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The emergence of large-scale housing programs: Beyond a public finance perspective

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ABSTRACT

Over the past decade there has been a sudden, extraordinarily large, and simultaneous expansion of multi-billion dollar housing programs in many emerging and developing economies. This shift occurred after a long period of limited public involvement in social housing production. Yet, despite the fact that countries and cities have introduced such large-scale programs, there has been little independent analysis of the rationale, efficacy and potential long-term effects of these interventions. Adopting a perspective that expands beyond typical public finance approaches, this paper examines the renewed shift in public housing provision. It provides an outlook of recent experiences in housing provision, showcases general trends in housing, proposes an evaluation framework, and offers a series of recommendations aiming at strengthening the programs. The paper concludes that if large-scale housing assistance is to help accommodate the almost 2 billion additional people who will live in cities over the next 35 years, as well as help to address the growing housing affordability issues, much more attention should be paid to the lasting effects that such programs can have on the structure of cities for generations to come.

1. Introduction

Over the past decade there has been a sudden, extraordinarily large, and simultaneous expansion of multi-billion dollar housing subsidy programs in many developing and emerging economies. All of the so-called BRICS – Brazil, Russia India, China, and South Africa – as well as Angola, Argentina, the Democratic Republic of Congo, Ethiopia, Rwanda, Mexico, Indonesia, and Sri Lanka, have initiated new large-scale housing programs. This expansion occurred after a long period of limited public involvement in social housing production, a period during which housing policy had "lost its voice" (Angel, 2000:3). Today, years after minimal and decreasing resources for housing, new programs call for significant investments through mass production and the adoption of industrial approaches, an orientation that recently has been supported by leading think tanks such as the McKinsey Global Institute (2014).[1] Certainly, this shift reveals both a reaction to the past failures in delivering affordable housing, and a renewed interest of governments to address the growing housing deficit in the rapidly transforming urban South. But whatever the particular motivations are, this change in the housing paradigm creates several interrogations as to the explicit objectives and implicit consequences of these policies.

Historically, public provision and mass production of social housing, mainly in OECD countries, have left a mixed legacy.[2] In some cases, such as in New York, the housing produced was of higher quality, a result of well-designed policies; in other instances, public housing has left a grim heritage. Perhaps the most striking symbolic image of such failures came with the demolition of the Pruitt-Igoe housing complex in St. Louis, Missouri; what initially was hailed as an innovative housing solution, twenty years later transformed into an urban dystopia. In the Global South, past efforts in public housing provision, although not as widely implemented, have had equally mixed results with successes, such as those in Thailand, but also important failures; the proliferation of slums being a direct result of the incapacity to deliver adequate and affordable housing at the rapid pace of urban growth. In this light,

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[1] The McKinsey report also recommends greater reliance on provident and pension funds to finance housing and the use of tradable development rights on a large scale. The former make use of the savings of pensioners to provide lower-interest rates to mortgage borrowers by reducing the return to retirees. The latter allow higher height limits on buildings in return for the provision of low-income housing. It entails the removal of one distortion in return for a seemingly costless provision of subsidies.

[2] For a discussion of U.S. programs see, among others, Quigley (2007) and Rybczynski (1995). For an analysis that emphasizes the French and UK experience, see Cupers (2014).

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today's rollout of large-scale expensive housing programs, even if it is unquestionably a worthwhile goal, should give us pause: is history simply repeating itself, with the mistakes of the past, particularly in the early days of public housing looming over today's policies in emerging and developing economies? Or are the conditions in the emerging countries where mass-housing production is currently implemented so radically different that we now have more reasons to be optimistic about the recommended approaches?

In an attempt to answer the questions above, this paper examines the trend in large-scale housing production. Its purpose is to briefly present the different experiences and contribute to the discussions on how to design interventions that work – while avoiding those that do not. Studying these programs in this particular moment in time is crucial for several reasons. First, due to the long-term effects of housing policies for the cities' development: as Bloom (2008), Quigley (2007) and Rybczynski (1995) indicate, many policy beginnings can be very costly and indeed may produce adverse effects that are lasting and difficult to change. Yet, there has been little independent analysis considering the rationale, efficacy and potential long-term effects of these interventions. Second, due to the importance that housing holds in shaping what Angel (2012) refers to as a ten-generation urbanization project, a process that will be completed over the next two generations. Finally, due to the intensity of the urbanization process in the Global South, characterized by a demographic shift to cities, which is more than nine times larger than the increase that occurred in the North in the two hundred years prior to 1950 (Pieterse, 2008).

The paper is structured as follows: a first section provides a brief background on the emergence of large-scale housing programs focusing on the motivations, characteristics and regional idiosyncrasies as they relate to the management of urban areas; section two, develops a public finance evaluative framework, through a set of criteria in order to assess and compare the programs studied; section three offers a critical discussion of the programs and puts forward a number of recommendations to address the affordability challenge. Given the number of the programs studied and the fact that many of these programs are relatively recent, the comparison privileges the examination of the shift towards large-scale housing production and its implications on the development of urban areas at the cost of a more detailed analysis. This approach is a conscious one, as we believe that at this early point in the implementation of these programs, a systematic yet loose comparison can help inform future in-depth analyses of the performance and challenges of the programs.

2. Emergence of large-scale programs: motivations and characteristics

In order to decipher the reasons behind the sudden shift in housing policy, one has to look at both larger contextual reasons, and, particular motivations within different countries. These motivations vary across time and space. Some of the current policy efforts in housing were designed to serve as counter-cyclical programs, others to address the problems posed by rapid urbanization, still others deal with the legacy of an urbanization process that has left many under-provided or without any access to formal housing and basic services. Even if the links between urbanization and economic growth are known, one should not forget that urbanization is also a disruptive process that has been often accompanied by slum formation (Annez & Buckley, 2009; and Duranton, 2014). Nor are the problems with urbanization a new problem. The Industrial Revolution also witnessed the emergence of slums early on during the urbanization process. In 1844, Engels (cited in Kotkin, 2005) described the squalid and overcrowded housing conditions that Manchester's working class was living under: "… the irregular cramming together of dwellings in ways which defy all rational plan … every scrap of space left by the old way of building filled up and patched over until not a foot of land is left to be further occupied."

Today, cities in the developing world revive analogous images. The challenge of slums persists, with the proportion of slum dwellers being largest in some of the regions – 61.7 percent of the urban population in sub-Saharan Africa-that in the coming decades are expected to experience substantial absolute urban growth.[3]

The shift towards large-scale housing provision can be interpreted as a rectification of past policy and planning interventions which in many cases have been sporadic, uncoordinated and unable to address past and current housing affordability concerns. But, it can be viewed as a signal of the realization that planning ahead is a necessity. As Angel, Sheppard and Civco (2005: 91) note: "the key issue facing public sector decision-makers—at the local, national and international levels—is not whether or not urban expansion will take place, but rather what is likely to be the scale of urban expansion and what needs to be done now to adequately prepare for it …" This stance is very different from previous policy approaches that denied the realities of urban growth and attempted to limit city expansion by neglecting infrastructure provision and perpetuating rigid regulations that reduced housing availability (see Angel, 2000; Arnott, 2009; Buckley & Kalarickal, 2006).

Beyond the wide contextual explanations, there are also idiosyncratic conditions that imply this change in trajectory. As Rybczynski (1995) notes, the public interest in housing that arose in the US and Europe in the post—World War II period was a result of specific events. In the US, he says, it was the years of neglect and the old and insufficient housing stock in cities like New York and Chicago that prompted large-scale housing production. In Europe, public involvement was a necessity in a period of needed catch-up after the destruction of war. Presently, the projected demographic shift to cities over the next eighty years suggests potentially equally severe imbalances in the supply of housing. What complicates things further, is that these imbalances will often occur in the least urbanized countries, the ones that urbanize more rapidly and are still very poor.

Finally, there are particular explanations of why the shift is occurring now and did not occur earlier. The Chinese attempt to move 250 million people into cities over the next years, the Brazilian desire to put a better face on their cities under Luis Inácio Lula da Silva's governments – more recently motivated by the organization of international events such as the World Cup and Olympics – or the South African effort to erase the dark heritage of apartheid planning, all constitute strong motivations for addressing housing issues. Whether or not the ongoing large-scale programs manage to successfully address past legacies, current affordability issues and future expansion challenges or are framed on the basis of political and ideological considerations without taking into account the actual needs of urbanites is an important question. A closer look at the design and characteristics of these programs can provide some preliminary indications as to their potential in creating scaled and pragmatic solutions that address housing affordability challenges.

2.1. Programs operational characteristics

Table 1 presents an overview of the different programs

[3] See more: http://www.un.org/africarenewal/magazine/april-2012/towards-african-cities-without-slums.

Table 1
Housing and upgrading program descriptions and allocations.

Country	Program	Description and characteristics	Allocations in US$
Argentina	Argentina Credit Program (PROCREAR) (2012)	Provision of housing finance assistance for low- and middle-income groups for new housing construction and improvement through loans and subsidized interest rates ranging from 2% to 14% depending on income. The program is funded by the National Administration of Social Security in collaboration with Banco Hipotecario.	3 billion
Brazil	Minha Casa, Minha Vida (MCMV) (2009)	Creation of financial mechanisms to encourage the production or renovation of housing for households with income of up to US$2300/month	26.6 billion (2009–2010) 62.85 billion (2011–2014)
Colombia	Vivienda de Interés Social (VIS)	Objective of building 100,000 homes for low-income families.	Estimated cost of 583 million
Ethiopia	Integrated Housing Development Program (IHDP) (2004)	Focus on low- and middle-income housing provision with the objective of providing 400,000 units. Financed through public resources with regional and city administration purchasing bonds from the Commercial Bank of Ethiopia. .	246 million (2004–2008)
India	Rajiv Awas Yojana (RAY) (2013)	Focus on low-income housing and infrastructure provision. Giving long term, mortgageable, renewable leasehold rights to slum dwellers. Reserving land (15 percent of Floor Space Index or 35 percent of dwelling units, whichever is higher for low-income households); Reserving 25 percent of municipal budgets to provide basic services to the poor.	205 million per year
Mexico	Esta es tu Casa (2007)	Focus on improving access to housing for households earning < US$ 560	26.1 billion (2007–2012)
South Africa	Comprehensive Plan for the Development of Sustainable Human Settlements a.k.a Breaking New Ground (BNG) (2004)	Focus on integration of human settlements and residential property market, social and backyard rental accommodation, and informal settlement upgrading. Focus on the delivery of new fully subsidized units for families earning under US$ 45; Close to full subsidy for households earning up to US$ 308.3	30 billion since 1994. 3 billion since 2011.
Thailand	Baan Mankong (CODI) (2003)	Collective slum upgrading through infrastructure subsidies and housing loans from the government, citywide community development funds with contributions from community cooperatives.	211 million (2003–2012)

Sources: **Argentina:** http://procrear.anses.gob.ar/; World Bank (2006). **Brazil**: United Nations Human Settlements Programme, (2013); http://www.myhousemylifebrazil.com/; http://www.caixa.gov.br/; Vieria (2013). **Colombia:** Inter-American Development Bank (2014). **Ethiopia:** Ministry of Housing, Urban Development and Construction http://www.mwud.gov.et/; United Nations Human Settlements Programme (2011); Keffa (2014). **India:** Ministry of Housing & Urban Poverty Alleviation Government of India (2011) (2014); Gandhi (2012); Jawaharlal Nehru National Urban Renewal Mission (JnNURM) (2014). **Mexico**: http://www.coves.sonora.gob.mx/; Lopez-Silva (2011). **South Africa:** Human Settlements Department of South Africa (2004), (2009); Marais (2010); Aighavboa (2011); Lemanski (2009) **Thailand:** http://www.codi.or.th/; Asia Pacific Housing Journal (2010); Boonyabancha & Mitlin (2006); Usavagovitwong (2012).

considered, based on their overall objectives, features, and allocations. The selection of the programs is such that it provides a global overview through the variety of initiatives undertaken in Argentina, Brazil, Mexico, Colombia, Ethiopia, India, and Thailand. Table 2 presents a series of programs that do not fall under the traditional housing assistance, but nevertheless include an important housing component. We deemed necessary to include a series of new city efforts such as those undertaken by national governments and municipal authorities in Angola, Ghana, Kenya, Nigeria and Rwanda. Although, these attempts encompass various components beyond housing provision, and thus do not strictly constitute housing programs, they are usually motivated by affordability concerns and the lack of adequate housing. Further on, the inclusion of new satellite cities and urban tech hubs in sub-Saharan African countries reveals an emerging trend in urban planning, which has important implications that extend to housing provision, especially for countries that urbanize at low income levels.

Table 3 presents an overview of the subsidies, income and price ceilings as set by selected programs.

A closer look at Tables 1–3 indicates important differences in terms of the range of interventions, the size of projects and investments, the allocative capacity, price ceiling of housing units and the range of subsidy arrangements. This should not come as a surprise. Quigley (2007) rightly argues that housing policies depend very much on history and previous policy. Even if there is an emerging trend towards large-scale provision, countries differ tremendously along many dimensions, which can have important implications on the structure of programs, thus making comparisons complicated. A country with a very limited financial sector is obviously less able to rely upon finance as a policy instrument. Similarly, countries with very low per capita income have very different needs and concerns than do richer, more urbanized places. Hence, there is no simple way to evaluate and compare programs.

In the next section we provide an evaluative framework for the programs studied which distills a series of features that policy-makers can reflect upon as they develop plans for affordable housing. In that sense it offers some basic notions of a public finance perspective, which can be suggestive of how resources may be used most effectively so that more of the intended audience can be better served. In a second sub-section we address larger considerations, beyond the spectrum of public finance, that interact with and affect the outcomes of programs such as land use, regulatory frameworks and the balancing of new housing development with the existing urban stock.

3. Evaluative framework

3.1. The role of public finance and subsidies

The financial design of programs affect important parameters such as efficiency and sustainability. As Angel (2000: 110) notes: “the most important aspect of subsidies is that they can modify and sometimes inadvertently distort, the behavior of consumers and producers by affecting the prices of housing inputs, units and services.” In order to construct an evaluative framework on the

Table 2
Urban master plans and satellite cities in sub-Saharan Africa.

Country	Program	Description and characteristics	Allocations in US$
Angola	Nova Cidade do Kilamba (2013)	Creation of 100,000 houses by the China International Trust and Investment Corporation.	Estimated cost of $3.5 billion
Democratic Republic of Congo	Kiwishi City (2014)	Under "Kiwishi City," Renaissance capital, a Moscow-based investment fund, purchases agricultural land near urban zones, obtains zoning and planning permission, creates infrastructure and then sells land parcels to private developers.	Estimated cost of 758 million
	Kin-Oasis (2011)	"Kin-Oasis" is set to build 1100 social houses in Kinshasa through the Chinese company Zhen GweiTechnique Congo (STZC).	
	Un Toit pour Chacun (2012)	"Un Toit pour Chacun" is a Action pour la Solidarite et le Developpement (ASODEV)" announced a plan to build 3080 social houses in Kinshasa.	
Ghana	Appolonia 'The City of Light' and King City	Moscow-based Renaissance Capital is funding the creation of two new cities, which will are projected to provide housing for 90,000 and 78,000 persons respectively.	Combined cost of $ 1 billion.
Kenya	Tatu City	Private city, designed as a mixed-income environment for 70,000 residents and 30, 000 day visitors. The project is financed by Renaissance Capital.	Estimated cost 2.6 billion.
	Konza Technology City	Designed as a technology hub of education, and knowledge workers. Creation of housing and infrastructure for 30,000 residents, 7500 knowledge workers, and 16,700 total workers, spread over 2000 ha.	
Nigeria	Eko Atlantic City	Planned city which will provide accommodation for 250,000 residents, as well as a workplace for an additional 150,000.	Estimated total cost$6 billion
Rwanda	2020 Kigali Conceptual Master Plan	The plan was designed with the objective of counteracting urban growth and features a decentralized city with satellite towns connected to the central business district by rapid transit networks.	n/a

Sources: **Angola:** Housing Finance Africa, Angola profile, The New York Times, January 27 2015, Ministry of Urban Development and Housing. http://www.housingfinanceafrica.org/country/angola/ **Democratic Republic of Congo:** Center for Affordable Housing in Africa (2014) Kiswishi brochure, Urban development Lumbashi. /http://www.kiswishi.com/wp-content/uploads/Reduced_brochure_Eng.pdf. **Ghana:** Center for Affordable Housing in Africa (2014). **Nigeria:** All Africa, http://allafrica.com/stories/201408041335.html International Business Times (2015) http://www.ibtimes.com/nigeria-taking-affordable-housing-dream-reality-1544795 CNN (2014) http://edition.cnn.com/WORLD/africa/africanawards/pdf/2013/tolu-ogunlesi/tolu-ogunlesi-eko-atlantic-story.pdf **Rwanda:** Mathema,A. (2012).

Table 3
Housing programs subsidies, income and price ceilings.

Country	Program	Subsidy type	Subsidy size	Income-ceiling	Price ceiling
Argentina	Argentina Credit Program (PRO.CRE.AR) (2012)	Subsidized Interest rates that range from 2% to 14% based on household income.		Ranges from US$ 600 to US$ 3500	US$ 41,385/unit
Brazil	Minha Casa, Minha Vida (MCMV) (2009)	Up-front grant Subsidized interest rates Insurance reduction Reduction in property registration fees Subsidized interest rates	US$ 9400/unit	US$ 2500/month	US$ 28,100/unit
Ethiopia	Integrated Housing Development Program (IHDP) (2004)	Subsidy equivalent to 90% of the unit price paid by the Commercial Bank of Ethiopia (CBE) 20% paid by the beneficiary household through CBE issued loan with subsidized interest rates ranging from 0% to 7.5%	Ranges from 100% of the unit value to 30%, based on size.	No defined income ceilings Beneficiary selection through lottery system, based on housing unit size.	US$ 16,600/unit
India	Rajiv Awas Yojana (RAY) (2013)	Up-front grant Subsidized through interest rates of 5%	US$ 1218	US$ 100/month	US$ 8, 122/loan
Mexico	Esta es tu Casa (2007)	Up-front grant Subsidized through interest rates ranging for 4%–10% depending on household income	US$3000/unit	US$ 560/month	US$ 22,000/unit
South Africa	Comprehensive Plan for the Development of Sustainable Human Settlements	Up-front grant	US$ 3787 with no household contribution or US$ 245.5 for households with incomes over US$ 312/month	US$ 308/month	US$14,000/unit
Thailand	Baan Mankong (CODI) (2003)	Up-front grant to community cooperatives. Subsidized through interest rates Mix of government subsidy and community groups contribution through city-wide community revolving fund	US$ 750 to US$ 1990	n/a	US$ 8571/unit

Sources: **Argentina:** http://procrear.anses.gob.ar/; World Bank (2006); **Brazil**: United Nations Human Settlements Programme, (2013); http://www.myhousemylifebrazil.com/; http://www.caixa.gov.br/; **Ethiopia:** Ministry of Housing, Urban Development and Construction http://www.mwud.gov.et/; United Nations Human Settlements Programme (2011); Keffa (2014) Vieria (2013) Haregewoin (2007); **India:** Ministry of Housing & Urban Poverty Alleviation Government of India (2011) (2014); Gandhi (2012); Jawaharlal Nehru National Urban Renewal Mission (JnNURM) (2014); **Mexico**: http://www.coves.sonora.gob.mx/; Lopez-Silva (2011) Usavagovitwong (2012) **South Africa:** Human Settlements Department of South Africa (2004), (2009); Marais (2010); Aighavboa (2011); Lemanski (2009); **Thailand:** http://www.codi.or.th/; Asia Pacific Housing Journal (2010); Boonyabancha (2009).

performance of the programs in terms of public finance, we selected four criteria: Targeting, Efficiency, Transparency, and Sustainability.[4] In the absence of highly specific data, the paper undertakes a discursive analysis of the components of the different initiatives.

1. **Targeting** effectiveness can be measured in three ways:
   (1) by how much of the transfers actually goes to beneficiaries, in this case those living in either substandard housing or those paying what is viewed as a high rent burden, as opposed to those who do not have such deficiencies or high payment burdens?
   (2) by the share of the intended audience which benefits from the assistance. That is, how much "coverage" of the intended audience is achieved with the resources available; and
   (3) by how much of the resources given to the intended beneficiaries actually go to either improving housing conditions or lowering rent burdens? Credit subsidies, for instance, may be used to indirectly finance expenditures other than those intended by the subsidy.

In terms of how well the programs are targeted on a specific audience, the Brazilian and Mexican programs described above appear to allow households with incomes up the 85 percentile of the income distribution to be eligible for assistance. Consequently, almost 9 out of every 10 families are eligible for a subsidy. Because tens of millions of families are thereby eligible for assistance the programs will have considerable difficulty in targeting resources on those deemed most worthy. In the case of Mexico, Herbert, Eric, Belsky, and DuBroff (2012) indicate that 41 percent of eligible households did receive a subsidy while 59 percent of eligible households obtained a mortgage without a subsidy but purchased a house anyway. The fact that the majority of eligible households purchased a house even when they did not receive a subsidy, together with the fact that households who received subsidies are poorer than those who did not, raise two important issues: first, in relationship to the program's income eligibility cut-off point which is too high; second, in terms of the difficulty in determining whether benefits have been primarily received by lower-income households within the eligible group due to effective targeting, or because richer (but still eligible) households are self-selecting out of the program.

At the other extreme, and especially for lower-income countries, the expensive housing produced remains unaffordable for the majority of households and therefore misses the intended beneficiaries. Such is the case with many programs in sub-Saharan Africa. In Figs. 1–3 the light blue line (in the web version) plots out income distributions of four countries (Angola, the Democratic Republic of Congo, and Ethiopia) in vintiles, which each contain 5 percent of the population, and the price at which the new units produced by the government are offered for sale (the solid red line (in the web version)). We then show how much housing would be affordable if the median and mean household spent 3.5 times its income to purchase a house—the red and blue dots (in the web version), respectively. The 3.5 ratio is the average amount by which house prices exceeded the income of households in a number of OECD countries.[5] Except in the case of Ethiopia, median-income households would have to be given a substantial implied subsidy in order to be able to afford the housing produced.

The yellow vertical line in the figure shows the income level at which no subsidy would be needed. The bar at the bottom of each figure indicates the share of households that require a subsidy for assistance. In Angola, only households in the top 23 percent of the income distribution could afford to buy; just the wealthiest 6.5 percent of the population in the Democratic Republic of Congo is able to afford current prices without a subsidy; finally, in Ethiopia, the average family could afford the housing units produced.

Consider what these levels of house prices imply for the nature and scale of government assistance. The Angola scheme is part of "a one million houses program." If that aspiration is met and one million families centered on the median household income level receive new units at a subsidy level of about $60,000 per unit, one million of such deeply subsidized units would cost the government $60 billion, almost half of its current GDP. Redesigning the program so that much less expensive housing units are produced, would permit a considerable increase in the likelihood that the plan will in fact be implemented.

In summary, we distinguish two elements present in the majority of the programs: the size of the subsidy is very large; as a result, broader distribution of the subsidy to large segments of the population becomes difficult. The majority of subsidies is channeled towards the construction of completed, new dwelling units rather than the upgradation of the existing housing stock.

2. **Efficiency** has to do with how much the distortions involved with the subsidies and the taxes that financed them induce changes in behavior and which impose losses – sometimes referred to as "deadweight losses" on the overall economy. Such costs of delivering subsidies increase as the per unit subsidy rate increases, and the size of these losses can generally be represented by the size of the subsidy rate – i.e., large per unit subsidies create larger losses.

For example, the almost 100 percent per unit subsidy implied by the South African program entails much higher losses in resources than does the approximately 40–50 percent per unit subsidy that is typical of OECD countries, see Mayo and Gross (1987). Consequently, rather than losing 10 to 15 percent of the subsidy expenditure in deadweight losses, such highly subsidized units may result in resource costs of up to 40 percent of every subsidy dollar.

3. **Transparency** in this case refers to the visibility of all costs of the subsidy in the budget. Transparency occurs if the actual costs of subsidies are known. The higher the share of the subsidy budgeted, the more transparent it is. The use of such a measure allows the costs of programs to be made explicit and therefore, allows for a more informed basis for discussing the desirability of the expenditure. In most of the cases studied, subsidies are not transparent. The value of the land is often "hidden" or land is often sold below its market value.
4. **Sustainability** refers to whether the government can maintain and continue a subsidy program to effectively address all the intended beneficiaries. Such issues may be important in circumstances where the number of intended beneficiaries – for example, slum dwellers – continues to grow at a rapid rate. In such circumstances, if the subsidy programs provide per unit subsidies that are so large that only a share of the growing intended audience is served, it may be that after many years of assistance the intended audience is larger at the end of the period than it was at the beginning. Such a result may well be the case in South Africa. Despite the provision of some 3 million heavily subsidized housing units since 1994, at a cost of about

[4] Stephen K. Mayo (1986) provides a more complete discussion of many of these and other measures to evaluate housing subsidies.

[5] See, for example, the U.S. and Canadian averages, which are slightly lower than this figure, according to John Burns Real Estate Consulting Services. The UK, France, and Germany have been slightly above the U.S. ration, particularly since 2001. As a result, we used the higher figure.

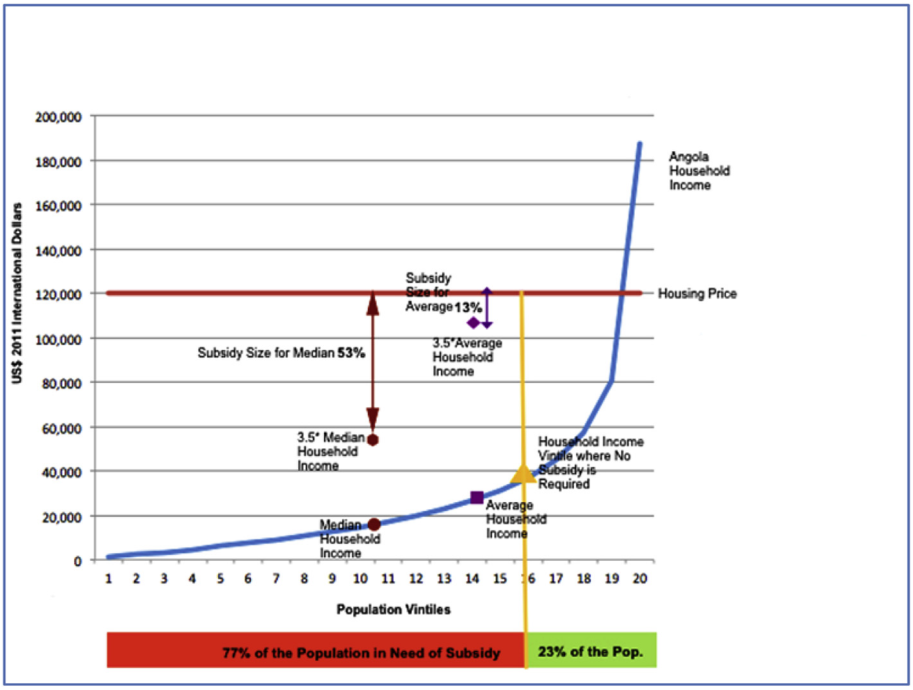

Fig. 1. Angola: Household income and housing affordability.
Source: See Buckley, Kallergis and Wainer (2015).

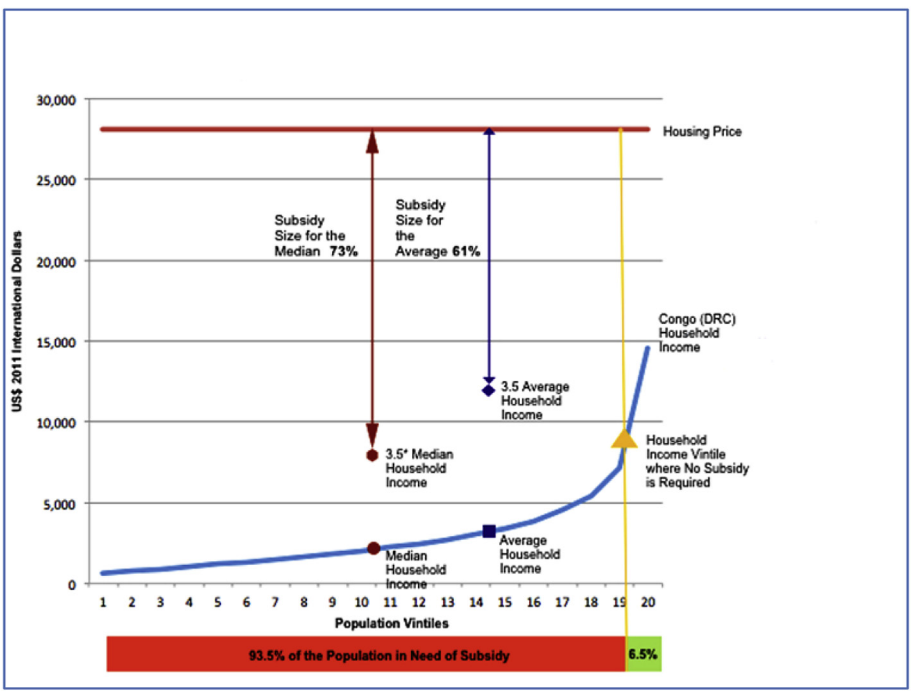

Fig. 2. Congo: household income and housing affordability.
Source: Same as Fig. 2.

$30 billion, there is now a larger backlog of those seeking housing assistance than there was when the program began (Bradlow, Bolnich, and Shearing 2011). Equally, in Brazil, an investigation indicated that around 20 percent of the residents failed to pay monthly installments.[6] Such high levels of default indicate that further phases of the project are under financial risk.

3.2. *Wider considerations: beyond the public finance framework*

3.2.1. *Land use*

Land availability has been a recurring theme in practically all of

[6] Information retrieved from http://veja.abril.com.br/noticia/brasil/divida-sufoca-familias-do-minha-casa-minha-vida, accessed in 14 December, 2013.

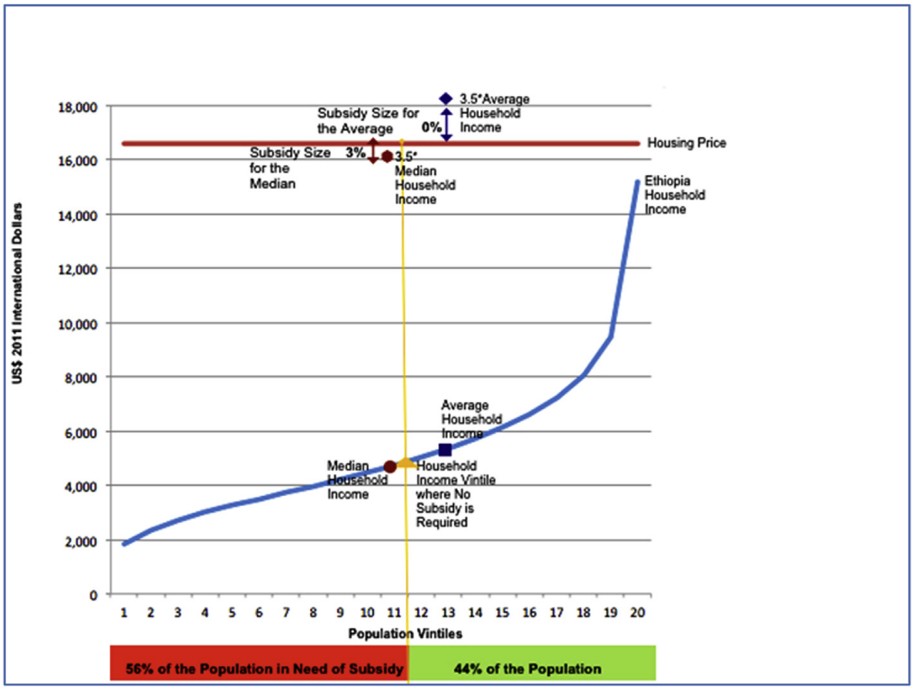

Fig. 3. Ethiopia: household income and housing affordability.
Source: Same as previous figures.

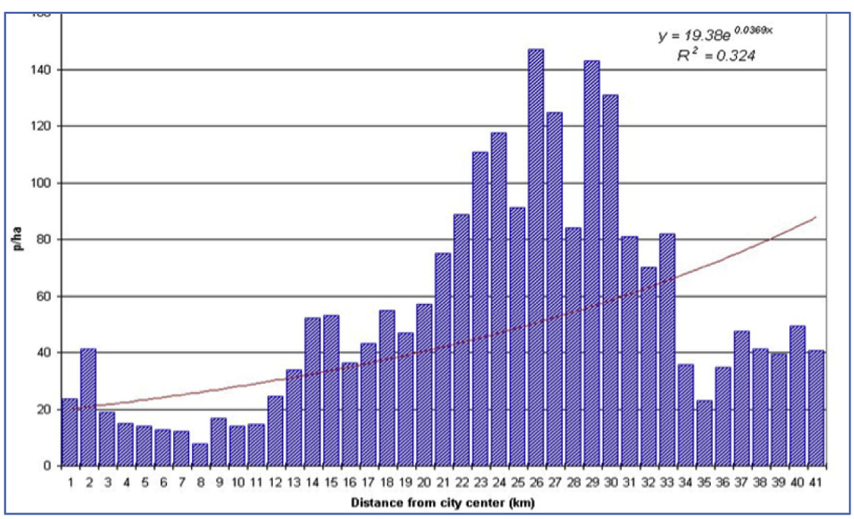

Fig. 4. Johannesburg: density in built-up areas.
Source: Bertaud (2008)

the programs studied. Some of the most important challenges faced by the South African and Brazilian program, but also with the creation of new satellite cities as in the case of Kilamba, Angola concern the spatial allocation for housing.

Once more, the South African experience provides important insights as it showcases the difficulties associated with reversing the density of cities. One of the critical issues of the program is that the subsidy provided, left open the question of land. This omission determined the spatial allocation of projects. Recent analysis of South African cities by Bertaud (2008), Lall, van den Brink, Dasgupta, and Leresche (2012) and Turok (2012) shows that:

- South African cities are still characterized by an anomalous density gradient in which the center city is less dense than is the periphery (Fig. 4). In contrast to the great majority of cities, where densities decrease as one moves away from the center toward the periphery, in South Africa the opposite density pattern has been the case (Bertaud & Malpezzi, 2003). This density gradient is a consequence of the apartheid regime, which, through its planning policy, was able to enforce strict laws that forbade blacks from living in city centers. Unfortunately, the evidence suggests that South Africa's extensive subsidy system has done little to change this situation.
- Low-income populations are dispersed in relatively dense settlements that are very distant from employment areas: As Turok

(2012) notes, in the case of Cape Town, the spatial structure removed slums located close to the center and moved their population into formal subsidized housing projects located on the far periphery, where job opportunities are lacking (Turok, 2012).

3.2.2. Regulatory regime

The regulations that govern so many urban transactions fall under many different dimensions, but the two that have the most significant effect on housing affordability have to do with density and building standards.

Land use regulations and investments in infrastructure can influence density and urban expansion patterns, and accordingly, should take into account the current density formations and household preferences. In that sense, density is not so much the planner's design decision but a market signal reflecting people's locational preferences (Bertaud, 2013).

Building standards also have important effects on affordability. When building standards are excessively rigid, as is the case with Mumbai's restrictions on building heights, they can have severe adverse effects (see Bertaud, 2011). Equally, archaic minimum plot size regulations that fail to consider the actual incomes of urbanites can further limit access to formal housing. For example, in Nairobi the minimum legal plot size is 1/16th of an acre, is unaffordable for ordinary households. Not only were these standards not revised downward, they inevitably conveyed the impression that modernization would, if anything, require that from time to time standards should be further raised.

To sum up, when standards are appropriate for income, they function as a form of mental shorthand that reduces decision costs. In contrast, when the regulatory framework does not respond to the real conditions, then as shown by Bertaud (2010), and Glaeser, Gyourko, and Saks (2005) standards act very much like an implicit tax on real estate, and particularly on the real estate of the poor, who, because of these regulations, have to pay higher costs for properties that remain outside of the ambit of legal transactions.

4. Discussion and recommendations

Billions of dollars are being spent around the world in attempts to help cities remain the centers of growth, culture and creativity they have always been. Unfortunately, in many places the programs are likely to have long-term detrimental effects. Moreover, as the experience of a number of countries indicates, once an approach has taken root it is very difficult to change. For this reason, adapting the design of programs so that they respond to current and future housing needs is crucial.

This is not an easy task. Malpezzi notes that: “Housing is a good that is characterized by important socioeconomic external costs and benefits that transgress beyond households or individual market participants.”[7] For this reason, housing programs are ambitious endeavors that have complex objectives (labor integration and integration of low-income urbanites) that span beyond simple affordability concerns. The paradox is that typically, they attempt to achieve these results through a single one-dimensional approach that calls for large-scale production, omitting completely the effects this entails for their larger aspirations such as the stimulation of the economy, or the assimilation of marginalized neighborhoods and communities within the city. That the McKinsey (2014) study gives currency to these deeply flawed approaches is misdirected, and underscores the seriousness of what we believe is an urgent agenda. If massive amounts of resources are not to be wasted, and cities are not to be scarred with pockets of rapidly dilapidated housing, the orientation of the policies being used to address the housing challenge must change.

There are several areas where attention should be directed and action needs to be undertaken:

1. **A shift in the housing provision strategy so that it better reflects the needs of cities rather than house suppliers.** An important part of the housing challenge requires balancing new development with the existing urban fabric. Housing plays a special role in this process because it determines which kinds of spatial arrangements will regulate the city's productive structure and its ability to generate inclusive growth. When housing policy is not seen within a broader urban perspective, it can result in outcomes such as the 700,000 subsidized but now empty housing units in large-scale projects ringing many Mexican cities.
2. **A careful review of the set of regulations that affect housing affordability is required.** When considering how to most effectively address housing affordability concerns, the first step must be to reflect on how regulations affect the use of and access to housing services. Almost all cities have both building standards and rules governing population density. Such regulations determine how spread-out a city will be. Changing some of these regulations is in principle costless since such regulations control behavior but do not mandate public expenditures. However, they still entail winners and losers. Lower standards that make housing more affordable also reduce the value of existing housing whose owners will oppose such measures. Hence, while identifying the reforms is not difficult, implementing them often is.
3. **An enforcement of urban and related financial regulations that are essential for the better function of housing markets.** Among the most fundamental of regulations are those that standardize the hard-to-observe qualities of a property, or those that protect consumers from exchanges they do not fully understand. Such details allow housing markets to function much more effectively. For instance, decisions with respect to borrowing in order to finance a house purchase typically entail fairly unsophisticated, undiversified borrowers in exchanges with more sophisticated, diversified financial institutions. When the regulation of complicated transactions is insufficient, as was the case in Hungary when the payments on mortgage loans denominated in Swiss francs suddenly increased by 20 percent, a financial crisis can occur.
4. **Greater reliance on the existing urban capital stock can help address housing affordability.** When the long-term nature of housing stock is considered, it is clear that new production never accounts for more than a very small percentage of the existing stock. There are many ways to make the existing urban capital stock more responsive to demand: reduce height restrictions on buildings, lower minimum plot sizes, or permit more downsized units. Small improvements in the use of the existing stock can have the same impact as large-scale increases in new housing production. For instance, according to Bertaud and Alves (2014:16) the Indonesian kampongs constitute a parallel housing market maintaining affordable low costs housing standards. As he notes:

   “The housing stock in kampongs has improved over the years because of the investments made by their inhabitants and because of the constant upgrading provided by the government. The investments made by the government in infrastructure and the continuity of policy over many years have

[7] Malpezzi (2014) notes that housing typically comprises something on the order of half a country's tangible capital stock.

also convinced households living in kampongs that the government had no intention to use eminent domain to displace them to redevelop the land under different use. The infrastructure provided in the kampongs insure that no matter how small and simple a dwelling is, people living in it have access to safe water supply, sanitation and storm drainage and social services."

5. **Improve the efficiency and targeting of subsidies.** The issue of how well expenditures are targeted to those who need the assistance is important. Many of the housing production schemes are unaffordable to their intended beneficiaries and, as shown in the previous section, in some extreme cases remain unaffordable even for the richest households. There are ways to strengthen subsidies. For instance, the Thai program has achieved national scale through inclusive institutional arrangements that reinforced targeting and increased efficiency. (Boonyabancha, 2003; 2009). Its carefully-designed and targeted subsidy, its capacity to detect "signals of seriousness" on the part of the community (thereby targeting assistance to those who value it the most) is also noteworthy (Buckley, Kallergis, & Deuskar, 2014).
6. **Particular attention should be given to the cities of sub-Saharan Africa.** The rapid population growth of the region, particularly at the low-income levels that characterize many African countries, contributes to an urbanization process that has been associated with rising poverty (Ravallion, Chen, & Sangraula, 2007; Buckley & Kallergis, 2014; Collier & Venables, 2014). According to UNDESA (2011), 62 percent of urban populations in sub-Saharan Africa are slum dwellers, while annual slum growth in the decade 1990–2000 was of the order of 4.8 percent (UN Habitat, 2010). As Pieterse (2011:1) suggests: "Not only does Africa have a much higher slum prevalence level, the depth of deprivation is much more acute compared to other regions of the world." It is worth noting, that over the past twenty years, access to urban sanitation has not improved in sub-Saharan Africa despite a 50 percent increase in per capita income (WHO/UNICEF, 2012).[8]

Living in slums not only has implications for inclusiveness, it also has important implications for productivity (Fay & Opal, 1999). For example, recent studies have shown that even if health conditions are on average better in urban areas, once we disaggregate the urban totals into distinct socioeconomic categories, important differences arise. That is, in slums the so-called urban health premium—the healthier conditions of the world's cities —does not occur. Within African city slums, infant and child mortality rates often approach and sometimes exceed rural averages (African Population and Health Research Center (APHRC), 2002; McGranahan, 2007; Satterthwaite, 2007).[9] In such a context, high density, becomes deadly.

Moreover, Africa's urbanization appears to be unique in another respect. For instance, it appears to be the locus of most of what Watson (2014) has described as fantasies about cities and how they contribute to growth. Additionally, sub-Saharan Africa seems to be the only region where foreign consultants are the major proponents of designing new cities on vacant land such as the "Tech Cities" in Kenya and Ghana, or hub cities as in Angola. This type of investment suggests a concern with grandiose aspirations when many basic services are still not in place for most of the population.

The seriousness of the situation requires a plan of action, which could adopt the following steps:

Creation of better, and not just new, data and research on urbanization. The new UN Sustainable Development Goals call for increased attention to urban issues. However, current African data remains weak and unimproved—see the 2014 report by the Center for Global Development and the African Population and Health Research Center. Without better data, accountability for public expenditures cannot be achieved. Like the attempt to construct new cities without addressing the fundamental problems besetting the existing ones, attempts to create new urban indicators fail to appreciate just how weak existing African data is.

Improvements in governance capabilities at the municipal and local level through community participation. The Cities Alliance (2013) details the low level of local governance capability that characterizes cities in many sub-Saharan countries. In many of these cities, public provision of citywide basic services—such as sanitation and water—will not be a realistic option for many years to come. In such places, more attention should be given to the engagement of community groups to carry out the functions that are basic to neighborhood well-being. Certainly, these approaches are difficult to scale-up particularly without the support and commitment of municipalities; but greater involvement of local communities creates demands for more accountability and pushes local governments to further improve by addressing the needs of the population (Appadurai, 2001; Briggs, 2008). If we consider the proliferation of utopian plans that disregard completely the actual conditions, more participatory approaches in governance are necessary in order to ground the future African urban development in reality.

5. Conclusion

In the past few years, sixteen developing countries have mounted multi-billion-dollar urban subsidy programs. This important shift in the housing policy trajectory reflects growing concerns with housing affordability. While cities in middle- and higher-income countries do not face such extreme challenges, they too will continue to face daunting affordability problems, already endemic in New York, London, and Paris. .

But our concern in this paper has to do predominantly with the growing cities of the South and the potential of large-scale housing programs in addressing the affordability challenge. Our assessment is not an optimistic one. We believe that the application of a traditional public finance perspective indicates that the approaches undertaken are deeply flawed. As a result, very few of the programs will help address the housing challenges. With few exceptions, the programs repeat some of the now severely criticized approaches pursued by OECD countries in the early post – World War II years, when a similar moment in urban policy arose. Have the ghosts of the past came to haunt the policies of the present? The consequences of these unproductive public expenditures will possibly stand for many years as mute testimony to ill-designed capital investments. Thus, our worry is that even if the motivation for such programs is well justified, the approach undertaken will do very little to address the housing challenge. Expenditures on isolated, expensive enclaves such as the nearly $4 billion Chinese investment in a new city twenty miles outside of the capital of Angola will do little to boost Luanda's ability to serve as a platform for inclusive growth (Benazeraf & Alves, 2014).

Rather than attempting to describe in detail the problems associated with so many highly idiosyncratic programs, we distilled a series of criteria, followed by several recommendations that

[8] The most recent report on this Millennium Development Goal estimates that in 2010 only 43 percent of sub-Saharan African city dwellers had access to improved sanitation, a level that has not improved since 1990 (JMP 2012).

[9] For example, in Nairobi's slums infant mortality rates are similar to those of Britain almost two hundred years ago (UNDP 2006). In some slums these rates are more than double rural rates.

policymakers can reflect upon as develop their plans. Certainly, the financial details of the new programs should be carefully evaluated. Further detailed analysis of such initiatives would be helpful in understanding the viability, risks, and distributional consequences of many of the new programs. In the end, however, the answer to how should government react to the lack of affordable housing is not simply by creating more housing units. It rather necessitates a wide range of policy interventions and a prior careful understanding of the larger urban policy environment as it pertains to income levels, land use, regulatory frameworks and wider urban expansion characteristics.

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