

International Housing Coalition

IHC

Housing for All

Urban Investments and Rates of Return:

Assessing MCC's Approach to Project Evaluation

Prepared by Jerry Kalarickal

International Housing Coalition

10 G Street NE, Suite 480

Washington, D.C. 20002

Phone: 202-408-8506; Fax: 202-408-8509

E-mail info@Intlhc.org

www.intlhc.org

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Preface

This paper explains the Millennium Challenge Corporation's (MCC) use of rates of return analyses to assess proposals from qualifying countries requesting the award of a compact and evaluates the usefulness of this approach in estimating economic growth and poverty alleviation potential. It suggests an alternative approach to evaluating projects, particularly in urban areas, and provides an example of a rate of return analysis for an urban upgrading project.

This study was funded by the International Housing Coalition (IHC), a non-profit housing advocacy organization that supports "Housing for All" and seeks to raise the priority of housing on the international development agenda. The IHC supports the basic principles of private property rights, secure tenure, effective title systems and efficient and equitable housing finance systems—all essential elements to economic growth, civic stability and democratic values. To learn more about the IHC visit its web site at www.intlhc.org.

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Executive Summary

The Millennium Challenge Corporation (MCC) represents a new initiative in U.S. foreign assistance that targets foreign aid so that it has the greatest development impact. It calls for providing grants to partner countries who have agreed on a broad-based set of policies for achieving longer-term equitable growth. Only those countries that have demonstrated a commitment to good governance through their policy performance and reform will receive grants, and the distribution of these grants will be governed by MCC's three core values: reward good policy; expect country ownership; and focus on results.

The objective of this paper is to show that while the MCC approach represents an important and appropriate break with past approaches to development assistance, the resulting focus on easier-to-measure Economic Rate of Returns (ERRs), impedes the program's effectiveness and in many ways represents implementation decision rules which have the danger of turning a new approach to channel resources into what has been largely abandoned as ways of guiding development assistance.

This danger is particularly evident when it comes to appraising urban shelter and infrastructure projects. The ERR methodology focuses on increases in income or value added as a result of a project. But the benefits of well-designed urban and shelter reforms can have repercussions not only on the incomes of the individuals served, but also on the larger economy. That is, as emphasized by recent research there are large positive externalities to improved shelter in terms of health and life expectancy, which can generate extremely high returns, yet may not be captured in traditionally calculated ERRs.

Urban shelter and infrastructure investments may indeed have direct economic benefits such as an increase in the rental value of housing, significant improvements in health, or increases in the productive capacity of the household. The investments may also have other benefits that are difficult to measure because the returns to many such improvements necessitate assumptions about the increased life-expectancy of the beneficiary, the gains to be realized from having a more effective institution in place, or some other sort of reform or investment that can reasonably be expected to have broad effects on welfare.

Furthermore, the positive externalities that can be realized from investments in urban areas can make non-trivial contributions to economic growth from a macro-economic perspective by adding to productive capacity of the city as a whole. Such benefits are also virtually impossible to enter in an ERR calculation. Ignoring these benefits would result in choosing projects which may show a higher economic rate of return based on the narrower definition of ERR, but do not have the accompanying benefits that are harder to calculate, but are no less real.

Indeed, in some countries, and particularly many of the relatively smaller countries that have become targets of MCC assistance, urban and shelter-related assistance will be one of the binding constraints which prevent these countries from exploiting the positive returns to urbanization. In this context, we believe that to achieve development effectiveness, it is imperative that MCC follow the

lead of other donor agencies in taking a more holistic, less rate-of-return oriented, perspective of the benefits of projects that may result in broader improvements in welfare. If such a broad approach is not taken, MCC will, unfortunately, be unable to assist countries in realizing the important agglomeration benefits of the urbanization process.

The paper also shows that, historically, urban projects have experienced substantially high rates of return even when defined narrowly. The rates have ranged between 15 to 40%. These percentages exceed the criteria set by MCC. However, these ERRs are based only on a calculation of the direct economic impact of these projects; the positive externalities associated with health outcomes of these projects are substantial in and of themselves and these social rates of return also justify a focus on urban shelter and infrastructure projects.

In the final analysis, therefore, the MCC and other U.S. aid agencies should guard against a lone focus on ERRs in determining productive investments in developing countries. When talking about urban investments, there are returns associated with such projects that not only promote economic growth from a macro perspective, but also provide very high social rates of returns. A focus on ERRs would miss taking into account the historic opportunity provided by the rapid urbanization of these countries. It would also result in misallocating scarce funds to projects with lower overall returns.

Introduction

The Millennium Challenge Corporation (MCC) represents a new, bold initiative to target foreign aid so that it has the greatest development impact. It represents the evolution of thinking about how the delivery of assistance can be improved in order to achieve longer-term sustainable effects on improving the welfare of the poor, and it calls for providing significant grants to partner countries who have agreed on a broad-based set of policies for achieving longer-term equitable growth.¹ MCC calls for a serious effort on the part of recipients to work with it to identify the elements of what are the so-called “binding constraints to growth,” which in many ways have replaced the overarching Washington Consensus approach that was long followed by both the multi and bi-laterals.²

In short, MCC is an innovative method to help address the investment and development needs of the developing world. Only those countries that have demonstrated a commitment to good governance through their policy performance and reform will receive grants, and the distribution of these grants will be governed by MCC’s three core values: reward good policy; expect country ownership; and focus on results.

MCC also seeks to move to the larger-scale perspective that is essential if foreign aid is to move beyond the often successful enclaves that characterized much of the past aid that could not be scaled up to serve the great numbers in need. MCC, in many ways, represents a shift to broader support for an overall strategic approach to growth, rather than the project by project perspective that characterized assistance in the 1970s and most of the 1980s. Nevertheless, because of its strong and appropriate focus on results, the assistance program requires the calculation of economic rates of return (ERRs) for all assistance. In principle, when done correctly, developing such methodological rigor would represent an essential step forward in strategic planning in assisted countries, even if, as we shall argue, the approach appears to be more concrete than is really the case.

Indeed, perhaps the main point of this paper is that while MCC is explicitly quite neutral in the choice of the projects in which it invests – relying strictly on its rate of return calculations – the approach harkens back to the “projects perspective” of earlier forms of aid. If continued, the distribution

¹ To this point MCC has provided grants to 11 countries totaling almost \$3 billion dollars at an average grant size of about \$270 million. The approach requires partner countries to be responsible for the aid they receive and the priorities they set, showing why one element of a strategy was preferred relative to others which presumably would have lower rates of return. Grants are provided for projects from select countries that have clear objectives, benchmarks to measure progress, effective monitoring and evaluation.

² In some ways, the Washington Consensus perspective on development could be said to take what might be described as a “first best” perspective on the sorts of urban policy reforms that are optimal. This first best view suggests that the conditions of competitive equilibrium are, at least to a first approximation, in place. Under such circumstances, incremental market-enhancing changes result in improvements in overall welfare and growth prospects. However, as Collier (2007) has shown, for many countries the assumption of a first best economic environment is extreme. In particular, in the countries which have experienced continual declines in income and welfare have also invariably also experienced some combination of: (i) a recent or on-going civil conflict; (ii) natural resource wealth that plays a dominating role in the economy; (iii) no coasts and “bad neighbors;” or (iv) corrupt, kleptocratic public sectors. In these countries a less formulaic approach to development, such as that proposed by MCC, is essential. The rationale for taking a more nuanced approach to strategy is perhaps best articulated in the work of Houseman, Rodrik, and Velasco (2005).

of a large part of these grants will go to what might be termed USAID's traditional target for development – the agricultural and rural sector (see MCC's 2006 Annual Report) rather than to assisting with the higher return investment needs of an urbanizing world.

The objective of this paper is to show that while the MCC process represents an important and appropriate break from past approaches to development assistance, the resulting focus on easier-to-measure Economic Rate of Returns (ERRs) impedes the instrument's effectiveness and may channel resources in an inefficient and outdated manner. The paper will focus on the development assistance for urbanization and the related shelter sector, which provide returns larger than what would be calculated in an ERR calculation because they play a critical role in harnessing the growth opportunity provided by the rapid urbanization that now characterizes many developing countries.

We will show that the benefits of well-designed urban and shelter reforms can have repercussions not only on the incomes of the individuals served, but also to the larger economy. That is, as emphasized by recent research, there are large positive externalities to improved shelter in terms of health and life expectancy, which have and can generate extremely high returns, as well as the sorts of returns that traditionally calculated ERRs do not, and we believe cannot, fully capture.

In some countries, and particularly in many of the relatively-smaller countries that have become targets of MCC assistance, urban and shelter-related assistance will be one of the binding constraints that prevent these countries from exploiting the positive returns to urbanization. In this context, it is imperative that MCC follow the lead of other donor agencies in taking a more holistic, less rate-of-return oriented, perspective of the benefits of projects that include the broader improvements in welfare. The main argument is that if such a broader approach is not taken, MCC will, unfortunately, be unable to assist countries in realizing the important agglomeration benefits of the urbanization process.

Role of MCC and Current MCC Policy

The MCC was established in January 2004 pursuant to the Millennium Challenge Act of 2003 to promote sustainable growth and poverty reduction. Given the evidence that countries achieving significant poverty reduction also achieve significant economic growth, the twin goals of the MCC are closely intertwined. In order to examine the likely impact on economic growth of its programs, the MCC looks at the international evidence on drivers of economic growth and, as noted above, calculates economic rate of return (ERRs) for the various programs it supports (see MCC 2007). This involves what appears to be a relatively straightforward comparison of costs and benefits where the cost is the MCA grant and the benefits are increases in income from the project.

MCC's policy is to have no preference of one sector over another, and the use of ERR does not favor any particular sector over another. MCC aims to seek out programs that have both high poverty reduction impact and high economic returns. It attempts to ensure this by the use of ERR thresholds, as well as by targeting the programs for the poor. In order to ensure this, the MCC often supplements an ERR with a beneficiary analysis that tries to disaggregate the impact of the project on different groups, including the poor. In other words, prioritizing projects that have a high ERR and target the poor ensures both economic growth and poverty reduction.

Objective of Paper

This paper will address how MCC measures ERRs and discuss the sorts of commonly realized returns that would be missed by traditional ERR methodologies. The paper will argue that accepting a broader definition of returns will make urban infrastructure projects one of the more critical investments in the world of international development. In this context, the movement away from ERR methodologies, as other donors have done in their efforts to support similar broad-based reform agendas, will be highlighted and explained. As part of this effort, the paper will also explore the evolution of rate of return calculations by international aid agencies.

The paper will argue that urbanization is not only critical to producing and sustaining support for financial reform, macroeconomic adjustment, and general budgetary support – which are conceptually akin to the MCC grants – it is also a sector where returns are difficult to capture in simple ERR calculations. The paper highlights three different examples of social returns that the ERR approach captures with only great difficulty, as well as with considerable imprecision. The paper will also examine the rates of return of historical urban shelter projects based on the experience of the international financial institutions (IFIs).

Outline of Paper

Section Two of the paper demonstrates how the MCC calculates ERR and how this methodology leaves out many critical areas of analysis by narrow definitions of returns. Section Three of the paper discusses three examples of urbanization's effects on both the development process and the appraisal of that process through ERRs. The presence of positive and negative externalities associated with urbanization provides for the potential of huge economic growth of appropriate shelter and related infrastructure investments in cities. The section also presents evidence from recent literature of the enormous social returns from urban infrastructure investments. This section thus tells a story of how helping countries to realize the broad benefits of urbanization will often be one of the most effective ways to address “the binding constraints to economic growth.” Section Four reproduces ERR calculations for some past urban projects. Section Five concludes with a discussion of the evolution of shelter assistance by IFIs and how this evolution impacts the methodology used to appraise projects.

Urban Infrastructure Investment and Economic Rates of Return

The MCC describes the economic rates of return that it calculates for projects it undertakes as *micro-economic growth analysis* (MCC, 2007, p. 5). The method seeks to measure the economic growth impact of proposals at the micro-economic level by examining the value-added from the project or the increase in incomes for individuals or sectors of the economy.³ Thus, the proposals must include

³MCC tries to ensure that projects that have favorable ERRs also have a significant impact on poverty reduction. The MCC supplements an ERR with a beneficiary analysis that tries to disaggregate the returns calculated in the ERR to measure the potential impact of the project on the poor.

a cash-flow analysis that weighs spending on the program against future expected increases in value-added or incomes.

The MCC suggests a four-step procedure for estimating economic returns (see MCC, 2007 pp. 6-7 for more details):

1. Define the intended beneficiaries and the set of actions necessary to achieve the desired impact;
2. Gather data on actual value-added or incomes of intended beneficiaries before the program; and estimate what the value-added or incomes would be without the program;
3. Estimate value-added or incomes as a result of the program;
4. Conduct a cash-flow analysis in a spreadsheet in which the program costs over time are negative entries and differences in value-added are positive entries. Based on this cash flow, an internal rate of return can be calculated. This is the Economic Rate of Return.

The methodology identified by the MCC is consistent with past calculations of ERRs by IFIs and other donor agencies.⁴ However, these agencies have increasingly moved away from calculation of ERRs. This shift is due to the realization that some kinds of investments include benefits that are not amenable to the kind of value-added or income calculations used in an ERR analysis. Why would international donors move away from such a tried and true approach to investment decision making?

One reason is that most institutional reforms and some investments have outcomes that are quite simply difficult to include in traditional ERR calculations. Such investments may indeed have direct economic benefits like an increases in the rental value of housing, significant improvements in health, or increases in the productive capacity of the household. However, other benefits are difficult to measure as the calculation of the returns of many such improvements necessitate assumptions about the increased life-expectancy of the beneficiary, the gains to be realized from having a more effective institution in place, or some other sort of reform or investment that can be expected to have broad effects on welfare. In the case of health benefits, for example, the calculations of the benefits of the project require assumptions about the value of life and the potential effect that the project has on mortality, both difficult and debatable concepts to measure. While such assumptions can be made, they will often be arbitrary and subject to wide bounds of uncertainty which can be resolved only through the biases of the person doing the calculations.

Furthermore, as the next section will show, positive externalities from investments in urban areas can make non-trivial contributions to economic growth from a macro-economic perspective by adding to the productive capacity of the city as a whole. Such benefits are also virtually impossible to enter in an ERR calculation. Hence, in order to assure more rigorous calculations it might be desirable to avoid such projects. However, this approach carries its own even larger costs. That is, while it is difficult to calculate accurate estimates of these benefits emanating from urban projects, it would be even more dangerous to ignore these *real* returns. Ignoring these benefits would result in choosing projects which may show a higher economic rate of return based on the narrower definition of ERR, but which do not have the accompanying benefits that are harder to calculate but are no less real.

⁴ World Bank Operational Manual

This is not to say that ERRs are futile, but that for the most important investment/reform programs, especially in the urban sector, ERRs will almost necessarily be incomplete and will not easily take into account the notion of externalities and spill over effects that are a significant component of economic reasoning. With only slight exaggeration, ignoring these benefits and solely using ERRs would be analogous to the man looking for his keys under the light because that is the only place where he has visibility. If the MCC solely uses ERRs to determine feasibility of projects, it runs the risk of misallocating scarce project funds to projects which might have far less real returns than investments in urban projects.

At the same time, even the ERR methodology is not without controversy (see GAO's "Millennium Challenge Corporation: Vanuatu Compact Overstates Projected Program Impact.") An ERR requires making assumptions about increases in incomes which often involve related assumptions about the behavioral changes of intended beneficiaries. Thus, while ERRs predict certainty about returns from a project, these are only based on plausible assumptions. Thus, incorporating broader arguments about the social returns from a project or about the externalities associated with a project will not be a great departure from the current methodology, but just an admission that ERR analyses are limited in their ability to take total returns from certain kinds of projects.

The next section examines the difficulties of making ERR calculations for urban projects.

Urbanization and Economic Growth: Urban Infrastructure as “Binding Constraint”

The current magnitude of urban population growth in developing countries is unprecedented. Not only will the world's population become primarily urban this year or next, over the next 23 years, 1.9 of the two billion person increase in world population will be in cities in the developing world. Hence, not only has the world finally become urban, the next generation will see this phenomenon consolidated, requiring urban investments of trillions of dollars. This situation underlines the urgent need to continue to expand investments in urban shelter and urban infrastructure, which have allowed developing countries to reach some of the highest levels of sustained growth ever observed.

India and China have experienced sustained high economic growth for a decade or longer. While these may be extreme cases, the growth is not unusual. In recent years, unprecedented growth rates have occurred throughout the developing world as urbanization, a fundamental imperative to achieving higher levels of sustainable development, has taken place. See Harberger (2005) for a discussion of the past quarter century of growth in historical context.

It is difficult to exaggerate the importance of maintaining and enhancing the process of urbanization in the emerging countries, while also dealing with those countries, 58 of them, that have been unable to track any growth at all.⁵ These countries are home to one billion people who live in essen-

⁵ Collier (2007)

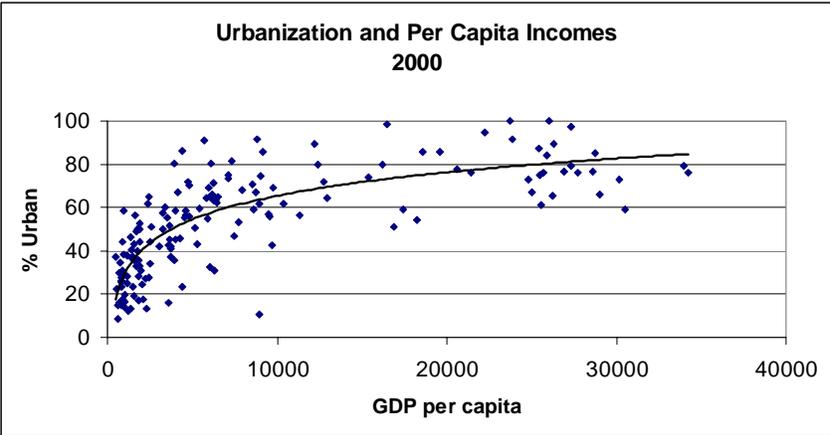
tially 14th century conditions and who were poorer at the turn of the 21st century than they were 30 years earlier. These countries have, unfortunately, stood the imperative of development on its head – they have experienced a new, and perhaps, not coincidental phenomenon – urbanization without growth (see *World Development Report 1993*.)

Hence, the stakes of urbanization are high. For most developing countries, the objective is to make sure that these countries continue to follow the traditional close, if much more accelerated, relationship between economic growth and urbanization that developed countries demonstrated in the late 19th and early and mid-20th century. Managing urban growth in these countries will be a key element of an economic environment that continues and extends the successes of recent years. For the so-called *Bottom Billion* establishing a new paradigm of urbanization, one that leads to the agglomeration economies that have traditionally underpinned growth, is essential. Breaking the cycle of an urbanization process that instead generates diseconomies will be an increasingly important part of the strategy for dealing with these rapidly urbanizing economies. Given this historical opportunity, MCC and other aid agencies should aim to strengthen urban areas in developing countries so that these potential growth benefits may be realized.

Urbanization and Growth: The General Story

Figure 1 shows a cross country graph of urbanization levels and per capita incomes for all countries. We see that all countries with incomes above US\$10,000/- are at least 50% urbanized. This seemingly stable relationship between urbanization and economic growth is no surprise. Urbanization is a modern phenomenon; a byproduct of the industrialization. Over the course of industrialization, technological change increased productivity in all sectors including the agricultural sector. Therefore, in societies that were primarily agrarian, surplus labor was freed up by technological advances. This freed up labor had two choices; it could either stay in rural areas and participate in activities like crafts and arts, or migrate to cities and take part in increasing returns to scale activities in the manufacturing sector. In Europe and in North America, the large-scale urbanization that occurred during the 19th and the 20th centuries was mostly driven by the migration to cities in search of higher wages and higher standards of living by working in the emerging industrial sector. Thus, urbanization in the developed countries was accompanied by dramatic increases in per capita income.

Figure 1: Urbanization and Per Capita Income



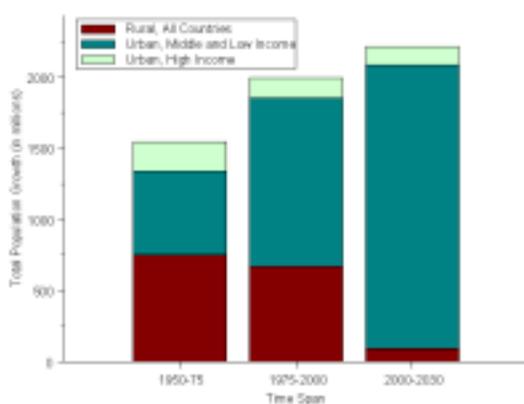
There are three reasons why industries might concentrate in cities. Comparative advantage makes inter-regional specialization possible and the trade that results from this specialization causes the development of cities. Second, internal economies of scale make production in factories more advantageous than production by individuals or households. And third, there are agglomeration economies in production and marketing that cause economic activities to cluster in cities. (O’Sullivan, 1996)

Agglomeration economies can be of two types: localization economies and urbanization economies. Both are difficult to measure. Localization economies occur if the production costs of a firm decrease as the total output of the industry in which the firm is located increases. In other words, firms in the industry realize the positive externality of clustering. Localization economies happen for three reasons: 1) sharing of intermediate inputs; 2) labor market sharing; and 3) knowledge spillovers. Urbanization economies occur if the production cost of an individual firm decreases as the total output of the urban area increases. So urbanization economies differ from localization economies in that the external economies are realized by all firms in the urban area and not just by firms in a particular industry. Moreover, under urbanization economies, the economies of scale are generated by all firms in the urban area. (O’Sullivan, 1996)

As per these theories, urbanization should result in higher productivity and therefore, higher incomes all around. This theory would predict that urbanization has a positive relationship with per capita incomes across countries and the experience of developed nations (see Figure 1) underscore this fact. There is also no dearth of empirical studies that prove that such externalities are real and significant. (See Henderson [1997, 2000], Glaeser et. al [1992], Rosenthal and Strange [2001], Deichmann et. al. [2001])

If cities grow faster than rural areas due to these externalities, then as a country’s population urbanizes, per capita income should grow. However, in many developing countries, especially in Sub-Saharan Africa, the urbanization process has not been accompanied by economic growth. As described by Fay and Opal (2000), urbanization without growth characterized the experience of many sub-Saharan African nations.⁶

Figure 2: Growth in Urban Population in the Developing World



⁶ However, as Kessides (2005) argues, even in sub-Saharan Africa, the economic growth that took place in the 1990s was located in urban centers, and the forces driving rapid urbanization will continue.

However, rapid urbanization continues in much of the developing world. Figure 2 shows that most of the population growth in the next twenty odd years will be in the urban areas of middle and low income countries. These countries are undergoing fundamental and profound changes in demographics as the 21st century moves towards its second decade. However, they are not unlike demographic changes that the rest of the world has experienced as countries become more highly developed and integrate into the global economy. For instance, Africa, once overwhelmingly rural, where agriculture was the life blood of local economies, is now well on its way to becoming a much more urbanized continent where cities, both large and small, will harbor the majority of the population and the health of the urban economy becomes the most important factor in reducing the continent's widespread poverty.

While in 1983, just 21% of sub-Saharan Africa's population of 400 million was urban, by 2003, 36% of its 700 million people lived in cities and towns. From 1990-2003 urban growth rates increased by 4.6% per annum, almost twice as much as overall population growth rates. In absolute terms, the urban population almost doubled in 15 years. Given current projections of 5% per annum growth in urbanization rates, however, the real surge in Africa's urbanization is yet to occur. Within the next 25 years, the majority of Africans (at least 53%) will live in cities and towns. The absolute numbers are sobering — there will be more than 300 million new urban dwellers in Africa by 2030. (see Giddings, 2007)

Where these new urban residents will live, work, and raise their families will have a tremendous impact on the economic histories of these countries. Urbanization provides a ready made template to promote economic growth in these countries by harnessing the powers of increasing returns to scale. However, if urban areas cannot support and enable productive activities and provide adequate shelter conditions, then this opportunity to promote growth will be missed.

To sum up, well-functioning urban areas have been and will, if anything, become more critical to economic growth. But, how does one enter notions such as agglomeration economies into an ERR approach? Certainly these economies are present or otherwise there would be no economic rationale for the existence of cities; without such economies, there would be no reason for people to gather in urban areas.

In other words, in order to enhance the realization of these agglomeration economies, the broader policy environment that governed urban land and housing markets needed to be addressed. Just as the World Bank's adjustment lending was an attempt to build a conducive policy environment in the different sectors so that the formal markets would be enabled to provide solutions to the poor, so too did the lending policies of other IFIs evolve to reflect this changing consensus. As a result, in the case of the World Bank for instance, the approach to shelter assistance shifted fundamentally. Rather than focusing on the sites and services and slum upgrading that was the main way of providing such assistance in the 1970s, this ERR-oriented lending fell to only 15% of the World Bank's shelter projects since 1987 (see Buckley and Kalarickal, 2006).

Instead, donor agencies also started paying more attention to the policy and financing side of urban housing. Projects that undertook the creation of housing finance systems or institutions acquired an important role, as seen in USAID's Housing Guarantee program and the World Bank's shelter program. Needless to say, these changes also meant that the manner in which projects were evaluated by these institutions altered. While the project-based programs like sites and services were amenable to cash flow analysis and calculation of ERRs, the adjustment lending projects and to a lesser extent,

institution building projects (like housing finance) did not lend themselves easily to ERR calculation. They largely depended on the emerging consensus on the importance of such policy and institutional changes to the establishment of well-functioning housing markets. This is not to say that the latter projects did not have economic justifications, but that the returns to these kinds of projects were on a scale that was qualitatively different from project-based assistance. Furthermore, there was a growing realization that urban shelter projects and infrastructure investments had returns that could not be easily calculated in straightforward ERR calculations. In particular, the special nature of urban investments involved the kind of increasing returns to scale issues that made mere economic rates of return analysis understate returns.

Dealing with the Bottom Billion

What about urbanization in the many African countries that have not been growing and thus have clearly not been realizing such agglomeration economies? While it is true that rapid urbanization in Africa has not been accompanied by economic growth, whatever economic growth was created was driven overwhelmingly by the industrial and service sectors, which are mainly urban based. These urban based activities accounted for at least 60%, and averaged almost 80%, of GDP growth in the region during this period. (Kessides, 2006) If estimates of informal activity are added, the urban share of the economy is even greater. It is clearly in urban areas where most economic growth is taking place and it is these areas that can, in the future, stimulate the growth necessary to reduce poverty.

Paul Collier summarized the research that he and colleagues undertook for a number of years in a recent book called *The Bottom Billion: Why the Poorest Countries are Failing and What Can be Done About It* (2007). The book describes the poverty traps that keep about one billion people who live in essentially 14th century conditions, falling further and further behind the world's five billion other inhabitants.⁷ Collier calls for a fundamental rethinking of development policies with respect to these countries and lays out an agenda of how that might be accomplished.

One feature of the 58 countries that Collier refers to as his Africa⁺ group is that they have experienced a very unusual urbanization pattern, one that has not been observed before – urbanization without economic growth.⁸ This fact has underlined the need for a change in perspective on urban policy of major international donors and concerned governments. Foremost among them is an understanding that the poverty trap that these countries find themselves in is intricately related to the urbanization process; an urbanization process that seems divorced from the close relationship with economic growth that much of the world experienced.

What distinguishes urban growth in Africa is the fact that urbanization rates have outstripped the creation of sufficient higher-value urban employment opportunities needed to lift the majority of urban residents out of poverty. The World Bank has noted that the factor “productivity” of African

⁷ He shows that in the 58 countries that account for the bottom billion of population average life expectancy is 17 years lower, infant mortality more than triple, and proportion of children with symptoms of malnutrition is almost double that of the rest of the world. They were also poorer in 2000 than they had been in 1970.

⁸ We will generally refer to these countries as does Collier as Africa⁺ countries. He uses this description because most of the countries are in sub-Saharan Africa. They could also be described as those countries which are not converging or catching up to the more developed economies.

cities lags significantly behind that of Asian cities, hampering “export competitiveness.” High transport costs, outdated labor laws, low urban population densities and poor physical distribution and living conditions of the urban population, climatic conditions, and the scourge of HIV/AIDS all contribute to lowering the competitiveness of African cities vis-à-vis cities in other regions. (Kessides, 2006, p.15)

Productive activities located mainly and most efficiently in urban areas should therefore be the primary focus of national growth strategies in Africa. However, in many countries, the focus has been on rural growth, a focus that continues to be evident in the choice of compacts by the MCC. Evidence indicates that sustainable economic growth and an escape from poverty are next to impossible without sustained economic growth led by cities.

The dangers of poor urban policies have been pointed out by a recent study on Ghana (see Buckley and Mathema, 2007). The paper highlights the perverse effects of misguided urban policy on economic growth. In Ghana, the city’s inelastic housing supply implies that while the record rate of foreign remittances is certainly creating more housing, it is also less affordable and thereby restricts movement to Accra. This restriction, in turn, makes it harder to exploit the potentially higher levels of productivity in the capital city which attracted the remittances in the first place. If this is the case, then housing market constraints may have become so binding that they are subjecting the economy to something akin to what is known in economics as “the winner’s curse,” whereby the gains of the broader policy reforms — which have no doubt contributed to the high level of remittances — are much lower than they otherwise would be. (Buckley and Mathema, 2007)

With the increasing liberalization of the housing finance sector in many developing countries, the same dangers apply. Without enabling urban and land policies that make for a well-functioning housing market, an easing of the housing finance sector that is responsive to housing demand will only result in higher prices and not greater supply.

While urbanization that is accompanied by enlightened investments in urban shelter and infrastructure is critical to fostering economic growth, the benefits of such investments cannot be easily calculated through an ERR analysis. This is because the kinds of agglomeration economies that we discuss in this chapter do not allow a simple value-added or change in incomes calculation. The increase in productivity of a city cannot be mapped to a single investment or project, but is the result of a concerted set of urban projects and investments. However, ignoring these real economic benefits from urban investments will result in underinvestment in these cities and the loss of an historic opportunity to take advantage of the economic benefits of the demographic trends that we are observing in the developing world.

Externalities on Urban Infrastructure

In many developing countries, poverty is becoming a predominantly urban phenomenon. Available data suggest that the proportion of urban poor is increasing faster than the overall rate of urban population growth, a phenomenon known as the urbanization of poverty. In Africa, for instance, urban poverty rates are close to rural areas. If current projections hold true, in 20 years more than half of Africa’s poor will live in urban areas. Income inequalities are also increasing significantly in the region’s cities and institutional failures and lack of resources have denied equal access to services for

the urban poor. (Kessides, 2006) Much of the urban poor live in sub-standard living conditions and slums. Table 1 shows that more than 70% of urban population in Sub-Saharan Africa and more than 40% in Asia live in slums.

Table 1: Distribution of world's urban slum dwellers

Region	% urban in total population	% slum dwellers in total urban population
Sub-Saharan Africa	34.6	71.9
Asia Pacific	35.4	43.2
Latin America and Caribbean	75.8	31.9
Middle East and North Africa	57.7	29.5
Transition Economies	62.9	9.6
Advanced Economies	78.9	5.8
World	47.7	31.6
Developing Countries	40.9	43
Least Developed Countries	26.2	78.2

Source: UN-Habitat (2004)

In many of Africa's cities and towns, less than 10% of the population lives in formal sector housing. A few examples are illustrative. In Zambia, 74% of urban dwellers live in slums; in Nigeria, 80%; in Sudan, 85.7%; in Tanzania, 92.1%; in Madagascar 92.9%; and in Ethiopia, a staggering 99.4%. The Kibera slum in Nairobi has more than half a million people packed into 225 hectares (2,000 people per hectare). Typically, these slums and informal settlements lack adequate shelter, potable water and sanitation systems, electricity (from the grid), and affordable public transportation. Furthermore, they may be located far from centers of employment and on environmentally hazardous sites. (see Giddings, 2007)

Overcrowding is severe — median useable living space in such slum dwellings is about seven square meters per person (compared to 32 square meters in industrialized countries). The dense location of poverty, as seen in these slums, is ripe for negative externalities that are manifested in the form of higher disease rates and lower life expectancy. People living in sub-standard housing in slum areas and informal settlements are subject to much higher incidences of infectious and environmental diseases, such as respiratory disorders, diarrhea, and other gastrointestinal sicknesses.⁹ In other words, the negative externalities associated with the lack of sanitation services and clean water in urban areas, unlike in rural areas such as those examined by Zwane and Kremer (2007), appear to be enormous.

⁹ An Emory University study revealed that children under five living in houses built by Habitat for Humanity International in Malawi showed a 44% reduction in malaria and gastrointestinal diseases compared to children living in traditional houses and concluded that the effect of improved housing on the health of young children was as high as that of water and sanitation programs. (See Giddings, 2007)

In this setting, improved housing and urban infrastructure can have a major impact on health conditions in urban areas. Decent housing in an environmentally safe neighborhood improves the chances for success in prevention programs against AIDS, tuberculosis, and malaria. Moreover, curative strategies have proven more effective where victims have access to safe drinking water supplies and warm, clean housing. (Spreekmester, 2004) Table 2 dramatically demonstrates this relationship between better health outcomes and living conditions. The indicators of human development in countries where the incidence of slums is greater than 40% are much worse.

Table 2: Slum Incidence and Indicators of Human Development

Slum Incidence	Slum Dwellers (% of urban population)	Life Expectancy at birth (years)	Adult literacy rate (age 15 or above (%))	Combined gross school enrollment (%)	GDP per capita (US \$ purchasing power parity)
Very High	More than 60%	52.8	58.5	46.7	2332
High	40 to 60%	66.6	81.3	67	5096
Medium	8 to 30%	70.4	84.7	70.7	7526
Low	Less than 8%	73.7	93.5	79.7	15892

Source: UN-Habitat (2004)

With this link between better health outcomes and housing conditions, investments in urban shelter and related infrastructure can provide extremely high social rates of return. A paper by David Cutler and Grant Miller (2005) calculates the return on investment from the construction of clean water technologies in American cities in the first couple of decades of the 20th century. Before this investment, mortality rates in urban areas were larger than mortality rates in rural areas, thus involving an urban mortality penalty. Cutler and Miller find that clean water technologies were responsible for nearly half the total mortality reduction in major cities, three quarters of infant mortality reduction, and almost two-thirds of child mortality reduction. Their calculations show that there was a social rate of return greater than 23 to 1.

Admittedly, the historical U.S. differs from the conditions in many developing countries today. Nevertheless, it is clear that the presence of slums that lack adequate shelter, potable water, and sanitation systems results in negative externalities that cause higher mortality rates. The close proximity of living conditions in slums in developing countries causes much higher negative externalities in terms of health outcomes than they would do in rural areas. Hence, even controlling for the advances in medicine, it is arguable that timely investments in urban infrastructure that improves the supply of clean water and sanitation can provide extremely high rates of return; rates of return that may in fact be higher other investments in developing countries. Larry Summers' famously remarked that rates of return on investments in girls' education are the highest in developing countries. This may well be true, but it is clear that investments in urban shelter and infrastructure have similarly high rates of return.¹⁰

The key point here is that targeted investments in urban areas, as argued by Deaton (2006), are necessary to explain health improvements across the world. In other words, economic growth alone does not guarantee the kind of improvements that have a profound impact on health. Nordhaus (2002) has measured the broader effects that such health related improvements could have on welfare, showing that their effect would be so large that they would have a similar economic impact as that of

¹⁰ According to the Forum for African Women Educationalists (FAWE), in Sub-Saharan Africa, the social return on girls' education is estimated at 24.3% for basic education and 18.2% for secondary education, the highest rates in the world.

measured growth in income. Thus, improving urban sanitation conditions is an important dimension of efforts to reduce poverty in the broadest possible sense.

Even in cases where land and housing markets work reasonably well, the housing of low-income families may still be of inferior quality that the units lack sanitation and water. In such locations, the lack of such facilities can breed disease and sickness, and hence, can have enormous effects on the health and well-being of those who live in proximity to such housing. For one, even families who have clear rights to their property are often not able to enjoy all of the benefits from an investment in sanitation facilities since their neighbors will also realize some of the benefits of improvements. Accordingly, even these more clearly titled families have less incentive to undertake them, and so they under-invest in the externality generating goods. Certainly the large number of families that have no such titles would have even more reason not to address the concern.¹¹ Because of the presence of such externalities, there is also the argument that there needs to be public intervention to solve this market failure.

Slums with their accompanying spatial negative externalities on health are therefore a prime candidate for investment by the MCC and other aid agencies. Concentration of housing deprivations include costs that are beyond the individual costs borne by households. A concerted public action or investment can help alleviate costs that would not be addressed by cash transfers to individual households because of the presence of substantial positive externalities attributed to water and sanitation investments. Not only do these investments have high social rates of return, they are also very progressive in that they target the most vulnerable of populations – the urban poor. Thus, they meet the twin goals of the MCC – promoting high returns and alleviating poverty.

The narrow focus on calculating ERRs would ignore these substantial welfare benefits from investments in urban infrastructure. For this reason, many of the IFIs have moved away from calculating ERRs. By some calculations, while 70% of World Bank projects reported an Economic Rate of Return in the late 1970s, less than 25% reported ERRs between 2002 and 2004 (Herrera, 2005). A solo focus on ERRs in choosing projects not only misses an historic opportunity to make the urbanization process in developing countries promote growth, but also the potential of such urban investments to make large differences in health outcomes and welfare that would not have been achievable through economic growth.

Historical Economic Rates of Return for Urban Housing Projects

The argument regarding social rates of return does not mean that investments in housing and related infrastructure do not have directly calculable economic rates of return. While the nature of donor assistance has moved to broad-based budget and adjustment support for urban projects in recent years, it is still possible to look at some of the historical projects undertaken by the World Bank to get a sense of the economic returns from urban shelter and related infrastructure projects. According to Herrera (2005), urban development projects had a mean ERR of 18% between 1981 and 2004 and of over 21% between 2001 and 2004. According to another World Bank Report (World Bank, 1994), the

¹¹ Costa and Kahn (2003) provide evidence that in 1910 U.S. cities underinvested in sanitation given the powerful effects its provision had on health.

urban projects between 1972 and 1994 had rates of returns of more than 21%. Since, shelter projects were more than 40% of urban development projects, one can fairly assume that they had at least a similar rate of return. For instance, Kaufmann and Quigley (1986) examined a typical urban project undertaken by the World Bank in El Salvador and calculated that the rate of return on the sites and services project approaches 40%.

The calculation of rates of return from a World Bank project in Bolivia in the late 1970s (the project was implemented during the 1980s) are reported below. These calculations are based on projections made before the implementation of the project. However, at the time of completion of the project in 1992, the World Bank stated that the projected rates of return underestimated the actual rates.

The Project: The urban development project in Bolivia undertaken in 1978 had both a sites and services component as well as an urban upgrading component. In many ways, the two project types were representative of many of the urban shelter projects undertaken by the World Bank in the 1970s and 1980s, and which continue to a much lesser extent today.¹² Under the sites and services component, the World Bank assisted the development of 5,525 plots in El Alto of La Paz. About 85% of these plots were to be provided with a selection of core dwelling options. All plots were provided with basic essential services (water, electricity, sewerage, access roads) and community facilities. In addition, the project provided basic infrastructure and dwelling cores, and construction materials credits were made available for households wishing to develop, expand, and improve their initial units by self-help.¹³

Under the urban upgrading component, it was planned that about 4,500 families in seven low-income areas of La Paz would be provided with basic urban services, i.e., water supply and sewerage, an improved refuse collection system, pathways and street pavement, and communal facilities.¹⁴ Additionally, land tenure was secured for all participating settlers.

Calculating Economic Rates of Return: For the sites and services component, benefits were assumed to be the imputed rental values of the completed housing units. These imputed values were increased over time as the units were improved and completed, and they were estimated by the market value of similar housing units. The costs streams were assumed to be investment and maintenance costs. Investment costs included the opportunity cost of (undeveloped) land, contractor costs for infrastructure and basic core units, construction materials, and imputed costs of mutual- and self-help labor plus administrative and technical assistance costs for this labor. The disposal value of land was added to the benefit stream at the end of the projects' life. (World Bank documents).

Table 3 summarizes the cash flow for the sites and services component.¹⁵ This results in an ERR of 16.25%. A sensitivity analysis shows that the project results in an ERR range between 13.15% and 19.55%.

¹² One of the recommendations of a recent assessment of World Bank's urban shelter projects was that the World Bank should increase its loans for these kinds of projects that directly assist the poor.

¹³ Plot sizes varied between 90 m and 135 m, while the core shelter units ranged from 12 m to 19.3 m with varying degrees of completion. This component also included the construction of about seven new elementary schools, two community centers built by mutual-aid, and the establishment of an appropriate refuse collection system.

¹⁴ In actuality, over 20,000 households were provided with these services. (World Bank, 1992)

¹⁵ The figures produced are reflective of the calculations in World Bank project documents.

Table 3: Rate of Return on Sites and Services Project

Year	Capital Cost	Maintenance Cost	Benefit
1	1.00	0.00	0.00
2	13.76	0.02	0.29
3	8.44	0.11	2.62
4	1.42	0.20	4.36
5-21	0.00	0.22	4.36
22	0.00	0.18	3.84
23	0.00	0.04	3.27

Source: Figures are based on World Bank project figures.

For the urban upgrading project, the cost streams include capital, labor, and maintenance costs. In the new materials credit component, costs include the costs of construction materials and technical assistance, plus the opportunity cost of self-help labor. The benefit stream of the component reflects the increase in the imputed rental value of the houses as a result of the improvements. For an estimated life of the subproject of 20 years, the combined rate of return and the benefits and costs streams used in the computations are shown in Table 4.

The estimated ERR was 27. Sensitivity analysis bounded the ERR between 22% and 32%. At the time of the completion of the project, while it was very difficult to calculate the actual rate of return due to dramatic inflation and hyperinflation during the course of the project, the World Bank estimated that a similar project that was being undertaken at a later date had an ERR of 33% (World Bank project documents).

Table 4: Rate of Return on Urban Upgrading Projects

Year	Capital Cost	Maintenance Cost	Benefit
1	0.50	0.00	0.00
2	4.28	0.01	0.03
3	2.31	0.06	1.25
4	1.00	0.10	2.17
5-21	0.00	0.11	2.31
22	0.00	0.11	2.28
23	0.00	0.05	1.06
24	0.00	0.01	0.14

Source: Figures are based on World Bank project figures.

ERRs calculated above are comparable to other urban projects undertaken in Asia and Africa. For instance, an urban project in Ghana implemented between 1991 and 1996 showed an ERR ranging between 29% and 43% for two different cities for the urban upgrading component and an ERR of 154% for a sewerage component. (World Bank, 2000, p. 11). Similarly, an urban project in Vietnam that undertook provision of water, drainage, electricity, and roads and alleyways showed ERRs between 15% to 34%. This is to say that urban shelter and infrastructure projects have substantially high ERRs that more than meet the criteria set by MCC. However, these ERRs are based only on a calculation of the direct economic impact of these projects. As argued in an earlier section, the positive externalities associated with health outcomes of these projects are substantial in and of themselves and these social rates of return also justify a focus on urban shelter and infrastructure projects.

Before concluding, it would be useful to discuss some of the broader relationships between housing and the economy. In most countries, real estate represents the great majority of the tangible capital stock, and housing is the great majority of the stock of real estate. The housing sector also has been a driver of economic growth in developed economies and can be a significant component of developing countries' economies (PADCO, 2006). Investment in housing in developing countries represents between 15 and 30% of fixed capital formation.¹⁶ It can also be a large source of employment. A healthy housing sector with an appropriate property tax system can serve as an important source of revenue for financially-strapped local governments. Thus, beyond the social returns discussed in earlier chapters and economic returns discussed in this chapter, a well-functioning housing sector is critical to the macro-economy.

Conclusion

To conclude, how does the MCC approach fit into the evolving aid policy environment? As ideas about channeling aid have changed over the last fifty years, so have the mechanisms, such as MCC, used by development agencies to provide assistance. Initially donor agencies tried to address what was seen as the single biggest constraint to developing countries: a lack of capital as suggested by Harrod-Domar models. This theory was in some senses unfriendly to housing because it was believed that the durability of housing would hinder growth. This era was followed by the era of project finance where specific and well-defined projects were undertaken by donor agencies and IFIs. These projects necessitated the use of more sophisticated financial models and rate of return analysis. However, the financial crisis of the 1970s and 1980s again shifted the focus of development from project-based finance to adjustment lending. It was believed that in a weak policy environment, even the best projects would not succeed. The current mode of assistance, one providing budgetary rather than project-specific support, is a derivative of adjustment support. Under this model, donor agencies work with governments that share the same policy assumptions and work with these countries to identify the most serious "binding constraints" to growth.

The evolution of World Bank's shelter lending programs is a good reflection of the evolving consensus on foreign assistance. The World Bank's experience in housing for the urban poor began with sites and services projects in the 1970s. These projects aimed to meet the housing demands of the poor who had some savings and who sought housing solutions in the formal sector. The 1970s and 1980s saw a rapid growth in these kinds of projects by the World Bank, constituting almost 50% of the total urban shelter lending portfolio (see Buckley and Kalarickal, 2006). Along with sites and services projects, the World Bank and other IFIs and donor agencies were very active in slum upgrading projects that aimed to provide necessary basic water and sanitation services to the informal housing settlements that were growing rapidly in many countries and which in some instances, housed between 30 to 50% of a cities' population (see IHC 2007, p. 2). These kinds of projects were limited in scope in that they served geographically well-defined areas and target populations. Together, sites and services and slum upgrading projects formed 70% of the World Bank's shelter portfolio from 1972 to 1987.

¹⁶ Giddings (2007), p. 7.

Thus, in many ways, the MCC's emphasis on clearly defined economic rates of return is a fallback to the early years of urban shelter projects. This is not to say that the emphasis on returns is misplaced, but that urban shelter problems require a whole set of solutions some of which are not easily amenable to rate of return calculations. This paper has discussed why and how urban investments tend to understate the ERRs and why what is left out of ERR analysis might result in misallocation of scarce donor funds. In particular, it was shown that there are direct welfare benefits from urban investments that show returns which are among the highest available among the competing investment needs. Finally, it was suggested that well-functioning cities are critical to promote economic growth and that the rapid urbanization that many developing countries are experiencing provides an historic opportunity to undertake the kinds of investment that will enable sustained economic growth.

In many countries, dysfunctional land and housing markets are proving to be a constraint on economic growth. This is not to say that all developing countries need the same focus on assistance to cities. In fact, post-conflict countries, many of which are in Africa, require much more basic kinds of assistance, some of it rural. However, in the kinds of countries in which MCC is often engaged, those with the right kinds of policy environments, it is critical that urban infrastructure be prioritized. Unless this is done, much of the productivity gains from urbanization will be misspent, as is happening in Ghana.

The paper also shows that urban projects have experienced substantially high rates of return even when defined narrowly. It has ranged between 15 to 40%. This figure exceeds the criteria set by MCC. However, these ERRs are based only on a calculation of the direct economic impact of these projects. As argued in an earlier section, the positive externalities associated with health outcomes of these projects are substantial in and of themselves and these social rates of return also justify a focus on urban shelter and infrastructure projects. Furthermore, urban shelter and infrastructure projects that help establish a well-functioning housing market may have a direct effect on economic growth by spurring investment and employment.

Addressing the housing needs of the poor in the cities is an end in and of itself. Investments in improving shelter, providing clean water, and building sanitation facilities report some of the highest social rates of return because of the significant negative externalities associated with slums. But these kinds of social returns are hard to address within the framework of an ERR analysis. In the final analysis, therefore, the MCC and other U.S. aid agencies should guard against a lone focus on ERRs in determining productive investments in developing countries. When talking about urban investments, there are returns associated with such projects that not only promote economic growth from a macro perspective, but also provide very high social rates of return. A focus on ERRs would miss taking into account the historic opportunity provided by the rapid urbanization of these countries. Such a focus would also result in the misallocation of scarce funds to projects with lower overall returns.

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