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The Social Costs of Real Estate Market Information Gaps in Ghana[1]

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ABSTRACT *Real estate markets function efficiently when driven by information regimes in which legitimate information corresponds with information that must count in market decisions. Where there are mismatches between legitimate information and information that must count, gaps naturally emerge in the information order. If the conditions for the creation and widening of such gaps are not removed, tenure insecurity, real estate transaction constraints and social costs tend to be heightened. This article presents a view of the conditions that have created information gaps in the Ghanaian real estate economy together with their allied tenure insecurity and social costs. Propositions for alleviating these information gaps are consequently proffered.*

KEY WORDS: Real estate, markets, information asymmetry, Ghana, Africa, social costs, land titling, land registration

Introduction

The argument that transaction costs are the single most important determinant of market efficiency is now widely accepted by economists and specialists in the field (Coase, 1960; Williamson, 1981; Turvani, 1997; Rao, 2003). As applied to real estate, transaction costs comprise the costs of ascertaining property ownership, relevant prices and available stock as well as the costs of measuring and monitoring the relevant attributes of real estates, negotiating terms of trade together with the formalisation and enforcement of real estate contracts. Primarily, the relationship between transaction costs and market efficiency is discovered as an inverse one in the sense that higher transaction costs impede, while lower transaction costs facilitate, market efficiency. For that reason, it is arguable that lowering transaction costs below the harmful threshold or at least kept regularly within tolerable limits is an effective way of inducing efficiency in real estate markets. That said, it is now widely known that many of the transaction costs, whether in real estate markets or in other markets, arise either from or relate essentially to the typical disproportionate distribution of relevant information between transacting parties—information gaps (Coase, 1960; Stigler,

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1961; Geertz, 1978; Bernstein, 1983; Williamson, 1991; Platteau, 1992; Feenan, 1998; Wyatt & Fisher, 1998). What does emerge from these dialectics thus is that when information gaps in real estate markets are successfully blocked, transaction costs will fall and market rationality and efficiency will most likely increase.

That information is a critical determinant of market efficiency is not a recent detection. Right through history the argument that reliable, accurate, relevant, verifiable, up-to-date, complete and intelligible information (Freenan & Dixon, 1992) promotes efficiency in economic systems is readily accepted by experts in the field (Feenan, 1998, p. 15). Yet, seldom are economic systems in possession of the ideal quantities and qualities of information. For, invariably: (1) relevant data for efficient market decisions are scarce and disproportionately distributed among market participants (Stigler, 1961); (2) actors in possession of superior information are often incentivised to adopt an opportunistic stance to increase their gains from trade to the detriment of other transacting parties (Williamson, 1981, 1986); and (3) actors have limited capacity to absorb and process the requisite amount of data for efficient market decisions (Simon, 1979). Primarily, these conditions result in situations where different market actors hold different and possibly irreconcilable information about specific commodities or properties. This prevents the accomplishment of the notion of perfect information, which undergirds neoclassical market theory.

The questions then are, in a situation where parties hold irreconcilable information whose information is legitimate? Whose information is credible? And whose information must count? Efficiency demands that market information systems must ensure a strict match between the information that counts and that which is credible and legitimate. This will help market participants to form their commercial decisions on reliable and unambiguous data regarding, for instance, price signals, property rights, available stock and property identification criteria (Wyatt & Fisher, 1998). It is upon such an information regime that market participants are perceived as able to take rational decisions in the pursuit of their self-interest (Friedman, 2002). The existence of such good fit between the information that must count and that which is credible and legitimate largely explains why in rich countries market economies generate large-scale growth mainly because assets are exchanged with great confidence in large volumes (AMCAD, 1998; De Soto, 2000).

Where mismatches or gaps exist between the information that must count and that which is credible and truly legitimate, confidence in trade is reduced and market transactions are constrained. Land transactions or credit based on land collateral are in particular constrained where there is a mismatch (or gaps) between what sellers/borrowers can provide as proof of property rights and buyers/banks will accept as proof. The reason being that, such a perverse information order does not provide buyers/creditors with the confidence they need to rationally transact or provide financial credit to persons purporting to be owners of particular assets. The immediate repercussion is that access to investment capital is greatly restricted, investment in land is reduced and the potentials of landed assets are less fully actualised resulting in loss of opportunities for growth. Then again, where there are no gaps in the information system, land buyers/creditors are better able to determine quite straightforwardly the credibility of ownership claims made by sellers/borrowers and are thus able to fairly easily formulate their purchase or credit decisions much more rationally. In that case, access to investment capital is enhanced, investment in landed assets increase, the potentials of landed assets are realised in large scales leading to growth. Important also, it ensures consensus between society and the law on whose rights or claims to safeguard and whose actions and interferences to emasculate.

Legal actions turn out to be, as a result, largely predictable. Opportunistic behaviours become less rewarding and are thus considerably subdued as both society and the law provide solid defence and protection for the rights of true owners against opportunistic interferences. It is decisions made under such conditions that promote the efficient allocation of urban land and real estate resources.

This article argues from this expository point that tenure insecurity, social costs and market inefficacies exist in real estate markets in Ghana and elsewhere in sub-Saharan African primarily because information gaps are prevalent and have given rise to widespread opportunistic behaviours. These information gaps and their attendant deficiencies in access to reliable land information, though existing under the indigenous tenure system, have been compounded largely by the extant conceptually improper government land information systems. Instead of alleviating or eradicating information gaps, these government information systems have the tendency to mete out higher transaction costs and distort realities thereby aggravating information gaps, opportunistic behaviours and inefficient market decisions. The fundamental result is a worsening of tenure security and market malfunctioning.

The Strategy of Inquiry

This study is conducted in Accra, Ghana using an ethnographic research procedure which is a research procedure that emerged from the field of anthropology (Creswell, 2003). The primary informants in this study are randomly sampled property market participants and officials of the Lands Commission and the Land Title Registry of Ghana. In all, 54 market participants were interviewed made up of 40 property purchasers and 14 property sellers. In addition 10 senior staff made up of 6 from the Lands Commission and 4 from the Land Title Registry and 10 qualified real estate valuers were interviewed. Using ethnographic research methodology, the focus of this study is to gain a holistic view of the everyday experiences of the real estate market participants coupled with the nature, sources and consequences of real estate market information gaps in Ghana. The data for the study were collected from January through June 2004 with follow-up interviews between June and December 2005. This entailed interviews and a review of administrative records and literature. The data analysis sought to, in keeping with the ethnographic tradition, identify and describe themes and explain events from the economic theoretical perspective. Descriptive analysis has been the vehicle for communicating the view of the nature, sources and consequences of information gaps in the study area.

The Economic Imperative of Urban Real Estate

The United Nations (2005) estimates that by 2050 the population of Ghana will reach 40 573 million from as low as 5243 million in 1950, 22 113 million in 2005, 26 562 million in 2015 and 30 964 million in 2025. According to the relevant statistics, by 1960, 23.1 per cent of people in Ghana lived in urban areas. This is projected to increase to 39.2 per cent in 2010 and 54.2 per cent in 2020 (GSS, 1995; United Nations, 1996). Given that in most countries real estate forms between half and three-quarters of national wealth (World Bank, 1989) and between 45 and 75 per cent of the wealth of developing countries (Ibotson *et al.*, 1985), proper harnessing of this rapid urbanisation trend could be economically beneficial for the real estate economy and ultimately for the larger economy. This is because urbanisation

engenders demand and increases transactions in real estate. With the Greater Accra region of Ghana being the fastest urbanising (see GSS, 2002) it presupposes that it offers the largest potential for real estate induced growth. See further Jaffee and Renaud (1996), Callander and Key (1997), Munroe-Faure (1997), Renaud *et al.*, (1998) and World Bank (2000) for relevant statistics on the growth imperative of real estate.

Because weaknesses in the modalities employed in real estate information management can disrupt the potential economic gains as the recent crises in East Asia demonstrate (World Bank, 2000, p. 37), it is vital that both the resulting information from the urbanisation and existing ones are properly harnessed to remove gaps and instil requisite confidence in these markets. Attempts have been made in this direction in Ghana and even across the developing world since the 1980s with donor support. These have come in the form of Cadastral, LIS, Land Titling and Registration and GIS under several donor-funded projects (see Bernstein, 1983; Doebele, 1983; Morgan, 1985; Williamson, 1991; Government of Ghana, 1998). Quite surprisingly nonetheless, in Ghana, these systems have so far produced doubtful benefits. Just about 8 per cent of this information across the country (World Bank, 2005) and about 30 per cent in the urban areas alone (AMCAD, 1998) have been captured. Even with that, the accuracy of the captured information has also been questioned (Brobbey, 1991; Antwi, 1996, 2000; Antwi & Adam, 2003).

At any rate, while employing modern technology to capture and disseminate land information is important, indeed inexorable, computers and information technologies are, simply, tools and will do only what they are directed to do. By themselves they offer little prospect for efficiency unless an efficient and sound economic conceptual framework underlines their use. The fact that these installed systems have done very little to improve the information regime of the real estate economy of Ghana to date is suggestive of weaknesses in the conceptual framework that have driven them. To inquire further into this, there is a need for brief insights into the origins of information gaps in the real estate economy of Ghana.

Indigenous Tenure and Information Gaps in Ghana

Economic theory suggests that the level of perfection of information in particular markets can be gauged from the degree of uniformity of prices of identical commodities. Stigler (1961, p. 214) in fact argued "price dispersion is a manifestation—and indeed, it is the measure—of ignorance in the market". But this proposition is mostly inapplicable in urban real estate markets because real estate commodities are generally heterogeneous with numerous attributes, are fixed in location, never identical, have concealed information and are traded in infrequently. This makes price too sluggish in transmitting relevant market information to serve as a good yardstick.

Even so, the indigenous tenure practices in Ghana, indeed sub-Saharan Africa, present further difficulties. As the manifold indigenous tenure practices provide the setting for the operation of the price system, their inbuilt mechanisms determine the way information is coordinated. In Ghana, particular indigenous corporate bodies such as Stools,[2] Families and Clans own land rights in defined land areas. The tenure arrangement can be likened to the relationship between the directors of a limited liability company and its shareholders in which the members of the group together with the directors are the shareholders. The main difference is that under the indigenous tenure system all deceased directors and shareholders remain valid but notional holders of the land.

The trouble with the tenure system is not whether it admits purely price operated commercial land dealings, something that conventional theorists have denied for a long time (see further Danquah, 1928, p. 212; Polanyi, 1944; Asante, 1975, p. 3; Mabogunje, 1989; Platteau, 1992, p. 83; Degnbol, 1996; IIED, 1999; Gough & Yankson, 2001). Recent studies affirm, on the contrary, that these tenure systems are practically price operated as in the Western sense though often laced with normative rules that do little really to affect the commercial nature of land transactions (see further Buell, 1965; Bruce, 1986, 1987; Feder & Feeney, 1991; Migot-Adholla *et al*., 1991; Rimmer, 1992; Binswanger *et al.*, 1995; Woodman, 1996; Payne, 1997; IIED, 1999; Toulmin & Quan, 2000; Antwi & Adam, 2003). So active is the residential property market in Ghana for example that it registers some 85 000 market based transactions per annum (GIPC, 2005). This is comparable to what pertains in the West and there can be no doubt, even to the causal visitor to Ghana, that there is in existence in most urban areas, certainly in Accra, an active purely price operated land and property market comparable to property markets in Western societies.

The feature of interest however is that critical information regarding for instance the limits and bounds of the group lands, previous transactions, decisions and actions among others are usually passed on orally from generation to generation (Brobbey, 1991, p. 49). Seldom do documentary records exist on such matters with the exception of those necessitated by judicial proceedings in which the corporate land was involved. Knowledge of such important market information thus becomes the preserve of the privileged few who happen to be present at particular key events. These privileged few attain opportunistic positions that could influence outcomes of market transactions enormously. Besides, as memories fade and those privileged few die, huge information gaps naturally emerge not only between buyers and sellers but also within the indigenous corporate groups.

One of the outcomes of these information gaps is that areas of land originally acquired, allocated to or taken possession of by individuals and sub-groups turn out to be imprecise, imaginary and controversial leading in many cases to rival claims and conflict. Properly when such conflicts are resolved and the information relating to the outcomes is preserved and made widely available, recurrent conflicts which would lead to tenure insecurity are largely prevented. However, as this historical information is seldom kept in a largely verifiable form, its availability, reliability and accuracy depend largely on the candour of these privileged few. Whether they can be employed in market decisions also depends on whether transacting parties will legitimately or opportunistically accept the information offered by those in possession of it. Where the information available is scanty, absent or questionable, previously resolved conflicts and litigation become recurrent and endless at extra costs to disputants, with social costs to the broad society. This also promotes widespread tenure insecurity in the communities.

Moreover, indigenous land transactions used to be oral grants and were never reduced into writing, nor was writing in any form essential for validity in Ghana (Larbi, 1994; Woodman, 1996). It was sufficient that the requisite customary drinks and other rites had been performed in the presence of witnesses. In the case of transactions or grants to non-members of the corporate group, some modicum of documentation such as a receipt and site plans in addition to other incidents required by the applicable customary law was sufficient (Meek, 1949, p. 171).

The general absence of accurate and sufficiently documented and verifiable key information created at the outset, serious information gaps, which continue to impose greater restrictions on tenure security and market efficiencies. The government interventions

to redress these information problems have rather come to complicate matters and have now become the prime source of information gaps in Ghana.

The Prime Sources and Nature of Extant Information Gaps in Ghana

This section looks at the sources from which information gaps are produced in the contemporary Ghanaian real estate sector. These sources exist within both the demand and supply streams at both the capture and distribution levels of the information market. Curiously, in Ghana, the fundamental source of land market information gaps is not at all due to lack of information. As mentioned earlier, volumes of land information are produced increasingly in Accra and other urban areas of sub-Saharan Africa. The real source of the gaps, strangely, derives from the polarised legitimacy of available market information. The government and market dealers are divided on the question; whose information counts as the reliable, legitimate and credible basis for market decisions? This has driven a wedge between the existing information orders in these markets to create gaps. The explanation for this state of affairs is presented below.

There are two categories of land information in Ghana as elsewhere in sub-Saharan Africa, called in this article category-1 and category-2 information, respectively. Category-1 information is the direct transaction information. This is the information produced from original acquisition of land rights or from the exchange of property rights at either the first or second-hand property markets. By its very origin category-1 information is often immediately known only to the specific transacting parties. However, in the long run the relevant information becomes available to the neighbours and the community. Category-2 information is the officially processed, compressed, simplified and recorded version of category-1 information.

As argued throughout the article, for any information to be effective in remedying information gaps it must have legitimacy, be credible and must count in the view of market dealers. Officially, in Ghana only category-2 information is considered legitimate. In actual fact, if all category-1 information was, immediately after production, transformed accurately into category-2 information, the only difference between them would be that category-1 information would be verbose, difficult to digest and assimilate while category-2 information would be simplified, intelligible and easy to digest. Nonetheless, in reality there is always some time lapse between the creation of category-1 information and its transformation into category-2 information. In the particular case of Ghana, this study discovered that this process takes an average of 600 days. Even so, as at December 2002, a backlog of 94 100 individual category-1 transactions were pending for transformation into category-2 information at the Land Title Registry. This implies that if transactions take place regularly in Accra as presumed, then the database on category-2 information could be some 600 days belated.

This significant time lapse and the likely datedness of category-2 information notwithstanding, a major concern is whether indeed transacting parties perceive category-2 information as legitimate enough to induce confidence in real estate transactions. This can be measured from the desire of the market to convert category-1 information to category-2.

Under the existing arrangements, transacting parties are required to submit their category-1 information to the relevant agencies for transformation and legitimisation at costs to them. The main costs they face include: travel costs to the respective agencies; waiting time costs; expediting and unofficial gratuity payments in addition to official fees and charges. The World Bank (2005) estimates the official fees and charges for the

conversion process to average about 3.1 per cent of the value of the asset. Given these costs, and in the absence of any real compulsion, it is possible to gauge the willingness and scale of patronage for the conversion. If the patronage is high, all things being equal, category-2 information could offer potential for redressing the information gaps. Alternatively, low patronage indicates transacting parties' lack of support for the conversion process and a denial of the legitimacy of category-2 information.

As pointed out earlier, the World Bank (2005) found that in Ghana only 8 per cent of category-1 information has so far been converted to category-2. This implies that, from the evidence only about 8 per cent of market dealers consider category-2 information as the information that counts and credible for market decisions. Rather, 92 per cent of market dealers perceive category-1 information as the information that counts and hence credible for market decisions.

The problem is that often there are significant disparities between these two information categories. A typical case is the situation that has characterised about 70 per cent of government land holdings in Accra. The Sports Complex Area at New Achimota, the Atomic Energy Area at Haatso and the area proposed for Military Training Grounds, Teshie are examples in Accra. In all these areas, whereas the legitimate owner from the official perspective is the government, market dealers acknowledge individual indigenous families as rightful owners and have felt comfortable dealing with them. These areas host some of the pricy properties in Accra developed largely by buyers not from government but from these recognised individual families on the ground. Even intermittent threats by government over the years to demolish these buildings do not seem to have deterred market dealers from recognising these individual families as legitimate owners. Herein lies the gap in the land information system in Ghana. The information that counts is not legitimate and the officially recognised legitimate information does not count from the perspective of market dealers.

This is clear evidence of almost unanimous lack of support or patronage for the conversion process, an indication also of a lack of sufficient benefit from the system to warrant the costs of patronage. The worrying question is why would 92 per cent of transacting parties prefer to hold their transaction information in illegitimate format rather than in legitimate format? Perhaps an important reason for this stems from the limited secondary property transactions as most property owners regard real property largely as a consumption and inheritance good, rather than as an investment good in the classical sense. Many are also unwilling to use their property as collateral for credit for the fear of loosing their inheritance through forced sale. Uncontested physical possession is thus to them more important than documentation and formalisation. This is a far cry from what pertains in the developed world such as the UK where on the average each property is sold every 14 years with many under mortgage. Though this position is changing, the change process is rather slow. This could be attributed to the wedge that exists between what information must be legitimate and what must count.

Having looked at the sources and nature of the information gaps in the Ghanaian system, the article turns now to the implications of these gaps on tenure security and social costs.

Information Gaps and Tenure Security

The importance of tenure security to efficient real estate market functioning has long been appreciated by international development agencies involved in land issues such as the

World Bank (1989, p. 87) and other experts in the field. Even so, to date tenure security in these markets is perceived as a technical and legal issue remediable by the issuance of Land Title Certificates or other similar documents endorsed by public officers and declared indefeasible by law.

Tenure security is simply the insurance against unlawful eviction or dispossession of legitimate property rights. This implies that for tenure security to occur, the rights in question must have been previously created, well defined and clarified. Accordingly, in a market democracy where rights to assets are already created and well defined, tenure insecurity can only occur essentially when the true information about the property rights in question is not so well known by society or gaps exist in the information framework which opportunistic actors including the government can clandestinely and successfully exploit for profit. To exploit these opportunities particularly in a democracy where rule of law and human rights virtues are extolled, it will be in the interest of opportunistic actors to hide their opportunistic nature to obviate serious social condemnation or outright prohibition by the law. This means that they must also be in possession of some form of information that at least superficially appears credible to support their rival ownership claims. This cannot be achieved where there are no gaps in the information order, where the information that counts, that is credible and legitimate is widely known and accepted. On the basis of this opportunistically contrived irreconcilable information, they can commence ownership contests with the rightful owner. Since rightful owners will normally not give up their rights without contests, land litigation is likely to ensue.

Now, when this litigation protracts, at some point there will be the need for adjudication or legal action. The job of the adjudication procedure is no more than ascertaining which of the two conflicting sources of ownership information presented for adjudication must count? Which is credible? And which is legitimate? Where there are no gaps in the information order, the adjudication systems will address these questions by reference to a single generally accepted credible and legitimate information source. Where such a source exists, the results of adjudication or legal actions will be easy to predict by the parties even before the commencement of the litigation. It follows that opportunism will have no merit and truly credible and legitimate tenure will remain secure. Nonetheless where no such information source exists, the outcome of litigation becomes largely a matter of chance or dependent on how well the disputants (or their counsel) argue their case. There will thus be as much chance that the adjudication procedure or legal system could answer the questions correctly as answering them wrongly. The results will largely be unpredictable. When the adjudication system or courts answer the questions wrongly, they themselves become sources of tenure insecurity. This shows how simplistic the clamour for adjudication as the means for redressing tenure insecurity can be.

There is no shortage of conflicting land judgments in Accra, Ghana. These demonstrate how in a regime of information gaps, even the courts can promote and aggravate tenure insecurity. Take the judgment in civil appeal number 49/80 delivered in 1982 (otherwise referred to as the Numo Nmashie family judgment) for instance. That case relates to a 25-acre parcel of land acquired by the government of Ghana for the Ghana Broadcasting Corporation for a television station. The government received three rival claims to the compensation due from the Osu, the Berekuso and the Numo Nmashie families. The court of appeal on the matter gave judgment in favour of the Numo Nmashie family. In the course of the legal proceedings the appeal court requested a survey plan to be prepared to enable the court to identify the villages being mentioned in the trial and their relationship

to the land. The idea it appears was to give judgment in favour of the owners of the villages in the closest proximity to the land in question. This situation would have been unnecessary but for the existence of information gaps in the system.

On the basis of this plan, the court entered judgment in favour of the Numo Nmashie family. The judgment accordingly became officially interpreted and recorded as a declaration of the Numo Nmashie family as owner of all the land connecting all the villages indicated on the survey map. This land covers several hectares stretching from the northern end to the southern end of Accra engulfing several existing historical villages and towns. The judgment rather curiously conflicts with a number of judgments that have previously declared portions within this area for other families[3] some of which date as far back as 1933 and delivered by higher courts and the adjudged owners have also remained in effective physical possession since. Moreover, the judgment overlaps some 25 major government acquired lands. Accordingly, the apparent tenure securities that these previously adjudged owners, who are also in physical possession of the lands, together with government enjoyed are now threatened by this judgment. Potential exists also for other subsequent judgments to conflict with the Numo Nmashie judgment and the cycle of insecurity could be perpetuated. On the ground, this judgment expectedly has generated intermittent violent clashes between the existing owners and the newly declared owners.

Such a perverse situation provides recipe for opportunism to flourish as it improves the likelihood of gains from opportunistic behaviours. When these information gaps are blocked, the incentives for opportunistic behaviours are removed; opportunistic rival claims and title contests will be considerably curbed thereby improving tenure security enormously. It needs to be noted that in societies where property rights are still evolving however, genuine litigation and ownership contests will continue until all titles are fully evolved and clarified.

The discussions now turn to the second element in the thesis, the social costs of information gaps.

The Social Costs of Real Estate Information Gaps

In any situation in which information is disproportionately distributed among market participants, possessors of land rights often have more knowledge about the extent to which their rights to the land are defective or even are likely to become contested than other individuals, especially those from other communities (Brandao & Feder, 1995). In the same way borrowers tend to be better equipped with current and accurate knowledge about their ownership details and defects in titles used as collateral than credit suppliers. This leaves large room for opportunistic behaviours (see Williamson, 1986). Those with superior information have the incentive to suppress or hide defects in their ownership details and rather hype the quality of their rights to augment their profits. This leads to market malfunctioning, as transactions concluded on such a skewed information structure are likely to result in inefficient outcomes with wider systemic repercussions with attendant social costs.

Figure 1 illustrates how such information gaps lead to overpricing or underpricing of real estate with the attendant social costs. In the figure the vertical axis is taken to represent the price of a particular category of urban real estate property; say property class *X*, while the horizontal axis is the likely quantities of property class *X* associated with particular prices. Take d_0, d_1 and d_2 as the optimal, underpriced and overpriced demand scenarios,

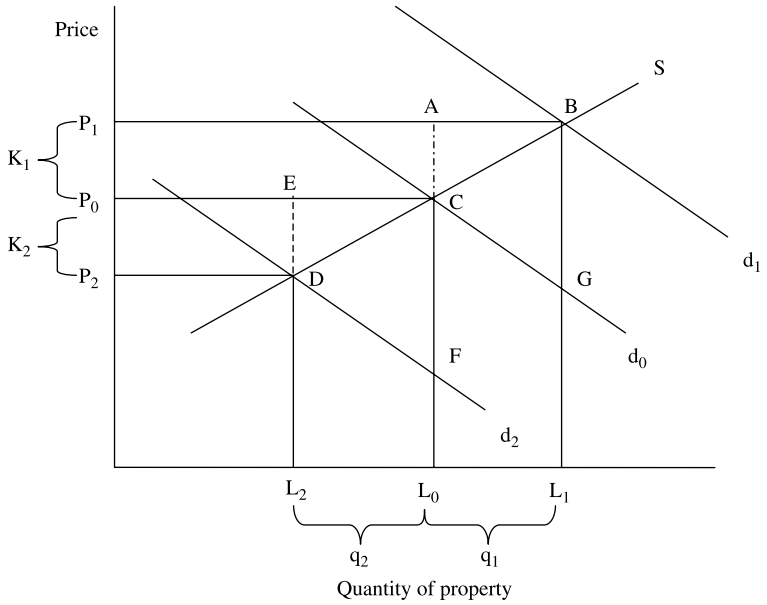

Figure 1. Economic dynamics of information gaps

respectively, for class *X* properties. In a regime of perfect and equally distributed information, the equilibrium price is P_0 for class *X* properties and the equilibrium or optimal quantity is L_0. This price and quantity arrangement represents an informed purchaser's decision points. L_0 will be the point at which the market will be said to be performing most efficiently, with land being put to its optimal uses. Typically, few, if any, urban real estate markets operate within a regime of perfect information to permit this to always occur. As Senior (1854, cited in Rose, 2002) avers:

> the detail of commerce are so numerous, the difficulty of obtaining early and accurate information is so great, and the facts themselves are so constantly changing that the most cautious merchants are often forced to act upon very doubtful premises.

This is especially so in the developing world where as Geertz (1978, p. 29) argues, "information is poor, scarce, maldistributed, inefficiently communicated and intensely valued".

When information gaps persist they engender one of two or both possible outcomes. The d_1 scenario occurs essentially when the available level and quality of information leads to overestimation of the utilities and an underestimation of the defects in land and properties, whether legal, technical or physical. This results in overpricing of land and properties. Alternatively, the d_2 scenario occurs when available information leads to underestimation of the utilities and an overestimation of the defects in land and property. This conversely results in underpricing of land and property. Both scenarios come with social costs.

Real estate has an inherent attribute of skewing information in favour of property owners. They own the property and are better informed than purchasers about, say, the

subsistence rights, defects in title or physical conditions and any rival title claims affecting the property. Moreover, property suppliers could deliberately exacerbate this skewed information situation by withholding information from purchasers.

This is most likely, simply because the very presence of information gaps in economic systems creates rents or windfall returns. Relying on such faulty information in market decisions could result in purchasers overpricing the intrinsic utilities of particular properties and bid higher than the actual worth or optimal price. Such purchasers will be forced to operate along the d_1 instead of the d_0 optimal scenario at which L_1 quantities of class *X* properties will be purchased at unit price of P_1. In this (d_1) scenario where land is overpriced, there is an efficiency loss as land is presumably taken out of its current use to a new use that will produce returns that are less than the price offered for the land. For example, if residential lands are overpriced to the levels of commercial lands, the optimal returns produced by this land will match the optimal for residential lands and are likely to fall below those of commercial lands. Thus purchasers who acquire properties above the optimal level suffer social costs given by $[P_0P_1AC] + [ABC]$. Arithmetically $P_0P_1AC = K_1(L_1 - \Delta q_1)$ and $\Delta ABC = \frac{1}{2}(q_1 \times K_1)$. Haberger (1964) shows that $\frac{1}{2}(q_1 \times K_1) = 0.5\eta(K_1)^2P_0$ (see also Posner, 1975). It implies thus that social costs associated with scenario d_1 can be expressed as

$$S_1 = 0.5\eta(K_1)^2P_0 + K_1(L_1 - q_1)$$

in which $S_1 =$ total social costs, $K_1 =$ change in price associated with scenario d_1 and $\eta =$ the elasticity of property. It needs noting that this expression measures only the social costs due to the distortion in the purchaser's decisions concerning quality of class *X* properties to be purchased. Changes in property prices also distort property choices by inducing a substitution effect in favour of properties with financial advantages. Thus estimating social costs exclusively by the above expression leads to underestimation. However, to simplify the discussion in this article, this expression is focused on. Accordingly the total social costs aggregated over all class *X* properties under scenario d_1 will be

$$S_1 = \sum_{i=1}^{n} (0.5\eta(K_1)^2P_0 + K_1(L_1 - q_1))$$

in which $i =$ number of class *X* properties and $n =$ last class *X* property.

Yet this scenario (d_1) at the same time creates a rent or windfall return of the same magnitude ($[P_0P_1AC] + [ABC]$) for landowners. Thus motivated by the higher windfall returns or rent associated with overpricing, land and property owners are likely to firstly ensure that the rent associated with overpricing persists and secondly that where possible they grow by hyping the utilities of their properties and downplaying the defects in their properties to compel purchasers to overprice their bid and operate along d_1.

Essentially this is accomplished by withholding information, for instance, regarding defects in their property. This requires the expenditure of real resources to provide such information blockade through, for instance, the preparation and dissemination of false or inaccurate boundary maps and documents, the employment of personnel to peddle misinformation and even to maintain some form of physical presence on the land in the form of land guards among others. These expenditures are incurred by moving resources away from other productive sectors or uses just to prevent accurate information from

getting to purchasers with the sole aim of maintaining a sub-optimal condition d_1. Indeed if landowners do not protect this rent induced by the information gaps and hence overpricing, they can be sure that other suppliers (erstwhile purchasers who have now gained the true position of the information and thus realise they can gain by operating as suppliers) will attempt to enter the market and increase supply thereby forcing prices downward towards P_0. Eventually, property market transactions under scenario d_1 will lead to inefficient outcomes as willing and able purchasers are denied the opportunity to make the most efficient use of real estate. Creditors are also put at risk as they are denied the right information to determine the true collateral values of properties used to secure credit and hence are likely to overvalue such properties.

As mentioned earlier and reflected in the d_2 scenario, misinformation that leads to overestimation of defects or underestimation of utilities of properties are likely to lead to underpricing. Such information lowers purchasers' opinion of the value of the property concerned. As a consequence purchasers offer lower prices of say P_2, and reduce the quantity L_2. This again is a sub-optimal decision level and landowners who accept prices below the optimal level suffer welfare costs given by $[P_2P_0ED] + [ECD]$. Based on the above analysis and equations the social costs S_2 associated with the d_2 scenario can be expressed as

$$S_2 = \sum_{i=1}^{n} (0.5\eta(K_2)^2P_0 + K_2(L_2 - q_2)).$$

Purchasers also gain by the same magnitude. In this d_2 scenario where land is underpriced because of information gaps, landowners will continue to supply land between L_2 and L_0 in its current uses because the returns from that land use (discounted over time) as given by the area under the supply curve (DL_2L_0F) exceed the price that is available in the market. As a consequence there is an efficiency loss as compared with a situation of perfect information because that area of land is not being put to its most valued use as given by the triangle (CDE). Then again, since purchasers need the right information to take rational market decisions, they will draw resources from elsewhere into acquiring extra information from sources other than the landowners to support their decisions. Undoubtedly, disclosures of the true information would most likely cause purchasers who would have otherwise acquired the properties (for higher valued uses other than the current one) to become aware of the defects and make them especially reluctant to proceed with the purchase or at best offer a lower price to reflect the defects in the title (Brandao & Feder, 1995, p. 194). Knowing this, opportunistic suppliers seeking to market their stock will also most likely, in the absence of any unfair trading rules, expend resources to peddle untruth and damaging information about the land and properties of their competitors. This, if successful will force prices down to P_2. In that scenario, purchasers will gain from underpricing the properties. Conversely, debtors will also lose, as creditors will also undervalue the potential worth of their properties intended to be used as collateral for credit.

What emerges from this analysis is that all deviations from the perfect information scenario d_0 result in social costs arising out of a loss of producer surplus (the triangle between the supply curve and P_0 (DEC)) because some landowners would be willing to sell some quantity of land at a price between P_2 and P_0, and of consumer surplus (the triangle between P_0 and the demand curve d_0 (ABC)) as some buyers would be willing to pay more than P_0 for some of the land. In the long run unless prevented by artificial

barriers such as government interventions and legal impediments, private economic agents will emerge to take advantage of the accompanying arbitrage opportunity created by the gaps in the information. Indeed the work of real estate brokers, valuers, agents and solicitors among others is precisely to specialise in the acquisition and supply of this withheld accurate information to get the market going not at d_1 or d_2 but at d_0. Where in particular society private actors are sluggish in stepping in to supply the requisite information the job of government intervention is to identify and remove the impediments that are preventing private actors from acquiring and supplying this information. Alternatively government could evolve institutions to capture and supply the credible and legitimate information. But such government interventions must be founded on a sound understanding of the factors that are responsible for the existence of information gaps in Ghana. However, to effectively close these gaps, there is the need to grasp understanding of the sources of these information gaps.

Though evidence of the d_2 scenario exists in the country in the form of adjoining landowners or even members of the same landowning community discrediting the authenticity of the rights of particular landowners or Chiefs, this does not appear to have affected the price of land in any significant way. Prominently, the information gaps have led to the d_1 scenario being widespread in Ghana. Accra land markets are currently full of land agents peddling lands for which they are in no doubt aware of rival claims and litigation to unassuming purchasers. Indeed as is the case in the Nungua locality of Accra, individuals and families from Teshie, Accra an adjoining neighbourhood, have managed to clandestinely, with the help of officials from government agencies, register large tracts of lands involving thousands of building plots in the Nungua traditional area in the name of the Teshie indigenous community lands since the 1970s. This travesty persists to date even though it is widely known by both communities and relevant government officials that under indigenous tenure arrangements the affected lands belong to the Nungua rather than the Teshie community.

Since the registration was not published, this did not come to the notice of the true owners of land in Nungua. Physically, Nungua landowners are in effective possession of the lands in the area and market dealers acknowledge them as such. Yet, to date, from the official perspective, the legitimate owners of lands in those areas are the Teshie families, but the true owners recognised by market dealers on the ground are the Nungua landowners. This gap that has been opportunistically created has led to the creation of an unearned rent for the Teshie families. Market dealers who rely on category-2 information for their transactions are compelled to deal with the Teshie families and pay the full price for the land (which sometimes, for obvious reasons, is lower than the market price). But since, the Teshie families are not the legitimate owners according to the category-1 information on those lands, these buyers will again have to buy the land at full market price from the Nungua landowners, the accredited owners based on the category-1 information. Thus as a direct result of the information gap the price of the land in this area is generally doubled. To give an impression of the social costs of this information gap in this particular neighbourhood, a random sample of data on market prices of land in the neighbourhood was compiled. The total sample size is 40. Table 1 reports the frequency distribution and displays the number and percentage of cases for each land value.

Figure 2 presents the histogram on the distribution together with a fitted normal distribution curve showing that the distribution is normally distributed meaning that 68 per cent of land values fall within one standard deviation of the mean.

Table 1. The frequency distribution of land values in Nungua

Land values		Frequency	Per cent	Valid per cent	Cumulative per cent
Valid	50 000 000	1	2.5	2.5	2.5
	55 000 000	1	2.5	2.5	5.0
	60 000 000	1	2.5	2.5	7.5
	65 000 000	6	15.0	15.0	22.5
	70 000 000	3	7.5	7.5	30.0
	72 000 000	1	2.5	2.5	32.5
	75 000 000	5	12.5	12.5	45.0
	80 000 000	2	5.0	5.0	50.0
	82 000 000	2	5.0	5.0	55.0
	83 000 000	1	2.5	2.5	57.5
	85 000 000	5	12.5	12.5	70.0
	90 000 000	5	12.5	12.5	82.5
	95 000 000	3	7.5	7.5	90.0
	97 000 000	1	2.5	2.5	92.5
	100 000 000	2	5.0	5.0	97.5
	110 000 000	1	2.5	2.5	100.0
	Total	40	100.0	100.0	

Source: Field survey.

The figure also reports the mean land value to be ¢79 650 000.00. If price paid to obtain documents from the Teshie families is conservatively put at 50 per cent of the typical land values (that is about 40 million Cedis) and elasticity of land in the area is assumed to be 0.5 then from the social costs equation for the d_1 scenario deduced above, $K_1 = 0.5$; $\eta = 0.5$; $P_0 =$ ¢80 000 000 and $K_1(L_1 - q_1) =$ ¢40 000 000.00. Conservatively the social costs per transaction on a typical residential plot in the area associated with this particular

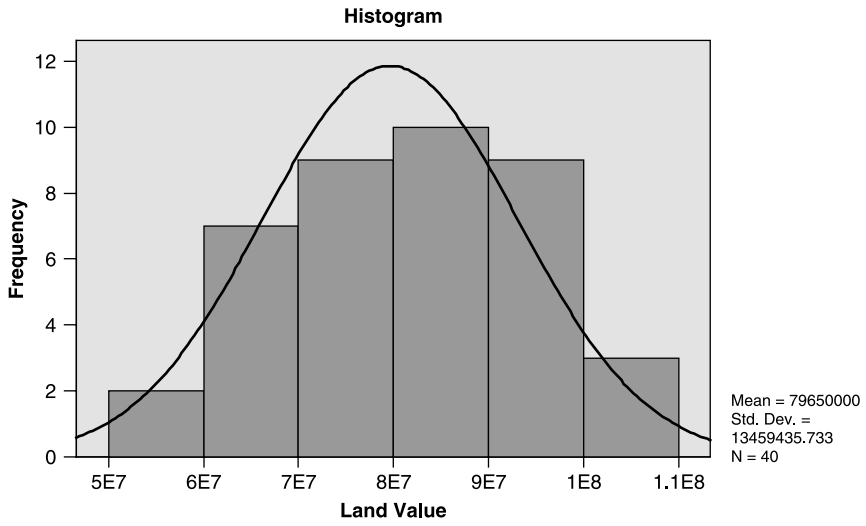

Figure 2. Histogram of land values frequency distribution

information gap are

$$0.5 \times 0.5(0.5)^2 \times ¢80\,000\,000 + 40\,000\,000.00 = 45\,000\,000.00.$$

This converts to about US$5000.00 in October 2005 prices. The total social costs for the affected portions will be the sum of this marginal social cost across the number of affected plots. Thus, again, if a conservative figure of 1000 is assumed for the number of affected transactions in the area, the total social costs will turn to US$5 000 000.00. Though this social cost excludes, for instance, the social costs of the land litigation that is usually associated with this problem, it gives a good feel of the likely order of the magnitude of the overall social costs across the country.

To prevent such social costs, the way forward is to alleviate the market of the information gaps that have produced them to ensure that all distortions to d_1 will be removed and cause the equilibrium to gravitate to d_0. The next section proffers some remedial policy actions.

Rectification of Information Gaps

What emerges from the foregoing is that, to make significant inroads into the alleviation of information gaps in these markets, an information system that is capable of aligning or harmonising the land information that counts with those that are perceived legitimate and credible needs to be established. Perhaps the difficulties lie with how this can be accomplished and debate on options for aligning these three attributes of information would be a healthy development. The position of this article is that, since 92 per cent of market dealers perceive or rely on category-1 information as the information that counts in their market dealings, placing much premium on category-1 information as opposed to category-2 information would offer better prospects for alleviating the gaps. This implies the need first for category-1 information to be accorded official legitimacy. This will ensure that what is perceived as legitimate by a majority of market dealers, tallies now with what is officially recognised as legitimate information. The next stage would be to place this now legitimised information onto the official information system in a manner that would make it easy to digest and assimilate by a larger segment of the Ghanaian population. This new information would then have to be reconciled with the 8 per cent that already exists in the official information systems to remove all anomalies and to reinforce the integrity of the information in the system.

To this end, as a way of capturing the category-1 information, which is currently outside the government system, a systematic nationwide property-by-property tenure census is proposed as an effective way of capturing this information in urban areas of Ghana. This has to be conducted in a manner similar to the periodic national population census exercises. This method is not without precedent. The Doomsday survey of William I in England and the modern cadastre of Napoleon I in France and many parts of Europe, are prime examples (Williamson, 1994). The idea is not to create a doomsday book but to facilitate a closure of the information gaps in the system by establishing a comprehensive data-set based on category-1 information to form the pedestal on which a viable national land information system is to be built. With the apace advances in technology the feasibility of this undertaking is not in doubt, and given the sheer size of the attendant social costs there can also be no doubt that the process would, if successful, be most likely socially and economically viable. This solution obviously entails huge resources and considerable time.

But whatever the costs, it will be nowhere near the social costs, tenure insecurity and market inefficiencies that the current system is exuding. At least the costs of rectifying the information gaps that are generating social costs in the Nungua area of Accra discussed above will be nowhere near US$5 000 000. This fact coupled with the general high level of poverty and the need to ensure comprehensive coverage, makes it economically wise for government to meet these costs out of the public purse. Perhaps there would be the need for a review of the US$55 million allocated for the ongoing Land Administration Project (LAP) in Ghana with the view to making ample allocation for this task. While it is proposed that government should sponsor the programme, it does not imply that the programme has to be implemented by government bureaucracies and agencies. Perhaps a team of private sector consultants, adjudication experts, local opinion leaders and relevant government departments could be put up to discharge this programme.

To ensure success and data integrity there will be the need for careful development of a data collection strategy that has an inbuilt workable onsite adjudication system, openness, incentives and disincentives for candour and timely registration of category-1 information as well as subsequent dealings.

Conclusions

Alleviating information gaps constitutes a key issue in the quest for improved real estate market functioning in Ghana and elsewhere in sub-Saharan Africa. The insights in this article call for a reappraisal of the workings of the existing government information systems employed in practice to supply information to real estate market participants to ensure the legitimatisation of the credible information that market dealers rely on in market transactions.

Notes

1. The first draft of this article was presented at the 2004 American Real Estate & Urban Economics Association (AREUEA) Annual International Conference, New Brunswick, Canada, 29–31 July 2004.
2. A Stool is the largest indigenous community made up of a number of Families, Clans and individuals within a defined geographical jurisdiction. Usually (but not always) the land rights of the stool are different from those of the Families and Clans.
3. (1) Some of the judgments overlapped by this new judgment include, in particular *Owusu and Ano v. Mantse of Labadi* (1933) in which judgment of portions was given in favour of the La Stool by the West Africa Court of Appeal; (2) *Philip Nartey v. Mechanical Lloyds ltd* (1986) in which the supreme court adjudged the Agbawe family as the owner of another portion within the subject area; (3) *Peter Mensah Anteh v. Simeon Aryeetey & ors* in which the appeal court also gave judgment over portions in favour of the Odai Ntow family; (4) Civil Appeal No. 16/91 in which the court of appeal gave judgment over portions in favour of the Nii Armah Sogblah family; (5) Civil Appeal No. 9/87 in which judgment was given over portions in favour of the Odatei Tse We family; (6) Suit No. CCL/07/89 in which the high court gave judgment in favour of the Nii Kotey Amili family.

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