

## **CONCLUSIONS**

When I started this project I had many questions. Now I have many questions and some answers. The questions were revolving around the idea that the different ways people interact in different parts of the world must have influenced economic transactions. Civic virtues, mutual trust, voluntary work or spontaneous cooperation might arise spontaneously but constitute a flow and stock of a sort of abstract type of capital for the whole of the society, and contribute generating added value. So there must be a way to account for these differences, and to assign a value to the difference. There must be a way to measure the importance of social capital.

Later on I learnt that there was a recently coined term, social capital, which would refer precisely to this idea and there was a prolific literature on the subject, especially in political science and sociology. The new term had also had some impact in economics, a small stream quantifying the impact of social arrangements and, above all, trust, had on the economy. But my main question was how does this old idea with new terminology relate to the way different economies had evolved over time? Is social capital related and affecting the economy the same way in the past as it does now? If so, by how much? Are we talking about the same magnitude of relevance? In order to answer this question, I had first to be able to find a way to measure or capture social capital nowadays and in the past. And, if possible, in a way that would be directly comparable for both periods.

The Adelman and Morris (1967) work was illuminating. They had created an international Social Development Index (SDI) for the 1960s that was able to encapsulate the concept of the value of good social interactions and capture it indirectly at the same time. Not only this, but the later study of Temple and Johnson (1998) demonstrated that the Adelman and Morris' Index could have predicted future economic growth for a cross-section of countries better than any other contemporary attempt.

The statistical technique used to compute the index, the Principal Components Analysis (PCA) was exceptionally appropriate for extracting hidden dimensions out of a large

amount of highly interrelated variables. This technique was out of use in mainstream Economics and unknown in Economic History, but is now being re-discovered and widely used and accepted for the creation of indices (see Kauffman from the World Bank for the aggregation of governance related variables).

Reading all the works by Adelman and Morris I found that they invested a vast amount of time (more than 20 years of research) in compiling a massive homogeneous international database for the second half of the nineteenth century and beginning of the twentieth with many variables referring to society and economics. The purpose of this database was related to development studies; they grouped all the sample in different groups of countries and found differentiated general paths of development, some countries more based on agriculture, some more on technologies, and so on. I realised that this database had many more possibilities and could, indeed, be of great use for my social development index purposes.

Then it came the painstaking work of reconstruction and updating of the database. The choice of some of the variables to be included, excluded or updated deserved some thought. It is all explained in detail in chapter 2 (database). After some time, I had a completely new database, which would be ready to use as a basis for calculation of the new social index.

I believe the new database is a contribution to Economic History by its own right. This database is now digital, updated, and readily available for further studies. Overall, it includes 73 variables referring to aspects of society, politics and economics for 23 countries, for the period 1850-1914, some of them starting as early as 1830 (all listed in chapter 2). The new database has the potential to be used as a base for international comparative studies in Economic and Social History or related disciplines. It should be readily available upon request.

The next phase of the PhD was calculation of the Social Development Index (SDI). The selection of variables was done according to statistical adequacy criteria. 18 variables were included in the index (careful explanation of the variable selection process can be found in chapter 3). The new SDI was generated for 2 years: 1870 and 1980. And this is

(imperfectly) comparable to the previously existing SDI for 1960. It is a pity that the sample of countries coinciding in both periods is small. So there is a lot more intense work to be done in that direction. However, this would take enormous amount of effort and imagination, since some of the variables cannot really be replicated again for new countries because the raw basic information is based on the unreleased reports of country experts with no detailed criteria. Of course, I do encourage going along this avenue of widening the sample but I would suggest strict selection of feasible variables for future research.

Should I recommend going in any direction at all at this respect I would suggest widening the time dimension. Recall we now have the SDI for 1870, 1890 and 1960. These are good enough to show that it is possible to add a historical dimension to social capital measurement. However, there are three ways to go: In the first place, one could widen the time horizon going backwards. This is maybe the alternative that would take the least effort and be less time consuming because the database starts in 1850 and thus most of the variables are already available for that year. SDI for 1850 was not calculated in this thesis because some of the variables required lags and would have needed the data corresponding to 1830 to be able to carry it on. Exceptionally, some variables are available for 1830 but these are the exception and constructing a SDI for 1830 would certainly prove to be an extremely difficult task due to scarcity of reliable information. Mitchell (1998) points out that historical statistics start to be generally reliable from the second half of the nineteenth century onwards.

The second alternative would be to produce a SDI for intermediate time cuts, namely 1910 or alternatively 1914, 1930 or 1940 (options to be discussed). The first intermediate time cut is feasible and almost readily available, with the exception of variables that require forward moving information, because 1914 is the final year of the original Adelman and Morris (1988) database. A SDI for some arbitrary time cut between 1930 and 1940 is more difficult to construct because of lack of data. There is no clear date to assign to this proposed time cut, but I would do not encourage the choice of 1930 as cutting year because of the highly disruptive situation of the world economy (and society) during the Great Depression; in the same way the original database does not finish in 1910 but in 1914, just before World War I. If any, I would

recommend some year that is already recognised in the literature as the end of the Great Depression or even later, but not beyond 1940. This would probably be 1939.

Finally, the third way to widen the time horizon of SDI would be to produce indices for the years after 1960 and all the way forward to present day. This implies some compilation of data, but the main advantage is that more recent times have statistics and other information based on surveys readily available and generally easily accessible. The only question here would be whether it makes sense to generate an indirect general index when we have more precise concepts like mutual trust reported in rounds of international surveys such as the World Value Surveys. It does make sense, nevertheless, to construct such an index for the sake of comparison with the already existing years.

This is all as far as the proposed chronological extensions of the SDI are concerned. Other avenues for future research involving the enlargement of the sample of countries would be more difficult to execute, because the criteria to assign a specific value to qualitative variables was done on a comparative basis with respect to other countries and the decision processes are very difficult to recreate for many of the qualitative variables.

The second obvious contribution of the thesis for economic historians is the new index. The SDI is available for two time cuts, 1870 and 1890, and for 23 countries around the world. These new ranking figures are mainly thought for international comparisons, because the index is a ranking. At this respect, we can draw parallelisms between the SDI and the Human Development Index (HDI). The HDI is an index composed of several variables covering different aspects that attempts at giving an indication of the level of human development. The HDI has been a successful index, being widely used in development studies. In the same way, the SDI is an index composed of several variables that attempts at giving an indication of the level of social development, and may be useful in a broad range of disciplines within the social sciences, ranging from political science to social anthropology, as an indicator of the quality of society or social development.

The third contribution of the thesis is the knowledge derived from the empirical tests on the relationship between social development and economic development. This relationship has been shown to exist in earlier studies, but now has been confirmed to exist in the long run as well, so it becomes a stylised fact. Moreover, the associated coefficients reveal similar magnitudes for the nineteenth and twentieth centuries (around 50 to 60 percent of a standard deviation increase in accumulated long run growth for every 1 standard deviation increase in SDI for maximum correlation periods), which points at the existence of a stable positive relationship between social development and income. More tests could be done with different benchmark years, but the results achieved up to now are robust enough to illustrate this point. Social capital and related concepts bring value to the economy.

There is one interesting finding that invites to further research, and this is the fact that the closer we move into the present the shortest is the lag with which SDI operates in the economy; it starts with 5-6 decades in the nineteenth century and seems to be decreasing over time. This finding seems to suggest that things move faster nowadays than in the past. The empirical results presented in chapter 4 go along this direction and are enough to make us think about this phenomenon, but are by no means sufficient to constitute a radical proof. Thus, it could be promising to investigate further in this direction.

Moving to the Economic Geography contributions, the fourth contribution of the thesis is the new data on access to markets, starting in 1962, including maps and graphs. The Market Access indicator was recently designed was first presented by its developers for one year only, 1994 (Redding and Venables, 2004). In this thesis I calculated Market Access series for virtually all countries in the world starting in 1962, the initial year of the bilateral trade database. This can help studying the evolution of the index from the 1960 to nowadays, and it is just the start of an ongoing research project.

The fifth and final mayor contribution of the thesis are the conclusions drawn about the adequacy of institutions in countries that are distant to the main world markets. Some countries like New Zealand are far away from the main world markets and nevertheless have been able to achieve a healthy wealth status. Others like Zimbabwe are equally far

away from the main world markets and remain poor. What is the difference between these two? Would this change should we find a way to bring them closer to markets? The exploration conducted in chapter 5 brings us to the institutions' debate. An institutional quality threshold is found, below which countries could not benefit from a favourable location. Then, the SDI helps testing the Market Access matters' hypothesis in a historical perspective. The result is that the findings about the existence of a minimum threshold of institutional quality are confirmed. The same institutional impediments that are being discussed nowadays in the institutional economics literature seem to have been present half a century ago. These findings suggest that there is a lot to be done in terms of policy recommendations to change institutions the way they are operating in some countries because this could unleash the economic potential unrealised until now.

The SDI has facilitated the test of an economic geography theory for an alternative benchmark year. But this is just an example of the many more applications the index could have. The SDI can have many more applications into economic theory and other fields of the social sciences, apart from the purely descriptive mission of providing a world ranking of countries. Hopefully, future research will profit from it.

Despite the fact that this thesis does not enter into discussing the process of creation of social capital but only into the quantification and economic implications, policy recommendations regarding social capital would go along the way of encouraging measures that promote its emergence. In other words, measures encouraging a change of attitudes towards the other citizens; for instance, promoting new horizontal and voluntary organisations that would tighten the links within a community and between different groups of people.

Is economic history and the discipline of economics in general going to change its way of thinking and proceeding after this thesis? Certainly not, but it is true that this thesis is a marginal contribution towards the quantification of social capital and related variables, and a new idea in terms of looking at the social capital issue in historical perspective within economic history. This thesis is one more of the many works suggesting that the way people interact does matter and cannot be ignored any more in quantitative studies.

## REFERENCES

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