Macro-history in Flanders. A reconstruction of the Gross Regional Product around 1560

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It is common knowledge that working with national accounts and practising macro-history is only possible for the late XIXth and XXth century. It is the only possible way to make comparative analyses. This is especially true when we deal with per capita figures. It is also advisable to make such exercises on regional rather then on national specifications as we have to resort to synthetic indicators. That is why it would be better to estimate the GRP rather then the GDP[1].

The first approaches of a national product expressed per capita have been tried out, indirectly and with incorrect material, since the late XVIIth century. The oldest and most famous examples are given by G. King and C. Davenant for England and by Vauban and De Boisguillebert for France. Even in the 18th and at the beginning of the 19th century many similar exercises were tried out in both countries[2].

The true historical interest in this kind of research goes back to the 1960s and 1970s. It was especially in France that pioneering work was done by defining the physical product[3]. This was followed by other countries, especially England[4]. A reconstruction of the physical

[1] S. Pollard, *Peaceful Conquest. The Industrialisation of Europe, 1760-1970*, (Oxford, 1981), p. 14; R. Cameron, *Histoire économique du monde*, (Paris, 1991), p. 221; P.K. O'Brien, 'Do we have a typology for the study of European industrialization in the XIXth century'. *The Journal of European Economic History*, (1986), pp. 331-332.

[2] P. Studensky, *The Income of Nations. Theory, Measurement and Analysis : Past and Present*, (New York, 1958), pp. 36-51.

[3] Cf. the publications of the I.S.E.A. and more in particular the studies of J.C. Toutain, J. Marczewski and T.J. Markovitch.

[4] P.R. O'Brien-C. Keyder, *Economic Growth in Britain and France, 1780-1914*, (London, 1978); R. Floud-D.McCloskey (eds.), *The Economic History of Britain since 1700*, (Cambridge, 1981); N.F.R. Crafts, 'Macroinventions, Economic Growth and Industrial Revolution in Britain and France', *Economic History Review*, (1995), pp. 591-598.

product was produced for Flanders in 1984[5].

Although there were exceptions, most of the reconstructions concentrate on the late XVIIIth and early XIXth century, the period in which the first statistical overviews were established and converted to macro-history. Amongst other things it brought into the open that the per capita GDP or GRP, on the eve of the Industrial Revolution, was almost the same in several countries. P. Bairoch came to the same conclusion with his reconstructions of the gross national product for the years 1750-1800[6].

The search for macro-meters concerning the ancien régime recently received some new impetus at the "Eleventh International Economic History Congress" which took place in Milan in September 1994. The Session B13, under the title "*Economic growth and structural change. Comparative approaches over the long run*" produced for several countries and areas some remarkable contributions for the middle ages and modern times. They fully meet the objectives which were set by A. Maddison and H. Van der Wee: "*quantitative (macro-history) is pushed back in time and extended in space*"[7]. In this way, very interesting reconstructions are now available for Castillia, North Italy and England.

In this article we would like to present a similar exercise for the GRP of Flanders around 1560. The result will be compared to the physical product, estimated some years ago for the end of the ancien régime. By doing so we get an overview of the economic growth in the region over a period of about 250 years.

[5] C. Vandenbroeke, 'De sociaal-economische context van de Brabantse Omwenteling in de Vlaamse regio's. Het fysisch product in Vlaanderen op het einde van de 18de-19de eeuw', in *Handelingen van het Colloquium over de Brabantse Omwenteling*, october 1983, (Brussels, 1984), pp. 31-53. See also 'The Regional Economy of Flanders and Industrial Modernization in the Eighteenth Century : A Discussion', *The Journal of European Economic History*, (1987), pp. 149-170.

[6] P. Bairoch, 'Ecarts internationaux des niveaux de vie avant la Révolution Industrielle', *Annales. Economies-Civilisations*, (1979); 'Estimation du revenu national dans les sociétés occidentales préindustrielles et au XIXe siècle, *Revue Economique*, (1977); 'Europe's Gross National Product, 1800-1975', *Journal of European Economic History*, (1976).

There are several possible ways to estimate, even approximately, the GRP or the income per capita. The first assessment starts by looking at individual corn consumption. This is a rather classical approach in historical reconstructions. As an average, a daily consumption of 1 litre of grain was quite normal for the Ancien Régime. It is generally accepted that corn took half of the food expenses while food in general was responsible for half of the total expenses. When recalculated with an average rye price of 40 stuiver per hectolitre during the years 1550-1570 we come to an average per capita income of 29-30 guilders[8].

A second approach is based on the value of manufacturing production in the Netherlands, defined by W. Brulez for the years 1560. This amounted to 48 guilders[9]. We know for a fact that this production was responsible for half of the national or regional product around the year 1800. By taking the same proportion for the XVIth century, we come to an approximate value of 32 guilders per capita[10].

When we combine several elements of both agriculture and manufacturing production a third approach is found. Assuming that the cultivation of corn covered only 85% of needs during the XVIth century we may conclude that imports of 15% were needed[11]. In addition to this we can also assume that, as for the late XVIIIth century, the value of corn cultivation was half total farm production. Supplementary to this there is the manufacturing production mentioned earlier. Conveying all this elements and

[7] *Proceedings of the Eleventh International Economic History Congress*, Milan, 1994, p. 7.

[8] For a summary of the history of prices and wages in Flanders, cf. Chr. Vandenbroeke, "Werkinstrumenten bij een historische en sociaal-economische synthese, 14de-20ste eeuw", in *Arbeid in Veelvoud. Huldeboek aangeboden aan Prof. J. Craeybeckx en Prof. E. Scholliers*, (Brussels, 1988), pp. 260-274.

[9] W. Brulez, 'De handelsbalans der Nederlanden in het midden van de 16de eeuw', *Bijdragen voor de Geschiedenis der Nederlanden*, XXI, (1966-67), p. 309.

[10] For the population figures, see P.M.M. Klep, "Population Estimates of Belgium by Province, 1375-1831", in *Historiens et Populations. Liber Amicorum E. Hélin*, Louvain-la-Neuve, 1991, pp. 485-507; J.C. Riley, 'The Dutch Economy after 1650: Decline or Growth', *The Journal of European Economic History*, (1984), p. 531.

[11] Chr. Vandenbroeke, *Agriculture et alimentation dans les Pays-Bas Autrichiens*, (Ghent-Louvain, 1975).

expressing them per capita, it makes possible to propose an average per capita income of about 28-29 guilders.

The next approach is based on monetary facts. For both the years 1460 and 1540 the total monetary stock of the Burgundian Netherlands is known[12]. In 1460, the quantity of money per capita was 4.1 to 4.8 guilders. In 1540, we reach to a result of 5.1 to 5.6 guilders per capita. The velocity of money is normally between 4 and 7 with a midpoint of 5, which is very close to the reality of the XVth-XVIth century[13]. If this supposition is correct, we can assume that the 1460 gross regional product was about 20.5-24 guilders, in 1540 this indicates an average of 26-28 guilders per capita.

The fifth and last approach uses the approximation technique which was developed by P. Bairoch[14]. The basis for this theory is the income of a lowly-qualified worker. As it had been developed for the XIXth century a multiplier of about 200 working days was used. For earlier periods, characterized by a lower degree of labour intensity of about a quarter, a multiplier of 150 to 160 was used[15]. A lot of records of the ancien régime, in which labour data were examined, confirm, even if it is hard to be precise, that pressure in the labour market during the XVth and XVIth centuries was considerably less than it was in the XVIIIth and XIXth centuries. An increase of about a quarter to a third is acceptable for the end of the ancien régime considering the fact that this was period of proto-industry and that was during this period that terms like

[12] E. Aerts, 'De economische geschiedenis van het geld tijdens het Ancien Régime. Kennismaking met een discipline', *Revue Belge de Numismatique*, (1994), pp. 43-69; idem, 'De monetaire circulatie van de Bourgondische Nederlanden in het midden van de 15de eeuw', *Album C. Wijffels*, (Brussels, 1987), pp. 1-21; H. Kellenbenz, *Precious Metals in the Age of Expansion*, (Klett-Cotta, 1981), p. 342.

[13] For the velocity of circulation in England, see N.J. Mayhew, 'Population, Money Supply and the Velocity of Circulation in England, 1300-1700', *Economic History Review*, (1995), pp. 238-257.

[14] P. Bairoch, "Wages as an Indicator of Gross National Product, in P. Scholliers (ed.), *Real Wages in 19th and 20th Century Europe. Historical and Comparative Perspectives*, (Oxford, 1989), pp. 51-60.

[15] Chr. Vandenbroeke, 'Arbeidsprestaties en seizoenschommelingen : enkele aanvullende beschouwingen', in *Getuigen in Polderklei : Huldeboek G. Dalle*, (Veurne, 1990), pp. 165-170.

productivity per worker became common knowledge[16]. The fact is that a multiplier of 200, as mentioned before, is acceptable for Flanders in the late XVIIIth century. In the middle of the XVIth century, when the linen industry of the country was only in its early stage, we stick to an average labour input of 150-160 days per year. Accepting this hypothesis the income per capita, starting from an average wage of 4 to 5 *stuiver* a day, should be about 35 *guilders*.

Although all of this is very hypothetical it is apparent that the results of every mode of analysis are very similar. These are the different results:

Modes of Analysis GRP per Capita in Flanders around 1560
Method 1 = 29-30 guilders
Method 2 = 32 guilders
Method 3 = 28-29 guilders
Method 4 = 26-28 guilders
Method 5 = 35 guilders

In other words, the extremes are between 26 *guilders* (4th method) and 35 *guilders* (5th method). It cannot be denied that these calculations all suggest an approximate GRP of 30 *guilders* per capita.

This macro-indicator can be compared with the results recently obtained for other countries and regions. There are not a lot of possibilities available for such comparisons, but it is possible for England, Northern Italy and Castile.

For this last region we have an estimation of GRP made by B. Yun for the period 1560-1580[17]. According to him GRP was about 155 reales per capita which, when converted to the prevailing exchange rates at that time, produces a result of about 40 *guilders*.

[16] P. Mendels, 'Proto-industrializaton : The First Phase of the Industrialization Process', *Journal Economic History*, (1972), p. 242.

[17] B. Yun, 'Proposals to quantify long-term performance in the kingdom of Castile, 1550-1800', in *Proceedings of the Eleventh International Economic History Congress*, op. cit., p. 105.

This was about a third higher than it was in Flanders. This is not in the least remarkable as Castile was at the time the core of economic activity. We can put it differently by saying that Flanders as a part of the empire could benefit from the economic momentum of Spain.

We have a similar calculation, if at a rather lower level for Northern Italy in the XVIth century. By that time the high rate of growth was past its peak but the regions of Lombardy and Tuscany were still booming economic areas. Taking the estimates as they were given by P. Malanima for 1560 we get a GRP of about 30-40 *guilders* per capita[18].

We get a better comparison, if only because it was a peripherical nation in the XVIth century, with England. We take the simulations of G.D. Snooks and N.J. Mayhew as a basis[19]. The figures for 1561 give us a GNP per capita of 4.5 pounds. Converted with the valid exchange rate for the XVIth century we get 27 *guilders*. As W. Brulez mentioned before, it is obvious that England at that time has not yet reached the same level of economic activity as Flanders. This becomes very clear when we look at an analysis of foreign trade. The Netherlands exported about 5.5 *guilders* per capita around 1560 and had average imports of 7 *guilders*. England, on the contrary, exported at that time 2 *guilders* and imported 1.5 *guilders* per capita[20]. When we translate this into an indicator of the openness of the economy (exports compared to GDP + imports) we get a figure of 15% for the Netherlands and 7% for England in 1560.

We can now define the economic growth which took place between the late XVIth century and the end of the ancien régime. Earlier we pointed out that the physical product per capita for the year 1800 was about 125 guilders. In order to calculate GRP we include the tertiary sector, estimated at 20% of the physical product. The result is a per capita GRP of about 150 *guilders*. When

[18] P. Malanima, *Italian economic performance : output and income, 1600-1800*, ibid. p. 61.
[19] G.D. Snooks, *The dynamics of very long-run economic change: England, 1000-2000*, *ibid.* pp. 26-29; N.J. Mayhew, *ibid.*, p. 244.
[20] W. Brulez, *op. cit.*, p. 309.

compared with the year 1560 the nominal increase is five-fold multiplied by 5.

Working with constant prices we come to completely different results. The inflation between 1560 and 1800 was about 400%[21]. In constant prices the per capita GRP in 1560 of 30 *guilders* was 37.5 *guilders* in 1800. This means an increase of 25% or an annual growth rate of about 0.1%. The same result, suggested by a type of a back-projection starting in the XIXth century, has been calculated by J. Blomme and H. Van der Wee[22].

Seeing this figure we can only conclude that, once the expansion of the XVIth century was over, there was hardly any economic growth in Flanders. This is no surprise, knowing how static the period of the ancien régime was. This was also the case when we look at the studies of Northern Italy and Castile. England was the only country where there was significant growth of about 0.3% p.a. in the XVIIth and XVIIIth century[23]. By vritue of this Britain was able to catch up with the continental economies, and then to surpass them as the first economy to industrialize.

[21] Chr. Vandenbroeke, *Werkinstrumenten*, *op.cit.*, pp. 260-274.

[22] J. Blomme-H. Van der wee, 'The Belgian economy in a long-term historical perspective : economic development in Flanders and Brabant, 1500-1812', in *Proceedings*, *op.cit.*, p. 92.

[23] G.D. Snooks, *op.cit.*, p. 27.