



Urban land-use regulations and housing markets in developing countries: Evidence from Indonesia on the importance of enforcement



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ABSTRACT

Standard urban economic theory suggests that stringent urban land-use regulation leads to higher housing prices due to both direct impacts on costs and a reduction in the price elasticity of supply. Indonesia has one of the most restrictive land registration and construction permitting systems in Asia, yet housing is affordable, rates of household formation are high, and housing supply is relatively elastic. This paper explores the relationship between land use regulations and housing markets in Indonesia through various analyses; an overview of 90 cities, a direct assessment of the relationship in 15 cities, and detailed case studies of two medium-sized cities. Regulations do impact the production of housing in Indonesia, but they do not affect housing markets in the predicted way because of their flexible enforcement and a widespread and dynamic informal housing-production system. The main impact of the strict land-use regulations in Indonesia is thus argued to be under investment in physical infrastructure related to housing; a substantial detriment to urban development and economic growth. The case of Indonesia demonstrates the importance of regulatory enforcement and local context in the analysis of land use regulations.

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Introduction

The behavior of Indonesia's urban housing sector appears to challenge a large body of economics literature on the relationship between urban land-use regulation and housing markets. Theoretical and empirical evidence in this housing economics literature shows that strict land-use regulations leads to high housing prices through a direct impact on costs and a reduction in the price elasticity of supply. Given that Indonesia has one of the most highly restrictive land registration and construction permitting systems in Asia, we expect housing markets to be tight and housing costly. However, the opposite seems to be the case. Survey data show that, by international standards, affordability is not a large problem in Indonesia (Hoek-Smit, 2008). Age-specific rates of household formation are quite high when compared to nearby countries. Housing supply in the medium run is relatively elastic to price and responsive to population growth. Indonesia has a lower share of its urban population living in slums than neighboring countries do, evidence of its functional housing market (UN Habitat, 2003). Even within the country, the more tightly regulated urban housing markets do not have higher prices on average.

The explanation for this discrepancy is straightforward, but has important implications for academic work and housing policy in developing countries. The case of Indonesia demonstrates the limitations in existing research on the impacts of land-use regulation in countries where there is a lack of, or inconsistency in enforcement of regulations. The data analysis and case studies presented here demonstrate that in the Indonesian housing development system, regulations are applied in a 'flexible manner' – in turn showing that high levels of housing affordability can co-exist in a climate of strict *de jure* land use regulations.

In some ways these observations are not new. Indonesia has long been noteworthy for its dynamic informal housing sector, which allows for families to secure housing outside of the formal system (De Soto, 1986; Struyk et al., 1990; Leaf, 1993). In addition, Indonesia has substantially lower rankings on "regulatory quality" and "control of corruption" in the World Governance Indicators (World Bank, 2006) than comparable countries, such as Thailand, Malaysia, or the Philippines. More recent data and the analysis presented here show that informal, self-built housing continues to constitute the majority of new housing starts in Indonesia. In some respects informal urbanization in Indonesia also fits into frameworks developed by those studying China's land rights systems (Ho, 2001; Hsing, 2006), where it is argued that the ambiguity over land rights is a deliberate urban governance tactic that allows local levels of government greater control over the urbanization process as well

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as potentially allowing them to profit at the expense of peri-urban farmers.

There is a large body of research on the topic of housing informality. The majority of this work focuses on understanding the reasons for the informality phenomenon and potential equity problems with it (Portes et al., 1989); or interpretations of informality as a mode of urban governance in developing countries or as a dominant urban organizing process (Tabak and Crichlow, 2000; Roy, 2005). It remains important to assess the impacts of land-use regulation on housing markets in Indonesia and other countries where informality is prevalent. In the international policy advising arena, the empirically tested conceptual models from the United States and International Financial Institutions (IFIs) often continue to be applied. For example, the World Bank's enabling housing policy strategy (1993) and related research (Angel, 2000), remain important frameworks emphasizing the potential importance of regulations as a constraining factor in housing production and a detriment to housing affordability.

The implications of this study are therefore twofold. First, it draws attention to a limitation in international research on land-use regulation and housing markets, particularly in developing country urban settings. The case of Indonesia does not fit existing theory and thus merits attention. Although strict regulations in Indonesia are not associated with costly housing, the non-price impacts of the regulatory system on the housing sector should be studied. It is probable that the under investment in urban infrastructure in Indonesia that stems from self-build construction, which in turn results in part from strict regulations. Indonesia has lower rates of access to water and sewerage infrastructure than comparable countries like Malaysia, the Philippines, Vietnam, or Thailand (World Bank, 2009). This lack of formal urban infrastructure is argued to undermine human development and the potential benefits from urban agglomeration (World Bank, 2011).

Nonetheless, within Indonesia, the paper provides evidence that *de jure* land-use regulations are actually extremely stringent. Housing development companies and informal house builders interviewed as part of two city case studies – in Semarang and Manado – described a series of cumbersome and complex procedures as well as large unofficial fees that can occasionally be higher than the cost of land itself. Moreover, it must be recognized that informality as a solution to strict regulations will not always lead to a well-functioning housing market and in many countries it does not. More work on why Indonesia's housing sector works in spite of strict regulations is needed.

The paper draws on several sources of data to analyze urban land use regulations and housing markets. A review of international literature highlights the important but often overlooked element of enforcement and then Indonesia's land administration and land-use regulation system is described. Results from empirical analysis of data on housing production and regulation from a large number of cities in Indonesia are presented as well as detailed case studies of the regulatory context and housing markets in two cities – Semarang and Manado.

These cities were chosen because they are representative of medium and large cities in Indonesia. In particular, the median household incomes in both the case settings are close to that of comparable Indonesia cities, but also because in terms of housing markets, they have better than average outcomes. For example, Semarang has much better housing quality than comparable Indonesian cities and higher rates of access to infrastructure, while on the other hand Manado has a very high household formation rate and a housing market that is very responsive to population growth. In both cities we conducted interviews (in December, 2010, and January, 2011) in each city with developers, informal house builders, village and neighborhood leaders, local offices of BPN, and

local governments to understand how the regulatory system affects housing production.

Literature on urban land-use regulation and housing markets

Urban land-use regulations are the diverse range of rules and requirements governing housing and urban development, such as growth management or urban containment (Dawkins and Nelson, 2002); height restrictions and plot ratios (Bertaud and Brueckner, 2005); the length and cost of the permitting process (Malpezzi and Mayo, 1997); standards on plot size or infrastructure (Dowall, 1992); or the number of approvals required for a project (Kok et al., 2010). It has been long theorized that excessive land-use regulations negatively impact housing markets in two ways. First, they increase the price of finished housing directly through fees and indirectly by making the housing-production process take longer or by imposing minimum standards, which leads to developers charging higher prices for finished housing (Malpezzi and Mayo, 1997). Second, regulations reduce the price elasticity of housing supply, both lowering the steady state level of construction and reducing market responsiveness to demand shocks (Mayer and Somerville, 2000). Thus, given two cities with otherwise similar conditions, less development is expected to occur where regulations are nominally stricter and thus housing will be more expensive.

In recent years, empirical tests of the relationship between land-use regulation and housing markets have not rejected the hypothesis that cities with strict regulations on land-use and development have lower supply elasticities and higher prices (Saiz, 2010; Glaeser and Ward, 2009; Kok et al., 2010; Hilber and Vermeulen, 2010; Jaeger et al., 2012). However, due to data requirements, these econometric tests have been carried out only in the United States and the United Kingdom, where enforcement of land use regulations can be reasonably assumed to be consistent. Yet in many countries, this is not the case. There is no econometric test of the economic theory regarding land-use regulations and housing markets in places without strict enforcement. The empirical work in developing countries is mostly limited to a single case analysis (Green et al., 1994) or comparison of a handful of cities or countries (Malpezzi and Mayo, 1997; Dowall and Monkkonen, 2007), and theoretical models that do not consider enforcement have generally been upheld.

However, in places where strict land-use regulations are not enforced, their impact on housing markets is not clear. The most commonly observed impact of stringent regulations without enforcement is that households acquire housing outside of the legal system, through squatting or simple illegal land subdivision (De Soto, 1986; Dowall, 1992; Duranton, 2008; Biderman et al., 2008; Brueckner and Selod, 2009). Informal housing development has been rightly characterized as both a problem and a solution (Mangin, 1967) – it can provide households with affordable shelter, but this shelter can be unsafe structurally, or located in unhealthy and environmentally vulnerable areas. Informal housing is also often conflated with the incremental production process, a self-managed process through which houses are built in stages (Keivani and Werna, 2001). However, legal status and housing production processes have different causes and generate distinct problems.

Informality has been a vibrant topic of scholarly work for decades, originating with work on employment (Hart, 1973). Yet much of the research on informality focuses on its causes, motivations for actors involved, and the implications for understanding urban life, rather than the impacts on markets. For example, Gilbert (1990) discusses the multiple reasons governments are averse to altering laws which they are unable to enforce in the context of housing and urban development. Often, however, it is not an

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