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## Document de travail

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# Economic consequences of the size of nations, 50 years on

**Éloi Laurent**  
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**September 2008**

## **Abstract**

In September 1957, the International Economic Association held a conference at The Hague on the “Economic Consequences of the Size of Nations”, which proceedings were published in 1960. Fifty years later, while the economic environment has dramatically changed, the issues put forward and discussed in this volume are still largely relevant. The goal of this paper is to assess whether the analytical framework and intuitions of the major contribution of the volume, that of Simon Kuznets, has passed well the test of time. Using a sample of the richest and freer OECD countries, many of the hypotheses made in the 1960 volume and neatly captured by Kuznets are found to be vindicated, as others have to be reformulated: small developed open countries have been able to overcome the “penalties of smallness” thanks to globalization, and large countries have relied on economies of scale to develop an endogenous domestic growth. Both strategies have been successful enough that large and small countries can not be distinguished in terms of their economic performance. Still, their preferred “growth strategy” differ, as their seeming ability to implement structural change. As regards “governance strategy”, small nations’ homogeneity has been blurred by migration flows and the only fragmentation difference remaining between large and small nations is that of religion diversity. Hence social diversity can not account for the substantially lower governance performance and higher income inequalities observed in large countries, all the more than confidence and trust among citizens do not appear significantly higher in small nations. Finally, the paper briefly explores some new country size related puzzles, unheard of in 1960, that have emerged since then: micro-states, giant states and “embedded states” (i.e. economic regionalization).

Keywords: OECD, country size, growth strategy, governance strategy.  
JEL codes: O11, O57, F15, F43.

“It is in the evolution of social institutions and organizations that facilitate long-term peaceful type of economic growth (the only type that can be long-term) that both the challenge and the promise of economic growth are particularly great for small nations”.

Simon Kuznets (1960).

## **Introduction: “A subject that well deserves more attention.”**

In September 1957, the International Economic Association held a conference at The Hague on the “Economic Consequences of the Size of Nations”, which proceedings were published in 1960<sup>1</sup>. In the “Formulation of the Issues for the Conference” that opens the volume, the Programme Committee details the “major issues which seemed to require discussion”. Among them:

- How far does freedom of movement of goods, resulting from free trade, customs unions, etc., permits the enlargement of markets without the necessity for political unity?
- How far is a large nation more stable than a small one,
  - (a) in consequence of a smaller dependence on international trade in general;
  - (b) in consequence of a smaller dependence on its ability to sell a small range of exported goods;
  - (c) in consequence of wider opportunities for adjusting its economy to changes in both markets and technologies?
- How far does a small nation have an advantage in its capacity to adjust more quickly its policies to changing conditions?
- Is research and development work likely to achieve greater results in a large nation?
- How far can customs union...provide opportunities for enlarging markets and permitting specialization...How far does the existence of a single currency...facilitate trade?

The general purpose of this paper is to show that, 50 years later, while the economic environment has dramatically changed, those questions are still largely relevant to understand the economic fate of large and small nations. The more specific goal of the paper is to assess whether the analytical framework and intuitions of the major contribution of the volume has passed well the test of time.

As Robinson (1960) puts it in his Introduction, the economic consequences of the size of nations is indeed a “subject that well deserves more attention”. This is still true today, even as the economics and political economy of country size has regained some currency.

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<sup>1</sup> Robinson (1960).

## 1. The 1960 volume

### The Economic consequences of the size of nations

The Programme Committee starts by the difficult but un-dispensable task of defining a nation in economic terms. It opts for simplicity: “the area of the nation” is “the area within which goods, factors of production, i.e. labour and skills, capital, materials, can move freely”. Robinson (1960) goes on to assert that the “boundary of a nation represents a point of discontinuity, [a] change in the degree of mobility of almost all factors of production (labour especially), but also credit and capital (because of national currency and banking systems), [and a] discontinuity in the mobility of goods”. Those discontinuities can stem from “differences in language, education and skill, sense of community, of outlook and interest”. But in large parts, they are “artificial”, due to “existence of tariffs, trade restrictions, limits to convertibility, transfers of credit, movements of workers”. In other words, they depend on institutions and not on geography.

Indeed, Svernilson defines in his contribution the nation as an “area in which a central government exercises political authority” and a “unit of action in economic analysis”. He stresses that the economic significance of nations results from their economic sovereignty: Nations are “unit of government action and economic authority” endowed with a “budget”, an “economic policy”, “social services”, a “central bank” and devoted to attain certain goals as “full employment” and “economic development”. It is those means and those ends that explain why economic freedom of circulation stops at nations’ frontiers.

Two other major ideas emerge from Robinson’s and Svernilson’s contributions. First, there is no absolute definition of country size available for economists as “the relevance of the nation in economic analysis is...dependent on the international milieu in which it is placed”. Second, large and small size both entail advantages and difficulties, with small nations more at risk than large ones. Economies of scale favor large nations. But the “external trade can and does provide an effective escape from the penalties of smallness”. Yet, it is a “precarious escape” that only a “free trade world” or the “creation of customs unions or regional systems”<sup>2</sup> could secure.

One important particularity of the 1960 volume is that its insights hold for developed countries, even if a chapter is devoted to developing countries in general and India in particular. Economic consequences of the size of *developed* nations are the major focus of all papers.

### Economic Growth of Small Nations

The major contribution of the volume is probably that of Kuznets (1960), for it offers the most rigorous analytical framework for the treatment of the issues formulated by the Programme Committee. The argument of Kuznets is twofold: “in principle, small countries have a handicap for economic growth” because they can not benefit from: the “advantage of large-scale production and organization”, because their “defense task” is greater, because their “reliance on international trade” is more important and because their “international division of labour” is “limited for security reason”.

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<sup>2</sup> A point also made by Marcy and Scitovsky in their contributions.

But actually, “because of their smaller populations and hence possibly greater homogeneity and closer internal ties”, small nations “may find it easier to make the social adjustments needed to take advantage of the potentialities of modern technology and economic growth”. Kuznets thus combines two arguments from two disciplines: economic theory postulates a handicap for small countries while political economy foresees an advantage in small size.

In another paper published the same year, Kuznets (1960 b)<sup>3</sup> states his nuanced analysis even more clearly:

It is reasonable, I believe, to argue that since reliance on foreign trade is, perforce, limited, particularly in these times of international strain and strife, a large domestic market is an important prerequisite to the economies of scale of many modern industries and to the diversification of the domestic productive structure that provides varied opportunities for the growing population; To be sure, larger size poses other dangers, particularly the possibilities of greater disunity among the various parts of a large and regionally diversified population and the consequent difficulties of making promptly and without great cost the secular decisions essential in setting and adjusting conditions for a country's economic growth.

While it is often not acknowledged, the contemporary influence of Kuznets contribution is obvious in some recent reflections about country size and economic performance, for instance that of the OECD: “Country size may also matter, with small countries sometimes found to undertake more reform, as in Continental Europe over the past two decades. Reasons for this could comprise greater population homogeneity, which may ease decision making, and greater openness to trade, which increases competitive pressures and eases concerns that structural reform could lead to imbalances between aggregate demand and supply” (*Economic Policy Reforms, Going for Growth*, OECD, 2007).

### **Interpreting Kuznets: country size, growth and governance strategies**

In order to assess the relevance of Kuznets’ intuitions, we need to interpret his framework and translate its constitutive parts into measurable variables. This is done first by labelling the economic theory argument “growth strategy” and the political economy argument “governance strategy”. Next, I detail for each strategy the differences pointed out by Kuznets, complementing his theoretical arguments, so as to measure their reality and importance.

- Growth strategy:

- *Openness*: Kuznets makes the point that large and small countries differ in their respective degree of openness: small countries are more open to international trade than large ones. The first complementary question to be asked regards the degree of financial openness, and not only trade openness, of large and small countries. More importantly, Delmas (1965)’s notion of “functional openness”, i.e. policies that accentuate the tendency of small nations to overcome their economic “structural” openness, should also be assessed. Tax competition in the face of accelerating capital

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<sup>3</sup> Kuznets, Simon, “Population Change and Aggregate Output.” In *Demographic and Economic Change in Developed Countries*. Princeton, N.J.: Princeton University Press, 1960.

mobility is one obvious modality of such “functional openness”. As Armstrong and Read (1998) put it : “although structural openness is a consequence of their small size, functional openness is the outcome of a conscious endogenous policy choice”;

- *Smithian versus Schumpeterian growth.* One important insight of endogenous growth theory models is that they entail economies of scale effects: Large economies typically have a comparative advantage in developing innovation (“Schumpeterian growth”<sup>4</sup>), while small economies should rely more on specialization gains resulting from free trade (“Smithian growth”);
- *Country size and size of government.* According to the “hypothesis of compensation” developed by Cameron (1978) and Rorik (1998) –but not considered by Kuznets–, greater openness should lead to a bigger government size, as vulnerability to external shocks has to be compensated by more extensive public policies.
- *Competitiveness versus macroeconomic policies.* It should also follow from Kuznets’s openness argument that, because external demand is of greater importance for them, small countries will benefit more from supply-side and competitiveness policies, while large countries need to stimulate their domestic markets through Keynesian macroeconomic policies in order to foster their effective growth; such policies can also foster investment sustaining “Schumpeterian growth”.
- *Adaptation.* According to Kuznets, because they are more open and more vulnerable to external shocks, small countries are forced to adapt to changing economic context faster and so will better than large ones be able to implement structural changes in their economies; There is a potential contradiction here with the *Smithian versus Schumpeterian growth* argument that we should try to straighten out.

- Governance strategy

- *Homogeneity.* Because of smaller population, Kuznets asserts that small countries may be more socially homogenous than large ones. One would thus expect small countries to have less diverse and fragmented population than large ones;
- *Cohesion and governance quality.* Kuznets also hints at a greater national cohesion resulting from homogeneity which should result in a better working of institutions and lead to more efficient social adjustments. This could mean that generalized trust and confidence in institutions may be higher in small nations than in larger countries, as should be governance quality thanks to a greater accountability. As noted by Armstrong and Read (1998), in small states: “Social capital is built-up through the development of social and civic institutions. These institutions act as networks which bind together individual members of society and facilitate co-ordination between them as well as enforcing norms of behaviour, reciprocity and trust through the exercise of effective sanction. The resultant social cohesion is regarded as being greater in small states because of the frequency of direct contact between decision-makers and their constituents as well as between ordinary members of society”.
- Kuznets also notes that the lower income inequalities in small countries, resulting from a greater cohesion, may be conducive to easier structural change.

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<sup>4</sup> The distinction was first made by Parker, W. N. 1984. *Europe, America, and the Wider World*. Cambridge: Cambridge University Press.

- *Integration*<sup>5</sup>: the lesser diversity and fragmentation of small countries finally brings a contradictory outcome: while anti-immigration sentiment could be higher in theory in small countries less accustomed to ethnic diversity, public policies against discriminations and segregation, i.e. integration policy, could be more developed and effective in small countries than in large ones, because of the imperative of national cohesion.

In the remainder of the paper, I will investigate empirically three sets of questions in relation with the 1960 volume general questioning and my reading of Kuznets' contribution: the first one regards the economic and social performance of large and small developed countries; the second one aims at testing the above Kuznets's revised framework in order to assess if the difference between large and small developed countries in terms of growth and governance strategy are real and important. The final part of the paper sheds some light on three new puzzles related to economic consequences of the size of nations that have emerged since the 1960 volume, namely the issue of micro-states, giant states and embedded states (i.e. economic regionalization).

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<sup>5</sup> This important criterion is not analyzed in this paper for lack of relevant data, but Fitoussi and Laurent (2008) offer some elements on this matter for Nordic and Continental European countries.



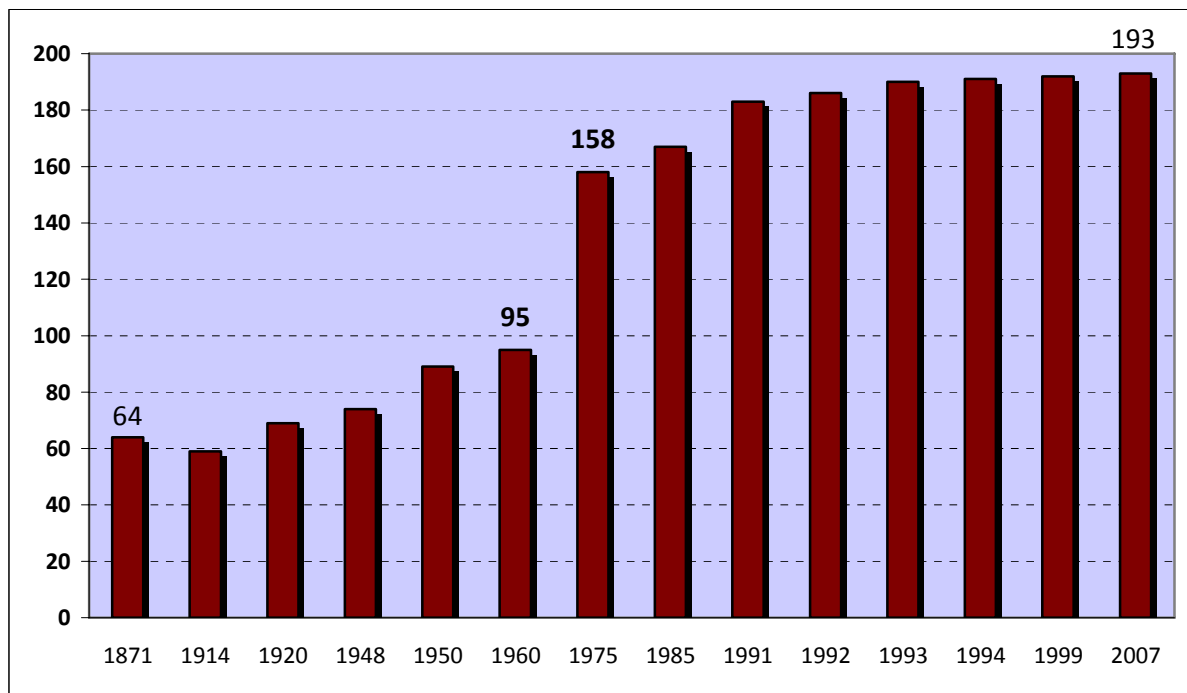
## 2. The test of time

### The proliferation of states

One striking paradox of the 1960 volume is that while it often insists on the “penalties of smallness” and “vulnerability” of small states, it was published on the eve of a 40% increase in the number of states worldwide, most of them small states reclaiming their sovereignty from greater ensembles. This trend of “proliferation of states” has not stopped until the 1990s (Figure 1).

The end of colonialism and the further progress of democracy in the second half of the 20<sup>th</sup> century explain why small states have been able to become independent, but one has to turn to economic factors to explain how they have been able to survive in the international order, and in some cases, thrive. Have small states overcome their “vulnerability” and how come? Have they performed better than large states thanks to the expansion of economic globalization in the last quarter of the 20<sup>th</sup> century?

Figure 1. The proliferation of states, 1871-2007.



Source: Alesina, Spolaore and Wacziarg (2000) and Freedom House.

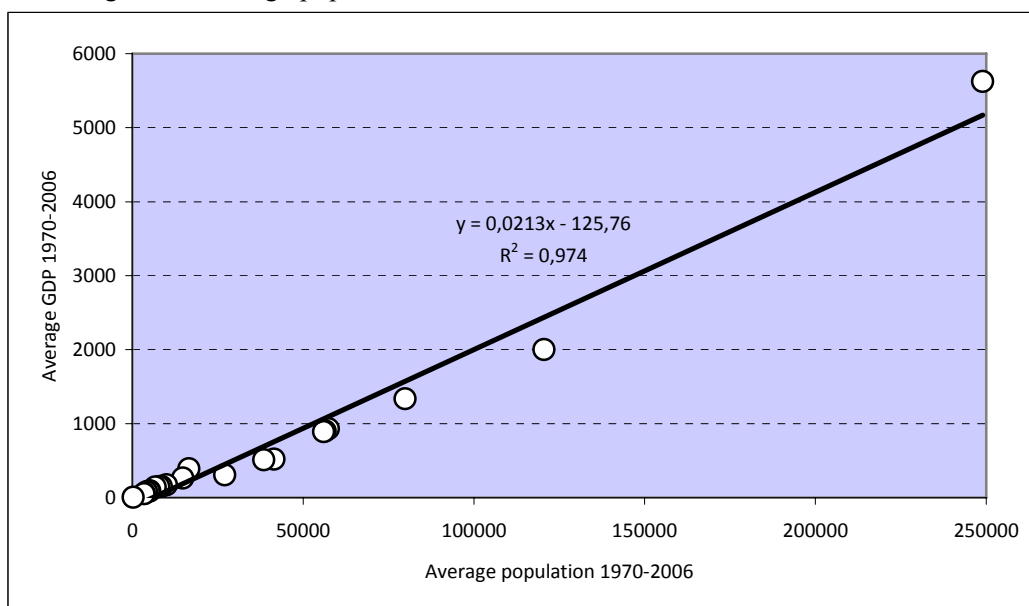
## Economic consequences of the size of nations: growth strategy

### *Large and small countries in the OECD*

In order to answer the question of who did best and why between large and small developed countries since the 1960 volume was written, one has to use comparable and relatively long time series. The OECD “brings together the governments of countries committed to democracy and the market economy from around the world”<sup>6</sup>. OECD countries are also the most developed economies of the world. In other words, OECD members are the richer free countries on earth. As such, they fit well my double concern of analyzing growth and governance strategy. What is more, the OECD sample is also coherent with the theory postulating that country size can only be relative and can only be applied as a relevant discriminating criterion to comparable countries, so that its effect “most things being equal” can be captured. Finally, OECD indicators are reliable, numerous and go far back enough to serve the purpose of this paper. I have taken out of the 30 plus OECD sample recent members (Mexico and Eastern and central European countries), as well as older members still in development, whether economically or politically (Turkey, Portugal, Greece). I have also taken out Luxembourg, a typical non significant outlier obscuring regressions.

Size is typically measured by population and/or GDP in the literature. I am interested in country size as a determinant of a number of variables, some of which are averaged over a relatively long period of time during which population and GDP have grown. I thus take the 1970-2006 average of population and GDP as size variables. Another problem lies within the possible reverse effect of GDP and many economic variables such as GDP growth or GDP per capita. Since the correlation between GDP and population for my sample is almost 0,98, one can safely take the 1970-2006 average population as a relevant size variable (Figure 2).

Figure 2. Average population and GDP for 21 OECD countries, 1970-2006.



Source: OECD.

<sup>6</sup> Source: OECD website.

The order of countries changes a little from population to GDP ranking, but in both cases the sample contains a roughly equal number of larger countries and smaller countries (Table 1), which seems a good enough balance. The further distinction in the results between large, medium size, small or even micro-countries is really the problem of the influence of the US on the sample. I will thus each time that is necessary make sure that the results are not biased by the demographic importance of the US. Also, all the regressions use OLS method and display more significant results using the log of country size: some relations are clearly more logarithmic than linear. Using the log of country size provide coefficients that are less easy to interpret but allows to partly correct the demographic gap between the US and the rest of the sample.

Table 1. Average population and GDP, 1970-2006.

Total population (thousands)		Gross domestic product (billion US dollars, current prices and PPPs)	
<b>Larger countries (10)</b>			
United States	248979	5622	United States
Japan	120507	2004	Japan
Germany	79873	1337	Germany
United Kingdom	57403	931	France
Italy	56483	897	United Kingdom
France	56046	892	Italy
Korea	41530	517	Canada
Spain	38524	510	Spain
Canada	27039	387	Korea
Australia	16576	305	Australia
	<b>15000</b>	<b>300</b>	
<b>Smaller countries (11)</b>			
Netherlands	14810	264	Netherlands
Belgium	10004	173	Belgium
Sweden	8535	151	Sweden
Austria	7760	146	Switzerland
Switzerland	6719	141	Austria
Denmark	5177	92	Denmark
Finland	4949	85	Norway
Norway	4239	78	Finland
Ireland	3526	55	Ireland
New Zealand	3449	50	New Zealand
Iceland	250	5	Iceland

Source: OECD.

## *Growth and development performance*

Leduc and Weiller (1960), drawing on the work of François Perroux and Kuznets, note that there is no notable difference between the economic performance of a selection of large and small states from 1860 to 1950. Kuznets tries to update the results for the year 1949 and also finds no clear advantage in terms of average income per capita stemming from country size (Table 2).

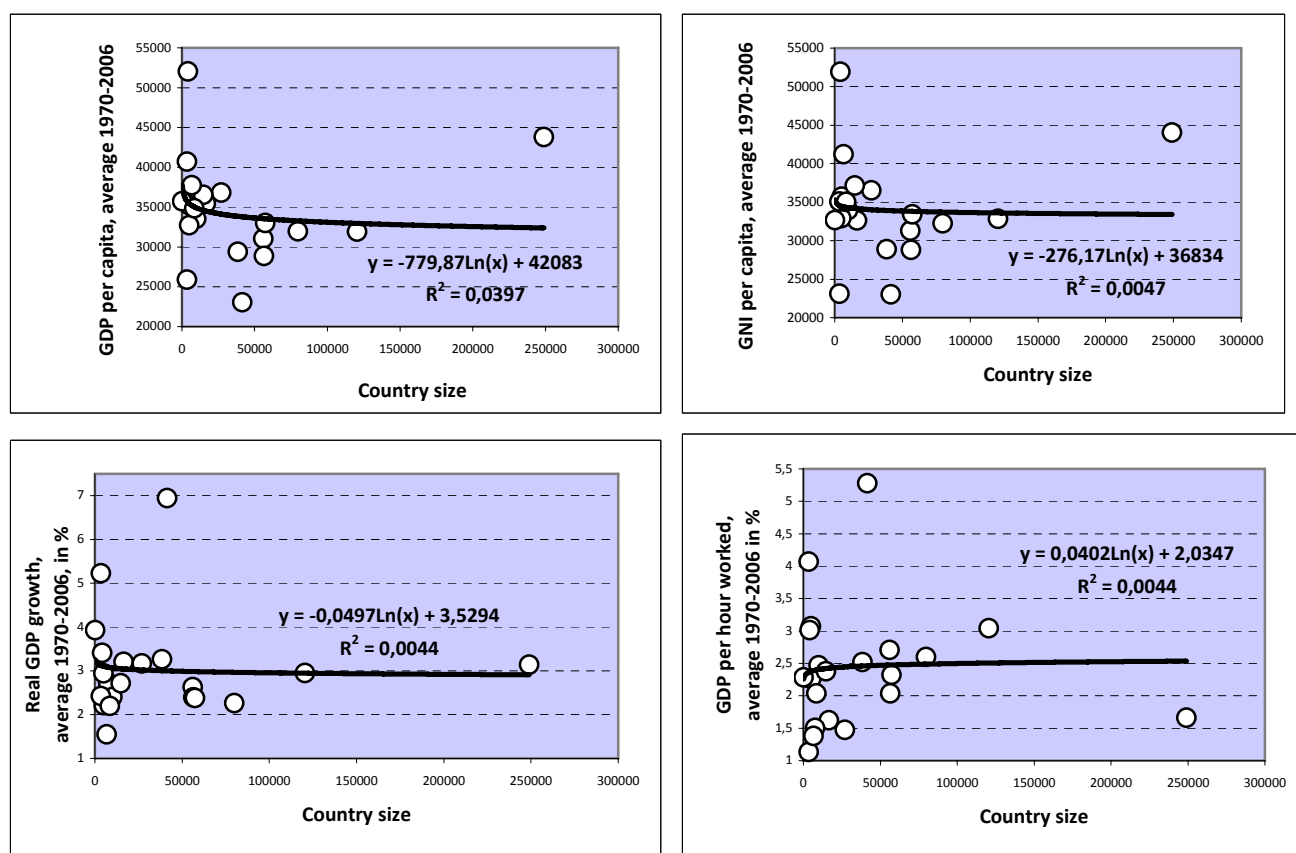
Table 2. Thirty richest states (higher per capita income) in 1949.

	Average pop (millions)	Average income per cap (US\$)
First five	69	653
Second Five	15	399
Third Five	10,2	429
Fourth Five	6,2	360
Fifth Five	3,9	579
Sixth Five	1,3	447

Source: Kuznets (1960).

I test the relation between country size and a number of economic performance variables averaged on the period between 1970 and 2006: GDP per capita, GNI per capita, GDP real growth and labour productivity growth. As shown in Figure 3, I don't find any correlation between my country size variable and these indicators.

Figure 3. Economic performance indicators and country size.



Source: OECD.

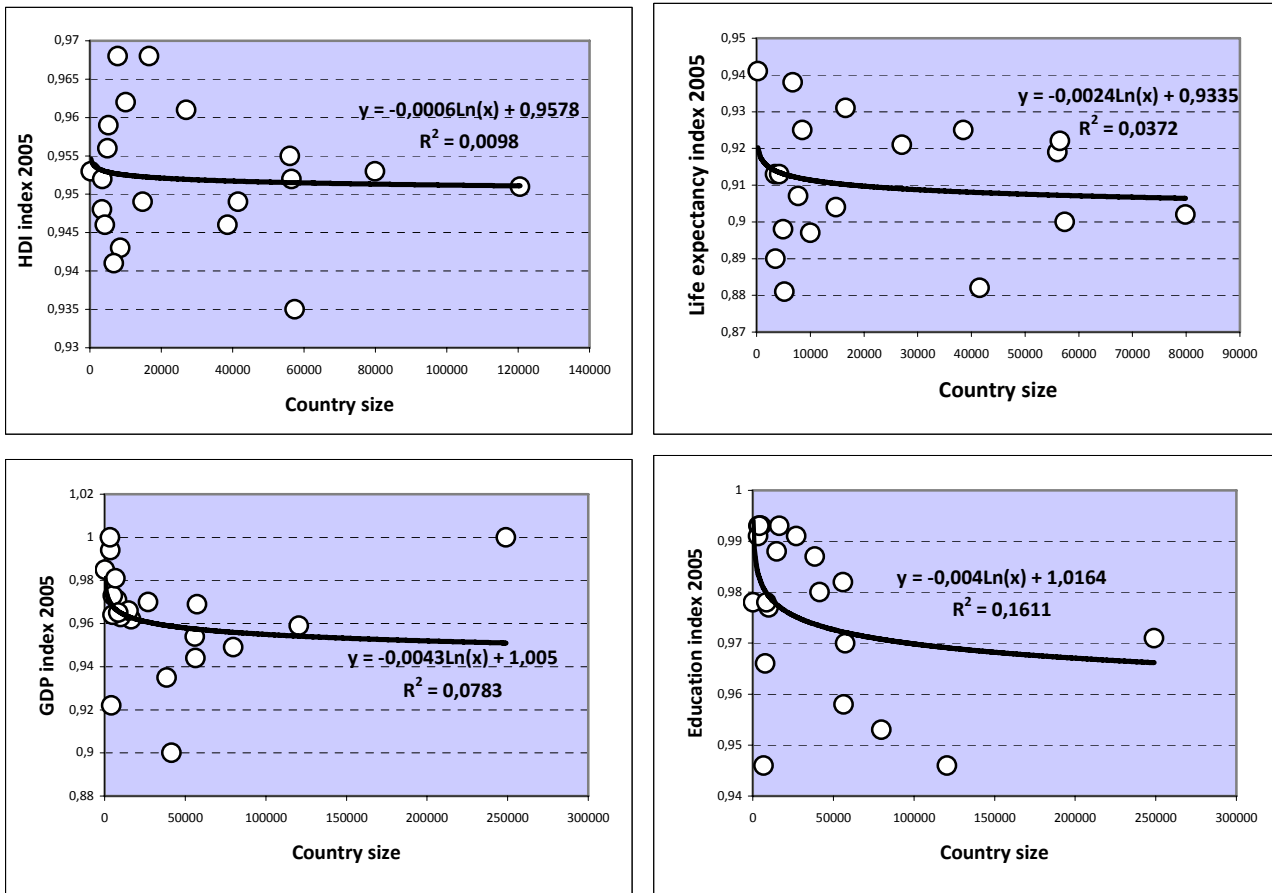
I then turn to development variables and test whether country size relates to human development index in 2005. The HDI index is indeed clearly negatively affected by size. Yet, the US position in the chart seems to be the cause of this. In fact, when the US is taken out of the regression, the correlation disappears (the relation between the average HDI index over the period 1975-2005 is also very weak and non significant, Figure 4).

The decomposition of the HDI confirms the peculiarity of the US development position: the HDI GDP index shows no relation with size and neither does life expectancy, but the US is clearly an outlier in the regression, counter-balanced by another outlier, Japan. When both are taken out of the regression, the correlation coefficient is reduced to 0,006.

A last relation appears not only strong but significant between the HDI education index and country size. Since the educational component of the HDI “is comprised of adult literacy rates and the combined gross enrolment ratio for primary, secondary and tertiary schooling, weighted to give adult literacy more significance in the statistic”<sup>7</sup>, this relation hints at the strength of public policies and size of the welfare state in small countries (see infra).

<sup>7</sup> Source: United Nations.

Figure 4. Development indicators and country size.



Source: United Nations and OECD.

Note: HDI 2005 regression without the US; life expectancy index 2005 regression without the US and Japan.

This result is also interesting because it points to the difference between performance and policy variables. Indeed, outcomes can be similar while policies, or strategies implemented to attain them, can differ greatly. Rose (2006) for instance tests a sample of 200 countries over forty years in search for an impact of country size on the level of income, material well-being, health, education, or the quality of a country's institutions. Because he does not find any significant performance indicators related to size, he argues that "there is no clear benefit or costs to national size, and thus no argument for either expanding or contracting a typical country." That may be true, but the fact that he finds a significant relation between country size and openness to trade should make him more cautious about his assertion that "size really doesn't matter".

Country size is most likely irrelevant in absolute terms, when all world countries are compared, and only performance indicators are measured. But country size can become relevant when comparable countries of different size are considered and, even more importantly, when policy and not only performance variables are taken into account. In other words, large and small countries develop different growth strategies that can yield similar results. It does not follow that the distinction between a small country growth strategy and a large country growth strategy "doesn't matter".

Small countries: structural and functional openness

Can one identify the typical growth strategy of a small country? The framework of Kuznets, as I have revisited it, points at the importance of economic openness. But Kuznets does not consider financial openness in his approach. Moreover, there is a difference between two concepts developed by Delmas (1965): “structural openness” and “functional openness”. A small country is structurally open economically because it has limited domestic resources. But it can develop a functional openness, i.e. a growth strategy that aims at taking advantage of its size by accentuating its natural small country growth strategy, which is the case when small countries engage aggressively in tax competition.

Kuznets (1960) does find a substantial difference in terms of openness to trade in the sample of the 30 richest countries he considers: small countries were more open to trade than large ones among the world’s richest countries in 1949.

Table 3. Thirty richest states (higher per capita income) in 1949

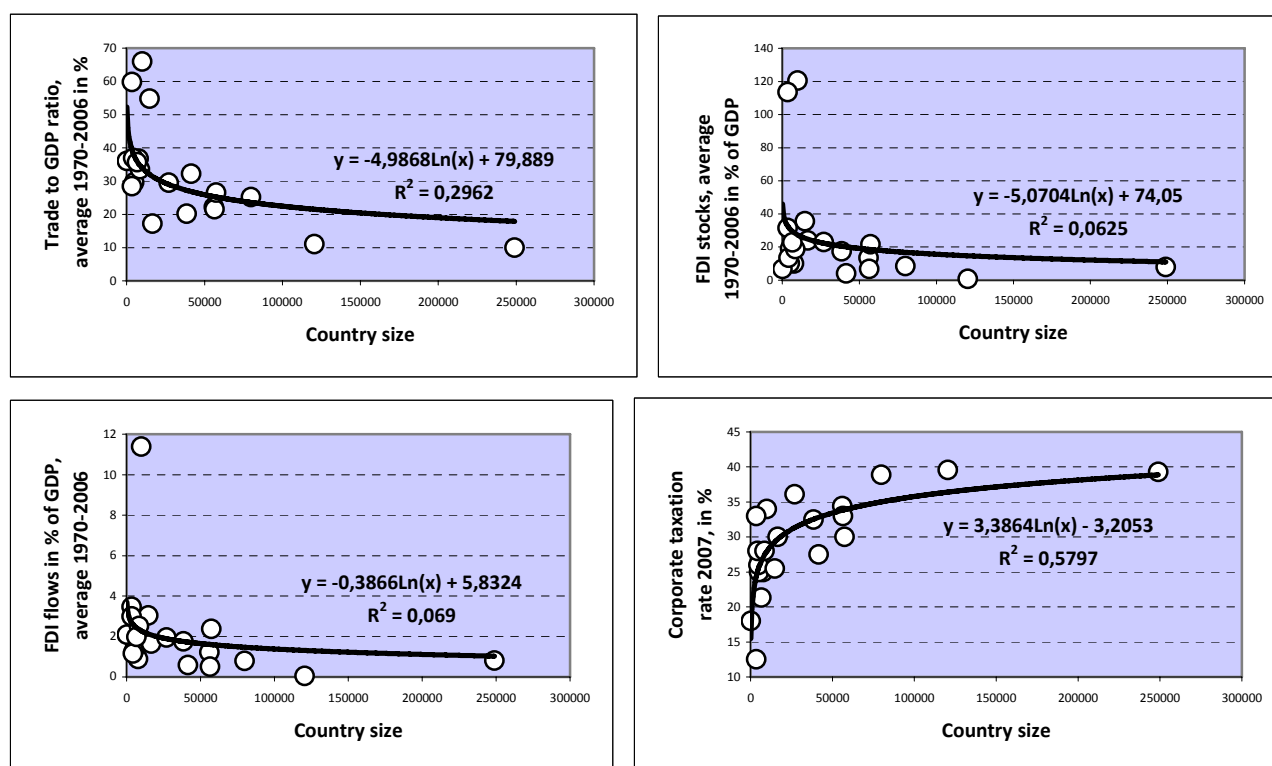
	Average pop (milions)	Average income per cap (US\$)	Average foreign trade per cap (US\$) in % of average income per capita (%)
First five	69	653	21,8
Second Five	15	399	44,1
Third Five	10,2	429	58,8
Fourth Five	6,2	360	65
Fifth Five	3,9	579	52,9
Sixth Five	1,3	447	83,6

Source: Kuznets (1960).

I test this relation on my sample for the period 1970-2006 and find that the relation is strong and significant. I also test the relation between financial openness (approximated by inflows and outflows of FDI and FDI stocks) and country size during the same period but only find weak and non significant correlation (Figure 5). This could mean that financial integration has been much stronger than trade integration during the period, so that the difference between large and small countries in terms of financial openness has tended to decline.

One way to evaluate the hypothesis that small countries also develop “functional openness” is to test the relation between country size and corporate taxation that has been the subject of an intense tax competition for the last two decades. Here, the relation is strong and significant, confirming that small countries use their economic policies to attract more capital in a context of economic integration, the case of Ireland being emblematic of that strategy (Figure 5).

Figure 5. Country size, structural and functional openness.



Source: UNCTAD and OECD.

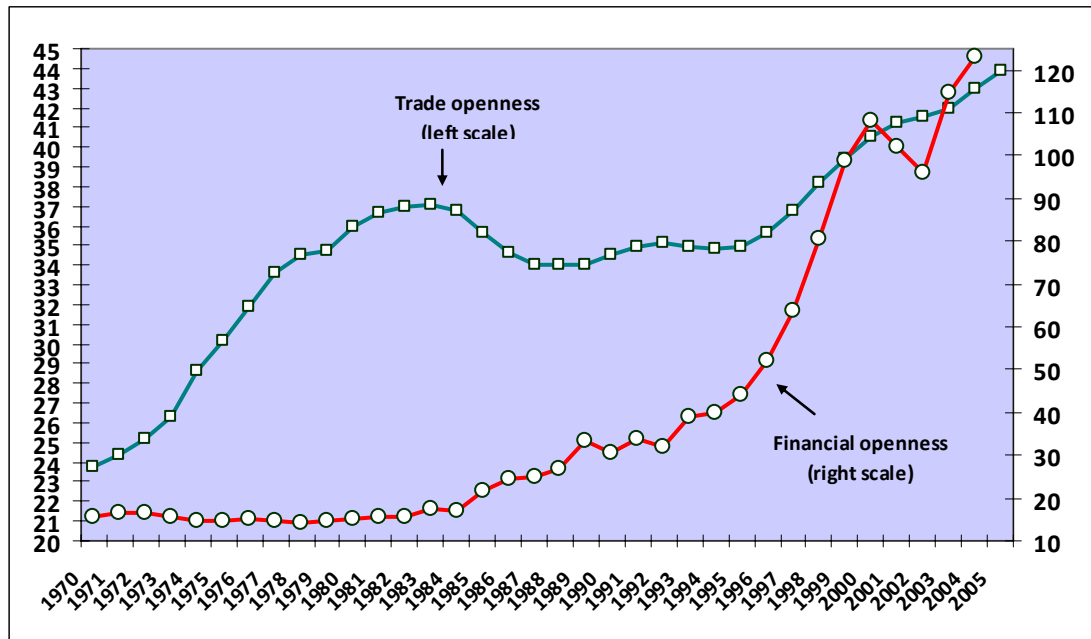
Some recent theoretical and empirical works confirm that small states do perform well, and sometimes better than large ones thanks to their openness and the expansion of globalization in the last three decades.

Actually, the 1960 volume considered how small countries could compensate the “penalties of smallness” through trade openness and even contemplated the possibility of a “free trade world”. The massive trade liberalization that marked the second half of the 20<sup>th</sup> century made that perspective a reality. According to the WTO, tariffs fell dramatically and trade increased by a factor 22 from 1950 to 2000. For European countries, the Common market was completed as soon as 1968 while the Single market accelerated trade even more from the mid 1980’s (of the 21 countries in the sample, 12 belong to the EU<sup>8</sup>). Figure 6 gives the measure of how much trade and financial openness have increased since 1970, with the latter’s pace exceeding the former’s by a factor approximately equal to three.

<sup>8</sup> The last part of the last section of the paper is devoted to the question of country size in the European integration context.



Figure 6. Trade and financial openness for industrial countries, in % of GDP, 1970-2005.



Source: IMF.

Note: trade openness is measured as the sum of exports and imports in percent of GDP (five-year moving average) and financial openness is measured as the sum of the stocks of external assets and liabilities of foreign direct investment and portfolio investment in percent of GDP.

In this vein, Alesina, Spolaore & Wacziarg (2004) want to show that when economic openness is developed enough, it can do more than just compensate for a large domestic market. They consider a sample of 113 countries from 1960 to 2000 and calculate correlations between growth rate of real GDP, trade openness and size (measured by population and GDP size). Their results, partly reproduced in Table 4, can be interpreted as showing that openness and country size are substitutes for prosperity, but also that the correlation between size and growth falls with the level of openness.

Table 4. Openness and country size as substitute for growth.

	Country size and growth for open countries	Country size and growth for closed countries	Openness and growth for small countries	Openness and growth for large countries
Correlation	0.11	0.43	0.51	0.10

Source: Alesina, Spolaore & Wacziarg (2004), Table 3.

The authors' results lead to think that in a globalized world, small countries will have an advantage over large countries. The relationship between country size and market size thus depends on the trade regime. In an economically integrated world, the market size of a given country is larger than its political size: Alesina and Spolaore (2003), echoing Robinson (1960), remark that "if the political borders did not limit economic transactions, the size of a country would be independent of its economic success. In reality, however, political borders do interfere with economic transactions, so the economic benefits of size depend on the openness of a country."

The intuition expressed in the 1960 volume that the large countries' advantage of economies of scale could be balanced in a liberalized world by a greater access to international markets for small countries has thus been verified. But, contrary to Alesina, Spolaore & Wacziarg (2004) and Alesina and Spolaore (2003), I don't find any significant economic or development performance difference between large and small countries, and so I now turn to the large country growth strategy to better explain this result.

### Large countries: endogenous "domestic" growth

The growth strategy of large countries fits the model of endogenous growth well. As noted by Kremer (1993), "models of endogenous technological change, such as Aghion and Howitt [1992] and Grossman and Helpman [1991] typically imply that high population spurs technological change". Indeed, if the share of resources devoted to research is held constant, "an increase in population leads to an increase in technological change" if one assumes that, like Romer [1990], "the cost of inventing a new technology is independent of the number of people who use it". Jones (1999) confirms this analysis by examining different types of endogenous growth models and concluding that: "the size of the economy affects either the long-run growth rate or the long-run level of per capita income".

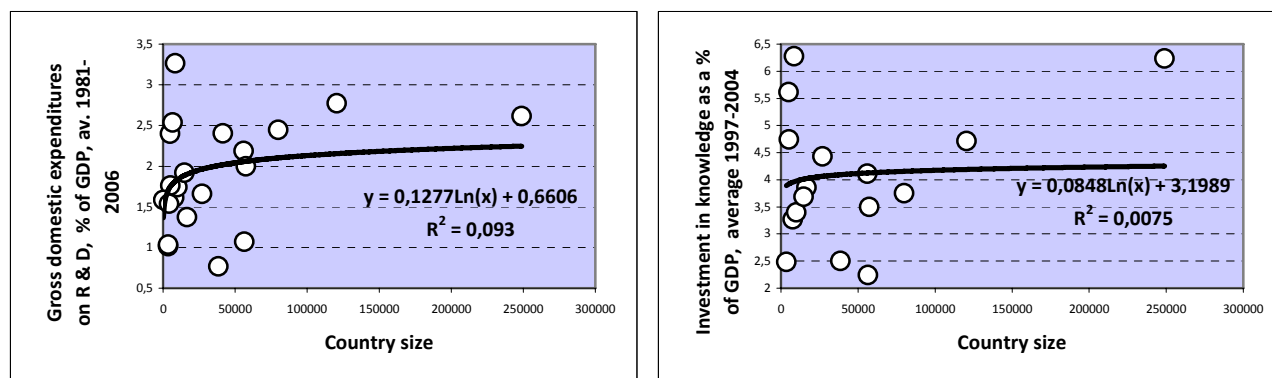
As noted earlier, I have not found any empirical relation between country size and per capita level and real GDP growth rate. But I don't find either any advantage for small countries in terms of economic or development performance over a period in which they have been substantially more open than large ones to expanding global markets. This should imply that large countries have found a way to compensate their handicap in globalization by taking advantage of their large size to grow. Actually, I find a non significant positive relation between country size and R & D spending (Figure 7). Yet, while other innovation indicators such as attainment in tertiary education and investment of knowledge also exhibit positive correlations to country size, they appear contingent on the US position. This could hint at a complexity of the relation between country size and innovation, large countries taking advantage of their size to develop innovation but small countries showing better ability to implement structural changes in their economy<sup>10</sup> (cf. infra). Other factors should thus be mobilized to account for large countries economic and development performance, such as the active use of macroeconomic policies (next section).

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<sup>9</sup> This point is also made by Kuznets (1960 b).

<sup>10</sup> On this point, Read (2002) argues somewhat counter-intuitively that: "The insights of endogenous growth theory suggest that small states are well-placed to enjoy relatively high rates of growth, in spite of their economic sub-optimality, because of their high degree of openness to trade and propensity for human capital formation."

Figure 7. Country size, R & D and investment in knowledge.



Source: OECD.

Note: data for Investment in knowledge only available for 16 countries. Investment in knowledge is defined by the OECD as the sum of expenditures in research and development (R&D), on total higher education (public and private) and on software.

In sum, the equivalence in small and large countries performance we have found may be explained by two different efficient growth strategies. It is remarkable that the intuition of those different growth strategies was clearly present in the 1960 volume while the determinant factor in each strategy, i.e. the expansion of globalization and endogenous growth theory, were not in existence at that time.

### *Size of government and stabilization policies*

A further policy question we have to ask ourselves regards the issue of the size of government and the use of stabilization policies, two distinct if close matters.

Let's first consider the "hypothesis of compensation", put forward by Cameron (1978) and Rorik (1998). Cameron (1978) argues that small countries have bigger public economies (measured "as the total of all revenues obtained by all levels of government in a nation"). His dataset, which includes the United States, Canada, Britain, Ireland, Australia, Japan, the Federal Republic of Germany, France, Italy, Spain, the Netherlands, Austria, Belgium, Switzerland, Sweden, Norway, Denmark, and Finland is very close to the one used in this paper. Cameron agrees with Lindbeck (1975)<sup>11</sup> who argues "that governments can dampen the effects of the open economy on production, employment, and consumption by increasing the scope of the public economy". He concludes from his empirical investigation that "apparently, governments in nations with open economies have sought to counter the effects of external dependence by expanding their control over the domestic economy"

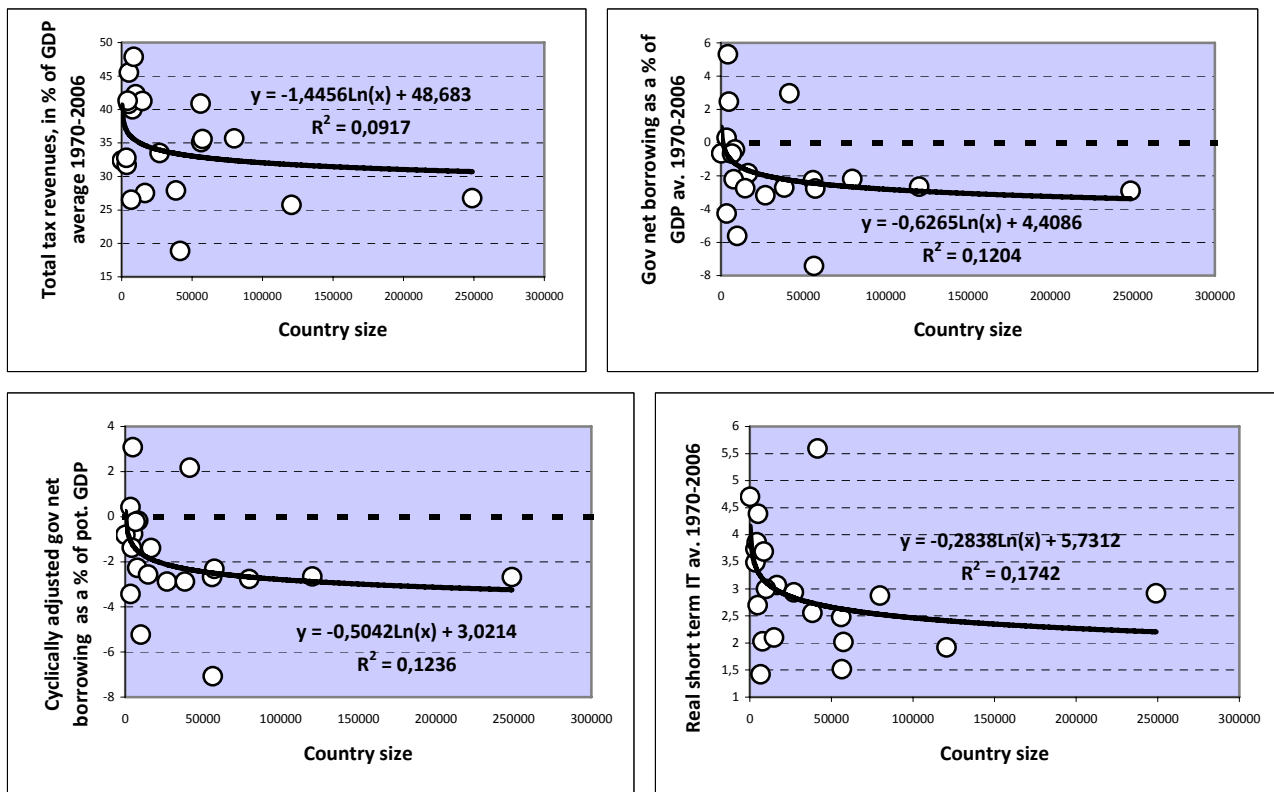
<sup>11</sup> Lindbeck, Assar (1975). "Business Cycles, Politics and International Economic Dependence." Skandinaviska Enskildens Bank Quarterly Review 2:53 -68 quoted by Cameron (1978).

Rodrik (1998) also finds “a positive and robust partial correlation between openness, as measured by the share of trade in GDP, and the scope of government, as measured by the share of government expenditure in GDP”. His explanation is that “societies seem to demand (and receive) an expanded government role as the price for accepting larger doses of external risk. In other words, government spending appears to provide social insurance in economies subject to external shocks.”

This theory does not yield clear cut results on the OECD sample considered in this paper: when total tax revenues are averaged between 1970 and 2006, a weak negative and non significant relation between country size and the size of government appears. (Figure 8).

The second issue regards the use of stabilization policies (fiscal and monetary). The use of those instruments should be much more active in large countries since their effective growth relies on the dynamism of their domestic market. On the contrary, for a small open economy, traditional macroeconomic policy of the Keynesian kind will usually be of little efficiency, whereas all policies that improve the competitiveness of the national economy by lowering production costs of firms located in the domestic economy are relatively more powerful. Here, our empirical investigation yields a new and interesting result: there is a strong and significant negative relation between country size and real interest rate. While the relation between country size and public deficit is also strong, it is not significant (Figure 8).

Figure 8. Country size, size of government and stabilization policies.



Source: OECD.

## *Sustainable development and adaptation to structural change*

The final issue to look at in terms of growth strategy regards structural adaptation. According to Kuznets, since they are more open and more vulnerable to external shocks, small countries should be forced to adapt to changing economic context more quickly, and will, better than large ones, be able to implement structural changes in their economies. In the current economic context, this argument means that small countries are more than large ones able to invest in sustainable development, but also the knowledge economy, this latter point appearing contradictory to our previous finding of a positive relation between country size and R & D investment.

Let's first test the relation between country size and sustainable development. We can try to approximate the structural change towards sustainable development by the contribution of renewables to energy supply. A strong and significant relation appears between smallness and investment in renewable energy (Figure 9).

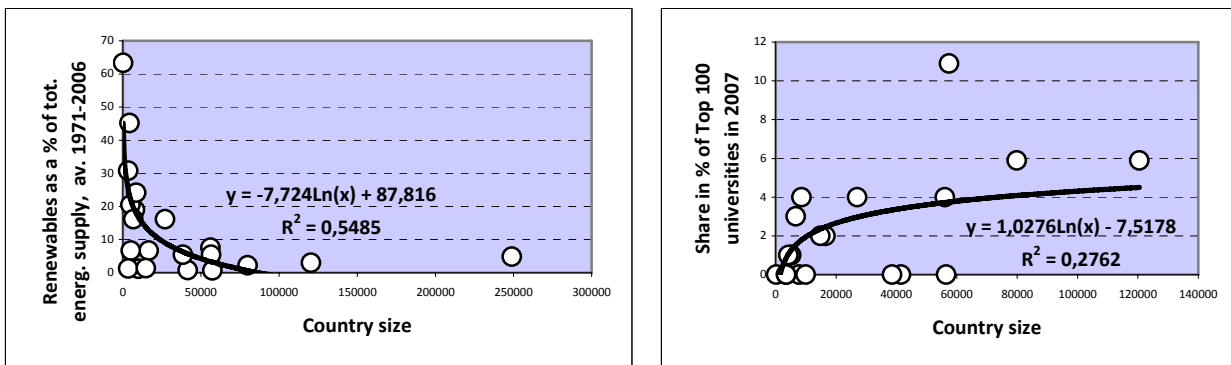
As just noted, there can be a contradiction between the idea expressed earlier that large countries have a comparative advantage in developing innovation and the Kuznets' idea according to which small countries are more suited than large ones to implement structural change. It is well known for instance that Nordic countries and "Asian tigers" perform very well in terms of investment in knowledge.

The Shanghai ranking of world universities shows that, when the US is taken out of the regression, country size influences positively the share of universities in the top 100 for a given country, but the correlation is far from being perfect. A number of small countries thus display similar and often better performance than large ones (Figure 9, the same is true for scientific articles per million).

It may be then that both large and small countries each have a comparative advantage with regards to knowledge economy and structural change in general: large countries have bigger markets which favor the creation of new technologies; but small countries have better social structures and institutions to implement change, even if it did not originate from their market.

The issue of knowledge economy shows that growth strategy is only one side of the story of economic consequences of country size. The other is governance strategy, to which I now turn.

Figure 9. Country size and structural change.



Source: OECD and Institute of Higher Education, Shanghai Jiao Tong University.

Note: the US are taken out of the Shanghai ranking correlation.

## Economic consequences of the size of nations: governance strategy

### *Country size and democracies*

The political economy of country size, i.e. conceptual and empirical thinking about the relation between nations' size and their governance, is much older than the economics of country size. Like virtually all of Western political philosophy, it can be traced back to Aristotle and Plato. Yet, the specificity of the issue of the size of the political community is that it was a central concern to the theorists of representative government in the 17<sup>th</sup> and 18<sup>th</sup> century.

Jean-Pierre Vernant in *Les Origines de la pensée grecque* (1962) describes the small and exclusive Greek polis as a circle formed by a limited number of participants sharing two essential rights: « isonomia » (equality of rights) and « isègoria » (equality of speech). It was assumed by Aristotle that enlarging the circle would lower the quality of democratic participation or even bring about tyranny as a necessary evil required to maintain order once the size of the political community had become too large.

The 17<sup>th</sup> and 18<sup>th</sup> century marked a shift from direct democracy to representative government in the increasingly large nations of Europe and in America, giving new importance to the relation between size and governance. At least two arguments were opposed. Tocqueville (1835) expressed a “nostalgia of the Greeks” but opted for realism: “If all nations were small and none were large, humanity would surely be freer and happier. But one cannot prevent the existence of great nations.” (*Democracy in America*, Volume I, Chapter VIII). Madison on the contrary argued against the small size because of the political destructive power it gives factions (*The Federalist Papers* n°10, 1787) and Hamilton added convincing considerations about the numerous economic advantages of the large size (*The Federalist Papers* n°11, 12, 13, 1787).

Both Tocqueville and Madison concluded that the federal system is precisely the optimal compromise between the advantages and drawbacks of the large size, as it combines the strengths of direct democracy and representative government. Tocqueville noted that: “The federal system was created with the intention of combining the different advantages which result from the magnitude and the littleness of nations” (Chapter VIII, Volume I, *Democracy in America*). Madison had already agreed: “The federal Constitution forms a happy combination in this respect; the great and aggregate interests being referred to the national, the local and particular to the State legislatures” (n°10, 1787).

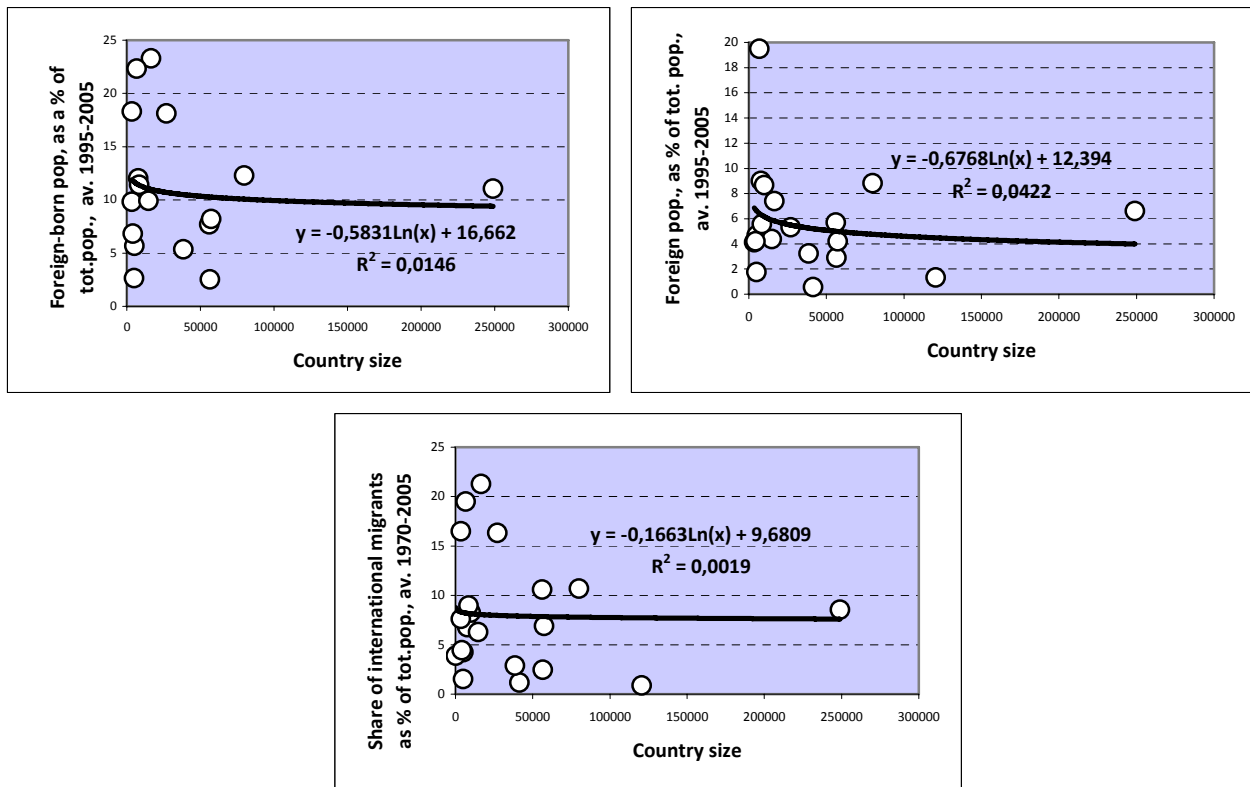
Dahl and Tufte (1973) have tried to apply this trade-off reasoning to all nations, large and small, and find that the costs of participation (that increase with size) have to be balanced with the costs of dissent, that decrease with size: “no single type or size of unit is optimal for achieving the twin goals of citizen effectiveness and system capacity”. Another version of this trade-off, as well as the crucial discussion about the nature of decision-making rules designed to respect the necessity of collective action and the integrity of individual preferences, can be found in Buchanan & Tullock (1962). Alesina and Spolaore (2003) also contrast the “benefits of scale” and “the cost of heterogeneity”.

What emerges from this brief chronology of the political economy of size is a balanced view of the benefits and costs of country size. Consequently, Kuznets' argument that small nations should be better governed because they are more homogenous and cohesive is far from obvious from a theoretical standpoint. Large nations have many good reasons to be as well governed as small ones, even if the ties between their citizens are by definition more loose. I start by examining empirically the validity of Kuznets' first argumentative step: small nations are more homogenous than large ones.

*Diversity and fragmentation*

According to Kuznets, smaller countries should have more homogenous population. I use three different definitions of diversity to test this relation. The first two are the share of foreign born population and foreign population in total population. Since I don't find any correlation between country size and those two variables, I use a third measure of diversity: international migrants as a percentage of the total population. When I use 1970-2005 average, I don't find any correlation between country size and this measure of ethnic diversity (Figure 10). A close look at the detailed figures between 1970 and 2005 for each country in the sample confirm that many small nations have dramatically increased their openness to immigration over the period (as much, for example, as 13 percentage points for Austria, 10 points for Ireland or 8 points for the Netherlands). In other words, the openness hypothesis of small nations made by Kuznets with regard to trade increasingly applies in the current globalization to immigration, and that alters in turn the other hypothesis he made with regards to homogeneity.

Figure 10. Country size and ethnic diversity.

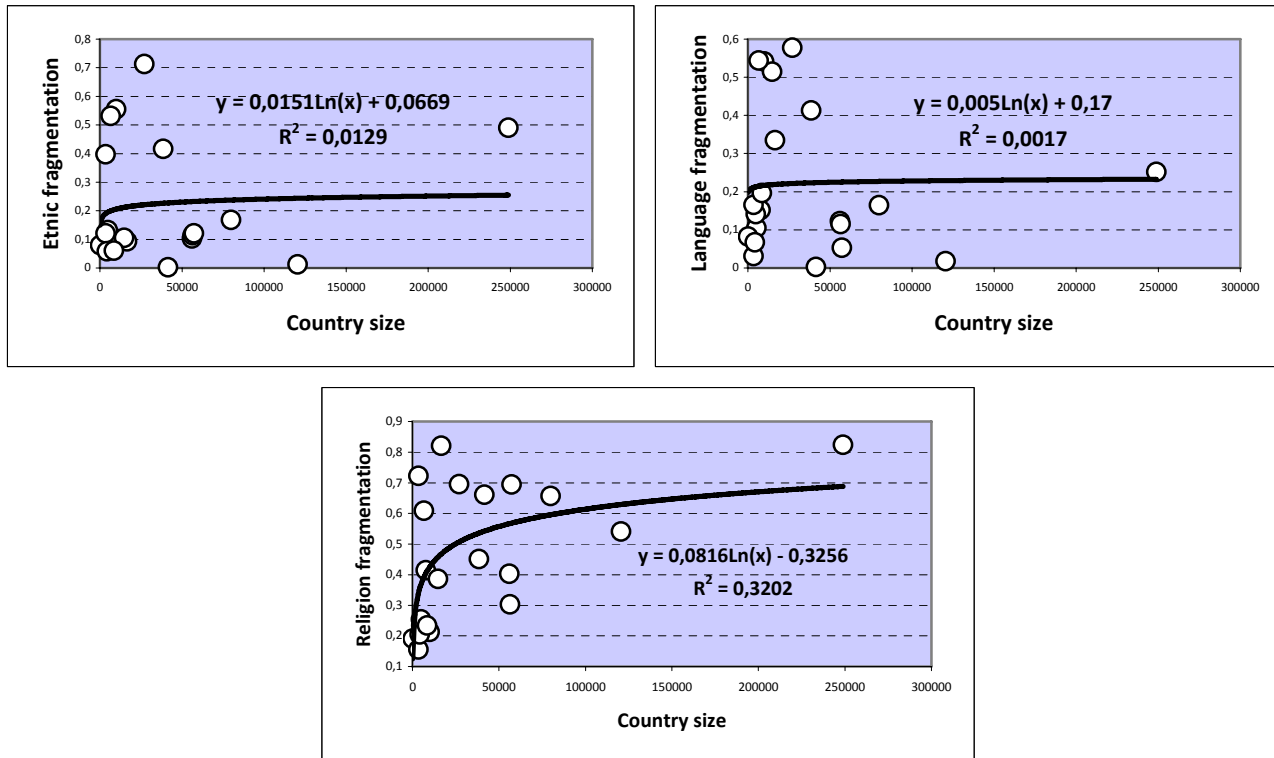


Source: United Nations and OECD.

Note: Foreign and foreign born population data available only for 19 countries (Korea and Iceland excepted).

If one turns to fragmentation (or fractionalization) measures, one has not more success, except for one homogeneity dimension that seems clearly correlated to smaller size: religion (Figure 11). While ethnic and linguistic diversity do not increase with size, religion clearly does, possibly suggesting an integration role through religion of foreign populations in small countries. Yet, overall, Kuznets' hypothesis is not confirmed: whatever difference I will be able to find in terms of governance strategy between large countries and small nations, it can not be related to the diversity of origins of country's residents.

Figure 11. Country size and fragmentation.



Source: OECD and Alberto Alesina, Arnaud Devleeschauwer, William Easterly, Sergio Kurlat and Romain Wacziarg, "Fractionalization", *Journal of Economic Growth*, vol. 8, no. 2, June 2003, pp. 155-194.

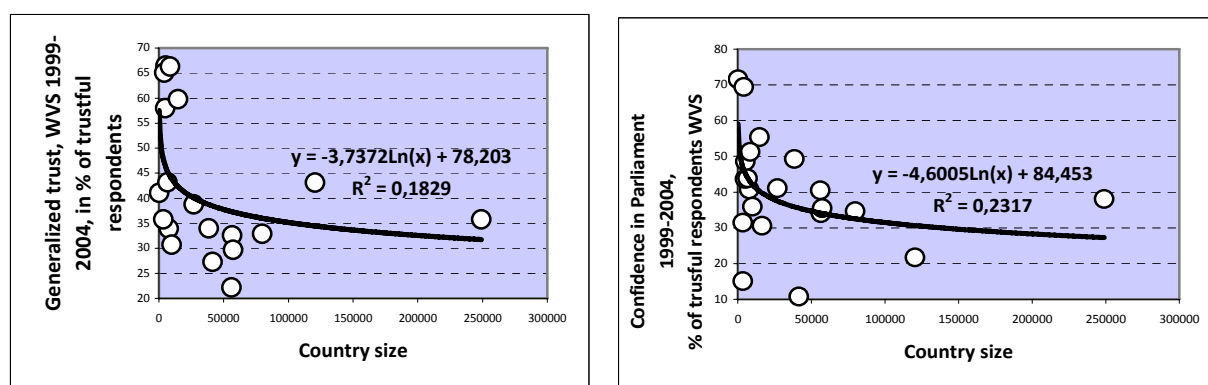
### *Trust and confidence*

Is generalized trust and confidence in institutions higher in small countries than in large ones? When using the latest available wave of the World Values Survey, a negative significant relation between country size and generalized trust appears, and an even stronger correlation between confidence in Parliament and country size emerges (Figure 12).

A closer examination of the data shows that trust and confidence are indeed much higher in some small countries (mostly the Nordic countries) but that both measures hold well in some large countries (like the US and Canada): there seems to be different form of high trust regimes, but trust and confidence is higher on average in small countries. But this can not be attributed to greater homogeneity other than religious.



Figure 12. Country size, generalized trust and confidence in Parliament.



Source: OECD and World Values Survey.

Note: Generalized trust data available only for 19 countries (New Zealand and Iceland excepted).

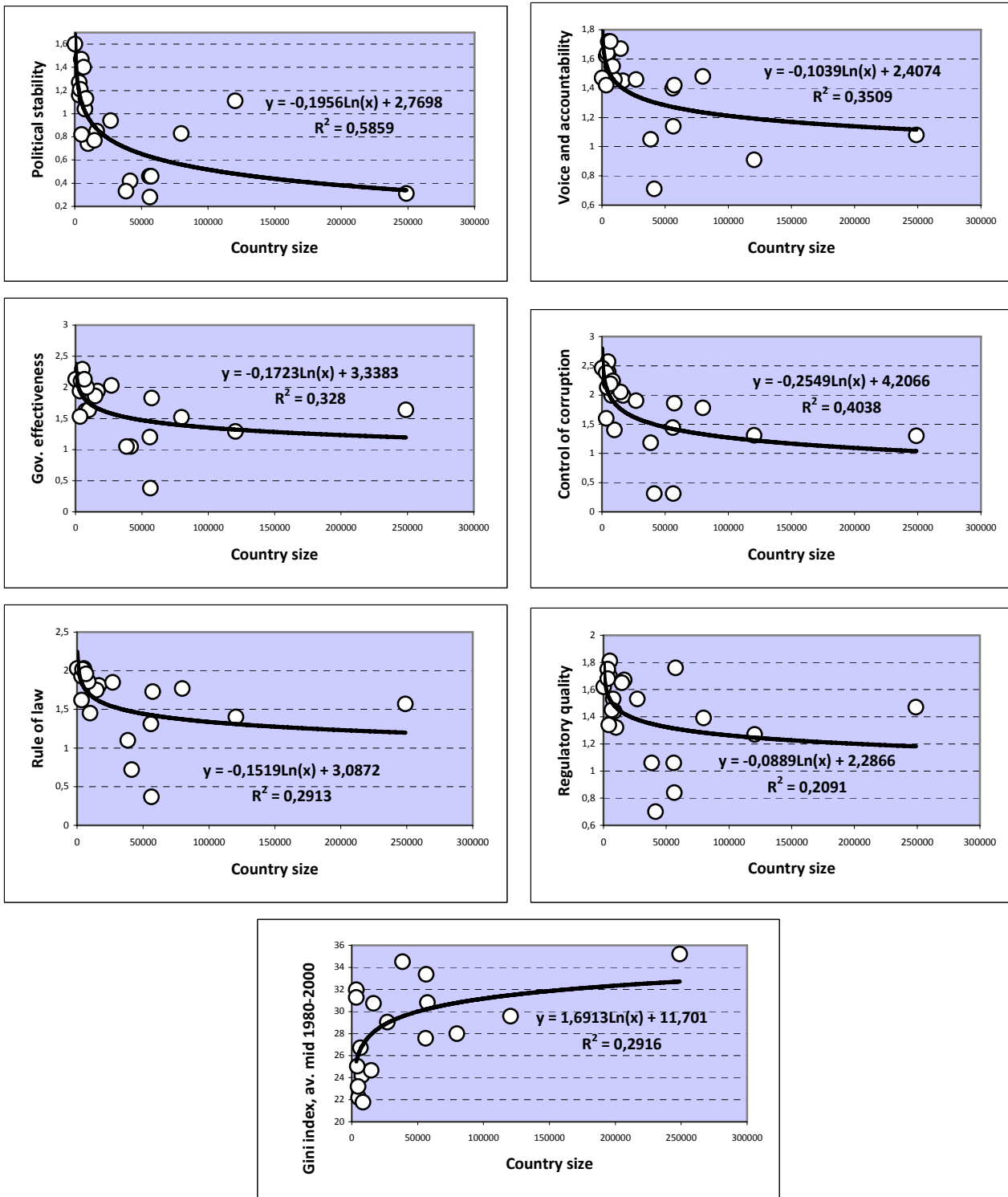
### *Governance quality*

Finally, can one find some significant relations between country size and governance quality? To answer, I use the World Bank Governance Indicators dataset updated by Kaufmann, Kraay, and Mastruzzi for 2006. Country size appears negatively related to all six indicators of governance quality, with “Voice and accountability”, “Political stability”, “Control of corruption” and “Government effectiveness” displaying the most significant relations (Figure 13).

Small countries in our sample thus display a substantially better governance performance than large ones, which calls for several observations given Kuznets’ hypotheses. First, the idea that small nations have better institutions than large ones, which should allow them to implement more efficiently social adjustments, is confirmed. The resulting trust and confidence in those institutions is thus logic. But the underlying cause of this better democratic functioning is far from being straightforward, and, as noted earlier, can not be related to either diversity or fragmentation (with the exception of religion). It may be that small nations might find it imperative to sustain a high governance quality given the fact that they can not count on economies of scale to provide efficiently public goods to their constituency.

Furthermore, while the difference between small and large countries in terms of governance performance is large, the difference between them in terms of generalized trust and confidence in Parliament is less so, suggesting that citizens of large countries find other reasons than governance efficiency to trust each other and have confidence in parliamentary democracy. One such reason for confidence might precisely be, following the Tocqueville and Madison arguments stated above, the existence of a federal or even merely decentralized system that guarantees a level of closeness between government and citizens even if a country is large. This is confirmed by the fact that for the sample I consider, the correlation between country size and confidence in civil services (some of which are offered at the local level) is almost equal to zero, while the correlation between confidence in Parliament and confidence in civil services is also close to zero.

Figure 13. Country size, governance and inequalities.



Source: OECD and Kaufmann D., A. Kraay, and M. Mastruzzi 2007: Governance Matters VI: Governance Indicators for 1996-2006.

Note: income inequalities data available only for 18 countries.

## *Income inequalities*

In any case, the idea formulated by Kuznets that small nations may display lower level of income inequalities is confirmed by the data, as I find a significant negative relation between Gini index and country size (Figure 13). This has to be related to the higher level of redistribution achieved in small countries. As noted by Kaergard (2006): “it is typical that solidarity and interpersonal redistribution of income is easier in small and homogeneous groups than in big groups...it is easier to establish internal solidarity and an equal income distribution in smaller countries than in bigger countries”. The resulting positive effect of lower inequalities on generalized trust and confidence in institutions has been highlighted by Rothstein and Uslaner (2005).

Table 5 summarizes the empirical findings and Table 6 and 7 test the most important correlations against other potential determinants with success. Many of the hypotheses made in the 1960 volume and neatly captured by Kuznets are vindicated while others have to be reformulated: small developed open countries appear to have been able to overcome the “penalties of smallness” thanks to globalization, while large countries have relied on economies of scale to develop an endogenous domestic growth, both strategies having been successful enough that large and small countries can not be distinguished in terms of performance. Still, their preferred economic policies differ, as their seeming ability to implement structural change.

On the governance side, small nations’ homogeneity has been blurred by migration flows and the only fragmentation difference remaining between large and small nations is that of religion. So it is not diversity that accounts for substantially lower governance performance and higher income inequalities in large countries and the resulting lower confidence and trust among citizens.

I finally turn to some new country size related puzzles, unheard of in 1960, that have emerged since and, in some cases, taken centre stage in our globalization.

Table 5. Summary of findings.

	GROWTH AND DEVELOPMENT PERFORMANCE	GROWTH STRATEGY	DIVERSITY AND FRAGMENTATION	GOVERNANCE STRATEGY
Significant correlations (size negative factor)	—	Trade openness***, Share of renewable energy***, Real short term interest rate**, HDI education index*.		Voice and accountability***, Political stability***, Control of Corruption***, Government effectiveness***, Regulatory quality**, Rule of Law**, Income inequalities <sup>12**</sup> , Confidence in Parliament**, Generalized trust <sup>13*</sup> .
Significant correlations (size positive factor)		Corporate taxation***.	Religious fragmentation***.	
Non significant correlations (size negative factor)	—	Total tax revenues.	—	
Non significant correlations (size positive factor)	—	Public deficit, R & D spending, Investment in knowledge.	—	—
Non significant weak correlations (size negative factor)	—	Financial openness.	—	
No correlation	Real GDP growth, GDP per capita level, GNI per capital level, labour productivity growth, HDI index <sup>14</sup> , HDI GDP index, HDI life expectancy index <sup>15</sup> .	—	Foreign born population, foreign population, international migrants share in population, ethnic fragmentation, language fragmentation.	—

<sup>12</sup> Data available for 18 countries only.

<sup>13</sup> Data available for 19 countries only.

<sup>14</sup> Without the US.

<sup>15</sup> Without the US and Japan.

\*\*\* Coefficient significant at 1%, \*\* coefficient significant at 5%, \* coefficient significant at 10%.

Table 6. Growth strategy

Dependent variable: openness rate, avg. 1970-2006, in %.

	(1)	(2)	(3)	(4)
	Log size	GDP per capita	EU membership	All
Log size	-4,98*** (1,76)			-4.67** (1,67)
GDP per capita		0,00 (0,00)		0,00 (0,00)
EU membership			10,5 (5,69)	11,03** (5,09)
Constant	79,8*** (17,1)		26,3 (4,32)	58,70** (24,78)
Observations	21	21	21	21
Adjusted R-squared	0,29	0,03	0,14	0,35

Dependent variable: corporate taxation rate in 2007, in %.

	(1)	(2)	(3)	(4)
	Log size	Tax revenues	EU membership	All
Log size	3,38*** (0,66)			3,86*** (0,67)
Tax revenues		-0,09 (0,21)		0,34* (0,17)
EU membership			-1,65 (3,10)	-4,59* (2,47)
Constant	-3,2 (6,45)	32,66*** (7,55)	30,27*** (2,24)	-17,35* (9,92)
Observations	21	21	21	21
Adjusted R-squared	0,57	0,01	0,01	0,6

Dependent variable: share of renewables in energy, av. 1971-2006, in %.

	(1)	(2)	(3)	(4)
	Log size	Tax revenues	GDP per capita	All
Log size	-7,72*** (1,60)			-7,59*** (1,72)
Tax revenues		0,39 (0,49)		-0,18 (0,36)
GDP per capita			0,00 (0,00)	0,00 (0,00)
Constant	87,81*** (15,67)	-0,41 (17,50)	-15,54 (20,37)	75,56** (27,82)
Observations	21	21	21	21
Adjusted R-squared	0,54	0,03	0,09	0,51

Dependent variable: real short term interest rate, avg. 1970-2006, in %.

	(1)	(2)	(3)	(4)
	Log size	Tax revenues	EU membership	All
Log size	-0,28** (0,14)			-0,30* (0,15)
Tax revenues		-0,00 (0,03)		-0,01 (0,04)
EU membership			-0,41 (0,46)	-0,27 (0,57)
Constant	5,73 (1,38)	3,31 (1,15)	3,21*** (0,33)	6,72*** (2,31)
Observations	21	21	21	21
Adjusted R-squared	0,17	0,00	0,03	0,08

Standard errors in brackets. Coefficients \* significant at 10%, \*\*significant at 5%; \*\*\* significant at 1%.

Table 7. Governance strategy.

**Dependent variable: political stability.**

	(1)	(2)	(3)	(4)	(5)
	Log size	Nordic	Religion frag.	GDP per capita	All
Log size	-0,19*** (0,03)				-0,2*** (0,05)
Nordic		0,47** (0,18)			0,13 (0,19)
Relig. frag.			-0,56 (0,38)		0,44 (0,35)
GDP per capita				0,00 (0,00)	0,00 (0,00)
Constant	2,76*** (0,36)	0,77*** (0,08)	1,14*** (0,19)	0,25 (0,5)	2,3*** (0,6)
Observations	21	21	21	21	21
Adj. R-squared	0,58	0,26	0,1	0,07	0,54

**Dependent variable: voice and accountability.**

	(1)	(2)	(3)	(4)	(5)
	Log size	Nordic	Religion frag.	GDP per capita	All
Log size	-0,10*** (0,03)				-0,1** (0,04)
Nordic		0,25* (0,13)	-0,36 (0,26)		0,01 (0,16)
Relig. frag.					0,13 (0,3)
GDP per capita				0,00* (0,00)	0,00 (0,00)
Constant	2,4*** (0,31)	1,34*** (0,06)	1,57 (0,13)***	0,78** (0,33)	1,85** (0,51)
Observations	21	21	21	21	21
Adj. R-squared	0,35	0,16	0,09	0,16	0,3

**Dependent variable: government effectiveness.**

	(1)	(2)	(3)	(4)	(5)
	Log size	Nordic	Religion frag.	GDP per capita	All
Log size	-0,17*** (0,05)				-0,18*** (0,05)
Nordic		0,57** (0,2)	-0,09 (0,47)		0,48** (0,19)
Relig. frag.				0,00** (0,00)	1,34*** (0,36)
GDP per capita				0,00** (0,00)	0,00** (0,00)
Constant	3,33*** (0,55)	1,54*** (0,1)	1,72 (0,24)	0,4 (0,54)	1,73** (0,61)
Observations	21	21	21	21	21
Adj. R-squared	0,32	0,28	0,00	0,22	0,65

**Dependent variable: control of corruption.**

	(1)	(2)	(3)	(4)	(5)
	Log size	Nordic	Religion frag.	GDP per capita	All
Log size	-0,25*** (0,07)				-0,25*** (0,08)
Nordic		0,79*** (0,27)	-0,45 (0,62)		0,55* (0,31)
Relig. frag.					1,32** (0,56)
GDP per capita				0,00* (0,00)	0,00 (0,00)
Constant	4,2*** (0,69)	1,56*** (0,13)	1,96*** (0,32)	0,42 (0,76)	2,62** (0,96)
Observations	21	21	21	21	21
Adj. R-squared	0,4	0,3	0,02	0,14	0,52

Log(GDP) has been tried in substitution to GDP in all regressions, with little results change.  
Standard errors in brackets. Coefficients \* significant at 5%; \*\* significant at 1%.

### 3. New puzzles

#### Microstates in globalization

The *Growth Report Strategies for Sustained Growth and Inclusive Development* recently published by the Commission on Growth and Development at the World Bank devotes an entire section to the question of small states, remarking how much they have grown in number: “There are over 50 small states in the world: each has a population of less than 2 million and their combined population totals less than 20 million.” According to the Report, small states face three “distinctive disadvantages”: “the absence of scale economies both in the production of goods and the provision of public services”, many “are in regions vulnerable to hurricanes, cyclones, droughts, and volcanic eruptions” and finally the fact that “some, but not all, are geographically remote...[which] makes it harder for them to integrate with the world economy”.

But as the Report also notes, “small states do not have lower average incomes or slower growth than other countries”. I have formulated and tested some of the reasons that might explain why large and small developed states do not display any difference in terms of economic performance. Many of these reasons also apply to developing countries, like for instance the expansion of globalization. But the case of micro-states, that is states with a population of less than 1 million, was not discussed in the 1960 volume (half of the 50 current small states were created after 1970), nor is it present in the sample considered in the previous sections (except for Iceland).

The World Bank has developed in recent years a programme specifically devoted to the “45 developing countries have population of 1.5 million or less” and detailed in its 2000 Report<sup>16</sup> all the challenges stemming from small size (“Remoteness and isolation”, “Income volatility”, “Openness”, “Limited diversification”, “Susceptibility to natural disasters and environmental change”, “Access to external capital”, “Poverty”, “Limited institutional capacity”).

Easterly and Kraay (1999), looking empirically for the “alleged disadvantages of size” find to their surprise that “microstates have on average higher income and productivity levels than small states, and grow no more slowly than large states”, the only “penalty of smallness” being the relatively higher GDP growth rates volatility due to trade exposure. This finding suggests that the expansion of globalization has pushed further the economic viability of small country size, benefits from openness now counter-balancing penalties from vulnerability even for micro-states.

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<sup>16</sup> [Small States: Meeting Challenges in the Global Economy](#), Report of the Commonwealth Secretariat/World Bank Joint Task Force on Small States, April 2000.

## Giant states in globalization

China and India are as comparable as they are dissimilar: they are both giant emerging economies with mostly agrarian economies and multi-secular civilization that escaped of under-development in the 1990s to profoundly alter the global economy; yet, they are clearly opposed with regards to almost everything else, and specifically in terms of growth strategy. China favoured a strong openness to trade and capital flows while India chose to control its integration to globalization. Applying our analytical framework and as odd as it may sound, it could be said that China pursued a “small country growth strategy”, when India stayed in line with the “large country growth strategy”, relying on its relatively closed domestic market to grow. What can be said about their performance, given these diverging policies?

If we consider economic development indicators, the Chinese growth strategy seems more efficient than the Indian. According to IMF data, the gap in GDP per capita (in PPP) was of 22\$ in favour of India at the beginning of the development period in 1991. This gap amounted to 1900\$ in favour of China in 2005. The Chinese human development performance is also better: HDI is higher in China in 2005, as the gap with India has been increasing since 1990. Both education and life expectancy index are higher in China, which suggests that the Chinese advance is not only economic. Dollar (2008)<sup>17</sup> attributes China’s success to the « change the system, open the door » (*Gai Ge Kai Feng*) strategy combining human capital quality, openness to foreign capital and a more hospitable business climate for private investment. One could also add that China better controlled its demographic growth while reducing more than India its infant mortality (Table 6).

Table 8. A tale of two giant economies.

	<b>India</b>	<b>China</b>
Population (en millions) in 2007	1131,7	1332,4
Nominal GDP (billions dollars) in 2006	1070,7	2867,6
Trade to GDP (en % du PIB) in 2006	32.5	66.0
FDI net flows (billions of current dollars) en 2005	6.6	79.1
Applied trade tariffs (all products) in 2006	19,2	9,9
Private consumption as share of GDP 2007	58,0	39,0
Current account balance (% GDP) 2003-2007	-1,3	6,46
General government bal. (% GDP) 2003-2007	-7,4	-1,4

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<sup>17</sup> David Dollar, « Lessons from China for Africa », *Policy Research Working Paper* 4531, The World Bank East Asia and Pacific Region, February 2008.



Annual growth rate of GDP per capita, average 1990-2005	4	8,7
GDP per capita (in 2000 international \$) in 2005	2126	4091
HDI in 2005	0.619	0.777
HDI Ranking (out of 177) in 2005	128th	81th
Life expectancy index in 2005	0.645	0.792
Education index in 2005	0.620	0.837
Annual growth rate of the population, 2005/2020	1,46/1,14	0,58/0,47
Infant mortality rate (per 1000) in 1970/2005	127/56	85/23

Source: World Bank, IMF and WTO.

As shown in Table 7, the corresponding picture in terms of economic inequalities is less clear. Chinese development has considerably reduced severe poverty, estimated by the World Bank at 64% in 1981, and cut down to about 10% in 2005, 500 millions people having been pulled out of poverty in a time of a generation. China has done better here as well than India, which managed to cut its poverty rate from 54% to 34% but still increase in absolute terms the number of its poor people due to its demographic growth (see Ravallion and Chen, 2007). Education inequalities are also higher in India than in China (especially when considered through the prism of gender, gender inequalities being the major handicap of India).

Yet, it is also true that income inequalities have grown in China at a very fast pace, potentially threatening political stability and economic and human development. This dynamic can be related to the “small country growth strategy” chosen by China, which has created important income disparities between provinces (that is between coastal cities and rural areas), income ranging from 1 to 10 from East to West.

Table 9. Income and education inequalities.

	<b>India</b>	<b>China</b>
Poverty human index in 2005	31.3	11.7
Illiteracy rate for adults, 15 years and older (1995-2005)	39	9,1
Youth literacy rate, 15-24 years old (1995-2005)	76,4	98,9
Gini index (2004)	36.8	46.9
Inter-quintile gap (2004)	5.6	12.2
Inter-decile gap (2004)	8.6	21.6

Source : World Bank.

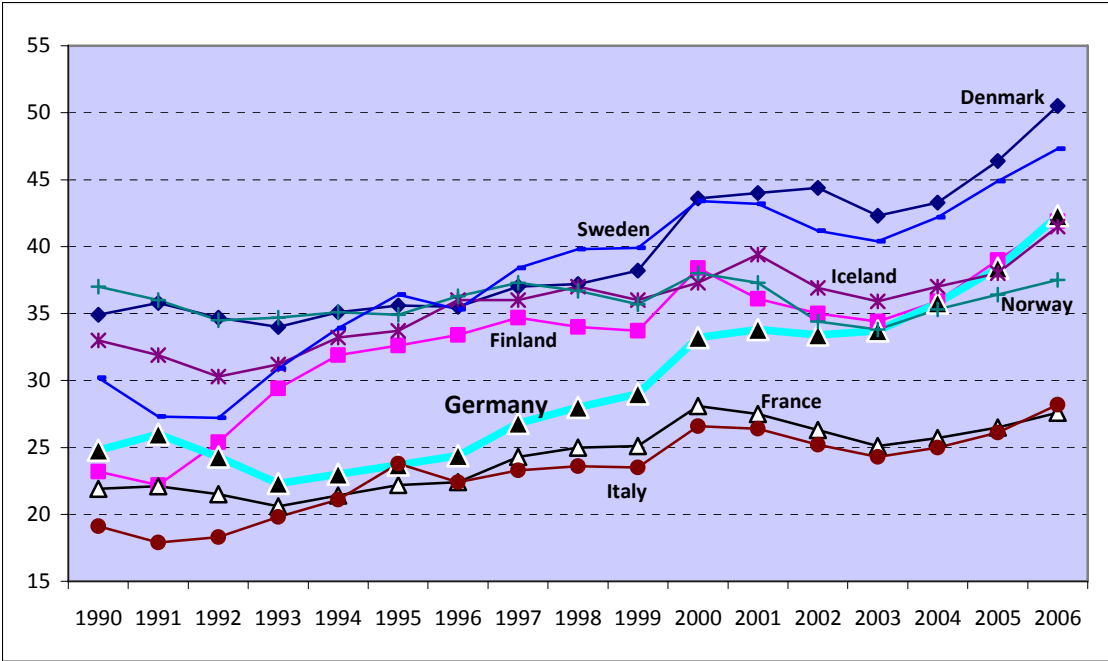
**Embedded States and regionalization**

The 1957 Conference was held on the year of the birth of the EEC (by the signing of the Treaty of Rome on March 25<sup>th</sup>) and yet Robinson (1960) foresaw some of the most pressing problems facing EU member states today: “Large size is not a panacea: the advantages linked to the size of market may be lost if a group of collaborating economies fail to co-ordinate their policies effectively, operate at less than full capacity, restrict their investment, and thus individually and collectively grow less rapidly”.

Euro area real GDP growth has indeed been lower than OECD average (and that EU members that chose to opt out from the Single currency) since the creation of the single currency in 1999. But an intriguing divergence opposes large and small countries in terms of economic performance. Yet, the first sections of this paper showed that large and small countries were comparable in terms of economic performance. That was also true for euro area member states before the creation of the single currency. But afterwards, a strong and negative correlation appears between country size and real GDP growth (see Laurent and Le Cacheux, 2007).

This suggests that the institutions that were put in place in the early 1990s and that have changed very little since then give an advantage to small countries over large ones (see Laurent and Le Cacheux, 2006). This can be understood as a validation of the argument about the need for large countries to stimulate their domestic market with reactive macroeconomic policies: if those policies are blocked by common rules, then small countries should perform better than large ones. The case of Germany is most interesting, as it has developed since the end of the 1990s a “small country growth strategy” in order to grow, but with meager results so far in terms of GDP growth<sup>18</sup> (Figure 14).

Figure 14. Trade to GDP ratio for selected EU member states, 1990-2006.



Source: OECD.

<sup>18</sup> Again, see Laurent and Le Cacheux, 2007.

## **Conclusion: economic consequences of size of nations, the next 50 years**

In our globalized world, one could have the impression that all countries have become small, so that there is no need to distinguish them anymore, and there is simply no economic consequences attached to the size of nations.

I have tried to show in this paper that such is not the case, even if the contrasting examples of China and Germany indicate that countries do not always conform to their size when it comes to growth strategy. Governance strategy is a different matter, yet one where simply equating small nations to large ones seems as unsatisfactory. Country size often appears to be a victim of an all-or-nothing approach while it is simply an important piece in a number of complex puzzles.

The relation between country size and economic policy has been an essential feature of economic theory until the end of the 1970s, before gradually giving way to a-geographic approach of macroeconomic performance of national models, often exclusively characterized by their social compact. Actually, in the light of the last two decades' literature on economic policy, it seemed as if increasingly integrated nation-states have been implementing various combinations of macroeconomic and structural policies regardless of their size. In addition to globalization, this minimization of the role played by country size in growth strategies can be related to the exclusive focus (in some academic corners) put on supply-side economics. Whatever the causes of this neglect, the issue of country size is hopefully again the object of theoretical and empirical attention, vindicating the scholars who gathered 50 years ago to better understand the issues at stake.

## Appendix: Data sources

Economic performance indicators: *OECD Factbook* 2008.

Development indicators: *Human Development Report* 2007.

Trade openness indicator: *OECD Factbook* 2008; financial openness indicators: UNCTAD *Handbook of statistics* 2008; corporate taxation: OECD Tax Database.

Trade and financial openness: *IMF World Economic Outlook* 2006.

R & D and investment in knowledge: *OECD Factbook* 2008.

Total Tax revenues, government net borrowing and cyclically adjusted government net borrowing: OECD Tax Database and *OECD Factbook* 2008; real short term interest rate: UNCTAD *Handbook of statistics* 2008.

Share of renewables in energy: *OECD Factbook* 2008

World Universities Ranking: 2008 Institute of Higher Education, Shanghai Jiao Tong University.

Foreign and foreign born population: *OECD Factbook* 2008; Share of International migrants in population: World Migrant Stock, United Nations Population Division.

Fragmentation data: Alberto Alesina, Arnaud Devleeschauwer, William Easterly, Sergio Kurlat and Romain Wacziarg, "Fractionalization", *Journal of Economic Growth*, vol. 8, no. 2, June 2003, pp. 155-194.

Generalized trust and confidence in Parliament: World Values Survey, 1999-2004.

Governance indicators: Kaufmann D., A. Kraay, and M. Mastruzzi 2007: Governance Matters VI: Governance Indicators for 1996-2006, World Bank.

Gini index: *OECD Factbook* 2008.

## References

- Alesina A. & Spolaore E., 2003, *The size of nation*, MIT press, Cambridge.
- Alesina A., Spolaore E., Wacziarg R., 2004, "Trade, growth and the size of countries" in Philippe Aghion and Steven Durlauf (eds.), *Handbook of Economic Growth*, Vol. 1, Part 2, Chapter 23, pp. 1499-1542, Amsterdam: North Holland, 2005.
- Alesina A., Spolaore E., Wacziarg R., 2000, "Economic Integration and Political Disintegration", *American Economic Review*, vol. 90, no. 5. December 2000, pp. 1276-1296.
- Buchanan, J. M. and Tullock, G. 1962. *The Calculus of Consent*. Ann Arbor: University of Michigan Press.
- Cameron, D. R., 1978, "The Expansion of the Public Economy", *American Political Science Review* 72 (1978): 1243-1261.
- Dahl, R. and Tufte E. (1973). *Size and Democracy*. Stanford: Stanford University Press.
- Demas, W.G. (1965). *The Economics of Development in Small Countries: With Special Reference to the Caribbean*, Montreal: McGill University Press.
- Dollar, D, 2008, "Lessons from China for Africa", *Policy Research Working Paper* 4531, The World Bank East Asia and Pacific Region, 2008.
- Easterly W. and Kraay A., 1999, "Small States, Small Problems?", *Policy Research Working Paper* n°2139, Development Research Group Macroeconomics and Growth June 1999, The World Bank.
- Fitoussi and Laurent (2008), "North by Northwest: What's wrong with the French model and how can the Nordic model help", paper presented at the conference "The Nordic Model: Solutions for Continental Europe's Problems?", Center for European Studies, Harvard University, May 9-10, 2008.
- Jones, C. I., "Growth: With or without Scale Effects?", *The American Economic Review*, Vol. 89, No. 2, Papers and Proceedings of the One Hundred Eleventh Annual Meeting of the American Economic Association (May, 1999), pp. 139-144.
- Kaergard, N. The Foundation for the Danish Welfare State : Ethnic, Religious and linguistic harmony, XIV International Economic History Congress, Session 22, Helsinki, 21-24 août 2006
- Kremer M., "Population Growth and Technological Change: One Million B.C. to 1990", *The Quarterly Journal of Economics*, Vol. 108, No. 3 (Aug., 1993), pp. 681-716.
- Kuznets, Simon, 1960 "Economic Growth of Small Nations" In Robinson (1960).
- Kuznets, Simon, 1960a "Population Change and Aggregate Output." In *Demographic and Economic Change in Developed Countries*. Princeton, N.J.: Princeton University Press, 1960.

Laurent, E. & Le Cacheux, J., 2006, “Integrity and Efficiency in the EU: The Case Against the European Economic Constitution”, *Center for European Studies Working Papers Series 130*, Harvard University.

[http://www.ces.fas.harvard.edu/publications/docs/abs/Laurent\\_LeCacheux\\_abst.html](http://www.ces.fas.harvard.edu/publications/docs/abs/Laurent_LeCacheux_abst.html)

Laurent, E. & Le Cacheux, J., 2007, « The Irish Tiger and the German Frog: A Tale of Size and Growth in the Euro area », *OFCE Working Paper Collection ANR n°3*, October 2007.

Parker, W. N. 1984. *Europe, America, and the Wider World*. Cambridge: Cambridge University Press.

Ravallion, M. and Chen, S., 2007. “Absolute Poverty Measures for the Developing World 1981-2004”, World Bank Policy Research Working Paper No. 4211. Washington D.C.: World Bank.

Read, R. 2002, “Growth, economic development and structural transition in small vulnerable states”, in *Globalization, Marginalization and Development*, (eds) Murshed SM, Routledge, London and New York.

Rodrik, D. 1998. “Why do more open economies have bigger governments?” *Journal of Political Economy* 106: 997-1032.

Robinson, E. A. G. (Ed.). *Economic Consequences of the Size of Nations: Proceedings of a Conference Held by the International Economic Association*. Pp. xxii, 446. New York : St. Martin's Press, 1960.

Rose, A., 2006, “Well-Being in the Small and in the Large” *IMES Discussion Paper Series 2006-E-10*, Institute for Monetary and Economic Studies, Bank of Japan.

Rothstein, B. and Uslaner, E. 2005. « All for All : Equality and Social Trust », Harvard Center for European Studies, *Working paper series*, 117.