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Population Concentration in Less Developed Countries (LDCs): New Evidence

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IIASA

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ABSTRACT

Economic theory associates the increase in population concentration, *i.e.* the proportion of national population residing in the core economic region, with scale and agglomeration economies, which Wheaton and Shishido (1981) estimated to persist until real *per capita* national income reaches 5,000 1985 U.S. dollars (USD). After this point in a country's economic development, they predicted, population re-distribution towards the core region will cease and the proportion of national population residing in the core region will commence to decline. The experience of developed countries (DCs) in the 1970s and 1980s broadly conformed to this pattern, albeit with exceptions. Evidence from less developed countries (LDCs) through the 1980 round of censuses led Vining (1986) to propose a weakened version of the USD 5,000 rule in which this point is characterized only by a slowing of rate of population re-distribution towards the core, not by an outright reversal.

This paper updates previously-reported trends in population re-distribution in LDCs and reports on many new countries. Taken as a whole, post-war data reinforce the need for caution of the sort expressed by Vining. While there is a weak negative correlation between the rate of net migration into the core region and *per capita* income, the share of population residing in the core region may continue to rise when *per capita* income has grown to well beyond USD 5,000.

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POPULATION CONCENTRATION IN LESS DEVELOPED COUNTRIES (LDCs): NEW EVIDENCE

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1.   INTRODUCTION

Concern over Third World city growth arises not from urbanization *per se*, but rather from the spatially unbalanced character of the present urbanization process. As the United Nations Population Division (1993) and others have noted, current demographic trends are rapidly giving rise to "mega-cities" whose absolute size, rate of growth and exaggerated primacy are sources of concern from the standpoint of economic and environmental sustainability. While policy makers in less developed countries (LDCs) disagree on the consequences of the size and increase of their national populations, they are almost unanimous in condemning its spatial distribution. Thus, most of the LDCs on which information is available in the Population Policy Data Bank maintained by the United Nations Population Division are, or at least claim to be, implementing policies to slow the rate of primate-city growth.

This paper does not treat directly the "mega-city" phenomenon, but concerns itself with a closely related subject: the continuing re-distribution of populations towards "core-regions" of LDCs; that is, regions (usually but not always containing the capital city) accounting for a disproportionate share of population and economic activity.   Due to urban sprawl and the resulting under-bounding of city administrative boundaries, the population of the core-region is frequently a more accurate measure of the size of the primate urban agglomeration than is city size itself.

The standard economic model of population re-distribution and development (Alperovitch 1992, Petrakos 1992, Parr 1985, Alonso 1971, Mera 1973) is based on the existence of scale and agglomeration economies.   As resources, including human resources, are increasingly concentrated in the core region, the rate of return to such resources is boosted further, promoting yet further re-distribution towards the core. Eventually, the economies associated with rising concentration will be exhausted -- perhaps in conjunction with dis-economies of congestion and the ecological ill-effects of over-urbanization in the primate city (Bartone 1991) -- at which point the proportion of the national population residing in the core region will begin to decline.   The role of social, cultural and political factors such as ethnic diversity and the distribution of power between core and peripheral regions has also been cited by some researchers (Mutlu 1989, Petrakos and Brada 1989).

2.   THE 5,000 DOLLAR RULE(s)

Wheaton and Shishido (1981) estimated a model which suggested rising concentration of *urban* population into a few primate metropolitan areas up to a level of national development corresponding to *per capita* income level of 5,000 1985 U.S. dollars (USD; as a benchmark, this

was approximately the level of income in Korea in the second half of the 1980s).[1] Citing "a consistent and plausible relationship between economic development and urban concentration," Wheaton and Shishido concluded that the course of population re-distribution is entirely predictable: "Urban concentration must increase with the level of development, until the latter approaches USD 2,000 [USD 5,000 in 1985 terms]. After that, spatial de-centralization sets in." (Wheaton and Shishido 1981, p. 29).

Vining and his associates examined, in a series of articles, trends in the distribution of *total*, not just urban, populations in DCs. They found that in the 1970s, virtually all DCs experienced, for the first time in the historical record, either radically lower rates of net migration towards or actual net migration away from core regions (Vining and Kontuly 1978, Vining and Pallone 1982). Consistent with the rule proposed for urban populations by Wheaton and Shishido, this tended to occur at a *per capita* GDP level of approximately USD 5,000; albeit with exceptions, such as Japan, in which concentration continued to rise long after national income had reached USD 5,000. Population re-distribution trends in the LDCs through the 1980 round of censuses were then examined by Vining (1986), who concluded as follows:

> The basic pattern first observed in Western countries, *i.e.*, of a close association between economic development and population concentration, appears to be being followed in an entirely predictable fashion by non-Western countries.

He added, however, a *caveat*:

> Indeed, the preponderance of the evidence from those countries studied here ... suggests that only a slackening of the **pace** of population re-distribution towards the core can be expected when this level of development [*i.e.*, the inflection point found by Wheaton and Shishido] is reached, not an actual de-concentration. [page 18, emphasis in original]

Nor has the course of population concentration in DCs since 1980 been straightforward (Cochrane and Vining 1986): Japan, for example, having experienced population de-concentration during the 1970s, experienced "re-concentration," especially in the Tokyo metropolitan region, during the early 1980s (Tsuyo and Kuroda 1989). However, Champion (1989, p. 241) concluded from nine DC case studies that the "the main weight of the evidence" favored the interpretation that the stalling of deconcentration in some DCs in the 1980s was an anomaly, not a reversal of trend.

Thus, we have three USD 5,000 rules: (i) the original Wheaton-Shishido rule, that **urban** population concentration rises until national GDP reaches USD 5,000; at which point it begins to fall, (ii) *ditto* for **total** population and (iii) *ditto* except net migration into the core region does not actually turn negative at USD 5,000; it merely declines dramatically. Of these, it is the second, which is most comprehensive and least equivocal, to which we will refer as "the" USD 5,000 rule.

Even in weakened form, the USD 5,000 rule is by no means universally accepted. A plausible optimistic view (*e.g.*, Critchfield 1979, 1981), holds that the DC-paradigm, in which re-distribution trends are driven by agglomeration and scale economies in industry, is inappropriate to those developing countries (such as Bangladesh, China, and others) where a dominant rural sector is

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[1] Wheaton and Shishido cited a cutoff of 2,000 1970 USD, which corresponds to approximately 5,200 1985 USD.

characterized by rapid technical progress, a good supply of skilled workers and the potential for reaping agriculture-based economies of scale in transport, communication, storage, research and development, service extension and the like. The combination of lower rural fertility and higher rural incomes in consequence of improved agricultural productivity is, in this interpretation, giving rise to unprecedented rural welfare gains, which will be reflected in diminished rates of rural-urban migration and augmented rates of return migration at *per capita* income levels far below USD 5,000.

Another view, expressed often by researchers at the World Bank (*e.g.*, 1986), emphasizes the role of price distortions and superior access to amenities favoring the urban population, both often grouped together under the rubric "urban bias." Thus, many aspects of structural adjustment -- devaluation of over-valued exchange rates which favor urban consumers at the expense of rural producers, dismantlement of state agricultural marketing boards with their artificially low purchasing prices, elimination of subsidies in the pricing of urban services and infrastructure and so on -- should slow rural-urban migration.

3. NEW EVIDENCE

In the Appendix, the LDC census data presented by Vining (1986) are updated through the 1990 round of censuses and data for many new countries are presented. The chosen index of population re-distribution is the difference (x 10^3) between the core region's exponential population growth rate and that of the country as a whole. On the assumption that core-region and national rates of natural increase are equal, this difference is equal to the rate of net migration into the core region. In most LDCs, rates of natural increase are lower in core regions because of rural-urban fertility differentials; the difference between core- and peripheral-region population growth rates is, however, dominated by the net migration rate.

The net migration rate is a place-specific characteristic; it does not refer to a particular individual behavior and thus does not have the same neat probabilistic interpretation of a mortality rate or a fertility rate. Nonetheless, at the risk of some looseness of usage, we employ the term "net migration rate into the core region" as opposed to more cumbersome alternatives such as "rate of net migration experienced by the core region." Estimates of out-migration rates in LDC peripheral regions, whether obtained indirectly from origin and duration-of-residence questions on census questionnaires or directly through population registers or sample surveys, would have the desired probabilistic interpretation; however, these are not available broadly enough to make possible a comprehensive international survey of the sort presented here.

The data source for estimates of *per capita* income is the 1993 update of the Penn World Table (Mark 5.1) discussed by Summers and Heston (1993) and available from the National Bureau for Economic Research. The statistic reported is inter-censal average income, estimated as the mean of the two endpoints.

3.1. Countries Previously Covered

Those in which previously-observed population re-distribution trends continued. New censuses in those countries which were previously covered indicate that significant population concentration continues to occur in **Bangladesh** (1981-91, *per capita* income of USD 1,122 during the inter-censal interval); **Colombia** (1973-85, USD 2,639); **Ecuador** (1982-90, USD 2,968); **India** (1981-91, USD 929); **Egypt** (1976-86, USD 1,568); **Philippines** (1980-90, USD 1,810) and **Turkey** (1980-85, USD 2,956 and 1985-90, USD 3,385).

Net migration into the core region continues to be almost *nil* in **Ireland** (1981-86, USD 7,054 and 1986-91, USD 8,112) and **Uruguay** (1975-85, USD 3,898); and to be modest at a surprisingly low level of *per capita* income in **Tunisia** (1975-84, USD 2,334). International out-migration, which might invalidate the standard economic model of population concentration, is a major demographic factor in Ireland and at least a significant one in Tunisia. The previously observed deceleration in the rate of net migration into the Santiago region continued in **Chile** (1982-92, USD 3,653), and **Peru** (1981-93, USD 2,503) appears to be undergoing a similar process.

The population de-concentration which first manifested itself in **Argentina** at a *per capita* income level fairly close to USD 5,000 continued (1980-91, USD 4,129). The long-established de-concentration trends in **Israel** and **Sri Lanka**, unusual cases whose peculiarities were discussed by Vining (1986), continued during the seventies (1972-83, USD 7,358) and eighties (1981-91, USD 2,018), respectively.

The model according to which improvements in rural living standards alleviate migratory pressures early in the development process would seem to be particularly relevant to Southeast Asia, but the evidence is mixed. In **South Korea**, where the region around Seoul has traditionally exerted an extraordinarily strong attraction, the concentration trend re-asserted itself (1985-90, USD 5,238) after an anomalous period (1980-85, USD 3,695) during which net migration into the core was virtually *nil*. In **Malaysia** (1980-90, USD 4,338) there is no evidence of a deceleration of net migration into the core region.

Those in which there has occurred a reversal of previously-observed population re-distribution trends. On the other hand, in **Thailand** (1980-92, USD 2,839), the latest census reveals modest net out-migration from Bangkok and its environs. This would appear to be a clear exception to the USD 5,000 rule, and it seems plausible that rising environmental costs and disamenities are playing a role.

The USD 5,000 rule in its naive form -- a decisive reversal of net migration trends occurring at almost precisely the moment GDP passes USD 5,000 -- is illustrated by the cases of **Greece** (1981-91, USD 6,278), **Mexico** (1980-90, USD 5,543) and, less dramatically, **Portugal** (1981-90, USD 5,809). In the case of Mexico City, research suggests that deterioration of the urban environment is a contributing factor (Izazola and Marquette 1994).

Spain (1981-90, USD 8,492) exemplifies Vining's weakened interpretation of the rule: the net migration rate dropped dramatically when *per capita* GDP passed the USD 5,000 mark, but did not actually turn negative (and then only slightly so) until it was on the order of USD 7,500. **Taiwan**, (1986-92, USD 7,377) may be following a similar path. **Panama** (1980-90, USD 3,162) and **Cuba** (1970-81, *per capita* income not available), where reversals of net migration into core regions occurred at surprisingly low levels of development, may be exceptions to the USD 5,000 rule, but neither is a strong counter-example. In **Brazil** (1980-91, USD 4,080), the rate of net migration into Sao Paolo *state* has fallen into the low single digits, but it was never particularly high. The dominant role of the oil sector makes it difficult to comment on the cases of **Algeria** (1977-87, USD 2,669) and **Venezuela** (1981-91, USD 6,389).

3.2. Countries Here Covered for the First Time

Those experiencing population concentration. Leaving aside for the moment countries in sub-Saharan Africa, very few of which were covered previously, and the small island nations, most recent observations reveal population concentration in **El Salvador** (1971-921, *per capita* income of USD 1,741); **Nicaragua** (1963-70, USD 1,955); **Paraguay** (1982-92, USD 2,381); **Mongolia** (1969-79, *per capita* income not available); **Papua New Guinea** (1980-90, USD 1,513) and

Morocco (1971-82, USD 1,599). The one new country where de-concentration is observed, and at a dramatic pace, is **Iraq** (1977-87, USD 4,615), which is both heavily planned and dominated by the oil sector.

Those experiencing de-concentration. The rate of net migration into the core region is extremely low or negative at levels of *per capita* income far below USD 5,000 in the following new countries: **Costa Rica** (1973-84, USD 3,193); **Guatemala** (1973-81, USD 2,336); **Honduras** (1974-88, USD 1,303); **Jamaica** (1982-91, USD 2,358); **Myanmar** (1973-83, USD 455) and **Vietnam** (1979-89, *per capita* income not available). **Bolivia** presents an odd case, having undergone a significant de-concentration during the most recent inter-censal interval (1976-92, USD 1,741) without ever apparently having passed through the concentration phase. Bolivia, Costa Rica, Guatemala, Honduras and Jamaica are all small, densely populated countries; Guatemala and Jamaica also have elevated high rates of international out-migration. Vietnam has a rigorous national population re-distribution policy aimed at reducing urban population concentration and developing sparsely-populated areas; moreover, constant definitional changes make data interpretation difficult (Banister 1993). This leaves only **Myanmar**, a planned economy, as a possibly significant new exception to the USD 5,000 rule. **Nepal** (1971-81, USD 747) is a bizarre case: net migration into Kathmandu was negligible for decades and then appears to have exploded in the seventies.

Sub-Saharan Africa and the small island states. Sub-Saharan Africa is of special interest: not only is this region experiencing the most rapid expansion of primate cities, but it is also the focus of the "urban bias" model of concentration. Data problems are more-or-less acute, but since improvements in census accuracy in Africa are greater for peripheral than for core regions, all of the data presented here tend to under-estimate actual concentration trends.

Citing only the most recent observation, the data reveal acutely elevated rates of net migration (in excess of roughly 20 per 1000) into core regions practically across the continent: in **Botswana** (1981-91, *per capita* income of USD 2,553); **Burkina Faso** (1975-85, USD 477); **Congo** (1974-84, USD 2,099); **Ethiopia** (1962-70, USD 271); **Gambia** (1973-83, USD 671); **Liberia** (1974-84, USD 925); **Mauritania** (1977-88, USD 987); **Sierra Leone** (1974-85, USD 974); **Tanzania** (1978-88, USD 523); and **Zimbabwe** (1982-92, USD 1,280). "Hyper-migration" cannot, by definition, continue for very long. As the cases of **Zambia** (1980-90, USD 816) and **Niger** (1977-88, USD 560) illustrate, rates of net migration into the core region can decline not only precipitously, but more importantly, to relatively moderate levels.

In most countries in the African region, the structural adjustment process has led to the collapse of formal urban employment and wages, with consequent disappearance of the much-vaunted rural-urban welfare gap (Jamal and Weeks 1988, Robinson 1990). The data presented here, scattered though they are, indicate that migration into African primate cities continues apace despite staggering declines in urban real wages, increases in open unemployment, public-sector retrenchment and so on. To cite only two examples, Jamal and Weeks report that real urban wages in Sierra Leone dropped by over 80 *per cent* between 1970 and 1986, yet, the already elevated rate of net migration into Western *area* actually increased between 1963-74 and 1974-85, from 23.3 to 28.2 per 1000. In Tanzania, net migration into the Dar es Salaam *region* proceeded at the brisk rate of 47.2 per 1000 in 1967-78, a period during which the real minimum wage is estimated to have declined by something like 40 *per cent*. There was been a further, subsequent, drop of over 60 *per cent* in the 1980s, yet the net migration rate was still 18.9 per 1000 in 1978-88. In **Ghana** (1970-84, USD 822) and **Côte d'Ivoire** (1975-88, USD 1,440), population concentration trends were not particularly extreme even during periods characterized by extreme distortions of the "urban bias" variety. On the face of the matter, then, it appears that "urban bias" is only a contributing factor, not the driving factor behind rapid African urbanization.

Population movements in **Sudan** (1983-93, USD 1,039) and **Uganda** (1980-91, USD 707) are dominated by refugee movements. The apparent de-concentration in **Mozambique** (1970-80, USD 1,177) is an illusion caused by the combination of improving census accuracy and the civil war. De-concentration is also observed in **Burundi** (1979-90, USD 495), **Guinea** (1977-83, USD 391), and **Malawi** (1977-87, USD 480). The last of these is a possibly interesting case -- it may not be co-incidental that Malawi has one of the strongest economic and political de-centralization policies in sub-Saharan Africa.

The small island states present a mixed and not particularly interesting picture: if there is one conclusion which can be elicited, it is that these countries seem to follow no distinctive pattern. **Mauritius** (1983-90, USD 4,737) is an unusual case, but this is not surprising; it, like Sri Lanka, is a perpetual demographic outlier.

4. GRAPHICAL SUMMARY

In Figure 1, we plot the net migration rate into the core region (NMR) against *per capita* income (Y) and draw the least-squares line. The NMR is estimated, as described above, by the difference between the core-region and national population growth rates and income data are the Summers-Heston data referred to previously.

The least-squares line is given by:

$$NMR_{it} = 17.06953 - 0.00233 \ Y_{it}$$
$$(10.919) \quad (-4.339)$$

$$r^2 = 0.088$$
$$N = 199$$

where i indexes country and t indexes inter-censal interval. The pronounced outliers in the plot more-or-less offset each other, so there is little purpose in deleting them. The calculated X-intercept of USD 7,326 should not be subjected to too much solemn interpretation in view of the mediocre fit. On the other hand, nothing in the scatter plot bodes well for the USD 5,000 rule in its naive form. If anything, Figure 1 reinforces need for caution. The NMR is negatively (albeit weakly) correlated with *per capita* income; however, it may remain positive after *per capita* income is well past the USD 5,000 point.
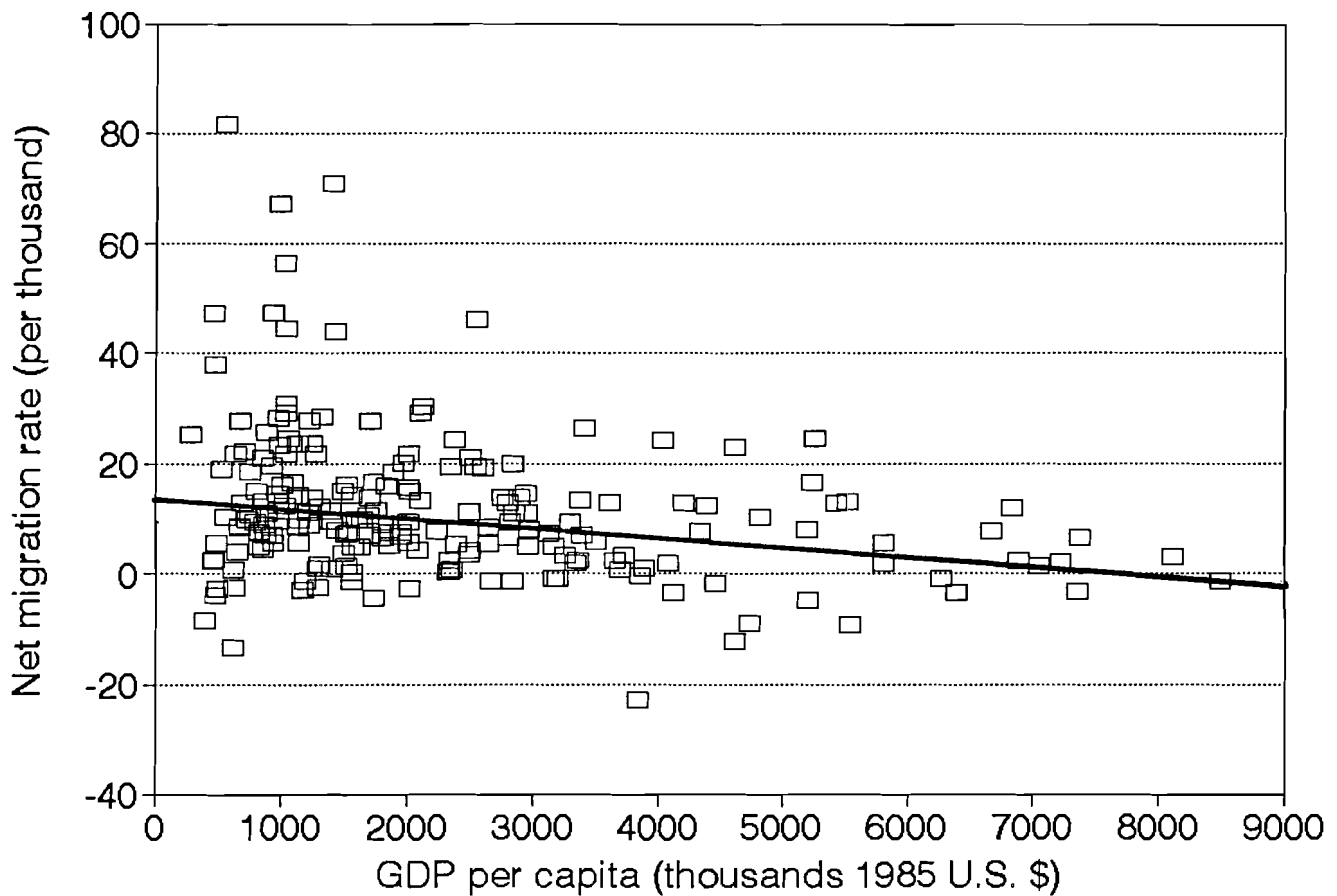
Figure 1. Net migration rate and GDP per capita.

5. CONCLUSION

The experience of DCs in the 1970s and 1980s conformed roughly to predictions of a model which suggested that population re-distribution towards core regions would cease at a level of national *per capita* income of about USD 5,000. Evidence from LDCs through the 1980 round of censuses suggested that the USD 5,000 point was marked only by a slowing of net migration into the core, not by an outright reversal of trend. The body of evidence through the 1990 round of censuses reinforces the need for caution. While there is a weak negative correlation between the rate of net migration into the core region and *per capita* income, the share of population residing in the core region may continue to rise when *per capita* income is well beyond USD 5,000.

REFERENCES

Alonso, W. 1971. The economics of urban size. *Papers of the Regional Science Association* 26: 67-83.

Alperovitch, G. 1992. Economic development and population concentration. *Economic Development and Cultural Change* 41(1): 63-74.

Banister, J. 1993. *Vietnam Population Dynamics and Prospects*. Indochina Research Monograph. Institute of East Asian Studies, University of California at Berkeley.

Bartone, C. 1991. Environmental challenge in Third World cities. *Journal of the American Planning Association* 57(4): 411-15.

Champion, A., Ed. 1989. *Counterurbanization: The Changing Pace and Nature of Population Concentration*. London: Edward Arnold.

Cochrane, S. and D. Vining. 1986. Recent trends in migration between core and peripheral regions in developed and advanced developing countries. *Working Papers in Regional Science and Transportation*, No. 108. Philadelphia: University of Pennsylvania.

Critchfield, R. 1979. Revolution of the village. *Human Behavior* 8: 18-27.

Critchfield, R. 1981. *Villages*. New York: Doubleday.

Izazola, H. and C. Marquette. 1994. Migration in Response to Urban Environmental Deterioration: Out-Migration by Middle-Class Women and Their Families from Mexico City Since 1985. Paper presented to the annual meeting of the Population Association of America, Miami, Florida, 5-7 May, 1994.

Jamal, W. and J. Weeks. 1988. The vanishing rural-urban gap in sub-Saharan Africa. *International Labour Review* 127(3): 271-92.

Mera, K. 1973. On the urban agglomeration and economic efficiency. *Economic Development and Cultural Change* 21: 309-24.

Mutlu, S. 1989. Urban concentration and primacy revisited: An analysis and some policy considerations. *Economic Development and Cultural Change* 37(3): 611-39.

Parr, J. 1985. A note on the size distribution of cities over time. *Journal of Urban Economics* 18: 199-212.

Petrakos, G. 1992. Urban concentration and agglomeration economies: Re-examining the relationship. *Urban Studies* 29(8): 1219-29.

Petrakos, G. and J. Brada. 1989. Metropolitan concentration in developing countries. *Kyklos* 42: 557-78.

Robinson, D. 1990. Changing civil service remuneration in Africa. *International Labour Review* 129(3): 371-86.

Summers, R. and A. Heston. 1991. The Penn World Table (Mark 5): An expanded set of international comparisons, 1950-1988. *Quarterly Journal of Economics* 106(2): 327-68.

Tsuyo, N. and T. Kuroda. 1989. Japan: The slowing of urbanization and metropolitan concentration. *NUPRI Reprint Series*, No. 33. Tokyo: Nihon University Population Research Institute.

United Nations: Population Division. 1993. *World Urbanization Prospects, The 1992 Revision.* New York: United Nations.

Vining, D. 1986. Population redistribution towards core areas of less developed countries, 1950-1980. *International Regional Science Review* 10: 1-45.

Vining, D. and T. Kontuly. 1978. Population dispersal from major metropolitan regions: An international comparison. *International Regional Science Review* 3: 49-73.

Vining, D. and R. Pallone. 1982. Migration between core and peripheral regions: A description and tentative explanation of the patterns in 22 countries. *Geoforum* 13: 339-410.

Wheaton, W. and H. Shishido. 1981. Urban concentration, agglomeration economies, and the level of economic development. *Economic Development and Cultural Change* 30: 17-30.

World Bank. 1986. *World Development Report.* Baltimore: Johns Hopkins University Press.

APPENDIX: POSTWAR POPULATION RE-DISTRIBUTION IN LDCs

In the following Appendix, an asterisk is used to denote new census observations, in the case of countries covered previously by Vining (1986); and to denote countries not covered previously. Unavailable *per capita* data are indicated by "na for "not available." A handful of pre-War census observations in Vining (1986) have been dropped.

Every attempt has been made to track down and control for administrative boundary changes; the authors would be grateful to hear from readers who are aware of any changes which they appear to have missed or which have just taken place. *Ditto* new census results as they become available.

Country and core-region constituent sub-divisions	Year	Population		Share of core (%)	Difference between core and national growth rates (x 10^3)	GDP *per capita* (1985 USD; inter-censal average)	
		National	Core				

Latin America and Caribbean

Country and core-region constituent sub-divisions	Year	National	Core	Share of core (%)	Difference	GDP per capita	
1. **Argentina**	1947	15,894	7,255	45.6			
Federal capital,	1960	20,014	9,733	48.6	4.9	3,164	
Buenos Aires	1970	23,264	11,747	50.3	3.3	3,729	
province	1980	27,948	13,788	49.3	-1.9	4,455	
	1991*	32,609	15,543	47.7	-3.5	4,129	(80-90)
2. **Bolivia***	1950	3,018	948	31.4			
La Paz *depart-*	1976	4,613	1,465	31.8	0.4	1,563	
ment	1992	6,421	1,901	29.6	-4.2	1,741	(76-90)
3. **Brazil**	1950	51,942	9,128	17.6			
Sao Paolo *state*	1960	70,070	12,809	18.3	3.9	1,502	
	1970	93,139	17,772	19.1	4.3	2,080	
	1980	119,099	25,041	21.0	9.7	1,413	
	1991*	146,918	31,547	21.5	1.9	4,080	(80-90)
4. **Chile**	1952	5,933	1,755	29.6			
Santiago *pro-*	1960	7,374	2,437	33.0	13.9	2,752	
vince (52-70);	1970	8,885	3,231	36.4	9.6	3,290	
Metropolitan	1982	11,275	4,295	38.1	5.9	3,501	
Santiago (82-90)	1992*	13,232	5,170	39.1	2.5	3,653	(82-90)

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Country and core-region constituent sub-divisions	Year	Population National	Core	Share of core (%)	Difference between core and national growth rates (x 10^3)	GDP *per capita* (1985 USD; inter-censal average)
5. Colombia	1951	11,548	1,624	14.1		
Cundinamarca	1964	17,632	2,820	16.0	9.9	1,639
department;	1973	22,572	4,072	18.0	13.4	2,105
Bogota *special district*	1985*	27,838	5,366	19.3	5.5	2,639
6. Costa Rica*	1973	1,872	695	37.1		
San Juan *province*	1984	2,419	890	36.8	-0.8	3,193
7. Cuba	1953	5,829	1,539	26.4		
Habana *province*	1970	8,569	2,311	27.0	1.7	na
(53-70); Habana and Ciudad de Habana *provinces* (81)	1981*	9,724	2,515	25.9	-3.8	na
8. Dominican	1950	2,136	239	11.1		
Republic	1960	3,047	465	15.3	31.0	1,041
National *dist-*	1970	4,009	813	20.3	28.4	1,329
rict	1981	5,648	1,551	27.5	27.6	1,224

Country and core-region constituent sub-divisions	Year	Population National	Core	Share of core (%)	Difference between core and national growth rates $(\times 10^{3)}$	GDP *per capita* (1985 USD; inter-censal average)	
9. **Ecuador**	1950	3,203	969	30.3			
Pinchincha and	1962	4,476	1,567	35.0	12.2	1,301	
Guayas *provinces*	1974	6,501	2,494	38.4	7.6	1,944	
	1982	8,051	3,424	42.5	12.9	2,802	
	1990*	9,648	4,271	44.3	5.0	2,968	
10. **El Sal-vador*** San Sal-vador *department*	1950	1,856	296	16.0			
	1961	2,511	463	18.4	13.2	977	
	1971	3,541	731	20.6	11.3	1,206	
	1992	5,048	1,478	29.3	16.6	1,741	(71-90)
11. **Guatemala*** Guatemala *department*	1973	5,160	1,108	21.4			
	1981	6,054	1,311	21.7	0.5	2,336	
12. **Haiti**	1950	3,097	654	21.1			
West *department*	1971	4,330	1,206	27.9	13.2	na	
	1982	5,054	1,552	30.7	8.9	863	

Country and core-region constituent sub-divisions	Year	Population National	Core	Share of core (%)	Difference between core and national growth rates (x 10³)	GDP *per capita* (1985 USD; inter-censal average)	
13. **Honduras***	1945	1,200	174	14.5			
Françisco	1950	1,369	316	23.1	100.0	na	
Morazon and	1961	1,885	484	25.7	9.7	974	
Cortes *depart-*	1974	2,657	823	31.0	14.4	1,122	
ments	1988	4,449	1,412	31.7	1.7	1,303	
14. **Jamaica***	1960	1,610	666	41.4			
Kingston, St.	1970	1,848	828	44.8	8.0	2,229	
Andrews, St.	1982	2,190	1,023	46.7	3.5	2,487	
Mary and St.	1991	2,366	1,113	47.0	0.8	2,358	(82-90)
Catherine *provinces*							
15. **Mexico**	1950	25,791	4,716	18.3			
Mexico and	1960	34,923	7,155	20.5	11.4	2,494	
Morales *states*;	1970	48,225	11,323	23.5	13.6	3,380	
Federal District	1980	66,847	17,395	26.0	10.2	4,829	
	1990*	81,141	19,248	23.7	-9.3	5,543	
16. **Nicaragua***	1950	1,050	586	56.1			
Pacific *region*	1963	1,536	870	56.6	1.1	1,405	
	1970	1,878	1,116	59.5	6.8	1,955	

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Country and core-region constituent sub-divisions	Year	Population National	Core	Share of core (%)	Difference between core and national growth rates ($\times 10^{3)}$	GDP *per capita* (1985 USD; inter-censal average)	
17. **Panama**	1950	805	248	30.8			
Panama *province*	1960	1,076	372	34.6	11.5	1,394	
(excl. Canal	1970	1,428	577	40.4	15.6	2,009	
Zone)	1980	1,789	829	46.3	13.7	2,894	
	1990*	2,329	1,074	46.0	-0.6	3,162	
18. **Paraguay***	1972	2,358	699	29.6			
Asuncion and	1982	3,030	952	31.4	5.8	2,012	
Central *depart-*	1992	4,123	1,367	33.2	5.4	2,381	(82-90)
ments							
19. **Peru**	1961	9,907	2,245	22.7	20.7		
Lima *department*;	1972	13,538	3,794	28.0	19.3	2,355	
Callao *consti-*	1981	17,005	5,189	30.5	9.5	2,824	
tutional pro-	1993*	22,128	7,125	32.2	4.5	2,503	(81-90)
vince							
20. **Uruguay**	1963	2,596	1,461	56.3	7.1		
Montevideo and	1975	2,788	1,563	56.0	-0.4	3,857	
Canelones *pro-*	1985*	2,931	1,663	56.7	1.2	3,898	
vinces							

Country and core-region constituent sub-divisions	Year	Population National	Core	Share of core (%)	Difference between core and national growth rates (x $10^{3)}$	GDP *per capita* (1985 USD; inter-censal average)	
21. **Venezuela**	1950	5,035	1,419	28.2			
Miranda, Aragua	1961	7,524	2,445	32.5	12.9	5,436	
and Carabobo	1971	10,722	3,919	36.6	11.9	6,843	
states; Federal	1981	14,570	5,446	37.4	2.2	7,228	
District	1990*	19,325	7,007	36.3	-3.4	6,389	

East Asia and Pacific

1. **Indonesia**	1961	63,060	6,705	10.6			
(Java only)	1971	76,086	9,200	21.1	12.9	687	
Bogor, Bekasi,	1981	91,270	13,027	14.3	16.6	1,091	
Tanggerang and							
Serang *Kabupaten*;							
Bogor *Kotamadya*;							
DKI Jakarta							
2. **Republic of**	1955	21,502	3,928	18.3			
Korea	1960	24,989	5,194	20.8	25.8	894	
Seoul *city*;	1966	29,193	6,911	23.7	21.7	1,037	
Gyeongi *province*	1970	31,435	8,879	28.2	44.1	1,427	
	1975	34,707	10,929	31.5	21.7	2,013	
	1980	37,449	13,202	35.5	24.1	2,371	
	1985*	40,448	14,433	35.7	0.9	3,695	
	1990*	43,520	16,782	38.6	16.6	5,238	(85-90)

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Country and core-region constituent sub-divisions	Year	Population National	Core	Share of core (%)	Difference between core and national growth rates (x 10^3)	GDP *per capita* (1985 USD; inter-censal average)	
3. Malaysia	1947	4,908	711	14.5			
Selangor *state*;	1957	6,279	1,013	16.1	10.8	na	
Federal *ter-*	1970	8,810	1,630	18.5	10.5	1,695	
ritory (excl.	1980	10,945	2,346	21.4	14.7	2,945	
Sarawak)	1990*	14,182	3,489	24.6	12.5	4,338	(80-90)
4. Mongolia*	1963	10,171	2,237	22.0			
Ulan Bator *aïmak*	1969	11,976	2,674	22.3	2.5	na	
	1979	15,950	4,023	25.2	12.2	na	
5. Myanmar*	1973	28,085	6,856	24.4			
Yangon and	1983	34,125	8,544	25.0	2.5	455	
Mandalay *divisions*							
6. Papua New	1966	2,150	135	6.3			
Guinea*	1971	2,342	169	7.2	27.8	1,703	
Central *pro-*	1980	2,978	229	7.7	7.1	1,697	
vince; National	1990	3,689	334	9.0	16.3	1,513	
Capital District							

Country and core-region constituent sub-divisions	Year	Population National	Core	Share of core (%)	Difference between core and national growth rates (x 10^3)	GDP per capita (1985 USD; intercensal average)	
7. Philippines	1948	19,234	2,745	14.3			
Bataan, Bulacan,	1960	27,088	4,147	15.3	5.8	942	(50-60)
Cavite, Laguna	1970	36,684	6,449	17.6	13.8	1,244	
and Rizal *pro-*	1975	42,071	7,981	19.0	15.2	1,496	
vinces; Metro-	1980	47,914	9.639	20.1	11.7	1,746	
politan Manila	1990*	60,477	13,263	21.9	9.0	1,810	
8. Taiwan	1956	9,311	1,818	19.5			
Taipei and Tao-	1966	13,348	3,007	22.5	14.3	1,560	
yuan *hsien*;	1970	14,693	3,736	25.4	30.3	2,132	
Taiwan *muni-*	1975	16,206	4,554	28.1	20.0	2,829	
cipality;	1980	17,969	5,700	31.7	24.2	4,049	
Keelung *city*	1986.	19,454	6,884	35.4	13.2	5,535	
	1992*	20,656	7,599	36.9	6.5	7,377	(86-90)
9. Thailand	1947	17,443	1,476	8.5			
Phra Nakhon,	1960	26,258	2,567	9.8	11.1	888	(50-60)
Thon Buri,	1970	34,397	3,676	10.7	8.9	1,219	
Nonthaburi and	1980	44,278	5,547	12.5	15.9	1,827	
Prakan *changwats*	1992*	57,789	7,133	12.3	-1.2	2,839	(80-90)
(47-70); Bangkok and							
Samut Prakan *changwats*							
(80-90)							

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Country and core-region constituent sub-divisions	Year	Population National	Core	Share of core (%)	Difference between core and national growth rates (x 10³)	GDP *per capita* (1985 USD; inter-censal average)	
10. Vietnam*	1979	52,742	7,270	13.8			
Ho Chi Minh, Haiphong and Hanoi *cities*	1989	64,376	8,428	13.1	-5.2	na	
South Asia							
1. **Bangladesh**	1951	41,932	4,073	9.7			
Dhaka *district*	1961	50,840	5,096	10.0	3.1	na	
	1974	71,479	7,612	10.6	4.7	853	
	1981	87,120	10,014	11.5	10.9	966	
	1991*	104,766	13,151	12.5	8.8	1,122	(81-90)
2. **India**	1961	424,836	12,246	2.9			
Calcutta,	1971	528,918	16,647	3.1	8.8	671	
Greater Bombay	1981	658,141	23,107	3.5	10.9	747	
	1991*	843,931	31,805	3.8	7.1	929	(81-90)
3. **Nepal**	1952/54	8,257	105	1.3			
Kathmandu *city*	1961	9,413	121	1.3	1.0	na	
	1971	11,556	150	1.3	1.0	614	
	1981	15,023	235	1.6	18.7	747	

Country and core-region constituent sub-divisions	Year	Population National	Core	Share of core (%)	Difference between core and national growth rates (x 10^3)	GDP *per capita* (1985 USD; inter-censal average)	
4. Pakistan	1961	42,880	2,135	5.0			
Karachi *division*	1971	65,309	3,607	5.5	9.4	790	
	1981	83,782	5,353	6.4	16.2	1,006	
5. Sri Lanka	1946	6,657	1,420	5.0			
Colombo *district*	1953	8,098	1,709	21.1	-1.5	na	
(46-71); Colombo	1963	10,582	2,207	20.9	-1.2	1,194	
and Gampaha	1971	12,690	2,672	21.1	1.2	1,286	
districts (81-	1981	14,850	3,088	20.8	-1.2	1,565	
91)	1991*	17,261	3,500	20.3	-2.5	2,018	(81-89)

North Africa and Middle East

6. Algeria	1954	9,530	1,110	11.6			
Alger and Bleda	1966	12,102	1,648	13.6	13.0	na	
wilayate	1977	15,645	2,519	16.1	15.2	2,022	
	1987*	23,039	3,663	15.9	-1.3	2,669	
7. Egypt	1947	18,976	3,639	19.2			
Cairo, Giza and	1960	25,984	5,674	21.8	10.0	739	(50-60)
Kalyubia *gover-*	1966	29,942	7,082	23.7	13.3	869	
nates	1976	36,626	9,172	25.0	5.7	1,133	
	1986*	48,205	12,267	25.4	4.8	1,568	

Country and core-region constituent sub-divisions	Year	Population		Share of core (%)	Difference between core and national growth rates (x 10³)	GDP *per capita* (1985 USD; inter-censal average)
		National	Core			
8. **Iraq***	1965	8,047	1,597	19.8		
Baghdad City	1977	12,000	3,190	26.6	24.4	5,256
governate	1987	16,335	3,841	23.5	-12.3	4,615
9. **Israel**	1948	717	556	77.5		
Haifa, Central	1961	1,932	1,395	72.2	-5.5	na
and Tel Aviv	1972	2,687	1,844	68.6	-4.6	5,218
districts (excl. Arab population)	1983*	3,350	2,219	66.2	-3.2	7,358
10. **Jordan**	1961	901	434	48.2		
Amman *governate* (excl. West Bank)	1979	2,152	1,188	55.2	7.6	1,861
11. **Morocco***	1960	11,626	1,562	13.0		
Casablanca and	1971	15,379	2,704	17.6	24.5	1,056
Rabat-Sale *pref-ectures*; Ben Slimane *province*; Kenitra *district*	1982	20,265	3,982	19.7	10.1	1,599
12. **Syria**	1960	4,565	1,003	22.0		
Damascus *city*	1970	6,305	1,458	23.1	5.1	1,860
Damascus *mohafazat*	1981	9,172	2,170	23.7	2.1	3,338

Country and core-region constituent sub-divisions	Year	Population National	Core	Share of core (%)	Difference between core and national growth rates (x 10^3)	GDP *per capita* (1985 USD; inter-censal average)	
13. **Tunisia**	1966	4,533	1,443	31.8			
Tunis *district*;	1975	5,588	1,861	33.3	5.0	1,616	
Nabeul, Zaghoun and Birzete *governates*	1984*	6,966	2,370	34.0	2.4	2,334	
Sub-Saharan Africa							
1. **Botswana**	1971	574	18	3.1			
Gaborene *dist-*	1981	941	60	6.4	71.0	1,406	
rict	1991*	1,327	134	10.1	46.1	2,553	(81-89)
2. **Burkina**	1975	5,638	503	8.9			
Faso*	1985	7,965	1,041	13.1	38.2	477	
Kadiogo and Horiet *provinces*							
3. **Burundi***	1979	4,029	460	11.4			
Bujumbura-ville and Bujumbura-rural *provinces*	1990	5,365	596	11.1	-2.5	495	
4. **Congo***	1974	1,320	302	22.9			
Brazzaville *commune*	1984	1,909	585	30.6	29.4	2,099	

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Country and core-region constituent sub-divisions	Year	Population National	Core	Share of core (%)	Difference between core and national growth rates (x 10^3)	GDP *per capita* (1985 USD; inter-censal average)	
5. Côte d'Ivoire* Abidjan *department*	1975 1988	6,703 10,813	1,389 2,492	20.6 23.1	8.2	1,440	(78-90)
6. Ethiopia Shoa *region*	1962 1970	20,380 20,487	4,060 4,993	19.9 24.4	25.2	271	
7. Gambia Banjul and Kombo St. Mary *administrative divisions*	1973 1983	493 696	79 147	16.0 21.1	27.6	671	
8. Ghana* Greater Accra *region*	1970 1984	8,559 12,296	903 1,431	10.5 11.6	7.0	882	
9. Guinea* Conakry **region**	1977 1983	4,527 5,781	578 705	12.8 12.2	-8.5	391	
10. Guinea-Bissau Bissau *autonomous region*	1950 1979	517 777	18 109	3.5 14.0	48.1	na	

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Country and core-region constituent sub-divisions	Year	Population National	Core	Share of core (%)	Difference between core and national growth rates (x 10^3)	GDP *per capita* (1985 USD; inter-censal average)
11. **Kenya**	1962	8,634	344	4.0		
Nairobi *area*	1969	10,957	509	4.6	21.9	638
	1979	15,327	828	5.4	15.1	802
12. **Lesotho***	1966	969	202	20.8		
Maseru *district*	1976	1,217	222	18.3	-13.3	614
(incl. migrant	1986	1,578	311	19.7	7.7	818
workers temporarily resident in South Africa)						
13. **Liberia***	1962	1,016	169	16.6		
Montserrado	1974	1,503	322	21.4	21.1	855
county	1984	2,102	549	25.9	19.8	925
14. **Madagascar***	1966	6,200	1,580	25.5		
Tananarive *province*	1975	7,604	2,168	28.5	12.5	1,035
15. **Malawi***	1966	4,040	498	12.3		
Lilongwe *dist-*	1977	5,547	704	12.7	2.7	460
rict	1987	7,988	976	12.2	-3.8	480

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Country and core-region constituent sub-divisions	Year	Population National	Core	Share of core (%)	Difference between core and national growth rates $(\times 10^{3})$	GDP *per capita* (1985 USD; inter-censal average)	
16. **Mali***	1976	6,395	1,351	21.1			
Bamako *district*; Koulikoro *region*	1985	7,838	1,745	22.3	5.8	487	
17. **Mauritania***	1965	1,098	78	7.1			
Nouakchott	1977	1,339	135	10.1	29.2	1,048	
district	1988	1,864	393	21.1	67.1	987	
18. **Mozambique***	1960	6,604	3,528	53.4			
Maputo *city*;	1970	8,169	4,264	52.2	-2.3	1,294	
Maputo, Nampula and Zambezia *provinces*	1980	11,674	5,901	50.5	-2.9	1,177	
19. **Namibia***	1970	737	436	59.2			
Owambo, Kavango	1981	1,033	668	64.6	8.1	2,975	
and Windhoek *districts*	1991	1,402	910	64.9	0.3	2,323	(81-90)
20. **Niger***	1960	2,980	34	1.1			
Niger *city*	1977	5,104	233	4.6	81.6		
	1988	7,222	392	5.4	10.2	560	

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Country and core-region constituent sub-divisions	Year	Population National	Core	Share of core (%)	Difference between core and national growth rates (x 10³)	GDP *per capita* (1985 USD; inter-censal average)	
21. **Rwanda**[*]	1978	4,832	698	14.4			
Kigali *pref-ecture* (78); Kigali *prefecture* and Kigali *city* (91)	1991	7,149	1,151	16.1	8.3	663	(78-90)
22. **Sierra**	1948	1,858	125	6.7			
Leone	1963	2,180	195	8.9	19.0	na	
Western *area*	1974	2,735	316	11.6	23.3	981	
	1985[*]	3,516	554	15.8	28.2	974	
23. **Sudan**[*]	1955/56	10,263	246	2.4			
Khartoum *state*	1973	14,819	738	5.0	40.6	na	
	1983	21,593	1,344	6.2	56.4	1,030	
	1993	24,941	3,413	13.7	44.7	1,039	(83-90)
24. **Tanzania**	1967	12,313	356	2.9			
Dar es Salaam	1978	17,528	852	4.9	47.2	471	
region	1988	23,174	1,361	5.9	18.9	523	
25. **Uganda**[*]	1969	9,535	331	3.5			
Kampala *district*	1980	12,636	459	3.6	4.1	651	
	1991	16,672	774	4.6	22.3	707	(80-90)

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Country and core-region constituent sub-divisions	Year	Population		Share of core (%)	Difference between core and national growth rates (x 10^3)	GDP *per capita* (1985 USD; inter-censal average)	
		National	Core				
26. Zambia	1963	3,490	739	21.2			
Copperbelt and	1969	4,057	1,170	28.8	47.4	938	
Lusaka *provinces*	1980*	5,675	1,925	33.9	14.7	973	
	1990*	7,818	2,787	35.6	5.0	816	
27. Zimbabwe*	1969	5,099	880	17.2			
Mashonaland East	1982	7,608	1,496	19.7	10.0	1,140	
(69); Mashona-	1992	10,402	2,512	24.1	21.7	1,280	(82-90)
land East and Harare							
provinces (82 and 92)							
Europe							
1. Greece	1951	7,633	1,556	20.4			
Greater Athens	1961	8,389	2,058	24.5	18.5	1,894	
region, Attica	1971	8,769	2,798	31.9	26.3	3,414	
department	1981	9.740	3,369	34.6	8.1	5,197	
	1991*	10,264	3,523	34.3	-0.8	6,278	(81-90)

Country and core-region constituent sub-divisions	Year	Population National	Core	Share of core (%)	Difference between core and national growth rates (x 10³⁾	GDP *per capita* (1985 USD; inter-censal average)	
2. Ireland	1951	2,961	888	30.0			
Dublin, Kildare,	1956	2,898	898	31.0	6.5	2,805	
Meath and	1961	2,818	906	32.2	7.4	3,122	
Wicklow *coun-*	1966	2,884	989	34.3	12.9	3,605	
ties; Dublin	1971	2,978	1,062	35.7	7.8	4,342	
county borough	1979	3,368	1,256	37.3	5.6	5,814	
	1981	3,440	1,289	37.5	2.4	6,885	
	1986*	3,541	1,336	37.7	1.4	7,054	
	1991*	3,523	1,350	38.3	3.1	8,112	(86-90)
3. Portugal	1950	8,441	1,551	18.4			
Lisboa, Setubal	1960	8,889	1,760	19.8	7.5	1,540	
districts	1970	8,668	2,076	24.0	19.1	2,596	
	1981	9,803	2,711	27.7	13.1	4,208	
	1990*	9,853	2,778	28.2	1.9	5,809	(81-90)
4. Spain	1950	27,977	4,158	14.9			
Barcelona,	1960	30,431	5,484	18.0	19.3	2,535	
Madrid *provinces*	1970	34,003	7,722	22.7	23.0	4,607	
	1981	37,746	9,346	24.8	7.9	6,668	
	1990*	38,999	9,541	24.4	-1.3	8,492	

Country and core-region constituent sub-divisions	Year	Population National	Core	Share of core (%)	Difference between core and national growth rates (x 10^3)	GDP *per capita* (1985 USD; inter-censal average)	
5. Turkey	1950	20,947	2,755	13.2			
Istanbul, Ankara	1955	24,065	3,565	14.8	23.8	1,242	
and Izmir *pro-*	1960	27,755	4,267	15.4	7.4	1,517	
vinces	1965	31,391	5,173	16.5	13.9	1,699	
	1970	35,605	6,488	18.2	20.1	1,968	
	1975	40,348	8,164	20.2	20.9	2,506	
	1980	44,737	9,573	21.4	11.2	2,843	
	1985*	50,664	11,466	22.6	11.2	2,956	
	1990*	56,473	13,241	23.4	7.1	3,385	

Small island states

Country and core-region constituent sub-divisions	Year	Population National	Core	Share of core (%)	Difference between core and national growth rates (x 10^3)	GDP *per capita* (1985 USD; inter-censal average)	
1. Bahrain*	1959	143	62	43.3			
Manama *division*	1965	182	79	43.4	0.2	na	
	1971	216	89	41.2	-8.7	na	
	1981	350	122	34.9	16.7	na	
2. Cape Verde*	1980	289	56	19.4			
Praia *county*	1990	337	83	24.6	23.7	1,129	(80-89)
3. Comoros*	1966	212	62	29.2			
(excl. Mayotte	1980	335	95	28.4	-2.2	627	
Grand Comore Island;							
Centre *prefecture*							

Country and core-region constituent sub-divisions	Year	Population National	Core	Share of core (%)	Difference between core and national growth rates (x 103)	GDP *per capita* (1985 USD; inter-censal average)	
4. Cyprus*	1946	450	145	32.4			
Nicosia *district*	1960	574	204	35.6	6.5	1,807	(50-60)
	1973	632	233	36.8	2.6	3,363	
5. Fiji*	1966	476	154	32.3			
Central *division*	1976	588	207	35.2	8.4	2,645	
	1986	715	260	36.4	3.2	3,263	
6. Kiribati*	1947	28	4	12.9			
Tarawa island	1963	38	8	20.8	24.4		
	1968	44	13	28.6	67.8	na	
	1973	48	17	35.9	36.2	na	
	1978	52	20	39.0	16.5	na	
	1990	72	29	40.3	3.8	na	
7. Maldives*	1977	143	34	23.6			
Male', Male'	1985	180	55	30.3	31.3	na	
atoll	1990	214	66	30.7	1.9	na	
8. Marshall	1980	31	12	38.2			
Islands* Majur atoll (excl. U.S. military forces	1988	43	20	45.3	22.9	na	

Country and core-region constituent sub-divisions	Year	Population National	Core	Share of core (%)	Difference between core and national growth rates (x 103)	GDP *per capita* (1985 USD; inter-censal average)
9. **Mauritius***	1976	851	134	15.7		
Port Louis	1983	1,000	134	13.4	-23.0	3,838
district	1990	1,057	133	12.6	-9.0	4,737
10. **Seychelles***	1960	41	16	39.5		
Metropolitan	1971	53	21	40.1	1.4	1,508
Victoria; Anse aux Pins and Bel Ambre *parishes*	1977	62	26	41.6	9.5	2,006
11. **Solomon**	1970	161	35	21.9		
Islands*	1976	197	47	23.7	15.5	na
Honiara and Guadacanal *provinces*	1986	285	80	28.1	16.3	na
12. **Tonga***	1956	57	31	55.0		
Tongatpu	1966	77	48	61.9	13.6	na
division	1976	90	57	63.7	1.6	na
	1986	95	63	67.3	4.6	na
13. **Western**	1961	114	49	43.4		
Samoa* Apia	1966	131	58	44.2	5.9	na
urban area,	1971	147	66	44.9	2.8	na
Northwest Upolu	1976	152	69	45.3	2.2	na

SOURCES

Source citations for all countries and years <u>not</u> marked with an asterisk in the table above are in Appendix 1 of Vining (1986). **The citations which follow are for new data only.** For obvious reasons, original census sources were favored, but recourse was often made to national statistical yearbooks which report census results. What are delicately termed "Estimates" in the statistical sources are not reported. In two cases, however -- Thailand and Taiwan -- 1992 population registers based on the 1990 censuses were used because available census volumes did not report at the required level of spatial disaggregation.

Algeria:	1987: *Evolution des Populations et des Limites Communales*, 1977-87. Collections Statistiques, No. 22. Algiers: Direction des Statistiques Régionales et de la Cartographie, Jan. 1991.
Argentina:	1991: *Censo Nacional de Poblacion y Vivienda 1991*, page 19. Buenos Aires: Instituto Nacional de Estadistica y Censo.
Bahrain:	1959 and 1965: *4th Census of Population 1965*, Table 3, page 58. Manama: Finance Department. 1971: *Statistics of the Population Census 1971*, Form 28, page 161. Manama: Statistical Bureau. 1981: *Bahrain Census of Population and Housing 1981*, Table 3, page 2. Manama: Directorate of Statistics.
Bangladesh:	1991: *Preliminary Report of the Population Census of 1991*, Appendix B, page 17. Dacca: Bangladesh Bureau of Statistics.
Bolivia:	1950: *Censo de la Poblacion 1950*, page 31. La Paz: Direccion General de Estadistica y Censos. 1976: *Bolivia en cifras 1980*, Table 14, page 35. La Paz: Instituto Nacional de Estadistica. 1992: *Censo Nacional de Poblacion y Vivienda 1992*, Resultados Finales, page 8. La Paz: Ministerio de Planeamiento y Coordinacion.
Botswana:	1991: *Population of Towns, Villages and Associated Localities*, page 1. Gaborene: Central Statistical Office, Ministry of Finance and Development Planning (1992).
Brazil:	1991: *Censo Demográfico de 1991: Análisos Preliminares*, Vol. 1, Table 3. Diretoria de Pesquisas, Fundaçao Instituto Brasiliero de Geografia e Estatistica.
Burkina Faso:	1975 and 1985: *Annuaire Statistique du Burkina Faso 1988*, Table 2.1.1.1, page 25. Ouagadougou: Institut national de la statistique et de la démographie.
Burundi:	1979 and 1990: *Annuaire Statistique 1990*, Table 1.2 and 1.3, page 5. Bujumbura: Institut de statistique et d'études économiques du Burundi (1991).
Cape Verde:	1980: *Britannica Book of the Year, 1986.* 1990: *Britannica Book of the Year, 1994.*

Chile:	1992: *Compendio Estadistica 1993*, Table 121-06, page 12. Santiago: Instituto Nacional de Estadisticas.
Colombia:	1985: *XV Censo Nacional de Poblacion*, Volume 1, Table 2, pages 88, 109 and 157.
Comoros:	1966 and 1980: *Recensement Générale de la Population et de l'Habitat, 1980*, page 16. Moroni: Direction de la Statistique (1984).
Congo:	1974: *Recenscement Générale de la Population 1974*, Tome IV, Table 1, page 7. Brazzaville: Bureau Central du Recenscement. 1984: *Recenscement Générale de la Population et de l'Habitat 1984*, Volume 3, Tome 1, page 3, Table 200. Brazzaville: Direction des Statistiques Démographiques et Sociales.
Costa Rica:	1973: *Censos Nacionales de 1973, Poblacion*, Volume 1, Table 1, page 1. San José: Direccion General de Estadistica y Censos (1974). 1984: *Censo de Poblacion 1984*, Table 1, page 1. San José: Ministerio de Gobernacion y Policia (1986).
Côte d'Ivoire:	1975: *Britannica Book of the Year*, 1986. 1988: *Britannica Book of the Year*, 1994.
Cuba:	1981: *Annuario Demografico 1984*, Table 2, page 2. Havana: Instituto de Investigaciones Estadisticas.
Cyprus:	1946-73: *Demographic Report 1991*, page 30, Table 2. Population Statistics, Series 2, Report No. 29. Nicosia: Department of Statistics and Research, Ministry of Finance.
Ecuador:	1990: *V Censo de Poblacion 1990, Resultados Definitivos, Resumen Nacional*, Table 2, page 13. Quito: Instituto Nacional de Estadistica y Censos (1991).
Egypt:	1986: *Statistical Yearbook 1987*, Tables 1, 2 and 3, page 10. Cairo: Central Agency for Public Mobilisation and Statistics.
El Salvador:	1950: *Avance Tercer Censo de Poblacion 1961*, Table 1, page IV. San Salvador: Direccion General de Estadistica y Censos. 1961 and 1971: *Cuatro Censo Nacional de Poblacion, Cifras Preliminarios*, Table 2, page 2. San Salvador: Direccion General de Estadistico y Censos. 1992: *Britannica Book of the Year*, 1994.
Fiji:	1966 and 1976: South Pacific Commission, *Population of Fiji*, Table 11, page 28. Noumea: South Pacific Commission (1989). 1986: *Report of Fiji Population Census*, Table 2.7, page 16. Suva: Bureau of Statistics (1989).
Ghana:	1970 and 1984: *Quarterly Digest of Statistics December 1991*, Volume XI, Number 4, Table 94, page 112. Accra: Statistical Service.
Greece:	1991: *Pragmatikos plethusnmos tes Ellados*, Table B, page 7. Athens, 1991.

Guatemala:	1973: *VIII Censo de Poblacion 1973*, Volume 1, Series 3, Table 1, page 5. Guatemala City: Direccion General de Estadistica. 1981: *Censo Nacional de 1981*, Volume 1, Table 1, page 37. Guatemala City: Instituto Nacional de Estadistica.
Guinea:	1977: *Britannica Book of the Year*, 1986. 1983: *Britannica Book of the Year*, 1991,
Honduras:	1945-74: *Annuario Estadistica 1983*, Table 1, page 19. Tegucigalpa: Direccion de Estadistica y Censos. 1988: *Censo Nacional de Poblacion*, Tome 1.
India:	1991: Bose, A., *Population of India: 1991 Census Results and Methodology*, Table 1, page 56. Delhi: B.R. Publishing Company.
Iraq:	1965: Central Statistical Office, *General Population Census of 1965*; 1977 and 1987: *Annual Abstract of Statistics 1988*. Baghdad: Central Statistical Organisation, Ministry of Plan.
Ireland:	1986 and 1991: *Statistical Abstract 1991*, Table 2.4, page 24. Dublin: Central Statistical Office.
Israel:	1983: *Census of Population and Housing 1983: Selected Results from Complete Enumeration*, Table 4, page 69. Tel Aviv: Central Bureau of Statistics.
Jamaica:	1960-82: *Statistical Yearbook of Jamaica 1989*, Tables 3.1 and 3.3, pages 89-90. Kingston: The Statistical Institute of Jamaica (1989); 1991: *Demographic Statistics 1991*, Table (ii), page (iii). Kingston: Statistical Institute of Jamaica.
Kiribati:	1947-78: *Report on the 1978 Census of Population and Housing*, Volume II, Table 1.1, page 26. Bairiki Taraw Kiribati: Ministry of Home Affairs and Decentralisation (1983). 1990: *Britannica Book of the Year*, 1994.
Korea:	1985-90: *Korea Statistical Yearbook 1991*, Table 2, page 36. Seoul: National Statistical Office.
Lesotho:	1966: *Population Census Report*, Volume 1, Table 1, page 98. Maseru: Bureau of Statistics. 1976 and 1986: *Lesotho Statistical Yearbook 1988*, Table B.2, page 19. Maseru: Bureau of Statistics (1990).
Liberia:	1962-84: *1984 Population and Housing Census Summary Population Results*, Table 1, page 11. Monrovia: Ministry of Planning and Economic Affairs (1987).
Madagascar:	1966 and 1975: Andrianarivelo Rafrezy Vincent and Randretsa Iarivony, *Population de Madagascar*. Antanarivo: Ministère de l'Enseignement Supérieure et de la Recherche Scientifique (1984). 1966 data are from a demographic inquiry; 1975 data from a population census.

Malawi:	1966 and 1977: *Malawi Population Census 1977*, Final Report, Volume 1, Table 1.2, page 1. Zomba: National Statistical Office. 1987: *Britannica Book of the Year*, 1994.
Malaysia:	1991: *Britannica Book of the Year*, 1994.
Maldives:	1977-90: *Statistical Yearbook of Maldives 1990*, Table 11-1, page 10. Male': Ministry of Planning and Environment.
Mali:	1976: *Analyse du Recensement de 1976*, Volume III, Table 1, page 8. Bamako: Ministère du Plan (1985). 1985: *Annuaire statistique du Mali*, Table 1, page 41. Bamako: Ministère du Plan (1988).
Marshall Islands:	1980 and 1988: *Census of Population and Housing 1988 Final Report*, Table 3.2, page 16. Majeru: Office of Planning and Statistics.
Mauritania:	1965 and 1977: *Recensement Général de la Population 1977*, Volume 2, page 25. Nouakchott: Direction de la Statistique. 1988: *Britannica Book of the Year*, 1994.
Mauritius:	1976-90: *1990 Housing and Population Census of Mauritius*, Volume II, Table 1, page 1. Port Louis: Ministry of Economic Planning and Development, 1991.
Mexico:	1990: *Agenda Estadistica 1990*, Table III.1, page 49. Mexico City: Instituto Nacional de Estadistica, Geografia e Informatica (1991).
Mongolia:	1963-79: *National Economy for the Mongolian People's Republic for the Sixty Years 1921-81*, pages 76-79. Ulan Bator: Central Statistical Board.
Morocco:	1960-82: Findlay, A.M. and A.F. Findlay. 1986. Regional economic disparities and population change in Morocco. *Scottish Geographical Magazine* 102(1): 29-41.
Mozambique:	1960 and 1970: *Statistical Abstract 1972*. 1980: *First Population Census of Mozambique, 1980*, Table 2. Maputo: Conselho Coordenador de Recenseamente.
Myanmar:	1973 and 1983: *Statistical Yearbook 1989*, page 10. Yangon: Central Statistical Organisation.
Namibia:	1970-91: *Statistical Abstract 1992*, Table 2.1. Windhoek: Central Statistics Office, National Planning Commission.
Nepal:	National Planning Commission Secretariat, *Population Monograph of Nepal*, Tables 1.2, page 7, and 8.14, page 194. Kathmandu: Central Bureau of Statistics, 1987.
Nicaragua:	1950-70: *Censos Nacionales 1971*, Volume 1, page III. Managua: Banco Central de Nicaragua (1974).

Niger:	1960-88: République du Niger, Direction de la Statistique et de Statistique et de la Démographie, *Annuaire Statistique*, "Séries Longues," 1991, Table 2.02 and 2.07. Niamy: Ministère du Plan.
Panama:	1990: *Indicadores economicos y sociales de panama 1981-1990 y primer semestre de 1991*, Table II, page 3. Panama City: Direccion de Estadistica y Censo (1991).
Papua New Guinea:	1966-80: A Crosbie Walsh, *Inter-provincial migration in Papua New Guinea*, Tables 1a, page 13, and 1b, page 14. 1980 National Population Census Research Monograph Number 3. Port Moresby: National Statistical Office (1985). 1990: *Britannica Book of the Year*, 1994.
Paraguay:	1972-82: *Annuario Estadistico del Paraguay 1984*, Table 2.1.2, page 27; 1992: *Censo Nacional de Poblacion y Vivienda 1992 (Cifras Provisorias)*, Table 2, page 3. Asuncion: Direccion General de Estadistica, Encuestas y Censos.
Peru:	1993: *Britannica Book of the Year*, 1994.
Philippines:	1990: *Philippines Statistical Yearbook 1991*, Table 1.1, pages 1-4. Manila: Republic of Philippines National Statistical Coordination Board.
Portugal	1990: *Portugal Em Numeros*, 1991, page 7. Lisbon: Instituto Nacional de Estatistica.
Rwanda	*Recensement Général de la Population et de l'Habitat, Analyse des Principaux Résultats*, Table 1, page 8. Kigali: Service National de Recensement, Ministère du Plan.
Seychelles:	1960-77: *1977 Census Report*, Table 13.6, page 48. Mahe: Republic of Seychelles (1978).
Sierra Leone:	1985: Gleave, M. 1988. Changing population distribution in Sierra Leone, 1974-85. *Geography* 73(321): 351-54.
Solomon Islands:	1970-86: *Report on the Census of Population 1986, Report 2, A, Basic Information*, Basic Table 1, page 71. Honiara: Statistics Office.
Spain:	1990: *Avance del Anuario Estadistico 1991*, Table 1.1.5, page 57. Madrid: Instituto Nacional de Estadistica (1992).
Sri Lanka:	1991: *Population Statistics of Sri Lanka*, Table 11, page 12. Colombo: Population Information Center, Population Division, Ministry of Health and Women's Affairs (1992).
Sudan:	1955/56-83: A. Saghayroun, A. Farah, S. Ahmed and M. Kheir, Eds. *Population and Development in the Sudan: The Quest for a National Policy.* Khartoum: Sudan National Population Committee (1988). 1993: *Population Census of Sudan 1993 Provisional Results*, Table 1. Khartoum: Census Office, Central Bureau of Statistics.

Rwanda: 1978: *Britannica Book of the Year, 1986.* 1991: *Britannica Book of the Year,* 1994.

Taiwan: 1986: *1986 Taiwan-Fukien Demographic Fact Book of Republic of China,* pages 30 and 42. Taipei: Ministry of the Interior. 1992: *Monthly Statistics of the Republic of China,* 320 (September 1992). Taipei: Directorate-General of Budget, Accounting and Statistics.

Tanzania: 1988: *1988 Population Census: Preliminary Report,* Table 1, page 21. Dar es Salaam: Bureau of Statistics, Ministry of Finance, Economics Affairs and Planning.

Thailand: 1992: *Key Statistics of Thailand 1993,* Table 1.2, page 4. Bangkok: National Statistics Office, Office of the Prime Minister.

Tonga: 1956-86: *Statistical Abstract 1987,* Table 6, page 9. Nuku'alofa: Statistics Department (1988).

Tunisia: 1984: *Recensement général de la population et de l'habitat 1984,* Volume 1, Table 3, page 24. Tunis: Institut National de la Statistique.

Turkey: 1985: *Genel Naifus Sazimi 1985,* Table 6, page 6. Ankara: Prime Ministry. 1990: 1990 *Genel Nüfus Sayimi Idari Bölünüs,* Table 6, page 6. State Institute of Statistics, Prime Ministry, Ankara, 1991.

Uganda: 1969-91: *Final Results of the 1991 Population and Housing Census,* Table 2. Entebbe: Ministry of Finance and Economic Planning, 1992.

Uruguay: 1985: *Recuentos Preliminarios VI Censo General de Poblacion,* Table T1, page 1. Montevideo: Direccion General de Estadistica y Censo.

Venezuela: 1990: *Anuario Estadistica de Venezuela 1990,* Table 211-01, page 185. Caracas: Oficina Central de Estadistica e Informatica.

Vietnam: 1979: *Population Census 1979,* Table 1, page 23. Hanoi: General Population Census Central Committee (1982). 1989: *Completed Census Results, Vietnam Population Census 1989,* Volume 1, Table 1.1, page 13. Hanoi: Central Census Steering Committee (1991).

Western Samoa: 1961-76: *Census of Population and Housing 1976, Analytical Report,* Volume 2, Tables 2.2 and 2.3, pages 9-10. Apia: Department of Statistics (1979).

Zambia: 1980: *1980 Census of Population and Housing Preliminary Report,* Table A1, page 8. Lusaka: Central Statistical Office. (1981) 1990: *Britannica Book of the Year 1994.*

Zimbabwe: 1969: *Statistical Yearbook 1987,* Table 2.12, page 22. Harare: Central Statistical Office (1987). 1982 and 1992: *Census 1992 Preliminary Report,* Table 2.2. Harare: Central Statistics Office.