact that schools, clinics, roads, electricity, ports, soil nutrients, clean drinking water; and the like are the basic necessities for a life of dignity and health, as well as for economic productivity. Sachs goes on to delineate the strategy for ending extreme poverty by 2025. While he mentions key investments in people and in infrastructure, he does not explicitly mention housing. The same can be said of Banerjee and Duflo (2011) and Karlan and Appel (2011). Perhaps there is an underlying assumption that housing is necessary. Perhaps, housing is considered part of the infrastructure that they refer to. Or, perhaps the underlying belief is that economic growth will lead to better housing conditions. At any rate, a specific consideration of the impact of housing on poverty is not given in these recent books on the subject of eradicating poverty in this millennium. This is representative of what was discovered upon reviewing the empirical literature on this issue.

Some authors assert thathousing loans and finance are needed but do not provide economic analysis toback this claim. For example, Bunnarith(2004) in discussing national housing policy in Cambodia asserts that " housingis needed so that people can have a safe and secure environment." There is no discussion in his policy paper ofthe true economic impact of housing construction or finance on economic growthor poverty reduction. Similarly, Habitatfor Humanity specifically acknowledges that housing is necessary to eradicatepoverty. In ' Consequences of PovertyHousing,' Habitat for Humanity asserts that the lack of suitable housingcreates disadvantages at many levels. Itis seen as interfering with a household's ability to break out of povertybecause so much of the household's time and money is spent on house maintenanceand repairs and not on food, health, education and income generation. Due to a lack of suitable housing, there isless efficiency arising from illnesses, inability to educate children and aninability to provide a safe and secure environment for economic endeavors. These are testable implications but littlehas been done to document these losses empirically, likely due to datalimitations. Some evidence is found andlisted in the education section.

While there is quite a bitof literature on the interactions between GDP and housing investment, there issurprisingly little evidence documenting the relationship between housing, economic growth and poverty. One reasonfor the limited evidence is limitations in quantity of data in developing countries, especially the poorest ones, Hull (2009). A second reason for the limited evidence is that it is difficult todetermine the direction of causality between economic growth and housing. Thereis a need to use general equilibrium models which are not easily tested withthe available data in the developing countries. Data limitations are particularly severe when trying to test theserelationships in the poorest of the developing countries. Finally, macroeconomics and housing financewere not studied in depth in economic literature prior to the 1980s, even for theU. S. When studies were done theytypically looked at housing demand as a function of income and growth not theimpact of housing on economic growth, see Leung (2004). Even if where there is analysis of housingfinance in developed countries, it may be difficult to make direct inferencesabout relationships between housing and economic growth in developing countriesusing those results because so many other factors are at work including financial sector development, government involvement and types of housing.

With these limitations in mind, there is some information that may be useful in analyzing the impact of housing finance on economic growth, job creation and poverty. The impact of housing on economic growth, in developed and some developing markets is highlighted in the next section. Next, there is a review of the impact of housing on job growth. The third section reviews what is known about the impact of housing and housing finance on job creation. Section four reviews the impact of housing finance on poverty. Some inferences in that section are based on studies of financial market development on poverty. Section five examines potential social and revenue consequences of housing. Finally there is a summary of findings in section six.

2. Housing and Economic Impact

Housing and Economic Growth:

Hongyu, Park and Siqi(2002) recognize the causality dilemma when studying housing investment andeconomic growth. They use Grangercausality tests to study the case of China from 1981 – 2000. This study does not address the povertyimpact it just studies housing and economic growth. The authors find that compared to non-housinginvestment, housing investment has a stronger short-run effect on economicgrowth. They also find that housinginvestment has a long run impact on economic growth but not on non-housinginvestment. On the other hand, economicgrowth has a long run impact on both housing and non-housing investment. These findings suggest that housing isimportant in explaining only short-term economic cycles in economic growth.

Chen and Zhu (2008) alsostudy the long- and short- run relationship between housing investment andeconomic growth in China. The authorslook at panel data from 1999 through 2007. They use robust econometric tests to examine

Granger causality of therelationship and find that the relationship is bidirectional in both short –and long- run. In other words, in Chinaduring this period, housing investment impacted economic growth and viceversa. It will be interesting to see ifthis result holds over a longer period where more economic cycles are includedin the data. Interestingly, therelationship is different depending on which provinces are analyzed. The eastern provinces show bidirectionalcausality like the overall results but results for other provinces indicatethat GDP granger causes housing investment but not vice versa.

In addition to theempirical analysis of the relationship between housing and economic growth, there are some estimates of multiplier effects associated with construction indeveloping countries. For example, Uy(2006) cites that for every 1 peso spent on housing activities in thePhilippines, an additional 16. 61 pesos is contributed to the GDP. In Argentina, Freire, et. al (2006) estimatethat a 1, 000, 000 peso investment in construction leads to 1. 8 times that amountin demand. In 1995, a United Nationsstudy indicated that in most developing countries construction of low- incomehousing is labor intensive and therefore housing construction has a highmultiplier effect of between 2 and 3 times the initial investment. This arises due to the large infrastructureinvestment (roads, utilities, water, etc.) required in housing development inthose countries. . In comparison, The National Association ofRealtor's model suggests that the multiplier for home sales in the U. S. isbetween 1. 34 and 1. 62.

Erbas and Nothaft (2002)study a sample of MENA (Middle Eastern and North African) countries. Using parameters from the U. S. they simulatethe impact that improved home mortgage availability would have on housingmarkets and economic growth in these countries. They find that mortgage market reforms would increase housing unitsbuilt by 10% with a 600 basis point decline in mortgage interest rates. The impact that the increased mortgageaccessibility and housing would have on economic growth is not significanthowever. That is because they find, likeother studies, that increased investment in housing “ crowds out” investment inother sectors. The impact on overallgrowth will be greater if this housing finance helps to improve small businesscredit.

Housing Finance and Affordability

Dübel (2007) proposes a model where housing prices aredetermined by rents, R, growth, g, and the opportunity cost of capital, k, where

P = R/(k – g).

The role of housing finance in this model is to reducethe cost of capital. As that cost islowered, housing prices fall and affordability of housing increases.

Housing and Savings

Buckley (1996) cites several reasons that mortgage market development can improve household savings. First, the return to housing will likely provide positive returns especially in light of rapid urbanization in developing countries. Second, housing provides the most secure collateral against market fluctuations and a positive yield over the long-run. Third, housing prices are less volatile than other asset prices. Fourth, the availability of housing improves labor mobility and therefore employment potential. Finally, the availability of affordable housing finance may lead to increased savings as potential homeowners save to make the required down payment and to maintain their asset.

While many of the work in this area suggests that there should be benefits to overall savings and investment arising from increased access to affordable housing, the literature does not appear to have documented these benefits empirically. This is an area rich for further exploration.

3. Housing and Job Creation

The Case of the United States

Wardrip, Williams andHague (2011) review the literature on the role of affordable housing inparticular, in creating jobs and stimulating local economic development in theU. S. They find that the development ofaffordable housing increases spending and employment in the surroundingeconomy. There are several models usedin the housing literature that use “ inputs” such as information on the purchaseand production of goods and services for hundreds of U. S. industry sectors, thetype and number of businesses in a given community, and a measure of thespending associated with a given program. Given these inputs, the models “ output” the level of economic activityexpected for a given level of housing investment. For example, the National Association of HomeBuilders uses a proprietary model to estimate the impact of building 100 newlow-income housing tax credit developments for families. The model predicts that the investment will, on average, lead to the creation of 80 new jobs from the direct and indirecteffects of construction and 42 jobs supported by the induced effects ofincreased spending. In the long-term, building these units also leads to 30 new jobs that support on-going consumeractivity of the new residents. Market-rate apartment housing will create a similar amount of jobs withjust a couple of additional jobs (32) supported by households occupying the newhomes. Of course the models aredependent on the productivity of investment within the community and wouldlikely look very different across countries being considered. It will depend significantly on the amount ofskilled labor available for the construction work since 70% of the jobs createdas a direct or indirect result of the new construction, are in factconstruction jobs.

Rural vs. Urban

In support of the findingsabove, in considering the impact of housing development on a rural community'seconomy, the Housing Assistance Council states that housing construction andrehabilitation have a high ratio (62. 3%) of value-added to gross outlays. This means that a large percentage of theoutlay for housing construction is available to create wages and salaries, andstimulate job growth in rural economies in the U. S. The document does not compare the ratio forrural communities with that in urban communities. This is an important distinction since mostof the growth in developing countries centers around urban areas. Quigley (2008) suggests that results on therelationships between investment and economic growth may be dependent onwhether that investment is rural or urban. The author finds that urbanization promotes productivity due to increasesin specialization, centralization of knowledge, complementarities in productionand economies of scale and scope. Ifthis is true, an investment in an urban center may produce greater economicgrowth than that same investment in a rural area. This will be an important factor in directinghousing policy and finance.

Housing and Jobs in Emerging Markets

In emerging markets thereis some data on job creation as well as the previously cited multiplier effectsassociated with construction. For example, in Argentina, Freire, Hassler, et. al (2006) estimate that a 1, 000, 000 pesoinvestment in construction creates some 40 jobs directly and 20 jobs indirectlyfrom services and related industries. Tipple(1994) cites numerous studies that find multiplier effects from housinginvestment. For example, the NationalBuilding Organization in India estimates that a $1, 000, 000 investment inbuilding construction leads to 600 on-site jobs and 1, 000 indirect jobs. The construction process may stimulateeconomic growth through backward linkages (e. g. processing building materials)and forward linkages during and after the construction process (e. g. restaurants, repair shops and small scale manufacturing). However, according to Erbas and Nothaft(2002), housing construction in some developing countries is actually quitecapital intensive and reliant on imported materials; as a result only a smallpercentage of the labor force of these developing countries is employed inconstruction. In addition to the constructionrelated jobs, Dübel (2007) finds apositive correlation between financial and real estate related services and thehousing to GDP ratio. Specifically, during the property market upturn in Hong Kong in the 1980s and early 1990s, adoubling of the housing market share of GDP led the share of financial, insurance, real estate and business services to triple from 6. 5% to 16. 3% ofGDP. Other service sectors, includingcommunity, social and personal services also grew, likely as a result ofindirect inputs to construction activity as well as increased taxrevenues.

4. Housing and Its Impact on Poverty

The literature on therelationship between housing and poverty is much smaller than that on housingand economic growth. Hull (2009) notesthere are significant data limitations especially on headcount poverty andlabor market outcomes. These data limitationsmake testing difficult. There is aparticular need for data in sub-Saharan Africa. Some findings can be noted and they suggest that all housing investmentis not created equal when it comes to addressing poverty. Some of these studies are highlighted here.

Gutierrez *et al* .(2007) find strong evidence that the sectoral pattern of growth and itsemployment and productivity-intensities matter for poverty reduction. Whileemployment-intensive growth in the secondary sector (manufacturing, construction, mining and utilities) is correlated with poverty reduction, employment-intensive growth in agriculture is correlated with increases in thepoverty headcount. By extension, ifhousing creates growth in manufacturing, construction, mining and utilities, itmay be effective in reducing poverty. Similarly, Hull (2009) finds the construction sector is relativelyproductive but not in all countries. That is, construction reduces measures of poverty in some but not allcountries.

Erbas and Nothaft (2002)find that low income housing has a lower import component in production andalso higher labor intensity. Thisimplies that construction of low income housing will lead to greater employmentand growth than the construction of middle or high income housing.

Construction of low income housing caneffectively improve the living standards of the poorer segments of thepopulation in two ways – by creation of jobs and by creation of suitablehousing.

Tipple (1994) reviews theliterature on the links between employment and housing development and showsthat investment in shelter is very effective for promoting employment, especially among lower-income groups; some of the benefits to the economy tendto be inversely proportional to housing cost meaning that low cost housing ismore beneficial to the economy. Theinformal sector and small-scale enterprises tend to outperform the formalsector and larger enterprises.

Housing Policy and Poverty inDeveloping Countries

As housing finance policyis considered, the housing programs and policies of local governments must beaccounted for in order to assess the potential effectiveness of housing financein different countries. For example, Malpezzi and Sa-Aadu (1996) review contemporary African housing markets and policies. They find that resource allocation in thesecountries was quite different than their intended objectives. These policies have discouraged housinginvestment and have been both inequitable and distortional. The authors suggest that privatization ofhousing investment is more efficient and the African governments need to“ disengage.” Taking the example of theU. S., direct government housing production has been less efficient than privatesector tax incentives in developing affordable housing [see Erbas and Nothaft(2002)].

Researchers and policymakers have noted thatthe housing finance systems in some countries have not been effective inreaching the low income segments of the population. For example, Moss (2004) states that in SouthAfrica the housing finance system has had little impact on the low-incomesegment of the population. Specifically,“ attempts to expand credit into this market through micro-loans have been characterizedby initiatives that have yet to demonstrate some form of success.” The financial sector in South Africa consistsof many banks, a number of specialized finance companies and a large number ofthe so-called alternative lenders. Future studies should investigate which of these alternatives is likelyto have success in reaching the lower income segments of the population. According to Moss (2004), housing finance hasalso not been very successful in Nigeria where the gap between income andshelter cost is very wide and has basically eliminated the low income earnersfrom the housing market. Similarly, Rahman(2009) states that the lack of available and accessible housing finance hasbeen identified by the Government of Bangladesh as one of the important hurdlesin improving housing conditions for middle- and lower-income households. Although several potential sources of housing finance for mid- and high-incomeconsumers exist, most of the low-income families’ needs are still unmet.

Housing Finance in Developing Markets

While there are differences in how housing finance occurs across developing countries, there are some similarities and shared concerns. The degree to which a country’s banks invest in mortgage lending is relatively low in developing countries when compared to developed countries. For example, Rahman (2009) cites that in Bangladesh, 4% of banking sector assets are in housing. In many countries there are state funded and/or sponsored housing finance institutions with government guarantees. However, there may be allocation problems in that loans are allocated based on politics and not on financials and the granting process can be long and inefficient. There are not as many types of mortgage instruments and in fact many countries are just beginning to grant fixed-rate mortgages which eliminate interest rate risk for the borrower. The maturity of mortgage loans tends to be shorter in developing countries – 10 years is the maximum term for some mortgages in Bangladesh. In addition to state sponsored financial institutions and banks, home finance is offered by micro finance institutions. In Bangladesh, one such institution offers these loans for a term of 10 years without collateral. Although there is no collateral, the borrower must obtain title to the land and must sign a pledge to repay and obtain a group pledge to repay the loan if he or she fails to do so. These programs tend to rely on a borrowers track record, group pressure and mutual support to control credit risk. Moss (2004) finds similarities in housing finance in South Africa and to a lesser extent, Nigeria, Ghana and Tanzania. In most of these countries, anecdotal evidence suggests that the supply of housing finance is much less than the demand and that the institutional structures have not provided sufficient access to housing for the poor.

Housing, Financial Deepening andPoverty:

One segment of housingfinance is the secondary mortgage market and the creation of mortgageinstruments or bonds. While there hasnot been research on the development of mortgage markets and povertyspecifically, the development of those markets can be viewed as part of anoverall financial deepening of the capital markets in these developingcountries. Financial deepening has beenstudied and it may serve as a proxy for the development of secondary mortgage marketsto the extent that they occur simultaneously. At any rate, the development of a secondary mortgage market would beconsistent with increasing the breadth and depth of the capital market. Therefore, a review of the relationship betweenfinancial deepening and poverty may tell something about the potential impactof mortgage market development and poverty. Consistent with this view, Malpezzi (1999) suggests that much of theworld is shifting from a housing finance perspective, where special circuitsare used to mobilize short-term household deposits for long-term mortgages, toa perspective where housing finance is integrated with broader capital markets.

Buckley and Madhusudhan (1984) test a model ofthe relationship between housing investment and GDP, anticipated inflation, changes in inflation and the extent of capital deepening across severaldeveloping and transition countries. They find that, holding all else constant countries with deeperfinancial markets invest relatively more in housing. Singh and Huang (2011) analyze data from sub-SaharanAfrica between 1992 and 2006. They findthat financial deepening (as measured in part by credit to the private sectoras a percent of GDP) is associated with less poverty and income disparities inSSA countries and that this is most important in early stages of financialdevelopment. Stronger property rightsstrengthen this relationship. Finally, Beck, Demirguc-Kunt and Levine (2004) examine a broad cross country sample of58 developing countries and find that financial development (as measured by theratio of financial intermediation to the private section to GDP) reduces incomeinequality by disproportionately raising the incomes of the poor.

Impact of Financial Deepening on theBase of the Pyramid and Absolute Poor

Singh & Huang (2011) look at different definitions of poverty and examine the impact of financial deepening on them. The measures of poverty include, the headcount index which measures the percentage of the population living with per capita consumption or income below the poverty line, defined as US$1 a day. Another measure is the poverty gap which takes into account the distance of the poor from the poverty line. A third measure is the income of the poorest quintile or average per capita income of the poorest 20 percent of the population. Using each of these measures of poverty and a sample of SSA countries, the authors find that poverty is inversely related to financial deepening. The authors also look at the Gini coefficient which is derived from the Lorenz curve. Larger values of this coefficient indicated greater income inequality. For this variable the relationship between poverty and financial deepening is insignificant. In other words, financial deepening reduces absolute levels of poverty but does not impact income inequality in a significant manner in this sample of SSA countries. This suggests that various definitions should be examined to gain further insight into the relationship between housing and poverty and to capture the impact on the absolute poor.

5. Housing Finance and Revenue and Social Consequences

Government Revenue Links to Housing

Wardrip, Williams andHauge (2011) itemize revenues from housing development in the U. S. Some lessons can be learned from this data. Revenue sources during the construction phaseinclude sales taxes on building materials, corporate taxes on builders'profits, income taxes on construction workers, and fees for zoning, inspections, and the like. Theseestimates presume that the building materials are purchased locally, to theextent the materials are brought in from elsewhere, revenues will of course belower. This is something that willimpact housing construction in IDA countries. Revenues in the model depend on local tax structures, constructioncosts, development fees and whether the local mix of industries is conducive tocapturing construction-related activity. For example, Hangen and Northrup (2010) analyze the effects ofdeveloping and rehabilitating 582 affordable homes in Rhode Island in 2007 and2008 with $25 million in housing bonds. They estimate that the subsequent income, corporate and sales taxes andfees associated with the total economic activity increased state revenues byroughly $16. 7 million during the development period. In an analysis of a proposed Pennsylvaniastate housing trust fund, Econsult (2009) finds that for every $1 million inproposed spending, the state stands to gain $82, 000 in revenue from theconstruction of single family homes; these revenues would be higher if the $1million were spent on affordable multifamily housing.

In addition to immediatefiscal benefits, housing construction also provides on-going benefits to thelocality. On-going revenue sourcesinclude residential property taxes, property taxes from the businessessupported by the residents, and utility user fees. A residential development has a net positivefiscal impact only if taxes exceed the cost of providing services to theresidents. The evidence regarding thenet effect of affordable housing is inconclusive. However, there is evidence to suggest thatmarket-rate housing provides net positive fiscal impact (National Associationof Home Builders, 2009).

Political Stability and Housing

There is a presumptionthat housing improves political stability. So far, no evidence has been found to indicate that this is truealthough it is a stylized fact. Provisionof housing is international law. Sachs(2011) reminds us that it's a right granted in the U. N. Universal Declarationof Human Rights as follows:

Everyone has the right to a standard ofliving adequate for the health and well-being of himself and of his family, including food, clothing, housingand medical care ...

There may be indirect support to the extent that therehas been evidence to indicate that housing improves education and education isbelieved to improve political stability (see evidence in next section).

The relationship betweenpolitical stability and housing may go in the other direction. In other words, political instability canaffect the housing market. According toTu and Bao (2009), instability may weaken investor's beliefs in propertyrights, putting the investors in fear that part of the investment may be lostdue to poor protection. Therefore, investors may pay less for the property rights when facing politicaluncertainty. Their study uses 10 yearsof data from Hong Kong and Singapore where there were differences in politicalscenarios but similar land lease structures and property cycles. The empirical evidence supports the idea thatpolitical instability lowers property rights premiums.

Education and Housing

To the extent that housingimproves homeowner's borrowing capacity, housing finance could lead to moreinvestment in human capital. Sinceinvestment in human capital may require an individual to borrow money, andborrowing money is costly, to the extent that housing finance lowers the costof borrowing, it should lead to larger investments in human capital. Many authors [starting with Becker (1975) andAtkinson (1975)] studied the link between investment in human capital andwealth distribution. An implication ofthese models is that income inequality will decrease as access to financeimproves.

Some studies havedocumented a link between housing and education. To the extent that housing finance improveshousing affordability for the poor, housing finance may improve educationopportunities for the poor. Jacoby(1994) finds that lack of access to credit perpetuates poverty in Peru becausepoor households can't afford to provide their children with appropriateeducation. Jacoby and Skoufias (1997)find that without access to finance, shocks to income cause poor families todiscontinue schooling for children. Housing provides an asset that can be used to smooth shocks to income.

If housing indeed improveseducation opportunities for children of the poor then by extension housing willimprove political stability. Sachs(2011) in explaining why governments should provide education, quotes AdamSmith who said, " An instructed and intelligent people … are more disposed toexamine, and more capable of seeing through, the interested complaints offaction and sedition…therefore, the whole society is at risk when any segmentof society is poorly educated."

6. Summary

A review of the literaturepertaining to housing, economic growth and poverty reveals that much moreresearch is needed in order to determine the true economic benefits of housingand whether housing finance in particular can be an effective tool ineradicating poverty. The paucity ofevidence is due in part to limits in data and the need to utilize robusteconometric techniques to test for the direction of the causality in theserelationships. In other words, moreresearch needs to explore whether housing construction leads to economic growthor economic growth leads to increased demand for housing and by extensionhousing finance. Although there islittle direct documentation that housing finance improves economic standing orliving standards of the poor, some inferences can be made from the relatedliterature. The most promising evidenceis found in the financial deepening literature where it has been shown thatimprovements in financial markets are associated with reducing absolute levelsof poverty. To the extent that financialdeepening improves with the development of mortgage markets, then housingfinance may also be effective in reducing poverty. In addition, there appears to be solidevidence that housing construction produces jobs – directly and indirectlythrough the supporting service industries. Housing is also shown to improve prospects for education and thus mayreduce income inequality. Evidenceindicates that there is no one size fits all relationship between housing, economic growth and poverty. Althoughevidence shows that housing investment impacts economic growth, thatrelationship varies within countries and over time.

While not explored in depth in this review, there are some concerns regarding the impact of housing on economic development and poverty. For example, due to considerable transactions costs, some suggest that housing may reduce job mobility. In addition, while housing construction may create construction related jobs, there is a question as to whether that just crowds out investment in other sectors of the economy. Housing finance while improving access to housing, may also increase opportunities for speculation and may lead to large booms and busts and housing cycles that may negatively impact the economy in the longer run. These and other concerns should be explored further to determine their significance.

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