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Urbanization without Growth

A Not-So-Uncommon Phenomenon

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Sustained economic growth is always accompanied by urbanization. But in Africa urbanization occurred without growth. Was Africa's urbanization process distorted, or is urbanization not always accompanied by sustained growth?

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Summary findings

To find out why African countries' experience with urbanization and sustained growth appeared to differ from that of other countries, Fay and Opal investigated the determinants of urbanization across countries over 40 years.

Rather than studying individuals' decisions to migrate, they relied on macroeconomic data and cross-country comparisons. A central hypothesis of their study: that individuals move (with varying degrees of ease) in response to economic incentives and opportunities. If location incentives are distorted, so is growth.

The authors find that urbanization levels are closely correlated with levels of income. But urbanization continues even during periods of negative growth, carried by its own momentum, largely a function of the level of urbanization. From that viewpoint, Africa's urbanization without growth is not a puzzle.

Factors other than income that help predict differences in *levels* of urbanization across countries include:

- Income structure.
- Education.
- Rural-urban wage differentials.

- Ethnic tensions.
- Civil disturbances.

In addition, the relationship between economic incentives and urbanization is weaker in countries with fewer civil or political liberties.

Factors other than initial urbanization level that help explain the *speed* of urbanization include:

- The sector from which income growth is derived.
- Ethnic tensions.
- Civil disturbances and democracy (these two slow the pace of urbanization if all else is constant).
- Rural-urban wage differentials, whether they represent an urban bias or simply lower productivity in agriculture relative to other sectors.

The weak relationship that this study shows between urbanization and traditionally accepted migration factors suggests that in Africa economists are overlooking part of the urbanization story. The fact that the informal sector appears to provide a significant source of income for urban migrants, coupled with the overlap between rural and urban activities, may shed light on the nature of urbanization in Africa.

This paper—a product of the Urban Development and Transportation Division, Private Sector and Infrastructure Vice Presidency—is part of a larger effort in the Bank to develop its urban economics and strategy work program. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Awatif Abuzeid, room F4K-332, telephone 202-473-3348, email address aabuzeid@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. Marianne Fay may be contacted at mfay@worldbank.org. August 2000. (31 pages)

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**Urbanization without Growth:
A not so uncommon Phenomenon**

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This paper was written while Charlotte Opal was a summer intern at the World Bank

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Introduction

Sustained economic growth is always accompanied by urbanization. But in Africa, urbanization occurred without growth. Is the implication that Africa's urbanization process was distorted? Or rather that urbanization is not always accompanied by sustained growth. And that in economic downturns, the poor and the migrants don't necessarily flock back to rural areas.

The initial motivation for this paper was to understand why once again, Africa appeared to be "different." To do so, we investigate the determinants of urbanization across countries, over the last 40 years. Most analysis of this kind focus on individual's decision to migrate. Here, we rely on macro data and cross-country comparisons instead. This paper then is about the determinants of urbanization everywhere. It is not limited to Africa, although it does focus on trying to answer the puzzle raised by the phenomenon of urbanization without growth in Africa.

Why this interest in urbanization at a macro level? A central hypothesis of the paper is that individuals move (with varying degrees of ease) in response to economic incentives and follow economic opportunities. If location incentives are distorted, so presumably is the growth process. Distorted location incentives may also result in higher than necessary social and environmental costs, that are not offset by the increase in productivity and wealth that usually accompanies urbanization.

An additional objective of the paper is to show that urbanization is part and parcel of the structural changes that accompany economic development. And that there is very little point in trying to stem it. Where governments have tried, they have generally failed (China, Soviet Union, Vietnam), creating substantial pent-up demand that led to brutal adjustments (colonial Africa, Trujillo's Dominican Republic) and generally harmed the poorest (Nyerere's Tanzania.)

Understanding the dynamics of urbanization can help policy makers mitigate its costs rather than worsen them. In many cases, slums are created and remain locus of environmental and human disasters for decades because of the myth that slums dwellers are there temporarily and will return to the country. Fortunately, in most cases, the income of the slum dwellers eventually increase with growth, and the slums are upgraded and turned into middle class neighborhood.

But the growth and upgrading process is slow. And it can fail to happen. The average African country's urban population grew by 5.2% per annum over the 1970-95 period, while its GDP per capita was falling at an annual rate of 0.66%. This implies that urbanization occurred without generating the resources (public or private) and employment opportunities to accommodate this surge in urban population. Today, up to two thirds of African urban dwellers live in informal settlements with inadequate transport, water, sanitation, electricity, and health services. Housing finance systems are non-existent or limited to upper income sectors. Crime is a major problem in many African cities, and worsening with increased poverty and deteriorating living conditions.

Unless economic growth accelerates substantially, there will be insufficient resources to fund the backlog of investments, let alone future requirements. Overstretched central governments budgets are unlikely to suffice to fund the needed investments. Yet accelerated growth is hampered by dysfunctional cities, which cannot service private sector needs or provide markets for agricultural products.

The paper is organized as follows. The next section briefly looks at regional differences in urbanization patterns, focussing on Africa. Part III offers a rapid review of the literature on the determinants of urbanization. Part IV reports the results of testing these hypothesis at the macro level and attempts to explain differences in levels of urbanization across countries while Part V looks at differences in the rate of growth of urbanization across countries. The last part concludes.

Throughout this paper, the expressions “overurbanized” or “underurbanized” are used. These expressions do not refer to deviation from an ideal level of urbanization. Rather, they are relative concepts, denoting differences from expected levels of urbanization, given sample norms. The level of urbanization is defined as the share of national population residing in urban areas, P_u/P , where the definition of urban areas may vary across countries. The rate of urbanization is the change in this level:

$$\frac{\dot{P}_u}{P}$$

where dots denote percentage change.

Africa's urbanization in comparative perspective

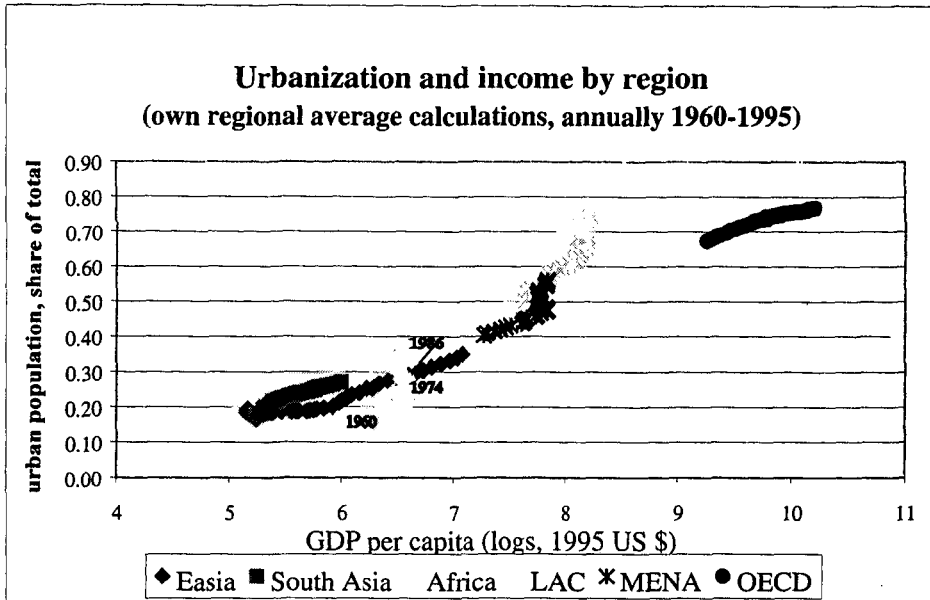
Africa emerged from the colonial period very underurbanized relative to its level of income. This was due, at least in part, to colonial regimes' repression of rural-urban migration (Tarver, 1994). Africa in the early 1960s had about the same level of urbanization as East and South Asia, although it was much wealthier (Figure 1.) Its urbanization then proceeded along with income growth until the mid-70s. Africa then entered a prolonged recession, while its population continued to flock to cities. The result is that today, Africa is relatively overurbanized given its income and economic structure.¹

Africa's urbanization process was rapid, but appeared to follow a “normal” urbanization path until the mid-1970s. After about 1974, Africa diverged significantly from the world trend as it continued to urbanize more rapidly than other regions, even as its economies were collapsing, or at least stagnating (Figure 1.) The question, then, is what caused this phenomenon. Urban bias and distorted location policies? Civil war and agricultural shocks which sent people to cities where aid was concentrated? Was it a cause or a symptom of what Easterly and Levine described as Africa's growth tragedy (Easterly and Levine, 1997.) To determine whether -- or how -- Africa's urbanization experience has

¹ In 1995, 31% of Africa's population was urban, but agriculture still employed 70% of its labor force. In contrast, in South Asia 23% of the population resides in urban areas, but agriculture occupies only 62% of the labor force. Agriculture accounts for about 30% of GDP in both regions.

differed from other countries, we first investigate determinants of urbanization across countries.

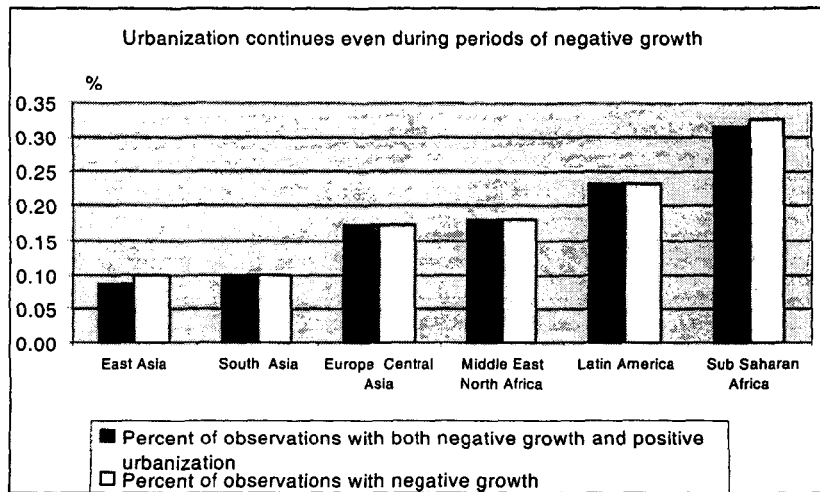
Figure 1. Africa's urbanization in comparative perspective



A caveat: nowhere does urbanization stop during economic downturns

Urbanization without growth is not a uniquely African phenomenon. The quasi totality of countries that experienced negative growth continued to urbanize. Out of 187 observations in our database that show average annual negative growth over a period of five years, 183 experienced positive urbanization. This is true across regions (Figure 2.)

Figure 2. Urbanization continues even in periods of negative growth, 1960-95



The notion that migrants return to rural areas when growth slows down does not hold – at least not in any systematic manner. Urbanization does not even noticeably slow down during economic downturns, implying that people continue to move to cities even when economic growth is low. The prime determinant of whether urbanization increases rapidly or not is not whether income growth is positive or negative. Rather, it is whether the level of urbanization in the country is high or low (Table 1.)

The implication appears to be that Africa differs from the rest of the world more because of its poor growth performance than because of its urbanization process. This does not, however, answer the question of whether Africa has followed a distorted urbanization process. To do so, we briefly review the literature on the causes of urbanization, and turn to an empirical estimation of the determinants of urbanization.

Table 1. Growth in urbanization slows as the level of urbanization increases, but is unaffected by growth in income

Level of urbanization (urban population as share of total)		GDP per capita growth (annual average)	Rate of growth of urbanization (annual average, %)
Less than 25%			
N=197	Average = 16	Positive	2.90
N=31	Average = 16	Negative	3.37
Between 25 and 50%			
N=180	Average = 38	Positive	1.78
N=71	Average = 36	Negative	1.63
Between 50 and 75%			
N=153	Average = 61	Positive	1.09
N=34	Average = 61	Negative	1.13
Above 75%			
N=102	Average = 85	Positive	0.31
N=20	Average = 83	Negative	0.70

N= number of observations.

Causes of Rural-Urban Migration

An increase in a country's urban population can be due to three causes: the natural growth rate of the urban population, the re-classification of rural settlements as they grow and hit the magic number that makes them cities and towns, and rural-urban migration. Data is generally not available to distinguish among the three, although a 1979 study showed that in 29 developing countries, between 1960 and 1970, about 61% of urban growth resulted from natural growth.² More recently, it was estimated that 75% of Mexico's urban growth in the 80s was attributable to natural growth.³ Of greatest interest to us, however, is rural-urban migration, as this is what is most commonly thought of as "urbanization."

Economic incentives

Migration, whether circular, seasonal or permanent, is often a response to economic incentives. The classic analysis of rural-urban migration (Harris and Todaro, 1970) attributes migration to the existence of relatively better economic conditions in urban areas. According to this model, migrants compare expected wages in the city to alternative rural income. If urban wages are higher (perhaps through government wage policies or trade unions), rural people will be attracted to the city. If expected urban income is much higher than rural income, rural-urban migration may occur even if the employment prospects in the city are dim. Migrants may be willing to endure a period of unemployment if expected urban income is sufficiently high (Mazumdar, 1987).⁴

Aside from the higher expected urban income pulling rural people into urban areas, there may be factors "pushing" them out of rural areas. A general decline in agricultural commodity prices since the mid-1970s may have contributed to a decline in rural incomes, which can be highly vulnerable to world market price fluctuations. Increased population density and environmental degradation may also have led to a land shortage among rural peoples, encouraging out-migration (Bryceson and Jamal, 1997). And, of course, higher agricultural productivity in the rural areas releases people and resources for migration into the city, as happened in East Asia.

Rural-urban migration may also follow from a risk diversification strategy. Agricultural income can be highly variable due to changes in climate and rainfall, agricultural market prices, access to land, illness, and war (Bryceson and Jamal, 1997). Some rural household members may migrate to urban areas to reduce family vulnerability to these risks, especially if times of economic adversity in urban areas do not normally coincide with those of rural areas. Many households straddle the rural-urban divide, and

² This varied between 38% in Turkey and 74% in South Africa where rural-urban migration was restricted. Quoted in Lucas, 1998b prepared for the summer workshop of the 1999-2000 World Development Report. The study is referred to as "Preston, 1979."

³ Study by U.S. Bureau of the Census, quoted in Lucas, 1998b

⁴ The Harris-Todaro model has been challenged, both theoretically and empirically. There is however evidence that some migrants move to town and then conduct an employment search.

remittances between the rural household and migrants enable income smoothing (Lucas, 1998b.)⁵

There is no systematic evidence showing that better services in urban areas (infrastructure, health clinics and schools) stimulates migration, although there is evidence that improved rural education triggers out-migration. As to better transport, it is unclear whether it stimulates migration, or encourages commuting and rural off-farm employment (Lucas, 1998a)

Non-economic factors

Social and political conditions also play an important role in drawing people out of the countryside into cities (Gugler and Flanagan, 1978). Migration to urban areas can provide an escape from family and cultural constraints, such as restricted land access or a low level of female independence (Tacoli, 1998). Migration to an urban area may also occur because of an expected increase in social status and standing – the perception that the “high life” can be found among the “bright lights” of the city.⁶ One study of northern Ghanaian migrants to Accra revealed this powerful “bright lights” myth – migrants had been lured to the city by exaggerated tales of high income and technologically advanced living, especially by returned migrants who “wished to convey to others a positive image of themselves and their experiences.” Migrants may also seek to acquire cash income to contribute to bridewealth as the money economy increasingly penetrates marriage rituals (Gugler and Flanagan, 1978).

Wars and ethnic conflicts may also lead to an increase in rural-urban migration. Aside from the impact of war on agricultural income through effects on transport and marketing, war may also push people out of rural areas for sheer safety reasons. Ethnic conflicts in particular increase the danger of living in an area dominated by a persecuted ethnic group, as the potential for ethnic cleansing is high in these areas. Urban areas generally have a higher level of ethnic diversity and thus may be safe-havens for persecuted groups. Police protection may also be higher in urban areas, encouraging migration from war-torn rural areas where order may be more difficult to maintain.

Distorted location incentives: the infamous urban bias

Rural-urban wage differentials in the Harris-Todaro model reflect differences in productivity that eventually disappear as a result of rural outmigration and the mechanization of agriculture. But policy distortions may result in wage differentials in excess of what is warranted by productivity. Alternatively, they may depress rural productivity or artificially inflate urban productivity for example through skewed investment allocations.

⁵ Note that resources can flow in both directions, and many migrant family will retain a foot in the rural areas.

⁶ According to Way, the process of urbanization has contributed to the HIV/AIDS pandemic in Africa through this “bright lights” mechanism – populations which abandon their roots and head for the city have frequently adopted “a lifestyle and behaviors that have placed them at increased risk for HIV infection” (435-6).

Jamal and Weeks (1998) attribute relatively higher urban wages in Africa to its colonial heritage. During the colonial era, higher urban wages represented a dichotomy between a rich (European) governing class and a poor (African) agricultural class. When colonialism ended and an “Africanization” of urban jobs occurred, this wage gap was maintained. These relatively higher wages were often maintained by powerful trade unions, which had been an important force in the achievement of independence and thus were well organized and politically powerful. Wage laborers were often rewarded through favorable labor laws guaranteeing minimum wages and working conditions for government workers, industrial employees, mineworkers, and other employees of the formal sector.

Developing country government investment may have been skewed towards urban-based industries during the 1960s and 1970s. The import-substitution strategies adopted by many developing countries involved large-scale public works such as dams and roads, often financed by agricultural taxes (Jamal and Weeks, 1998). Michael Lipton’s 1977 account of the flow of surplus from rural to urban areas in developing countries made famous the notion of “urban bias.” This concept emphasized the price distortions present in many developing countries that kept the price of rural agricultural products below world levels and the price of urban industrial products above world levels. Robert Bates in 1981 expanded the argument to attribute skewed investment in urban areas to the relative political power of urban dwellers, who could organize more easily and had greater access to government decision-makers. By influencing policy to increase investment in urban infrastructure and industry, the urban elite could increase its income at the expense of rural agriculture (Tacoli, 1998). More recent evidence, however, suggests that cities –particularly large cities—subsidize the rest of the economy, at least in terms of public expenditures and tax revenues (Prud’homme, 1998)

Private investment may also be skewed toward cities, through the existence of “financial urban bias.” Evidence from developing countries shows that urban areas tend to be net users of credit, whereas rural areas tend to be net depositors – money is saved by people in rural areas but then borrowed by firms or individuals in urban areas (Chandavarkar, 1985). This “financial urban bias” may exist because of a relatively higher degree of credit rationing in rural areas: transaction costs are high, monitoring is difficult, and average balances are small. The result may be a skewing of investment towards cities, if money is saved in rural banks but lent through urban banks to be invested in urban firms for rates of return that are no higher than those that could be obtained in rural areas.

One important goal of the structural adjustment policies undertaken by developing countries during the past two decades has been the reduction of these elements of “urban bias,” by liberalizing agricultural commodity prices, realigning exchange rates, and reducing import barriers to force industrial products to compete internationally. Whether because of general economic decline triggering falls in formal employment, or simply structural adjustment reducing rents to an urban elite, Jamal and Weeks (1998) maintain that, in Africa, “the income gap between urban wage earners and the rural population has narrowed considerably” since the mid-1970s. In fact, their study of four African countries found that “the primary dynamic distributional relationship in Africa has been

between rich and poor within both the urban and rural sectors,” rather than simply between rural and urban areas.

The phenomenon of “urban bias” may be better seen as a skewing of resource provision to the rich and the elite, especially if the urban poor have limited access to these resources. To equate people with their place of living denies the diversity in income groups among urban areas, and assumes that all urban dwellers benefit from policies biased towards urban groups. Thus it may be more appropriate to discuss “elite bias” rather than “urban bias” to take into account the economic differentiation among urban populations.

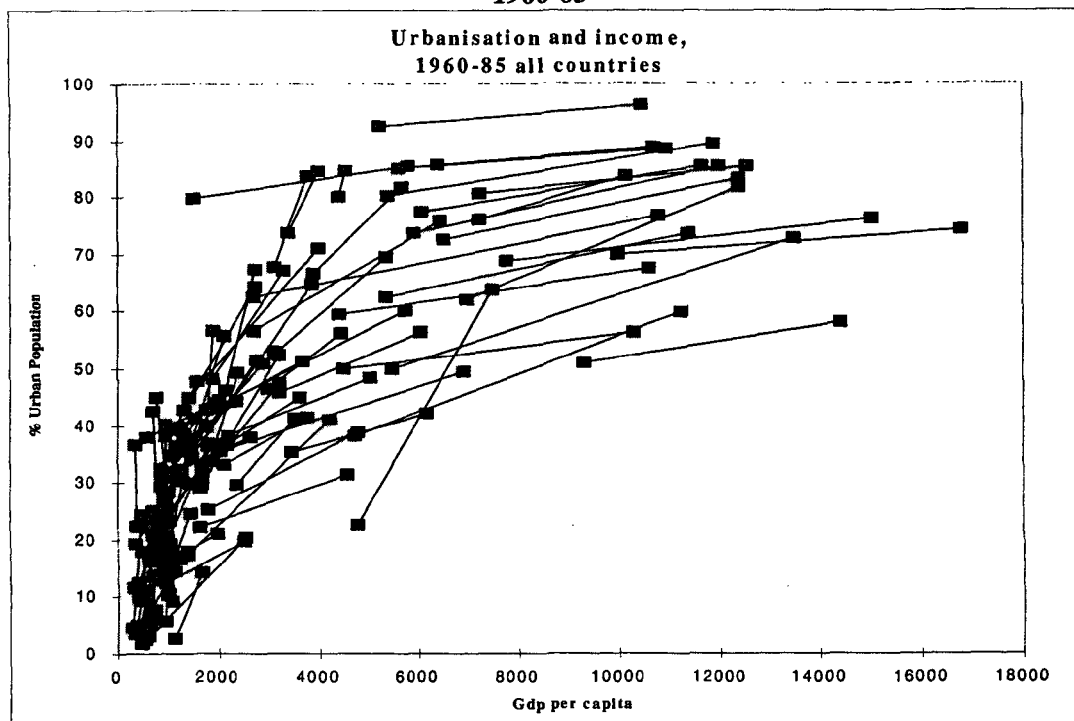
Even if investment, credit, and fiscal and monetary policy primarily favor urban areas, it does not necessarily constitute an “urban bias.” It may reflect differentials in rates of return. Furthermore, there may exist an optimal level of investment in which urban areas receive relatively more infrastructure funding. If agglomeration economies exist in a certain industry, urbanization may increase productivity in that industry. More generally, if urban credit and investment earn higher rates of return, it is more efficient for credit to be concentrated in urban areas (Chandavarkar, 1985). The very process of economic development implies disequilibria among rural and urban sectors, regions, and populations. Unequal resource allocation per capita is omnipresent in efficient economies, and may even be an impetus for economic development (Becker et al., 1994).

Explaining levels of urbanization across countries

Many economists and demographers have used the factors mentioned above to model rural-urban migration. These models are usually probit-type models which attempt to determine the probability of an individual agent deciding to move to an urban area from a rural area. These models, therefore, look not only at the characteristics of the individual (culture, education, wealth, family support, etc), but also the individual's environmental factors, both economic (rural-urban wage differential, returns to education, land availability, etc) and social (the presence of violence in the rural areas, a lack of civil freedoms).

Our study, however, focuses not on the individual, micro-economic level, but rather uses national macroeconomic and social conditions to determine a country's urbanization process. We look at national urbanization levels and at changes in these urbanization levels, which to a large extent are the aggregate or the result of these individual migration decisions. Our focus remains Africa, but to be able to identify whether Africa is different, we look across the world to see what has been the general experience with urbanization and economic development.

Figure 3. Urbanization and income,
1960-85⁷



⁷ Data: Summers & Heston GDP; Urbanization: World Development Indicators. Based on Ingram, 1998.

The role of income

The share of a country's population that resides in urban areas – that is, its level of urbanization – is highly correlated with its level of per capita income. The share of urban population increases rapidly at low levels of income (and of urbanization) to converge to an urbanization level of about 80% (Figure 3). This transformation is due to the structural changes that accompany development. The share of GDP derived from agriculture falls from 32% among low income countries to less than 3% among rich ones, and the share of employment accounted for by agriculture falls by even more: from about 66% to less than 6%.

Our basic model, therefore, is that urbanization is a function of income and income squared (to capture the non-linearity of the relationship),⁸ and of the structure of the economy:

$$U = E Y^{a+b \ln Y} (Y_A/Y) (Y_M/Y)$$

which in logs yields:

$$u = e + a y + b y^2 + c (y_A - y) + d (y_M - y)$$

In addition, we test the hypotheses mentioned above concerning rural-urban wage differentials, urban bias, rural “push” factors, civil disturbances and wars, and civil and political rights. Our data is organized as an unbalanced panel data set, with observations every five years from 1965 to 1995, for up to 100 developed and developing countries.⁹

Regression 1 in Table 2 shows that income per capita, the share of GDP derived from agriculture and manufacturing, and a time trend (“year”) explain 80% of cross country variations in levels of urbanization.¹⁰ Because the variables are in logs, their coefficients are elasticities. Thus a 10% increase in the share of GDP derived from manufacturing occurs along with a 1.3% increase in the level of urbanization, while a 10% increase in the share derived from agriculture coincides with a –1.3% decrease in the level of urbanization.

Rural-urban differences in earnings

The literature on rural-urban migration discussed in the preceding section emphasizes the importance of rural-urban income differentials in explaining decisions to migrate. No good measure of rural and urban wages was available, so we constructed one based on average returns to labor. As a proxy for rural wages we used the average product in agriculture, calculated simply as agricultural GDP (Y_A) divided by labor force

⁸ Since urbanization rates are bounded at 100%, the log-linear function is inadequate. We therefore use a polynomial to approximate the unknown function.

⁹ Our database includes 1960, but because sectoral shares of GDP were not available for 1960, most regressions omit that year.

¹⁰ Manufacturing was used rather than industry because industry includes mining – an activity that would not necessarily be correlated with the kinds of structural changes relevant to explaining urbanization.

in agriculture (L_A .) Urban wages were estimated as non-agricultural GDP divided by the number of people employed in industry and services (Y_I+Y_S)/(L_I+L_S). RUW is the ratio of these two average products:

$$RUW = \frac{Y_A/L_A}{(Y_I+Y_S)/(L_I+L_S)}$$

An alternative measure which omitted services and used the ratio of average product in agriculture over that in industry was also used and tested, but had much lower explanatory power.

The lower the rural wage relative to the urban wage, the more incentives to migrate, and the higher the flight to the cities. Countries with excessively low RUW should then be overurbanized given their level of income and income structure, and the sign on RUW should be negative. However, as people move to cities and out of agriculture, rural and urban wages should converge. If this is the case, the coefficient on RUW should be positive. Regression 4, which shows RUW to be positive and significant, supports this last interpretation.

Table 2: Explaining levels of urbanization

Regression	1	2	3	4	5	6	7	8	9	10	11
Dates available	1965-95	1965-95	1965-95	1965-90	1965-90	1970-95	1965-95	1965-95	1965-90	1980-95	1965-90
Ln(Y)	1.46**	1.46**	1.73**	1.78**	1.91**	1.73**	1.79**	1.71**	1.80**	1.66**	2.06**
(Ln(Y)) ²	-0.080**	-0.080**	-0.095**	-0.10**	-0.11**	-0.096**	-0.10**	-0.095**	-0.10**	-0.090**	-0.12**
Ln(Yag/Y)	-0.13**	-0.13**	-0.13**	-0.22**	-0.12**	-0.14**	-0.16**	-0.15**	-0.22**	-0.10**	-0.18**
Ln(Ymanuf/Y)	0.13**	0.10**	0.11**	0.12**	0.15**	0.099**	0.12**	0.12**	0.11**	0.0084	0.19**
Year	0.013**	0.013**	0.013**		0.0048			0			
Africa	-0.028										
Africa*pre80		-0.19**	0.27	0.14	1.30**	0.44	0.28	0.21	0.22	0.677	1.29**
Africa*post80		0.12**	1.66**	1.54**	2.01**	1.61**	1.95**	1.74**	1.61**	1.46**	2.28**
Africa*pre80*ln(Y)			-0.067	-0.031	-0.20**	-0.091*	-0.069	-0.062	-0.041	-0.12*	-0.19**
Africa*pre80*ln(Y)			-0.24**	-0.21**	-0.29**	-0.23**	-0.28**	-0.25**	-0.22**	-0.21**	-0.32**
post80	-0.031	-0.12**	-0.12**		-0.061						
Ln(Ruw)				0.18**					0.17**		0.15**
Ln(Noeduc)					-0.14**						-0.17**
(Ln(Noeduc)) ²					0.046**						0.055**
Ln(secondary)					0.18**						0.14**
Cereal						0.033**					
BMP							0.00016**				
Poscropsh								0.0049			
Negcropsh								-0.0022			
Sivard									0.076**	0.076*	0.057*
Ln(foodaidc)										-0.031*	
Ln(foodaidnc)										0.084**	
Adj. R ²	.801	.813	.826	.855	.875	.822	.822	.816	.856	.802	.879
N	494	494	494	398	352	437	450	494	398	331	346

The dependant variable is the log of the level of urbanization defined as (urban population/total population). Note: * (**) indicate significance at the 5% (10%) level. The sample is an unbalanced panel consisting of up to 100 countries every 5 years between 1965 and 1995. Results are robust to heteroscedasticity using White's method.

Education

We also expect education to be positively correlated with higher urbanization, as returns to education tend to be higher in urban areas. Education itself may have an aspect of “urban bias”: rural students do not necessarily learn agricultural skills, and may even be educated in such a way as to be averse to farming (Gugler and Flanagan, 1978). Using education data from the Barro and Lee data set (Barro and Lee, 1996), we find in regression 5 that the higher the proportion of the population with no education, the lower the level of urbanization. This effect is non-linear however, as evidenced by the fact that the square of NOEDUC is positive and significant. The interpretation is simply that among countries with many uneducated people, a very small improvement in education is associated with much higher urbanization. Conversely, among countries with relatively few uneducated people, improvements in education will basically not affect urbanization.

Other education variables are available from Barro and Lee, enabling us to distinguish among different levels of educational achievements. However, they tend to be very collinear. We therefore used only secondary education (SECONDARY), which yielded the best fit. It is positive and significant, suggesting that a typical country can expect to be 12% more urbanized given its level of income and income structure than a country whose adult population has half the average years of secondary education.

Urban bias

No good measure of urban bias is readily available. In particular, it is impossible to measure whether public investment and spending is biased towards urban areas, due to a lack of data and the difficulty of assessing which populations benefit from which public investments. Two alternative measures can be used as proxies. One is the difference between the domestic producer price of agricultural products and their international market prices. These are available through the Food and Agriculture Organization of the UN for a number of basic products, notably cereals. If this functions as a measure of urban bias, we expect a negative coefficient. But regression 6 shows CEREAL to be significantly positive, implying that it is capturing a process of convergence, whereby the more urbanized a country, the closer to international prices is its domestic producer price of agricultural commodities. CEREAL’s explanatory power, however, is low relative to income or income structure.

Another measure of distortion which could presumably disproportionately affect rural areas, or proxy for import substitution policies, is the overvaluation of the exchange rate. A common measure of this overvaluation is the ratio of the black market exchange rate to the official rate, or the “black market premium” (BMP). We expect that, all else constant, countries with a higher black market premium should be more urbanized. This is indeed the case, as is shown in regression 7. To make sure that we were not simply capturing a Latin American effect (Latin American countries are highly urbanized and many had high black market premia in the eighties and early nineties), we ran regression 7 with a Latin America dummy. The variable remained significantly positive. Its

explanatory power is trivial, however, and it is not significant when other explanatory variables, such as CEREAL, are introduced.

Shocks to agriculture

Another important factor which could “push” people out of rural areas is a shock to agricultural production. Agricultural shocks can include not only weather shocks such as droughts – during one drought year in Mauritania, for instance, population in the capital city of Nouakchott doubled (Potts, 1995) – but also collapses in prices, disruptions in the distribution system, or unavailability of fertilizers.

Rather than trying to create separate measures of these possible disruptions, we constructed a variable that measures the difference between actual and expected crop output. POSCROPSH captures positive deviations (one or two standard deviations) from expected crop yield, while NEGROPSH does the same for negative shocks to crop yield.¹¹ We expect the sign on POSCROPSH to be positive (indicating that a better-than-expected crop yield over the previous 5 years will reduce the likelihood of a rural farmer moving to the city) and the sign on NEGROPSH to be positive, as a bad yield would push people into the city.

Neither NEGROPSH nor POSCROPSH are significant (regression 8). However, we did get expected results using annual shock measures (rather than the sum over the preceding 5 years). This variable is highly sensitive to sample changes, however, and the results were not always robust, so we did not include it in any of our summary regressions. The Barro-Lee measure of terms of trade shocks (growth rate of export prices minus growth rate of import prices averaged over the preceding 5-year period) was not significant in any of our regressions.

Civil disturbances, wars, and famines

As mentioned above, in times of civil strife, armed conflicts and large-scale atrocities tend to occur away from the center of power (battlefields are usually in the countryside. Mozambique and many other war-torn countries saw refugees flock to cities, usually the main city, which is also where relief efforts tend to be concentrated. Morrison’s 1993 study of politically motivated violence and migration in Guatemala showed that even when the number of deaths is relatively small, the “climate of fear” that these deaths instill – particularly in rural residents – appears to have caused many individuals to migrate.

¹¹ These were calculated on an annual basis, with the variable given a value of 2 if the negative shock was at least 2 standard deviations below expected, 1 if the shock was between 1 and 2 standard deviations below expected, and 0 otherwise. NEGROPSH is the sum of these over five years. It can therefore take a value between 0, indicating no shocks in the previous five years, and 10 which would imply the country experienced severe negative shocks to crop yields every year in the past five years. POSCROPSH was calculated using the same methodology. Expected yield was calculated using OLS estimates from a regression of actual yield on time.

We used two different measures of civil disturbance. One, which is used in Easterly and Levine (1997), is from Sivard (1996), who collects annual information on the numbers of people killed because of civil conflict or war fought on the national territory. The other, food aid, more generally proxies for overall disturbances — economic or other.

The information collected in Sivard allowed us to test not only whether civil strife and urbanization were related, but also whether the impact on urbanization varied with the severity of the domestic disturbances. We constructed three measures based on the information collected in Sivard: SIVARD, which indicates that the country was mentioned in Sivard as having some form of civil strife; SIV1000, indicating that the country had more than 1000 deaths; and SIV5000, which were countries with more than 5000 war-related deaths in the 5 preceding years.

Regression 9 shows that countries that experienced civil strife tend to be more urbanized, holding all other variables equal. The severity of the conflict does not appear to matter, as SIVARD yielded a better fit than SIV1000 or SIV5000.

The positive correlation between urbanization and civil strife is very sensitive to sample changes, and is mostly driven by East Asian countries. Contrary to common perception, over the 1960-95 period, it is not in Africa that most civil strife occurred. Mentioned in Sivard for some form of civil strife are 34% of the observations for East Asia, 24% for Middle East and North Africa, and 20% each for Africa and Latin America. The prolonged nature of civil unrest in countries such as Cambodia, Myanmar, and the Philippines seems to have contributed to their urbanization.

Clearly, however, whether people seek refuge in cities may depend on the nature and structure of the conflict. In Burundi, for example, people did move to Bujumbura to escape the risk of slaughter. In Rwanda, on the other hand, one group dominated Kigali, so that when refugees came back from Zaire, they tended to remain in the rural areas. Both these countries have experienced civil strife and war over prolonged periods of time, yet remain among the two least urbanized countries in the world.

Our alternative measure of domestic hardships, food aid, is collected by the FAO. It measures tons of cereal and non-cereal food aid received by a country. We expected both measures (deflated by population) to be positively correlated with levels of urbanization, given that aid is probably more readily available in urban centers and that it is probably received in times of famine (which would most likely be pushing people out of the countryside). However, we find in regression 10 that cereal food aid (FOODAIDC) has a negative sign and that non-cereal food aid (FOODAIDNC) is positive. Both these results are very vulnerable to the introduction of other variables.

Ease of access to urban center

A basic elements in standard migration models is the ability of rural dwellers to move to urban areas, which is affected by the availability of transportation and the distance to the city. To proxy ease of transportation we used road density, and for distance to urban centers we used population density.

Road density was generally not significant, which may be due to the fact that while a better road network does help people move to cities, it also means that the countryside is better integrated into the national economy so that rural dwellers can benefit from access to urban markets without having to move to urban areas.

As to population density, its partial correlation coefficient is generally significantly negative, which we cannot explain.¹² Finally, work by Henderson suggests that as countries start urbanizing, their urban systems tend to be very “primate” – that is, dominated by one main city. This is supported by our data, and we find higher primacy (defined as the percentage of urban dwellers who reside in the main city) is negatively correlated with urbanization. However, since this variable significantly reduces our sample, we did not include it in Table 2.

Democracy and urbanization

Non-democratic regimes with a large amount of cronyism and rent-seeking would be expected to be relatively more urbanized, as people who wish to gain access to political favors and rents concentrate their activities in the city (Ades and Glaeser, 1995). Also, dictatorships are vulnerable to riots and uprising – which are urban phenomena – and therefore probably rely on public spending to keep the urban masses reasonably content. It should follow that non-democracies should be more urbanized given their level of income or other explanatory variables.

To test these hypotheses, we ran regression 11 on two separate samples, distinguishing between “democracies” and “non-democracies.” Non-democracies are countries classified as not free or only partially free by Freedom House, and democracies are those classified as free. Regressions 12 and 13 in Table 3 show the results. The coefficients on income, on the share of GDP derived from manufacturing, and on the education variables are much higher in non-democratic countries. However, none of these differences is statistically significant (that is, an interactive term between the democracy dummy and these variables is never significant in regressions on the whole sample.) Nor did we find the democracy variable to be significant when entered directly in a regression run on the whole sample.

Barkley and McMillan (1994) argue that a lack of political and civil liberties can limit individuals’ ability to respond to economic incentives. The government may restrain the movement of people and resources, or affect market information concerning relative returns to resources, reducing reliance on the accuracy of economic indicators and migration incentives.

¹² Note that the simple correlation between urbanization and density is positive.

Table 3: Democracy and levels of urbanization

Regression	12	13	14
	non-democracies	democracies	Interaction
dates available	1975-95	1975-95	1975-95
Ln(Y)	2.49**	1.62**	1.68**
(Ln(Y)) ²	-0.15**	-0.093**	-.096**
Ln(Y _{agr} /Y)	-0.22**	-0.20**	-0.19**
Ln(Y _{manuf} /Y)	0.34**	-0.058	0.050
Africa*pre80	1.65**	-- dropped ^a --	0.39
Africa*post80	2.12**	2.93**	1.20**
Africa*pre80*Ln(Y)	-0.23**	-0.039**	-0.073*
Africa*pre80*Ln(Y)	-0.28**	-0.44**	-0.17**
Ln(Noeduc)	-1.51**	-0.096**	
(Ln(Noeduc)) ²	0.27**	0.033**	
Ln(secondary)	0.17**	0.015	
Ln(RUW)	0.16**	0.32**	0.28**
CivilRight*Ln(RUW)			-0.021**
Sivard	0.018	0.093	
Adj. R ²	.875	.820	.851
N	166	99	303

a. There were no countries classified as “Free” in Africa before 1980.
 Dependant variable is log of the level of urbanization. Notes: See Table 2.

Thus where civil and political rights are low, urbanization should be much less affected by urban rural wage differentials. As a result, the convergence between rural and urban wages should proceed more slowly in restricted civil environments.

Using Freedom House data on political and civil liberties, we tested whether urbanization is in fact more closely related to economic incentives in freer countries. Regression 14 shows the coefficient on an interactive term that allows RUW to change with the level of civil liberties to be significantly negative. This implies that as civil liberties decrease, urbanization occurs with much less rural-urban wage equalization. An alternative formulation (not reported here) uses dummies for the various levels of civil liberties and confirms this result: it shows that in countries with a very low degree of civil liberties, rural urban wage differentials are no longer significantly associated with urbanization. In these countries, then, it would appear that the lack of civil liberties weakens the relationship between economic incentives and urbanization. Results are very similar if we use political liberties instead.

Ethnic diversity and urbanization

Easterly and Levine (1997) showed that ethnic diversity helps explain many of the public policy choices of African countries – public policy choices that in turn account for much of Africa’s poor growth performance. We ask the question of whether these policy choices may have affected urbanization, over and above their impact on income.

What we found was that the ethnic variables were not generally helpful in explaining urbanization beyond what income could explain. In other words, most of the ethnic

diversity measures used by Easterly and Levine are significant when the income variable is excluded from the regressions. However, they are not (nor do they have any explanatory power) when income is included. The variables are negative, suggesting that the manner in which they affect urbanization is by depressing income, which in turn reduces the level of urbanization.

Easterly and Levine also use a measure of racial tensions. Following the same logic as for SIVARD, we expect that racial tensions should result in higher urbanization. Cities tend to be centers where national identity is forged, and are less frequently dominated by one ethnic group. The racial tension data is only available for 1984, but to the extent that this is related to structural issues in a country, we use it as a proxy for racial tensions over the whole period. The variable has a significantly positive effect on both the level and the rate of urbanization. In addition, it somewhat decreases the coefficient and level of significance of the Africa dummies. Thus, even if we control for level of income or of urbanization, racial tensions help explain higher than expected urbanization.

Regression 11 in Table 2 includes all significant variables,¹³ and shows that given the Africa dummies we can explain almost 90% of cross country variations in levels of urbanization. This specification, however, treats all observations equally and does not allow us to look at a country's individual urbanization process. We therefore run the regressions with country fixed effects, which enables us to determine how well we can explain countries' individual urbanization processes. Table 4 shows these results.

Countries' evolution over time: a fixed effect approach

In the fixed effect specification, shown in Table 4, we find that income and income structure still are strongly correlated with a country's level of urbanization. The results are not substantially different than without fixed effects, although NOEDUC and NOEDUC2, CEREAL or black market premia are never significant. Secondary education and rural-urban wage differentials (RUW) are significant, as well as SIVARD is usually significant, although it is now negative. Thus, while civil strife is correlated with higher urbanization across countries, it tends to reduce a given country's urbanization level. The negative crop shock variable is now significant and negative, suggesting that countries that have experienced drops in yields in the previous five years, will tend to have a lower than otherwise expected level of urbanization. This could be due to the fact that rural people become too poor to move after a large reduction in crop yield, but in general the results on the crop shock variables are weak and highly sensitive to sample changes.

¹³ Since civil and political rights data are only available from 1975 onwards, we omitted them from regression 11.

Table 4: Explaining urbanization level: fixed effects regressions on levels of urbanization

Regression	15	16	17	18	19	20	21	22
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ln(Y)	0.75**	0.52**	0.66**	1.06**	0.91**	0.90**	0.75**	0.68**
(Ln(Y)) ²	-0.052**	-0.033**	-0.045**	-0.075**	-0.064**	-0.064**	-0.053**	-0.044**
Ln(Yag/Y)	-0.071**	-0.015	-0.055	-0.10**	-0.28**	-0.28**	-0.086**	-0.12**
Ln(Ymanuf/Y)	0.16**	0.13**	0.19**	0.13**	0.15**	0.15**	0.15**	0.14**
Year	0.017**	0.0079**	0.016**	0.015**	0.013**	0.013**	0.017**	0.0071**
Africa*pre80	-1.07**	-0.85**	-0.94**	-0.94**	-1.10**	-1.09**	-1.11**	-1.03**
Africa*post80								
Africa*pre80*ln(Y)	0.11	0.22**	0.19**	0.078	0.16**	0.16**	0.11*	0.21**
Africa*pre80*ln(Y)	-0.032	0.093	0.069	-0.046	0.016	0.013	-0.033	0.064
post80	-0.089**	-0.026	-0.075**	-0.068**	-0.099**	-0.097**	-0.089**	-0.041**
Ln(Noeduc)		0.0064						
(Ln(Noeduc)) ²		-0.00066						
Ln(secondary)		0.13**						0.099**
Bmp			0.0000064					
Cereal				0.0057				
Ln(Ruw)					0.16**	0.16**		0.081**
Sivard						-0.028*		
Poscropsh							0.0039	
Negcropsh							-0.0091*	
R ² within	.746	.811	.753	.730	.772	.774	.748	.816
R ² between	.329	.215	.132	.167	.742	.738	.323	.662
R ² overall	.390	.256	.067	.235	.707	.703	.385	.592
N	494	352	450	437	398	398	494	346

Dependant variable is log of the level of urbanization. Notes: See Table 2.

So is Africa different?

The dummy for sub-Saharan Africa, in regression 1 (Table 2), is not significant, implying that overall, in the period 1965-1995, Africa's level of urbanization was not significantly different from that of other countries given its level of income and economic structure.¹⁴ We also tested our more specific hypothesis that Africa was relatively underurbanized prior to 1980, and overurbanized thereafter. This theory supported by the data in regression 2: the coefficient on Africa*pre80 is significantly negative and that on Africa*post80 significantly positive.

An interactive dummy was used (Africa*post80*ln(Y) and Africa*pre80*ln(Y)) to determine whether the relationship between levels of income and urbanization was different in Africa relative to the rest of the world. Regression 3, which allows Africa to differ from the rest of the world both in intercept and in slope, suggests that Africa was not in fact particularly unique prior to 1980. However, after 1980 this changed. Not only was urbanization relatively high among African countries given their income and education levels (positive sign on the Africa*post80 dummy), but differences in income began to explain less of the differences in urbanization.

Since we are in fact interested in African countries' individual urbanization processes over time, the fixed effect specification is of greater interest. However, we cannot use the pre- and post-1980 Africa dummy with fixed effects, because we do not have a balanced panel. Table 4 is therefore of moderate use in helping us answer the question of whether Africa's urbanization was different. Instead, we run a fixed-effect regression without the Africa dummy, and regress its residuals on the fixed-effects regression.

Table 5: Regression of Fixed Effect Residuals

Regression:	24	25
Fixed effects	Yes	No
Dependant variable	Log of urbanization	Residuals of regression 24
ln(Y)	0.63**	..
(ln(Y)) ²	-0.04**	..
Ln(Yag/Y)	-0.02	..
Ln(Ymanuf/Y)	0.15**	..
Year	0.018**	..
Ln(noeduc)	-0.002	..
(Ln(noeduc)) ²	0.017	..
Ln (secondary)	0.14**	..
Post80	-0.01	..
Ln(RUW)	0.02	..
Africa*pre80	..	-0.29**
Africa*post80	..	0.33**
Africa*pre80*ln(Y)	..	0.04**
Africa*post80*ln(Y)	..	-0.05**
R2 within	0.76	..
R2 between	0.72	..
R2 overall	0.65	0.12
N	346	346

Notes: See Table 2.

¹⁴ Note however that the Africa dummy is significant in the absence of variables on the structure of the economy.

Table 5 shows the results, leading us to conclude that Africa's urbanization process was indeed different from the world's both before and after 1980. African countries were generally underurbanized prior to 1980, and urbanized faster than expected during the 1965-80 period given their income level and structure, their levels of human capital, and their rural-urban wage differentials. This resulted in higher-than-expected levels of urbanization in the post 80 period. Following 1980, any change in income was associated with smaller changes in urbanization level. None of the other explanatory variables help decrease the value or significance of these Africa dummies. The conclusion then does hold that Africa is different, but we cannot, with traditional causes such as rural-urban income differentials or urban bias, explain why this is so.

Explaining changes in urbanization

The puzzle raised by Figure 1 is that Africa urbanized rapidly despite protracted negative growth. In fact, we find that in general the relationship between *changes* in urbanization and *changes* in income is much weaker than the relationship between *levels* of income and *levels* of urbanization. Variations in income and income squared alone explain 72% of the variation in urbanization levels, but growth in income explains only 5% of growth in urbanization, even if we disaggregate income growth into its rural and urban components.

The generally weak relation between changes in income and in urbanization is due in part to the fact that rates of increase in urbanization are much more stable than rates of increase in income. Our sample means for the growth rate of income and urbanization are both 1.6% per annum, but the minimum for urbanization is -0.9% while for income it is -11%.¹⁵ Negative urbanization is extremely rare. As shown in the Appendix, only 12 countries ever experienced decreases in their levels of urbanization¹⁶. Finally, urbanization converges to 100% while income is (in theory at least) unbounded by any upper limit.

Nevertheless, we can "explain" a good part of the change in a country's urbanization level. First and foremost, changes in urbanization are related to a country's level of urbanization. This is shown in Table 6: U60, the level of urbanization in 1960, together with a time trend (year), explain about 55% of variations in the rate of urbanization across countries. ZY, the growth rate in income per capita, has no explanatory power whatsoever.

The Africa dummy shows that African countries did urbanize more rapidly than expected prior to 1980, and less rapidly after 1980. The fact that the AFRICA*PRE80 dummy is significant in regression 2 despite the fact that we correct for initial urbanization level, suggests that African countries were not simply "catching up". Other policies or conditions were in place that resulted in remarkably rapid urbanization during this period.

¹⁵ The maximum is about 12% for both. These numbers are for the larger sample of 630 countries. For the smaller sample of 443 countries used in table 5, the sample means are 1.5% for growth in urbanization (with a minimum of -0.8% and a maximum of 8.3%) and 1.2% for growth in income (varying between -7.5% and 7.8%).

¹⁶ Negative urbanization may have occurred in recent years in Eastern Europe and the former Soviet Union.

Table 6: Regressions in Changes in Urbanization

Regression	1	2	3	4
dates available	1965-95	1965-95	1970-95	1970-95
ln(u60)	-0.012**	-0.012**	-0.013**	-0.012**
year	-0.00028**	-0.00019**	-0.00015**	-0.00014**
zy	0.016	00.015		
Africa	0.0011			
Africa*pre80		0.0043**	0.0036*	0.0035
Africa*post80		-0.0026*	-0.0052**	-0.0051**
zYags			-0.023*	-0.023*
zYinds			0.016**	0.016**
lagruw				-0.0014*
Adj. R ²	.549	.562	.603	.585
N	630	630	443	437

Dependent variable is change in % urban population. Notes: see Table 2.

Since urbanization is thought to be associated with structural changes in the economy, we include terms for the share of growth derived from agriculture and from industry: ZYAGS and ZYINDS.¹⁷ The share of growth in services was never significant, so we omitted it because it introduced collinearity problems. As expected, we find that growth in agricultural value added is associated with slower urbanization rates, while increases in industrial value added are positively correlated with urbanization. The explanatory power of structural change variables is small, however, as they only increase the R² by about 1 percentage point. However, their explanatory power increases substantially when we exclude Africa from the sample (then they add about 4 percentage points to the R².) Neither ZYAGS nor ZYINDS is significant in the African sample.

We also test whether differences in rural and urban wages affect the speed of the urbanization process. Since we want to establish the direction of causality, we used lagged values of RUW. The negative coefficient on LAGR UW confirms what most micro studies have found, namely that low rural (relative to urban) wages contribute to rural-urban migration. In addition, the AFRICA*PRE80 dummy is generally not significant once LAGR UW is included in the regression. In other words, the speed of Africa's urbanization prior to 1980 is no longer extraordinary if we take into account the very large disparities between urban and rural wages. In Africa in 1970, the average product of labor in agriculture was only 15% of that in industry and services. In South Asia and East Asia it was about 26%.

¹⁷ These are calculated as annual average growth in value added in agriculture and in industry, weighted by their shares of GDP. They are not deflated by growth in population.

Table 7: Regressions in Changes

Regression	1	2	3	4	5	6	7	8
dates available	1970-90	1975-95	1970-95	1970-95	1970-95	1975-95	1970-95	1975-95
ln(u60)	-0.011**	-0.012**	-0.012**	-0.012**	-0.11**	-0.011**	-0.012**	-0.012**
year	-0.00010	-0.00013**	-0.00015**	-0.00013**	-0.00047	-0.00011*	-0.00014**	-0.00012*
Africa*pre80	0.00077	0.0048**	0.0054**	0.0036	0.0023	0.0025	0.0031	0.0019
Africa*post80	-0.0062**	-0.0043**	-0.0062**	-0.0050**	-0.0037**	-0.0050**	-0.0052**	-0.0052**
zYags	-0.0085	-0.020	-0.023	-0.021	-0.0057	-0.011	-0.023*	-0.012
zYinds	0.012*	0.014**	0.20**	0.16**	0.012*	0.010	0.015**	0.0092
lagruw	-0.0011	-0.0018**	-0.001	-0.0013	-0.0013*	-0.0011	-0.0013*	-0.0010
cereal		-0.000064						
bmp			0.0000006					
lag[ln(noeduc)]	-0.00031							
lag[ln((noeduc) ²)]	0.00011							
lag[ln(secondary)]	-0.00083							
Poscropsh				-0.00052				
Negcropsh				0.00022				
Sivard							-0.0020*	-0.0021*
Democracy						-0.0016*		-0.0020**
ln(foodaidc)					-0.00043			
ln(foodaidnc)					0.00050			
Adj. R ²	.593	.603	.588	.589	.554	.580	.588	395
N	368	412	382	432	329	395	437	.583

Dependent variable is change in % urban population. Notes: see Table 2..

As Table 7 shows, none of the explanatory variables discussed earlier contribute significantly to explaining urbanization. In particular, initial education does not explain differences across countries in the rate of urbanization. Nor do our urban bias measures (CEREAL or BMP), the crop shock variables, or the food aid data. We do find that SIVARD is significantly negative, indicating that civil strife reduces the growth rate in urbanization (the opposite sign from what we expected). The coefficient on the democracy variable is also significantly negative, suggesting that democracies tend to urbanize less rapidly than non-democracies, all else constant.

Our sample includes developed countries with a mature urban system, which have essentially stopped urbanizing. We checked whether any of our results changed if we excluded them. The results were generally robust to the change in samples (although the coefficient on cereal food-aid became significantly negative).

Conclusion

Urbanization levels are closely correlated with levels of income. But changes in income do not explain changes in urbanization. Urbanization continues even during periods of negative growth, carried by its own momentum, largely a function of the level of urbanization. From that point of view, Africa's urbanization without growth is not a puzzle.

The finding of a strong positive association in levels between urbanization and income, combined with the absence of such a relationship in changes should be related to similar results obtained by Easterly (1999) on the relation between income and quality of life indicators. Easterly speculates on this patterns of results as (i) the long and variable lag that comes between growth and changes in the quality of life, (2) the possibility that global socio-economic progress is more important than home country growth for many quality of life indicators. Similar explanations could be applied to urbanization, notably the possibility that with globalization comes and inherent push for urbanization.

Factors other than income that help predict differences in *levels* of urbanization across countries include: income structure, education, rural-urban wage differentials, ethnic tensions and civil disturbances. Also, the relationship between economic incentives and urbanization is weaker in countries with less civil or political liberties.

Factors other than the initial urbanization level that help explain the *speed* of urbanization include: the sector from which income growth is derived, ethnic tensions, civil disturbances and democracy (the latter two contributing to slowing the pace of urbanization, all else constant.) Rural-urban wage differentials, whether they represent an urban bias, or simply lower productivity in agriculture than in other sectors are also significant determinants of the rate of growth of urbanization. Furthermore, at least in the pre-1980 period, the inclusion of rural-urban wage differentials in regressions reduces the significance of the Africa dummy – in other words, they explain the otherwise “extraordinary” pace of urbanization in Africa in the post-colonial period.

Our measures of urban bias (ratio of domestic to world price of cereals; black market premium) or of shocks to agriculture are never significant determinants of either the level or the pace of urbanization. At any rate, they do not help explain why Africa is different.

One can question whether the particularly high rural-urban wage differentials in Africa in the post-colonial period is a symptom of urban bias. It is possible, but by no means certain. They may have reflected differences in productivity – the fact that they gradually decreased over time at about the same rhythm as in East and South Asia supports this hypothesis. Anyway, they are surely best understood as a symptom of elite – rather than urban-- bias.

So does Africa's urbanization process remain a puzzle? Africa, at the end of the colonial period, was underurbanized given its income and income structure due to the policies of the colonial powers. The 1960-80 period was characterized by very rapid urbanization, even more rapid than can be explained by a catch-up hypothesis, traditional urban-bias measures, agricultural shocks, or civil disturbances. It is largely explained, however, by rural-urban wage differentials. The slowdown in the pace of urbanization after 1980 is significantly greater than can be explained by our explanatory variables. However, given that Africa had urbanized "exceedingly rapidly" in the 1960-80 period, the slowdown that followed is not unexpected. In fact, if we let initial urbanization level take 1975 values for the 1980-90 observations (instead of 1960), the post-80 Africa dummy is no longer significant.

Alternative explanations could, of course, be poor data. One argument is that urbanization data in Africa are simple projections based on old census data and therefore the results presented here have limited meaning and interest. But if this were the case, we should find that Africa in the post-80 period continued to urbanize exceedingly rapidly. The bias would be in the other direction. Another point frequently made is that we may severely underestimate income and income growth in Africa, as much of the economy has gone underground to escape predatory governments. This point, while surely accurate,¹⁸ is moot because income growth explains so little of the pace of urbanization.

A more interesting criticism is that the distinctions between urban/rural and formal/informal may be misplaced in developing countries, especially in Africa. Many workers straddle these divisions, whether by seasonal or circular migration between town and country, or moonlighting in the informal sector while holding a formal sector job during the day (Jamal and Weeks, 1998). Even the economic activities we use to distinguish between rural and urban sectors may not be appropriate. The growth of urban agriculture in response to rising food prices and shortages and general urban poverty is a good example of how strict rural vs. urban dichotomies may not be applicable to the modern developing world (Tacoli, 1998). This, however, is far from being a uniquely African phenomenon. In Nicaragua, 40% of the urban poor are employed in

¹⁸ The inclusion in Zaire's national accounts of its "non-registered economy" raises "effective" GDP to three times the current official measures of GDP (Cour, 1991.)

agriculture.¹⁹ Nevertheless, the very fact that our results show a weak relationship between urbanization and traditionally accepted migration factors may indicate that, in Africa at least, we are omitting part of the urbanization story. The fact that the informal sector provides a significant source of income to urban migrants, coupled with the apparent overlap of rural and urban activities, may shed light on the nature of urbanization in Africa.

¹⁹ Nicaragua draft PRSP (<http://www.mipres.gob.ni/grupoconsultivo>)

Appendix 1

African countries that experienced one episode of urbanization without growth over a five year period, between 1960 and 1995:

Angola, Benin, Cameroon, Central African Republic, Chad, Congo, Cote d'Ivoire, Gabon, Ghana, Gambia, Kenya, Madagascar, Malawi, Mali, Mauritania, Mozambique, Namibia, Niger, Nigeria, Senegal, Sierra Leone, Rwanda, South Africa, Sudan, Togo, Congo-Zaire, Zambia, Zimbabwe

Non-African countries that did:

Albania, Argentina, Bangladesh, Bolivia, Brazil, Bulgaria, Canada, Chile, Costa Rica, Dominican Republic, Ecuador, El Salvador, Finland, Guatemala, Haiti, Honduras, Hungary, Indonesia, Iran, Jamaica, Jordan, Mexico, Mongolia, Morocco, Nepal, New Zealand, Nicaragua, Peru, Philippines, Poland, Romania, Saudi Arabia, Sweden, Switzerland, Trinidad & Tobago, Uruguay, Venezuela, Yemen (Rep. of)

African countries that did not:

Burkina Faso, Lesotho

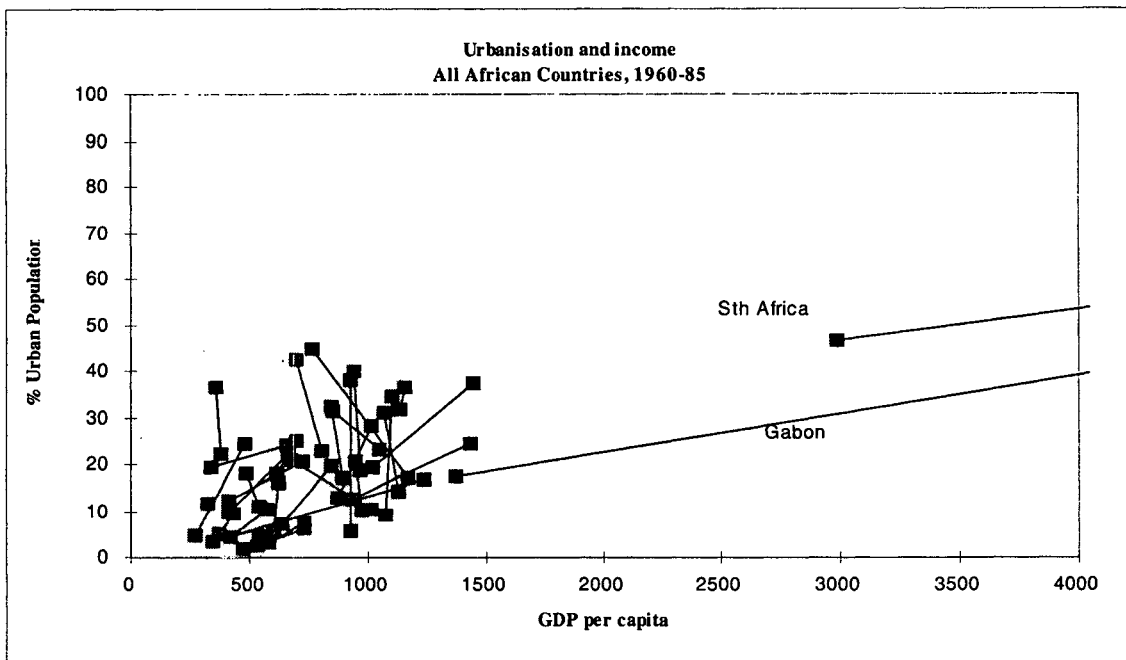
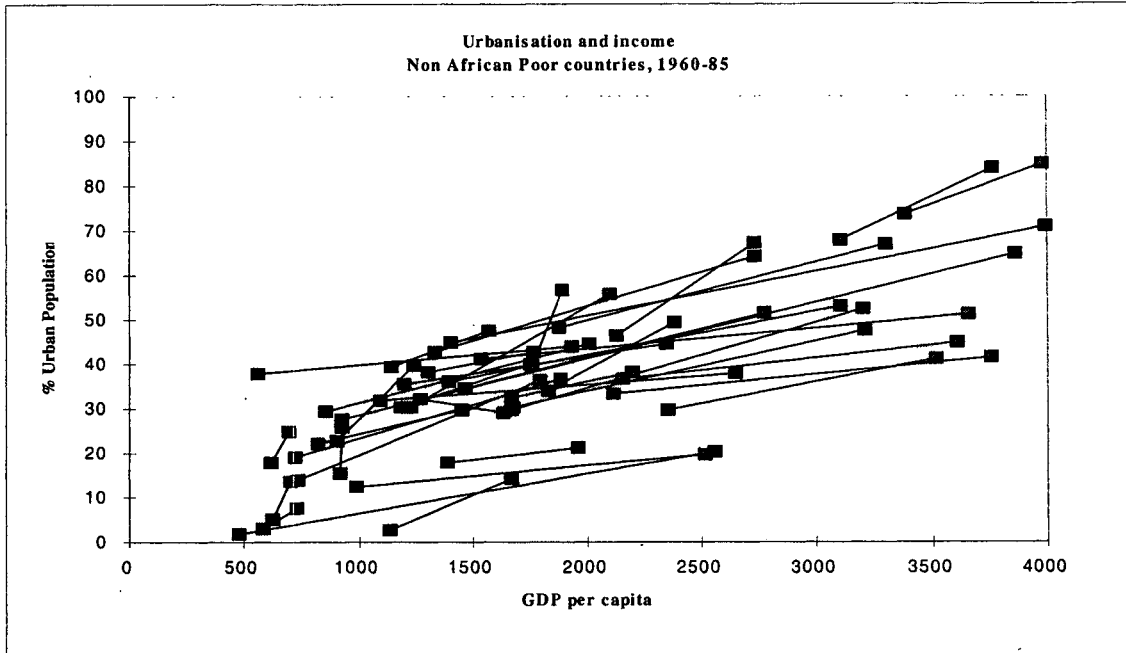
Countries that experienced a sustained period of negative urbanization (average annual urbanization rate negative over a 5 year period)

Developed: Australia, Canada, France, Italy, Netherlands, Sweden.

Less developed: Cambodia, China, Mauritius, Sri Lanka, Trinidad, Zaire

Appendix 2

Contrasting the experience of the world's poor countries with that of Africa, 1960-85²⁰



²⁰ Data: Summers & Heston GDP; Urbanization: World Development Indicators. Based on Ingram, 1998.

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8/21