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Housing and Urbanization in Africa : Unleashing a Formal Market Process*

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Abstract

In many African countries a market for private provision of formal sector mass housing is largely absent. This is not inevitable, but is the consequence of policy failure surrounding five key issues. The affordability of housing, with costs often inflated by inappropriate building regulations and inefficient construction sectors; lack of clarity in land titling and legal enforcement; lack of innovation in supply of housing finance; failure to supply supporting infrastructure and to capture development gains to finance this; and failure to plan cities in a manner conducive to employment creation. Since responsibility for these policies is divided between different parts of government, a coordinated push is needed to secure reform and activate this market.

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1. Introduction

The accumulation of decent housing matters both because of the difference it makes to living standards and because of its centrality to economic development.

The consequences for living standards are far-reaching: in addition to directly conferring utility, decent housing improves health and enables children to do homework. It also frees up women's time and enables them to participate in the labour market (Franklin 2012). More subtly, a home and its environs affect identity and self-respect. Commentary on the emergence of an African middle-class has become commonplace, but it is currently being defined in terms of discretionary spending and its potential for consumer markets. A politically more salient definition of a middle-class would be in terms of home ownership and the consequent stake in economic stability.

The role of housing in economic development is perhaps not sufficiently recognized: investment in housing is often regarded with disquiet due to its association with speculative property bubbles and financial instability. Yet in developed economies housing is by far the most important tangible asset. For example, the total private wealth of households in British is \$15tr, of which \$5.5tr is property, overwhelmingly housing (ONS 2009). The aggregate process of national asset accumulation is thus fundamentally bound up with investment in housing.

Not only is housing the single most important asset, it completely dominates one economically strategic asset class. Investment is conventionally disaggregated by agency and by type. That by agency distinguishes between public and private; the two usually being complements. Private investment is usually seen as particularly important for development because agents are more likely to discipline their decisions. A further important disaggregation of private agency is between firms and households, the two having different objectives and different access to finance. Housing is overwhelmingly a private, household investment.

Investment distinguished by type disaggregates it into equipment and structures, these also being complements. In low-income countries this distinction is particularly important because equipment is imported, whereas structures are internationally non-tradable and so must be produced in the country: investment in structures thus has a counterpart in the output of the construction sector. Unlike equipment, investment in structures can thus be frustrated by failures in either domestic demand or domestic supply.

Combining the two key analytic distinctions, housing dominates the category of private, household, non-tradable capital. Yet in respect of African investment this massive and distinctive category has received far less analytic and empirical attention than either public investment or investment by firms.

The final respect in which housing matters for economic development is via the labour market. Construction has a direct employment creation effect, particularly since housing is typically more labour-intensive than other structures (such as public infrastructure and commercial property) and a

fortiori more so than equipment, which in Africa is imported. As the major asset class, labour-intensive to produce, investment in housing has the potential to make a substantial contribution to aggregate labour demand. Even in the OECD this is apparent during periodic housing booms. However, in low-income countries that are as yet only partway through their urbanization process, housing has the potential for employment demand that is prolonged as well as substantial. This was indeed historically the case in the 19th century miracle cities of Manchester, Chicago and Melbourne: during the peak decades their main activity was their own construction (Belich 2009). In addition to this direct effect, housing (together with transport services) determines the ease with which workers can access employment, and firms servicing local markets can reach consumers.

In Africa the process of formal investment in housing for ordinary urban households has not got underway: the typical household lives in a low-cost shack. The shack is likely to have been self-built; it will not comply with official building standards; rights of occupancy, though probably robust, will be informal, and the building will have been self-financed. The shack will be located in a shanty town which itself is informal: the local government will not have provided roads, electricity, street lighting, water or sewage.

Housing provision in the 21st century African city contrasts with 19th century London and many other such cities.¹ The fundamental conditions of migration and income were similar. Between 1800 and 1900 London grew from a population of one million to 6 million as peasants migrated to the city. This rate of urban growth is comparable with current rates of urbanization in Africa. Further, per capita income levels in nineteenth century London were comparable to those in 21st century urban Africa. Yet housing growth in 19th century London, and indeed throughout Europe, remained largely formal. The new housing for the English peasants who migrated to London was built by small firms. Typically, the freehold on the land would be owned by one of the great estates which therefore had the incentive to plan the development process. This was inequitable as the estates captured much of the value of land appreciation, but had the advantage of creating incentives to invest in local public goods and services. The estates would install basic infrastructure such as a road network on a tract of land, and then sell off leaseholds in smaller plots to building companies.² A building company might build a row of houses, constructing them using standardized architectural plans and labour-intensive techniques. Only around 20 percent of houses were owner-occupied, most occupants were tenants. Their landlords were usually not large corporations, but older people who invested their retirement savings in a few properties, living in one of them and renting the others out. This produced three desirable side-effects. The housing was professionally built to standard designs and therefore easy to value; its construction generated jobs; and there was mixed occupancy by tenants, owner-occupiers

¹ See Dyos (1968), Porter (1995).

² This secured supply of local public goods, but city wide public goods such as a complete sewerage system were supplied only after the health scares of the mid-19th century and the development of effective city government first with special purpose authorities and, from 1889, the London City Council.

and landlords, tending to produce both better maintenance of the housing stock and greater social cohesion.

The issue which we address in this paper is why such a process has not happened in Africa. Our hypothesis is that the peculiarity of housing as a household asset produced by the non-tradable sector exposes it to multiple points of vulnerability not found together either in private consumer goods, or in other capital goods. Each of these points of vulnerability can be addressed by appropriate government policies, but addressing only one or two of them has little payoff if the others remain unresolved. Further, the vulnerabilities faced by housing differ markedly one from another, so that they are the responsibility of distinct branches of government with little natural collaboration. Unblocking multiple impediments to housing therefore requires the coordination that can only come from the head of government: ministries of housing have neither the political weight nor the analytic capacity successfully to play this role. Yet in Africa housing has never received such a high degree of political priority. This in turn is because the centrality of housing in wellbeing and of housing investment in development has not been sufficiently appreciated.

In 19th century London, and the other cities in which adequate housing was built by an efficient market-led process, success rested on simultaneously resolving five potential vulnerabilities. First, *formal housing was affordable*. Building regulations were set at a level that was appropriate for the level of income rather than being based on some elite notion of 'desirable' accommodation. As a result, the building costs of adhering to formal standards were not pushed so high as to induce informality: they could actually be enforced. Second, there was *clarity in legal rights*. Leaseholders had enforceable title, and could in turn use title as collateral since there was a functioning legal process of foreclosure. Landlords had clear rights to evict tenants for unpaid rent: indeed, in London tenant security was week-by-week. Third, formality and legality unleashed *financial innovation*. Banks have seldom been able to provide finance for non-elite housing: their administrative costs are too high. Instead, specialist housing finance organizations emerged – building societies – which pulled in deposits from lower-income households and lent them to middle-income households with low risk thanks to the sound collateral, and consequently at long maturities and low margins. Fourth, the benefits of *housing infrastructure* – roads, water, sewerage, street lighting, and power – were internalized by a coordinating authority and so provided in advance of housing construction. Admittedly, while efficient, in London this was achieved by the highly regressive mechanism of ownership of huge tracts of land by the great ducal estates. Finally, the housing provided in London combined decent conditions for living with *opportunities for income*. Reconciling residence with opportunities depends upon lenient rules of zoning and effective transport connectivity to the rest of the city, which in London was provided by the underground and overground rail networks.

These five vulnerabilities form the organizing framework for our paper. We argue that, in conjunction, these vulnerabilities have stifled the development of the formal private sector, particularly for low and middle income households. While it has become conventional to regard the only practical solution to

Africa's housing needs as being to upgrade both the existing stock and the flow of informal housing construction, in this paper we explore the alternative approach of re-establishing formality. A well-functioning formal sector dominates informality by reaping the benefits of scale, continuity, and legality.

2. Affordability of construction costs

Affordability of construction costs is evidently a prior condition to mass household investment in housing. Affordability can only be assessed relative to income, and the share of budgets that ordinary households are willing to devote to housing. For example, in Dar es Salaam the typical rental rate per room is currently around \$10 per month, and in Dakar around \$16; so that a modest four room home (equivalent to the 'two-up, two-down' of 19th century Britain) would be affordable, albeit perhaps for multi-occupant use, in the repayment range \$500-800 per year. Quite what this implies for a viable purchase cost depends upon the real interest rate and the terms of financing, but it is difficult to see such a repayment rate supporting a home costing more than around \$15,000. This, of course, includes the price of land, which in Dar es Salaam on the informal market is currently around \$5,000 for a plot size of 300m². Clearly, such a plot could support more than one small house, but given current land availability, land costs per house could not be reduced much below around \$2,000. The unit costs of housing depend partly upon building standards, partly upon costs of inputs, and partly upon the organization of the construction industry.

Building standards

All cities need building standards: London has had them since the early Middle-Ages, for example thatched roofs were banned due to the hazard of fire. Because housing investment is to an extent putty-clay, it is appropriate for standards to anticipate rising income. However, the most important characteristic to anticipate may well be the need for rising density. Flats are initially more expensive to build than houses, but become more cost-effective at higher densities. Thus, it may be more valuable to force an increase in the ratio of flats to houses than the building standards of individual homes.

When standards are appropriate for actual and anticipated income, they function as a form of 'mental shorthand' which reduces decision costs. However, in 1947 Britain suddenly and substantially raised its housing standards (the Parker-Morris standards) and implemented them through the Town and Country Planning Act. This was part of a much larger agenda of social reform introduced by the British government of 1945-50. Fortuitously, Britain thereupon shared in Europe's 'golden decades' of growth so that household incomes rapidly rose to levels at which the new standards were broadly appropriate. Since housing lasts for a long time, such anticipation of rising living standards is in principle appropriate although British public policy was fortunate in its timing.

Unfortunately for Anglophone Africa, the British Government promptly applied the 1947 Town and Country Planning Act around its colonies. Hence, upon Independence African governments inherited

building standards that were inappropriate for their level of income. This was not immediately apparent because in the early 1960s African cities were still small and occupied predominantly by well-paid government officials and expatriates. Further, it would have been an act of extraordinary courage and insight for newly installed governments to *lower* standards: the new African political elite wanted to join modernity not to dilute it. And so Africa was stuck with building regulations which, had they applied to 19th century London, would most probably have frustrated formal housing for ordinary households.

Regulations covered both building standards, such as wall thickness, room size, and depth of foundations, and minimum size of plot, perhaps intended to produce the 'garden cities' which were briefly in vogue in British urban planning. For example, in Nairobi the minimum legal plot size is 1/16th of an acre, which is unaffordable for ordinary households. Not only were these not revised downwards, but they inevitably conveyed the impression to African regulatory authorities that modernization would if anything require that from time to time standards should be further raised: were the standards of 1947 to be good enough indefinitely? Hence, for example, in Dar es Salaam the minimum size of plot is 500m², but the authorities are currently discussing whether to raise this to 700m². In East Asia authorities took a more independent view: for example, in the 1980s Thailand reduced minimum housing standards.³

How out of line were the standards of the 1947 British Town and Country Planning Act for the level of African incomes? They were clearly ambitious in relation to British incomes as of 1947, and indeed even during the 1980s some aspects of them were seen as being so excessive that they were revised downwards. In purchasing power parity terms African per capita income is less than one 20th of British incomes as of 1970 (a date by which the standards were probably reasonable). How long it will take Africa to raise per capita incomes 20-fold is not amenable to forecasting, but it is evidently far longer than any reasonable horizon for the durability of basic housing.

Perhaps a more reliable indication that regulations are excessive is that housing construction has bifurcated, with regulations being ignored in the informal market which caters for ordinary households. Elite homes are individually designed, and adhere to building standards. Ordinary people live in informal housing. Their homes do not adhere to building standards, which are unenforceable because they would impose excessive costs, and their design is in consequence idiosyncratic. An important consequence of informality is that such housing is hard to price. It is non-standard and key aspects of its quality, such as the depth of foundations, cannot be observed. In turn, being hard to value impedes the resale market, and means that it would need to be heavily discounted before it could be used as collateral.

There have been several attempts around Africa to use formal firms for low-cost housing. In Mozambique the 'low-cost' housing ended up so expensive that it became upper-income housing. In

³ Personal communication from Maya Hoek-Smit.

South Africa housing costs were kept low but this was achieved by using land that was remote from centres of employment and therefore cheap. In Angola the government resorted to Chinese firms to construct a new city. However, even with Chinese workers and methods, the homes ended up costing between \$50,000 and \$100,000 and so were beyond the reach of ordinary households. Yet the costs of decent housing need not be so high. In Mexico, where per capita incomes are much higher than Africa, mass housing – typically around 800,000 units per year - has been provided by the private sector at a unit cost of around \$35,000. A pilot project by Tinga Cement in Dar es Salaam, using modern techniques of pre-casting and four-storey construction, suggests unit costs of around \$15,000.

Unit costs of inputs

The key inputs into housing are land, material inputs such as cement, skilled and unskilled labour, and finance.

In the absence of market imperfections, the cost of land should be determined predominantly by three fundamentals: its distance from the city centre, the population of the city, and per capita income.⁴ However, African cities abound in market imperfections for urban land. We discuss land rights in a subsequent section, but here we note that since very little urban land is fully marketable, markets are thin and prices inflated. Further, in many societies there are few other inflation-protected domestic assets, so that asset demand is disproportionately skewed towards urban land, some of it speculative. The wealthy elite are atypically drawn from the political class rather than from entrepreneurs, and so are not as well-placed to keep their wealth in self-owned enterprises. Stock markets are under-developed, and in any case weak corporate governance makes minority shareholdings in other enterprises risky. Housing itself is underdeveloped for the reasons addressed in this paper. Further, the political class has a comparative advantage in land speculation since it is in a privileged position to anticipate economic development and the granting of planning permissions.

Material inputs such as cement have been surprisingly expensive in Africa: typically around three times the world price. This is largely due to dysfunctional ports which provide considerable natural protection, the uncompetitive organization of domestic production, and the hostile climate for domestic business activity. For example, Aliko Dangote, the richest individual in Africa with a fortune estimated at \$11bn, founded his business empire on cement imports to West Africa before going into domestic production.⁵ In Mozambique building sand is reported to be imported despite a 3,000km coastline.

⁴ Bertaud, A. and Malpezzi, S. 2003 present comparative work on urban density in 38 cities. Urban density gradients are prevalent in world cities, but not present in the two African cities in the sample, Capetown and Johannesburg. We know of no systematic cross-country work on rent gradients.

⁵ The Nigerian Voice, 11/3/2011.

Whereas unskilled labour in Africa is abundant and relatively cheap, skilled construction labour is currently very scarce. This reflects decades of little investment in structures, so that the construction industry has been very small relative to GDP. A manifestation of this shortage is the importation of foreign skilled construction workers – for example, welders in Zambia, and Chinese across the continent. The state has withdrawn from training of skilled manual workers, and firms may limit training because of the historically volatile nature of demand.

Finance for the sort of small firms that would build low-cost housing for ordinary households has been expensive, to the extent that it has been available at all, because of wide spreads in the banking system. In turn this has reflected an uncompetitive financial market, crowding out by government borrowing, and high risks of default.⁶

Industrial organization

The organization of the construction industry is also bifurcated. Elite homes are constructed by foreign construction companies using capital-intensive techniques and imported materials. The same firms operate in Africa as operate in the Gulf States, and their unit costs are far beyond the budgets of ordinary households. As an indication of the irrelevance of such firms to the housing needs of ordinary people, the largest housing construction firm in Ghana claims to have built around 3,500 houses over the past decade.

In contrast, ordinary urban housing is largely self-built to *ad hoc* personal designs. This compounds idiosyncrasy and hence the difficulty of valuation. What appear to be largely missing are small but formal private building firms, employing a mix of unskilled and skilled labour, able to raise formally the finance required to buy a plot and build a row of houses on it, which are built to standardized, architect-prepared designs, and comply with building standards. It is unlikely that there are significant direct impediments to the emergence of such firms, and so the most likely explanation as to why they are not more abundant is that the other problems discussed in this paper limit demand for their services.

What policies would help to bring unit costs down and how might we know? The starting point might be a realistic estimate of affordability, generated from urban budget survey data. While the results would differ city by city, they would reset norms, forcing difficult trade-offs to the fore. A similar exercise could price the minimum unit cost of complying with current building standards: a discrepancy between these numbers would force policy discussion. The cost chain could then be benchmarked, component by component, on costs in low-income countries elsewhere in the world, again forcing discrepancies to the fore which invited explanation. A supplementary approach is to discuss with the small, formal building firms that are part of the presumed solution, what they regard

⁶ British building societies, which came to provide mortgage finance, started as societies of builders who pooled working capital.

as their key impediments to lower costs. A related approach would be a more quantitative survey of the costs of different construction firms, on which analysis of productivity differences could be based.

3. Legal Rights

Legal rights affect the housing market in three respects: the ownership, security and marketability of land rights; the extent to which housing can function as collateral; and the rights of tenants relative to landlords.

Land rights

Urbanization creates value: rising density increases productivity. Because the effect is location-specific, much of the increase in value accrues to the owners of urban land. The growth of cities is a classic coordination phenomenon and so the enhanced value is not readily attributable to the actions of any single agent. However, to a considerable extent coordination, whether consciously planned or spontaneous, is the result of public action. Hence, there are reasonable ethical grounds for assigning the ownership of value addition to a city authority as the representative of the residents who have collectively generated it. This has been the strategy in Chinese urbanization which has enabled the finance of urban infrastructure. In contrast, as noted above, in Africa the ownership of prime urban land has often been appropriated by politicians on a speculative basis. This appropriation is recent. Within living memory much of the land that is now urban was rural, rights of possession to this land did not extend to marketability, and were often further circumscribed by being partially under the authority of chiefs. In turn, the authority vested in chiefs reflected their functions as leaders of their communities. This history reinforces the ethical case for socializing much of the increase in urban land values. However, the most straightforward approach would not be to reassign land ownership, but rather to use the tax system.

While African urban land rights have usually been privatized, they have seldom been clarified. In some cities, such as Freetown in Sierra Leone, a history of dysfunctional registration has left land ownership radically unclear: the same piece of land may have several claimants each supported by some sort of documentation. Clearly, the number of claimants to a plot is likely to increase in response to construction since ownership becomes more valuable: the rights to property constructed on the plot follow directly from the rights to the plot. Resolution of these disputes through the court system is neither reliable nor swift. Indeed, the legal basis for settlement is often still in dispute: for example, in Ghana lawyers have been attempting to resolve the rules of urban land rights for four decades. In other cities *de facto* ownership is accepted, but the owner does not have legal title. These weaknesses in land rights may make both land and property constructed on it less marketable, and clearly make both less able to function as collateral.

There is an evident tension here between the perspective of lawyers, whose aim is to resolve complexity by deducing the strongest claim to ownership, and that of economists, whose aim is to

establish clear marketable rights as swiftly as possible. A possible approach to resolution is to begin by radically increasing the taxation of value-addition so that ownership becomes less important. From this base it might be possible to follow an approach pioneered by the government of Uganda in 1992 to resolve the property claims of Asian Ugandans who had been expelled by Idi Amin. All claims to urban land and property were required to be registered by a set date, after which no further claims would be valid. Then, all cases of multiple claims were settled transparently to a further deadline, by an *ad hoc* court.

Property as collateral

While clarity in the rights to the plot is necessary for property to function as collateral, it is not sufficient. The function of collateral depends upon the ability of a creditor to foreclose on the property in defined circumstances of arrears. This in turn depends upon the law, and the reliability and speed with which courts implement it. The common experience has been for delays in court proceedings and judicial corruption to make foreclosure unreliable.

However, reform is feasible. Ethiopia has recently introduced draconian legislation which is being enforced in its courts whereby creditors can foreclose after only a few months accumulation of mortgage arrears.

Tenancy

Tenancy is likely to be more affordable than ownership for most urban households although there appears to be considerable variation between African cities. Purchase may well not be optimal for the median urban household, yet owner-occupation has usually been the goal of policy. Nevertheless, absentee landlordism is often dysfunctional: an ideal model might be for above-mean households, for example those who have accumulated savings for retirement, to own a few houses in a settlement, living in one of them and renting out the rest. In many societies the rights of tenants versus landlords have been subject to long political cycles: when tenants are in a majority governments are inclined to legislate in favour of rent controls and tenancy protection. As buy-to-rent investment becomes unviable, formal tenancy gradually diminishes so that at some point the scarcity of such accommodation induces changes in the law. In much of urban Africa there is a well-functioning formal rental market for expatriates, but that for ordinary households has largely informalized in response to generous tenant protection. For example, in Nairobi below a rental rate of \$60 per month tenants have enhanced rights and landlords cannot raise rents.

A realistic approach to the reform of tenancy law may be to grandfather existing tenancy contracts, but to allow landlords to write fixed term contracts, and to repossess property for non-payment of rent, for new tenancies.

In summary, the confused nature of urban land rights in Africa reflects the recent nature of African urbanization and the very slow and confused evolution of rural land rights. In societies with few other

assets and a long and recent attachment to the soil, land rights are inevitably politically sensitive; governments have until very recently lacked sufficient legitimate authority to resolve them. This is widely perceived as an immovable impediment around which housing policy must navigate, rather than a fixable problem.

4. Financial Innovation

Housing finance is needed both for the short-term support of the construction phase and the long term process of purchase.

The provision of working capital for construction firms is normally undertaken by banks. In Africa banks would probably regard lending to small, formal building firms for low-income housing as being too risky. The reason it is viewed as too risky may, however, be derivative of some other underlying risk, such as the difficulty faced by ordinary households in financing house purchase. Were these other impediments to be addressed, the lack of working capital might resolve itself.

To get an order of magnitude for housing finance that would be enable the purchase of a decent home by a non-elite household, we make some assumptions as to the debt service that is viable, and the cost of a house. Recall that based on typical rental rates in African cities, payments of interest and principle would be affordable to the occupants of informal housing at around \$500-\$800 per year. Suppose that the unit cost of decent housing could be reduced to around \$15,000. Then, a mortgage of around two-thirds of the cost of the house would be viable at an annual repayment rate of around 5-8 percent. What are the impediments to such terms?

In 19th century Britain urbanization triggered innovation in the mortgage market in the form of building societies. They were able to out-compete banks because they had much lower administrative costs and much lower risks and so could work on narrower spreads. Their lower costs reflected their specialization in long-term, low-risk lending: the setup costs of a loan could be spread over many years and default was limited by good collateral. Not only were spreads low, but in 19th century Britain inflation was very low, so that nominal interest rates could be low. As a result, the repayment of a loan was not artificially accelerated by the erosion in real terms of the principle. With low administrative costs and a substantial branch network, building societies were able to lend at repayment rates of within this range of 5-8 percent per year. They were also able to build a large deposit base from ordinary savers. While lending very long and borrowing short was potentially a recipe for a run on deposits, the conservative business model protected them from insolvency and the central bank protected them from illiquidity. In the 19th century it was the banks rather than the building societies that faced runs on their deposits.

Although some African cities have building societies, they cater to either high-end housing, or to civil servants. Except in the Franc Zone inflation is periodically fairly high, so that on conventional interest rate practices the principle is at times rapidly eroded. Such high and variable inflation makes 5-8

percent repayment rates completely unviable on conventional lending models. Typical terms on African 'affordable' mortgages are an interest rate of 22 percent, and a term of only ten years. Thus, in the first year of the loan the repayment rate is around 25-30 percent of the amount borrowed. Unsurprisingly, such 'affordable' mortgages only cater to a tiny income elite. Also unsurprisingly, defaults are typically concentrated in the first two years of the loan.

A common policy response has been to place ceilings on interest rates, or to offer subsidized public mortgages. For example, the Nigerian government has been providing mortgages at 6 percent at a time when the market interest rate is 18 percent. This evidently kills the possibility of a private market and would be fiscally ruinous at scale.

A more viable way of overcoming this impediment might be to introduce indexation of both the principle and the repayments. Such an innovation is not currently feasible because it would require indices in which both borrowers and lenders could have confidence. To build such confidence one approach might be to subject the government-produced indices to regular and well-publicized independent verification by a respected authority such as the IMF. For example, an overall repayment rate of 8 percent would accommodate a real interest rate of 3 percent, a repayment of principle starting at 3 percent, and an administrative charge of 2 percent. This would be radically more affordable than current practice and so reduce the risk of early default. Of course, by shifting the structure of repayment into the future, indexation at some point increases the risk of default in later years. This can be guarded against both by setting a prudent level of loan-to-value, and by macroeconomic management that contains incipient housing bubbles.

Such mortgages would not inflict high risks on lenders: over the 20-year horizon appropriate for a mortgage African wages should rise relative to prices, so that repayments should become increasingly affordable. By both historical and current international standards, a real interest rate of around three percent would be a reasonable return on a loan that was both highly collateralized and affordable. While indexation of mortgages is currently rare in Africa, it has been common in Ghana for twenty years and appears to have worked well.

Currently, there is much discussion of how mortgages might be financed, using innovations such as securitization. However, the building societies of 19th century Britain did not depend upon such innovations. Instead they were able to tap the small savings of ordinary households. There is some evidence that African households have similar savings potential which has generally gone untapped. In the 1970s there were some highly successful initiatives through post offices (Von Pischke, 1975), but subsequent bouts of inflation wiped these savings out. Recently, with the advent of e-banking, the scope for mass savings has again been demonstrated: the M-PESA scheme in Kenya is serving as a savings vehicle, as well as a payments mechanism. There is evidently potential for building societies to use e-technology to harness this depositor base. Indexation not only makes mortgages more affordable, it makes savings safer and so is very popular with savers. By matching the indexation of

their mortgage assets with the indexation of their deposit liabilities building societies could have a safer business model.

For housing to function as low-risk collateral, building societies need the conditions discussed in previous sections. Legal title has to be clear, and court processes reliable. Further, systems whereby a lender can cheaply observe the credit history of the borrower, whether there are other liens on the property, and the actual occupancy of property (to establish whether it is tenanted) are needed. Housing must be affordable, of standard design, and built to enforced standards, so that it can readily be accurately valued.

5. Supporting Infrastructure

For housing to be decent the property itself must be supported by complementary physical infrastructure and social services: roads, drainage, street lighting, electricity, water, and sewerage, together with policing, schools, waste disposal, and health care.

While the capital costs of some of these services may be provided by property developers, ultimately supply is best undertaken publicly. In part this is because many of them are network goods and so cannot be provided by each household individually. In part, it is because even where they can be supplied by each individual household, as with sanitation, there are substantial externalities. At African levels of income, the private benefits from installing good sanitation in a house are generally insufficient to warrant the expense. The evident public benefits imply that provision must be either subsidized or enforced by compulsion.

Cost-effective provision of the physical infrastructure requires that it be installed in advance of housing construction and then serviced. If infrastructure is retrofitted the costs may be prohibitive. For example, the prolonged civil war in Sierra Leone induced massive growth in the population of Freetown, while at the same time precluding public investment in even the most basic urban infrastructure. As a result, there is now a striking lack of roads. Yet because squatter-style settlement has occupied the land on which roads might have been built, even the legal processes required for clearance as a prelude to road construction are beyond current government administrative and political capacities.

The decision problems posed by these characteristics are the need to internalize localized externalities; the need to finance long-lasting investment; and the need to plan ahead. The three problems are inter-dependent. In the absence of planning, population growth will still occur; but settlement will be informal and so it will be more difficult to build a tax base that internalizes externalities. Unless externalities are internalized neither services nor infrastructure investment cannot be financed. Without credible prospects of finance, there is little point in planning for the services and infrastructure that anticipate urbanization.

Localized externalities of infrastructure can be captured and thereby internalized, either through ownership of the land itself, (as in modern China and the estates of 19th Century London), or through a local tax system. Where it is politically feasible, the former is administratively less cumbersome and avoids distorting side-effects, but taxation is the more common approach. Urban planning is standard around the world. The starting point is realistic forecasts of urban population growth. This demographic information has direct implications for aggregate housing, schooling, and health care needs. On this base planners need to integrate a view of likely local economic developments, including growth of manufacturing locations and city centre service activities. From this demographic and economic information the key decisions on new residential locations and their supporting infrastructure follow.

African governments have underinvested in both internalization and urban planning. As noted above, Africa has not adopted the Chinese model of government ownership of urban land, so that the imperative is to achieve internalization by building local taxation systems. With few exceptions, notably recent developments in Lagos, African city administrations have not generated significant tax revenue. As a result, politically they have little interest in local economic growth, and financially infrastructure needs are unaffordable. This, in turn rebounds on urban planning: without finance otherwise sensible plans become idle dreams.

Underlying the neglect of internalization and urban planning is a deeper explanation: African governments have resisted urbanization rather than embracing it. For example, the Government of Liberia has adopted a deliberate policy of refraining from infrastructure investment in the recent settlement areas of Monrovia, as part of a strategy of inducing urban residents to return to the countryside. Underpinning this official resistance to urbanization is a political fear of organized urban protest. Africa's demographics imply that rapid urbanization would create cities peopled overwhelmingly by young adults. The failure of African cities to generate sufficient opportunities for formal wage employment makes them potentially dangerous concentrations of disaffected youth. Coincident with these political fears of policymakers, donor agencies have emphasized rural development as a priority for public spending. Underpinning this bias has been the simplistic mantra that since the majority of poor people live in rural areas they should be the focus of public spending, and a deeper prejudice among NGOs (which are the key political constituency for development agencies), against urban-based economic growth.

6. Opportunities for Income

It is not sufficient for housing to be of decent quality and to be properly serviced by public goods; it must also enable households to generate a viable income. At a minimum, new settlement must be compatible with those opportunities for employment which are being generated elsewhere in the city. However, viable settlement should aspire to more than compatibility with exogenously generated employment opportunities. Well-planned settlement can induce employment in provision of local services and workshops, so that most members of the resident labour force find employment within the locality. Hence, planning for households to generate viable incomes involves both compatibility with exogenous employment opportunities and the generation of endogenous local opportunities.

Compatibility with exogenous opportunities involves physical access to places of work, the accumulation of pertinent characteristics for employability, and information about opportunities in other parts of the city. Physical access is the most straightforward aspect to plan. It requires that in combination, the location of settlement and investment in transport infrastructure permit commuting. This raises the initial cost of settlement because it implies some combination of sites that are more proximate to the city centre and therefore have higher land prices, and more investment in transport infrastructure. The accumulation of pertinent characteristics for employability is more subtle but may also be important. The most obvious attributes are the hard skills acquired through education and occupational training, both of which can be directly planned and provided. The more nebulous attributes come from the community attitudes and norms which will form in the settlement. For example, once unemployment becomes the norm for young people, it will affect aspirations accordingly. Such hysteresis effects are well-established both in attitudes to work and in parental attitudes to education. They suggest that there may be a premium upon getting the early stages of new settlement right.

In a large new settlement the generation of endogenous opportunities for employment is likely to be more important than compatibility with exogenous opportunities: most employment is usually devoted to serving local markets. The fundamental aspects of endogenous opportunities are density and regulation. The higher is the density of settlement the greater are the economic opportunities per square mile. In typical low-income cities this creates a trade-off between the economics of housing-as-accommodation, and housing-as-opportunity. The least cost form of residence is single storey, because greater height requires more substantial walls and more sophisticated building, yet the greatest opportunity per square mile is evidently through proximately spaced tower blocks. The market does not handle this trade-off well. The economic-opportunity-generating aspect of increased density is an externality, whereas the increased costs of construction necessary for higher density are fully internalized by the household. In consequence, left to an unregulated market building heights will be too low, and density as a consequence will be too low. Density will increase as settlement proceeds because land values will increase. But the putty-clay nature of residential investment inhibits

what would otherwise be a gradual market-driven increase in height. Clearly, the informal settlements of African cities have not yet induced investment in height. As a result, the floor area ratio of persons per hectare (FAR) of the typical African city is essentially flat over the spectrum of distance from the city centre, whereas the normal global pattern is for it to fall steeply as distance increases. The FAR is substantially too low in areas close to the centre.⁷ This may be because of the other impediments discussed above such as finance or lack of secure title, but it may also be due to a coordination failure inherent in a market-driven process. At low per capita income levels low-rise residence may remain privately optimal, because the density achieved by it never musters enough value to justify writing off the fixed costs of low-rise and replace it with high-rise.

Saunders (2010) suggests that from the social perspective, in which the economic-opportunity externalities of density are internalized, the most appropriate choice along this trade-off is blocks of five storeys in which the ground floor is used for small businesses. Five storeys is the maximum height before the need for a lift, which involves a quantum increase in costs. While this hypothesis is plausible, it has not yet been researched. If it is correct it would indicate a substantial market failure in African cities, since structures in informal settlements are generally only single-storey.

Inappropriate regulation can destroy the potential of high density, as in high-rise estates of the developed world that are zoned for purely residential uses. While inappropriate regulation will constrain employment generation, there is also much that a city government can do actively to promote it. The market process is replete with localized coordination failures and externalities that astute official intervention can help to offset. Local market places are themselves public goods; the weights, measures and hygiene practices adopted by local businesses benefit from public standardization and verification; local dispute settlement procedures can reinforce contracts and reduce opportunism; formalization and certification of apprenticeships can enhance skill formation.

The potential for damage and benefit inherent in public regulatory policy at the level of the city mirrors the standard debate about national industrial policies: a passive state is better than a predatory state but inferior to an astute developmental state. At the national level, the conventional critique of the African regulatory policies adopted for much of the post-Independence era has been that they tended to be predatory, in contrast to the developmental states of East Asia. Potentially, the same critique might apply to urban regulatory policies. Just as Africa inherited inappropriately high building regulations, potentially it may have suffered a similar fate with zoning restrictions. However, the informal settlements that have been the predominant process of post-Independence urban residential growth are usually beyond the confines of the colonial city and seldom subject to effective zoning. The key impact of urban regulatory policy towards settlement has been to make it informal. In effect, African urbanization has approximated a completely free market without any institutional support from the state.

⁷ Personal communication from Steve Malpezzi.

7. Conclusion: from Failures of Market Coordination to Failures of Policy Coordination

African housing investment has been affected, directly and indirectly, by public policies that have prevented the formal sector from providing housing that meets the needs of ordinary households. However, these policies have not been enforced beyond the remit of the formal sector, and so if informality were efficient urban Africans would be well-housed. Informal builders would build decent homes cheaply; informal finance would finance them cheaply; informal dispute settlement procedures would restrain opportunism; community processes would coordinate to provide the public goods of settlement; and the market itself would internalize the value of rising density. Yet ordinary urban households are not well-housed: the typical living quality provided by informal housing is pitiful, and it also fails to provide the resident labour force with sufficient proximate opportunities for decent incomes.

Our message to Africa's urban policymakers is not the need for deregulation, but the need for policy coordination. For investment in housing to happen on a large scale through formal channels requires a series of supporting conditions. Unit costs of construction in the formal sector must be low enough to be affordable by ordinary urban households. Legal title must be secure, marketable and support collateral and rental. Finance must be available and affordable both for small construction firms and for mortgages. Infrastructure must be planned and provided in advance of settlement, and residential services must swiftly be forthcoming subsequent to settlement, while both must be financed by capturing a share of the value added to productivity by density. The location of settlement, transport infrastructure, and public regulation must be supportive of income opportunities. Each of these is not merely vulnerable to inept policies; it is in need of appropriate policies.

Not all impediments are important in all African cities. For example, in Nairobi in aggregate the constraints make the ownership of a property unaffordable for ordinary households even in an informal settlement, whereas in Dakar most households own such property but find it difficult to rent.

We suggest that the persistence of multiple impediments is because the payoff to policy reform in any one of these areas in isolation is very limited, given that the others remain and will in aggregate be binding. Since each is the responsibility of a different group of policymakers, the rational strategy for each policy team is inaction. The potential for urban housing can be unleashed only by a coordinated push across a wide range of policy teams. This in turn requires that housing policy be elevated to the highest political level. This has not yet occurred, partly because of the above-noted bias against promoting urbanization, and partly because as the informal nature of settlement became established, formal policies appeared to be impotent and hence irrelevant. Within African governments, Ministries of Housing largely restricted their focus to the provision of housing to senior civil servants, and the maintenance of inherited formal regulatory standards which conformed to international practice. Meanwhile, among international thinking on African housing policy, the prevailing view has become that the priority is to help informal housing to work better and to upgrade infrastructure rather than to

make formal housing investment work for ordinary households. While this is probably correct given the confines of present policy discussion, such an approach accepts rather than confronts the lack of formal market housing and the absence of coordination.⁸

Yet the political elevation of housing necessary for coordination is no longer a forlorn goal. The post-apartheid Government of South Africa made decent housing a priority for its discretionary spending. With revenues from the commodity booms other African governments at last also have some discretionary spending. Coincident with these revenues, the Arab Spring in North Africa has focused concern south of the Sahara on the wellbeing of their urban populations, and in particular on the need to provide jobs for young men. Affordable housing build on a large scale using labour-intensive techniques by small private construction firms is one of the few credible approaches to a rapid expansion in jobs for this social group. Hence, housing policy might now be able to achieve a political salience that has previously been infeasible.

⁸ Further, the enhanced infrastructure benefits landlords who are currently largely absentee: for example, connection to electricity raises the rent per room in informal settlements by 27 percent in Nairobi and 44 percent in Dakar, Gulyani et al (2012).

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