

**ERC Advanced Grant 2015  
Research proposal [Part B2]:**

**UNIDIV1812  
Unity in diversity?  
Convergence and divergence in income and welfare  
across Napoléon's empire (c.1810-12)**

### Introduction

The remarkable achievements of European scholars now enables us to enhance our understanding of how diverse has been the economic development of European economies from the Middle Ages to the present day (Broadberry et al., Malanima, Pfister, Prados & Alvarez-Nogal, Van Zanden)<sup>1</sup>. But the performance of these economies relative to each other is much less well understood; at what period one economy became richer than another is less clear because the GDP estimates have been anchored only on national, not international, data. This project will employ a previously scarcely used source, the statistical material assembled for a wide range of European territories for Napoleon I<sup>st</sup>, to benchmark comparative economic development on the eve of industrialisation. In addition the material will throw light on the income distribution and standards of living for the various regions of Western Europe. This material, today scattered in many different locations, was originally collected continuously by officials on the order of Napoléon's successive interior ministers. We plan to focus on the last 'wave' of statistical collection in the years 1810-13 for which it seems most abundant (with occasional reference to information collected at earlier dates).

Our ambition is to utilise this resource to build a comprehensive economic profile for the 138 departments of the Napoleonic French empire, the 24 departments of the adjacent Kingdom of Italy as well as the 7 districts of the 'Illyrian provinces' (annexed in 1809), making a total of 634 districts of similar size or *arrondissements*. Covering 2,100,000 km<sup>2</sup> (810,815 sq mi) with a *population* estimated in 1812 at 44 million, the area under investigation encompasses the later Benelux countries, the left bank of the Rhine, Hamburg, Bremen and a portion of Lower Saxony, Northern and Central Italy, Catalonia, Dalmatia, Carinthia, Carniola and part of Croatia in addition to the territory of pre- and post-revolutionary France. Not only will we construct output-based measures of regional GDP but we will have the data for income-based measures as well. The opportunity to check these against each other will be of great value for appreciating the strengths and limitations of historical national income accounting. Distributional aspects can also be taken into consideration with the available data, casting additional light on the standards of living. A comparative approach can be adopted for this window of opportunity because, during a short period, the systematic imposition of an identical administrative framework produced standardized statistical information on an unprecedented scale.

---

<sup>1</sup> Broadberry, Stephen N., et al., *British economic growth 1270-1870*, Cambridge, Cambridge University Press 2015; Pfister, Ulrich, "Economic growth in Germany, 1500-1850," Quantifying Long-Run Economic Development conference, University of Warwick in Venice, 22-24 March 2011; Prados de la Escosura, Leandro & Carlos Alvarez-Nogal, "The rise and fall of Spain (1270-1850)," *Economic History Review* vol. 66 No.1 (2013) pp. 1-37; Malanima, Paolo, "The long decline of a leading economy: GDP in central and northern Italy, 1300-1913," *European Review of Economic History* vol. 15 No. 2 (2011), pp. 169-219; Van Zanden, Jan Luiten & Baas Van Leeuwen, "Persistent but not consistent: the growth of national income in Holland 1347-1807," *Explorations in Economic History* vol. 49 No. 2 (2012), pp. 119-30.

## Section a. State-of-the-art.

## 1. A time frontier in research on living standards in the past

The turn of the 19<sup>th</sup> Century – including its first two decades – represent a frontier area in research on European living standards, income and welfare indicators (as well as other variables). The reconstruction of historical national accounts, which makes computations and comparisons of this kind possible, typically started in the following decades after 1815 once the states of Europe organized the systematic collection of socio-economic data (especially vital statistics) on a national scale. Thus, the Maddison database provides benchmark indicators of GDP per person in 1820 and 1870 for all 12 original European member-countries of the OECD – the core of the author’s original enquiry – and annual estimates for a growing sample between these two dates: 4 between 1820-9, 6 between 1830-46, 7 between 1846-9, 9 between 1850-9 and 11 after 1860. These figures have gained wide currency and are constantly amended as need for correction arises. However, while their solidity for the 20<sup>th</sup> is rarely questioned, critics suspicious of the “efforts to project 20<sup>th</sup> Century comparative estimates back to the 18<sup>th</sup>” have pointed to the limitations of their usefulness of periods farther removed from the original base year (1990); “opportunities to distort the results are endless; leverage of even a small mistake over 200 years, enormous<sup>2</sup>”.

Although they provide an order of magnitude, heuristically these estimates could appear as relatively uninformative – beyond the contention that the average inhabitant of Western Europe lived above the absolute poverty line but not very far from the living income of today’s people of Bangladesh, Cameroon or North Korea. The lack of dispersion of these indicators suggests, probably mistakenly, a convergence in living standards, which other, posterior indicators contradict (such as literacy or infant mortality – key components of the HDI). Because Maddison reconstructed national accounts in accordance to the national boundaries of the late 20<sup>th</sup> Century, his numbers cannot help us answer a number of queries about relative levels of development across regions or the rural/urban divide.

## 2. Current work on the measurement of socio-economic indicators in the past

In the past fifteen years or so, scholars have both tried to bring back GDP estimates for pre-19<sup>th</sup> Century period and to devise alternatives to money measures of well-being, investigate their course and bridge the gap in knowledge between preindustrial and industrial societies. Thus the “Global Prices and Incomes Database” initiated by Peter Lindert has assembled almost all of the extant statistical information on a variety of income, wage, price and other indicators for an impressive number of locations (time spans vary enormously)<sup>3</sup>. R.C. Allen’s has, for his part, conducted a pioneering study on European wages and prices from the late Middle Ages to the First World War which incorporates information for various cities in Western, Central and Southern Europe<sup>4</sup>. This research has been extended recently to non-European, especially Asian and African countries<sup>5</sup>. Much of the new findings elicited by the processing of these compilations have focused on the West-Asian divide in living standards, fuelling the debate on the ‘great divergence’<sup>6</sup>. Recently a volume edited by J. L. Van Zanden and others has recapped the most salient findings on the subject since 1820 and drawn perspectives for future research<sup>7</sup>. Taking a ‘global’ view, he and Jutta Bolt further outlined the prospects of bringing together dispersed sources of quantitative information, thereby consolidating the Maddison database for the 19<sup>th</sup> and 20<sup>th</sup> Centuries<sup>8</sup>.

<sup>2</sup> Landes, David, *The wealth and poverty of Nations* (New York. W.W. Norton. 1998). p. 165.

<sup>3</sup> <http://gpih.ucdavis.edu/Datafilelist.htm>

<sup>4</sup> Robert C. Allen, *Consumer price indices, nominal / real wages and welfare ratios of building craftsmen and labourers, 1260-1913*. University of Oxford, Dept. of Economics website.

<sup>5</sup> [www.iisg.nl/hpw/data.php](http://www.iisg.nl/hpw/data.php). This body of data builds on studies by the International Scientific Committee on Price History in the 1930s and 1940s.

<sup>6</sup> See for instance Allen, R.C. et al. (2011), “Wages, Prices, and Living Standards in China.”

<sup>7</sup> Van Zanden, et al., *How was life?*, esp. pp. 84, 112, 132, 211 and 267.

<sup>8</sup> Bolt, Jutta, and Jan Luiten Van Zanden, “The Maddison Project: collaborative research on historical national accounts,” *Economic History Review* vol. 67 No. 3 (2014), pp. 627-39.

Two important instruments have been retained, among others, for our present project: the computation of ‘welfare ratios’ from data on nominal wages and a standardized basket of goods and the utilization of the silver content of various currencies to compare values expressed in different standards. This comes in addition to the methodology for reconstructing historical national (regional) accounts for the “proto-statistical” era. Another avenue of enquiry consists in deriving levels of human capital from data on literacy elicited from conscription records, which have recently received prominent attention<sup>9</sup>.

The present project aims therefore to tap hitherto dispersed and hence unexploited sources and bring them together, in the belief that important lessons can still be learnt from systematic comparisons for a crucial period of European history. Now that the exploitation of printed sources has been exhausted, we must turn to hitherto underutilized manuscript sources and treat them in a systematic fashion.

### 3. Historical scholarship

So far historians have been of little help to economists to shed light on the questions of European living standards and human development in the period prior to 1820<sup>10</sup>. The bulk of the treatment of the Napoleonic Empire is still centred on considerations of personalities, power and politics. Piecemeal fragments of quantitative information are often quoted as evidence for sometimes dubious pronouncements. Typically it is the opinions contemporaries formed on the basis of the numbers available to them, which historians cling to, not what ‘independent’ information can be drawn from these. More generally, the statistical information produced during this period has somewhat thrown historians off balance; they have devoted considerable attention to the ideology behind Napoléon’s “ambitious programme... of [establishing] a rational state which would force the pace of modernising society” (Stuart Woolf) as well as to the ‘logistics’ of administrative rationalization— studied in sometimes excruciating detail. It is the perceptions (*Weltanschauung*), which has captured the attention of historians, of these “trained *bureaucrates*... convinced that their scientific methods would enable them to govern the mechanisms of society” – not so much the statistical material itself. As a result, the economic history of the First Empire as written by traditional historians remains more or less the same as it was 50 or 100 years ago: impressionistic, partial and anecdotal.

One aspect has disproportionately attracted the interest of scholars: the interruption of transatlantic trade – a prominent development of the 18<sup>th</sup> Century – and the effects of the Continental blockade – which has parallels in the 20<sup>th</sup> Century<sup>11</sup>. However important this may have been in the eye of political decision-makers, clearly influenced by a mercantilist view of trade and development or for the port cities concerned, the foreign sector still loomed relatively small in this period and – except for Holland – had very limited repercussions on the bulk of domestic economies<sup>12</sup>.

Thus, the systematic investigation of the statistical database assembled by the Imperial regime during its short-lived existence has found little favour with either historians of the economy or historically-minded economists. The latter have been deterred by the lack of comprehensive, or printed, “ready-for-use” statistical series – or their apparent frailty<sup>13</sup>; traditional historians of the economy have either tended to distrust official statistics produced by an authoritarian regime or have found little use for them except for casual reference or local studies<sup>14</sup>.

---

<sup>9</sup> Reis, “Economic Growth, Human Capital Formation and Consumption in Western Europe;” Hippe & Baten, “Regional Inequality in Human Capital Formation in Europe.”

<sup>10</sup> The West Europe Nominal GDP series of the Global Prices and Incomes Database has estimates of pre-1820 GDP for only three countries.

<sup>11</sup> The references here are too numerous to mention; see Francois Crouzet, “Wars, blockade, and economic change in Europe, 1792-1815.”

<sup>12</sup> The foreign sector is thought to have been halved in Europe (reduced by a third in Britain) as a result of the French Revolutionary and Napoleonic wars to 7% of GDP continent-wide; see O’Rourke, Prados de la Escosura, and Daudin, “Trade and Empire” in Stephen Broadberry & Kevin O’Rourke, eds., *The Cambridge Economic History of Europe*, Vol. 1: 1700-1870, (2010) pp. 96-121.

<sup>13</sup> The Economic and Social History Project of the Netherlands is an egregious counterexample of the potential of these sources. See Smits et al., *Dutch GNP* and Van Zanden, “Regionale verschillen.”

<sup>14</sup> Cf. the recurrent complaint that the series are incomplete (and therefore presumably useless).

As a result, most of the (macro) economic history of this period has been “re-nationalized”: when readily available, often in print, the available numbers have been fitted into the posterior path of French economic development (the estimation of the course of GDP making sense only within constant borders) or of specific sectors and industries<sup>15</sup>. By contrast, especially during the ‘golden age’ of ‘micro-history’, the statistical material contained in the official correspondence and annexed documents has attracted the attention of historians and has found its way in local or regional monographs. Again, they usually serve to illustrate or provide arithmetic evidence to a description rather than to form the basis of a systematic comparative examination. However, these studies often contain important lessons for the present project as they suggest ways of handling the various indicators contained in the reports compiled by Napoléon’s bureaucrats and warn about their possible pitfalls<sup>16</sup>. Usually focused on one particular department, these studies cite the collected data at a high level of disaggregation. We endeavour to repeat the operation systematically for all departments at a lower level (i.e. a *higher* level of aggregation) and hence provide, as a first step, the necessary comparative perspective to interpret these data. In a second step, these data will be processed in order to produce the kind of indicators customary in economic development analysis.

#### 4. The ambition of our project

There is no doubt that the national income accounting approach, perhaps complemented by satellite accounts is a useful framework. That is why the principal aim of this project is to offer a benchmark comparison of Western Europeans’ standards of living on the eve of industrialization and, secondly, devise supplementary indicators to money incomes on the basis of the quantitative information produced by the officials in the later period of the Napoleonic empire. This will usher into the study of the dynamics of inequality and convergence before the industrial age. The map of Western Europe which will be drawn from these findings can then be compared with its later developments – after the onset of industrialization. Thereafter the path of development of the various political entities of Western Europe is well documented by the information contained in the Maddison database, but the starting points for various countries (let alone regions) are still open to conjectures. Our database is intended to complement with more rigorous evidence the piecemeal and anecdotal testimonies on living standards in comparative perspective during the early 19<sup>th</sup> Century. As Dr. Johnson said to his biographer: “this, Sir, is the good of counting; it brings every thing to a certainty which before floated in the mind indefinitely<sup>17</sup>”

Our enquiry will thus build both on the quantitative work currently done for various countries in Europe on incomes and welfare and on the ‘micro-history’ of previous generations which have worked with these same data for the purpose of local monographs. In a practical sense, it will lump together and generalise a type of research, which has been carried out only in a few individual cases and collect other chosen indicators which will complement the ‘raw’ data quoted in these monographs (which historians were often loath to elaborate on).

The use of the ‘benchmark-year’ approach implies that we won’t concern ourselves with questions of trends, only levels. Centred on 1812, the year of the maximum extension of the Napoleonic empire, the enquiry will retain information concerning adjacent years as relevant. In most instances these variables can be checked against (or even deducted from) earlier or later estimates (e.g. acreage under crop; occupational distribution of the labour force). Because officials were constantly pressured to provide the central authorities with socio-economic data on their jurisdiction, we have a large body of indicators collected on the basis of an identical template for a large number of territorial units over an area covering a large chunk of North Western Continental Europe and encompassing the later Benelux

---

<sup>15</sup> The first volumes of the *Statistique Générale de la France* (published in 1835 and 1837 respectively) contain material collected under Napoléon’s rule (the 1801, 1806 and 1811 population censuses for instance) but which concern only the 86 departments making up the French territory of 1835. See Chabert, *Essai sur les mouvements des revenus*; for recent industry studies using some of the statistical material see Woronoff, *L’industrie sidérurgique en France* and Chassagne, « L’enquête dite de Champagne ».

<sup>16</sup> E.g. Zangheri, *Misure della popolazione e della produzione agricola*; Darquenne, *Histoire économique du département de Jemmapes*; Dejean, « Une statistique de la Seine-Inférieure ».

<sup>17</sup> Boswell, *Life of Johnson* (London, Everyman, 1949, vol. ii p. 456).

countries, France, the left bank of the Rhine, Northern Italy, Catalonia as well as the Illyrian provinces (Istria, Dalmatia, Carinthia, Carniola and Dolenjska).

## Section b. Strategy and methodology

### 1. Description of the sources

As other recent projects have shown, there is an urgent need to renew and in some cases enlarge the statistical database for the 19<sup>th</sup> Century and especially its earlier segment. The resources contained in the printed, nation-wide collections of socio-economic statistics have now been nearly exhausted and are besides now widely available by on-line databases. These were the product of the statistical agencies set up by the central governments of advanced countries after the 1830s<sup>18</sup>. In the French case, the project of a general statistical survey had been in the making since the Revolution<sup>19</sup> and especially under the Consulate and First empire (1800-1815), the central government started to collect systematic data on a large number of socio-economic indicators to inform and dictate its policies. Apart from a handful of these, few of these data found their way into Napoleon's original grand plan of a multi-volume "general statistical abstract of the Empire." Their publication was in fact limited to a few monographs. However scattered in a variety of locations, an important statistical material on this period exists which covers the larger part of Continental North-western Europe – which the return to pre-1789 borders at the peace of Vienna rendered to some extent obsolete. Our first objective is to assemble and standardize the extant statistical information with a view to tabulate and to process it. The project will start by inspecting and retrieving the relevant material in three types of sources:

#### 1.1 Manuscript files in the Archives Nationales (Pierrefitte-sur-Seine)

Although the French government was required to restore some bundles of official documents to post-1815 successor states by the treaty of Paris<sup>20</sup>, the National archives near Paris retain an impressive collection of socio-economic data that will need to be combed as a first step. The relevant files have already been inventoried<sup>21</sup>. They concern the following series:

- F20: "Statistics": vital statistics, urban population, output, prices, conscription
- F9: "Military affairs"
- F10 and F11: "Food supply" and "Agriculture"
- F12: "Commerce and industry"

The files in question usually contain either the original reports made by the prefects (or their subordinates) in answer to questionnaires sent by the minister of the interior or the summary tables compiled from them by ministry officials.

#### 1.2 Printed sources

Statistical data are to be found in a number of contemporary (and sometimes posterior) publications based on the official reports written by the departmental prefects and their collaborators, which may have disappeared in their original manuscript form. These publications fall in two categories:

- compilations of official reports were published on the initiative of individuals (often former ministry employees who had been active in the survey operations).
- some of the prefects' reports found their way into published monographs either under governmental authority or on the initiative of the author or a publisher<sup>22</sup>. This publishing frenzy –

<sup>18</sup> The statistical office of the Board of Trade was created in 1832; the French government followed in 1836; the Belgian in 1841.

<sup>19</sup> Perrot, Jean-Claude, *L'âge d'or de la statistique régionale*. The Statistique Générale de la France was finally created in 1836.

<sup>20</sup> See for instance letter to the minister of the interior dated 20 September 1814 reproduced in the exhibition catalogue *Napoléon et l'Europe* (Paris, Somogy, 2013) p. 293.

<sup>21</sup> See <http://dormois-jp.net/unidiv1812/List%20of%20sources-general.pdf>

<sup>22</sup> One example among others: in 1824, the count Chabrol de Volvic, then retired prefect of Paris, published a Statistique of the department of Montenothe which he had administered between 1806 and 1812.

especially by private individuals – testifies to the growing interest of the reading public of the time for this type of literature. So far only a handful (13) reports in printed or manuscript form have not been located<sup>23</sup>.

### 1.3 Manuscript sources in local archives

Finally, local or regional archival deposits contain substantial documents relating to the surveys carried out in the period. They will serve to complement the reports received by the central authorities (collated in the F series of the Archives Nationales; see above). In-situ research will probably be necessary for the late acquisitions of the Empire: Tuscany, the Papal state, the Illyrian provinces (1809), the ‘Hanseatic’ departments of Northern Germany (1811) and Catalonia (1812)<sup>24</sup>. As Giuliana Biagioli noted on the case of Tuscany “the surviving documents... haven’t been analyzed in depth... especially those retained in local deposits”<sup>25</sup>. Expeditions in some of these will be necessary when the information is missing in the first categories of sources listed above. Although a systematic search in local archives cannot be programmed given the geographical extent of the territory under scrutiny, occasional consultation of the resources in some of those mentioned, is made easier by the international makeup of the research-team which includes scholars familiar with the statistical resources of the period (and of the means of checking them).

The significance of the indicators collected by the French authorities have mostly escaped later scholars because of their limited horizons. While they cannot always be taken at face value, put in perspective, they can reveal important features of the preindustrial economies of Europe at the turn of the Century. We expect they will confirm insights on the importance of food supply and human capital for later developments – as in the case of Japan where the advances made in the late Tokugawa period have proved decisive for the successful transition of the Meiji period.

## 2. Compilation of the database

The constitution of the database will proceed on two fronts. The first will work with aggregate from the already existing compilations for similar (or adjacent) years, the assumption being that the data contained in these summary surveys have been validated by the surveying authorities. For instance, the information on meat consumption recorded by department for the 1809-1813 period (A.N. F20/151) will provide a useful indicator on living standards. On a second front individual identification sheets by department will be drawn up on the basis of the quantitative information contained in printed or manuscript monographs which originated in the reports sent by the prefects to the central authorities. These sheets will be filled as much as possible on the template presented in Extra annex 1. The operation will consist in ‘combing’ the publications (and in some cases the manuscript records found in the archives) for the data listed therein.

## 3. Indicators

With a view to construct estimates of income and welfare, all the numerical information relevant for the computation of such estimates will have to be retrieved from the sources listed above.

For monetary indicators, especially in non-French departments, the silver content will serve as the standard; silver content of local currencies and exchange rates are provided regularly in the *Almanach impérial*, the vade-mecum of all public officials<sup>26</sup>.

- unit of analysis

<sup>23</sup> See [http://dormois-jp.net/unidiv1812/sources\\_department.pdf](http://dormois-jp.net/unidiv1812/sources_department.pdf)

<sup>24</sup> Preliminary soundings have been made in: Kohl, Wilhelm & Helmut Richtering (Bearb.), *Behörden der Übergangszeit 1802-1816*, Münster, Selbstverlag des Staatsarchivs, 1964 and Giuliano Catoni (a cura di), *Archivi del governo francese nel dipartimento dell’Ombone*, Roma, Ministero dell’Interno, 1971.

<sup>25</sup> Biagioli, “Analisi di alcune fonti toscane”, p. 61.

<sup>26</sup> Current exchange rates for 1811 are shown in: <http://dormois-jp.net/unidiv1812/Exchange%20rate%20of%20currencies%201811.pdf>

Although the basic administrative division was the department, most of the statistical information is collected at the level of the *arrondissement* (or ‘district’) level. Statistical information was then centralized by the prefect of the department. Each department comprised between three and six *arrondissements*. This breakdown offers a much larger sample of observations (634 in total) and hence will allow to observe much stronger correlations between different variables.

- vital statistics

Population numbers and their distribution by age and sex are fairly well-documented (and can be checked with later returns). A further step will consist in evaluating the working population on the basis of the professions recorded during the drafting operations (military service was compulsory and all eligible young men aged 18 to 20 were submitted to an inspection and had to declare their profession).

- tax data

Although the centralized records disappeared in the fire which destroyed the finance ministry archive during the Paris commune (1871), the aggregate receipts of several direct and indirect taxes can be reconstructed on the basis of available documentation. Internal trade in its manifold guises is the main object which can be approached through taxation: the *patente* business tax which was based on an estimation of turnover and the *octroi*, a sales tax paid on consumables upon entry in a town or a city. We believe we can obtain approximations of trade flows (turnover) with this instrument. Despite their primitive character, the tax instruments and the schedule used were uniformly applied throughout the Empire and produced a priori directly comparable indicators (of wealth or poverty, economic activity etc.). We are very fortunate to have secured in our team the collaboration of an expert of 19<sup>th</sup> Century taxation systems<sup>27</sup>. Our contention is that tax officials had a strong incentive to levy taxes to the utmost level of the capacities of the population under their tutelage and that this ensures comparability across very different regions.

- food production and consumption

In addition to being a major concern for the supply of the army, food production loomed very large as a sector of pre-industrial economies. It is therefore essential to arrive at objective and comparable measures of its output to gauge the level of development attained in different areas. Although officials were not always sufficiently informed of the volumes produced, it is almost always possible to reconstruct them on the basis of the principal crops, their respective acreage and the prevailing yields. Indications on the weight of the volume measures further allow the computation of presumed caloric content of these crops and hence assess the level of subsistence of the population in the area in question.

- wage ratios and price of commodities

Without any notion of price theory, imperial officials and their superiors systematically compiled all the data on wages and prices, which they could access. Their prime concern was the maintenance of peace and order and the state of public opinion and these served as indicators as to whether they could rest on their two ears...

A major innovation in the measurement of the standard of living in past times has been the computation of “welfare ratios”, a proxy for real wages calculated on the basis of the prevalent wage and a basic commodity basket in a given area and in what cases and by what margin these were above “bare-bone subsistence”. These have been calculated essentially for urban workers in selected large

---

<sup>27</sup> Spoerer, Mark, *Steuerlast, Steuerinzidenz und Steuerwettbewerb: Verteilungswirkungen der Besteuerung in Preußen und Württemberg (1815-1913)*, Munich, Akademie Verlag, 2004.

cities of Europe and Asia<sup>28</sup> but we believe these operations can be almost systematically repeated for the chief towns of all departments of our sample, and sometimes at the district level. Some of them being almost entirely rural in makeup, such calculations could provide important insights on the relative daily caloric intake of rural as well as urban populations during this period<sup>29</sup>.

#### 4. Work programme

##### Year 1. Identifying and compiling the general summary sources.

The first months of the enquiry will be devoted to the building of the database from the surveys of the F series in the Archives Nationales in Paris. The retained benchmark is for the years 1810-13 but information for other years will be collected along the way to either check on the validity of the latter or in some cases provide substitute for missing data. Our enquiry will start with the returns of the **general statistical survey of 1811**, which are found under several headings<sup>30</sup>. This one source contains as many as 100 bundles. It will be complemented by other sources such as the Coquebert de Montbret<sup>31</sup> paper collection in the Municipal library in Rouen as well the Du Villard<sup>32</sup> papers in the Bibliothèque Nationale in Paris.

Obviously a substantial effort will have to be devoted to surveying and/or scrutinizing these documents. Of particular interest in the National Archive are several bundles in the F10 (*Agriculture*), F11 (*Food provision*) and F12 series (*Commerce and industry*) starting with the detailed returns of the 1811 population census (F20/407).

##### Year 2. Complementary indicators and sources

Besides the indicators identified by their compilers as a source of socio-economic information, we intend to work with two other types of “unintentional” data: tax returns and data recorded in conscription rolls.

The introduction of the French revolutionary tax system to the annexed territories suggests that we have an identical template for the whole of the Napoleonic empire. Two types of summary tax records seem promising in this regard: the *contribution personnelle et mobilière* (in effect an income tax) and the *patente* (a business tax based on approximate turnover). The contribution presents the most promising avenue as a proxy income indicator since the need for resources impelled the authorities to impose uniform rates of taxation across the empire<sup>33</sup>. If Patrick Colquhoun could reconstruct British national income in this very period from a similar type of source, it is tempting to explore the possibility to do the same for the Continent (the experiment has been carried out for France in the following decades)<sup>34</sup>. The returns of the *patente* (a turnover tax) for their part should help estimate the size of the trade sector.

The conscription records provide two types of information, which can then be processed for our purpose. The mandatory annual registration of all 19-to-20 year-old males at the district level in view of their future enlisting into the Napoleonic army, affords the possibility of completing the database

<sup>28</sup> Allen, Robert C. et al. “Wages, prices, and living standards in China, 1738–1925: in comparison with Europe, Japan, and India,” *Economic History Review*, vol. 64, No. 1 (2011), pp. 8–38.

<sup>29</sup> In this respect, the cursory inspection of the F12/1547-55 bundle (Prix courants. Statistiques divers 1800-1819) in the Archives Nationales carries great promises.

<sup>30</sup> Especially in F12 series, the following bundles: 1621A to 1627, 1611 to 1620, and 1567 to 1610.

<sup>31</sup> Head of the statistics bureau at the ministry of the interior (1806-1811), subsequently minister of manufactures.

<sup>32</sup> Predecessor of Coquebert at the head of the statistics bureau of the Ministry of the Interior (from 1805), he is the author of the first French mortality table by age. Bibliothèque Nationale Paris n.a.f. 20.589 and 20.591.

<sup>33</sup> This was one of the main charges (‘fiscal extortion’ in the occupied territories) made by Sir Francis d’Ivernois in his pamphlets (Exposé de l’exposé de la situation de l’Empire and Napoléon administrateur et financier). An inspection of tax records in the Archivio di Siena for the department of Ombrone by the PI (May 2015) confirmed the impression of steadfastness on the part of the Imperial tax authorities (see Catoni, *Archivi*, note 24).

<sup>34</sup> Colquhoun, *A Treatise...* (1814); Morrison & Snyder, “Income Inequality”.

with data on the recorded profession of conscripts – thus providing a proxy for the male occupational distribution – as well as their measured height (either the interval distribution or the mean average). Height, as is well known, provides a key to scaling the ‘biological’ standard of living and the occupational distribution of the draftees can be extrapolated to the male population of the area. Some of the documentation has been centralized, ministry officials having been requested to produce summary tables by district for their superiors. This type of document is found either in the F9 (bundles 150-261) or the F20 series (bundles 437-8 and 439-440) of the National Archive in Paris<sup>35</sup>. In some cases, this operation has not been completed and the information was retained in local archives. Drafting operations took place at the district (“*arrondissement*”) level and the transcripts have thereafter been transferred to the departmental archives. Although the transcription of the quantitative information is straightforward and rather quick (see table 2 below), it might require extensive travelling on the part of team members (and hence an adequate budget for this purpose). But this operation can potentially yield the best approximation to the occupational distribution in preindustrial at our disposal, and several decades ahead of the first professional censuses. Table 2 presents the type of finding which can be obtained in the central government archive.

Table 2. *Transcript of the summary tables on the mean height of conscripts in three Italian departments*

(in metres)	1812	1811	1810	1809	1808	1807	1806	An XIV
<b>Apennins</b>	1.559	1.555	1.556	1.562	1.563	1.558	1.562	1.562
Chiavari	1.555	1.55	1.544	1.55	1.552	1.552	1.555	1.555
Pontremoli/Borgotaro	1.576	1.57	1.546	1.548	1.548	1.548	1.55	1.55
Sarzane	1.56	1.555	1.56	1.57	1.574	1.574	1.58	1.58
Vicariats toscans			1.576	1.58	1.563			
<b>Arno</b>	1.631	1.644	1.632					
Florence	1.642	1.643	1.63					
Arezzo	1.633	1.642	1.64					
Pistoie	1.625	1.648	1.621					
Modigliana	1.625							
<b>Doire</b>		1.5993	1.6025	1.6005	1.6063	1.6017	1.611	1.605
Ivrée		1.61	1.61	1.608	1.61	1.604	1.604	1.597
Aoste		1.578	1.596	1.569	1.583	1.56	1.58	1.596
Chivasso		1.601	1.61	1.62	1.624	1.624	1.624	1.624

source: Archives Nationales F20/437

### Year 3. Completing the catalogue and summary database

As was mentioned earlier the compilation operations will be conducted on two fronts. The quantitative information received by the central authorities (mostly in manuscript form) will be aggregated in synoptic tables by department and *arrondissements*. On a second front we’ll be compiling individual data sheets by department reproducing a standard questionnaire on the basis of the surveys and reports written by the prefects<sup>36</sup>. A number of them have appeared in print in monograph form (sometimes at a later date). An example is provided below (Table 3) to show that the information contained in the official reports to the ministry can be found in another form in departmental monograph penned by the very officials in charge of supervising the statistics collection. These will need to be combed for retrieving the quantitative data, which can substitute missing indicators in the ministerial surveys. So far only in 13 cases (including the four short-lived departments of Catalonia) out of 136 have we not been able to identify a printed source<sup>37</sup>. But we are

<sup>35</sup> Some of this material has already been tabulated.

<sup>36</sup> The model for which is the “Statistique de l’an X” (1802) designed by Lucien Bonaparte and Jean-Antoine Chaptal for the then 106 departments. See Archives Nationales F20/36. The template is found in Extra annex 1.

<sup>37</sup> The list of the still ‘missing’ departmental monographs appears at the end of the file [http://dormois-jp.net/unidiv1812/sources\\_department.pdf](http://dormois-jp.net/unidiv1812/sources_department.pdf). This includes 4 ‘French’ departments (Loiret, Pyrénées-Orientales, Saône-et-Loire and Seine-et-Marne), 3 ‘Italian’ ones (Arno, Doire, Ombrone), 2 ‘German’ ones (Hamburg and

confident that drafts or fragments of the reports can be found in local archives as has been proven for the departments of Arno (Florence) and Ombrone (Siena). Table 3 shows that often, the measurement results conducted during the drafting operations were included among the information worthy of note in the departmental monographs penned by former officials.

Table 3. *Mean height of conscripts by district, transcript from Prefect Chabrol de Volvic (in metres)*

Age:	20 to 21	19½ to 20½	19 to 20	18½ to 19½
Montenotte	1.61	1.605	1.581	1.561
Acqui	1.598	1.596	1.583	1.569
Ceva	1.611	1.598	1.568	1.547
Port-Maurice	1.626	1.627	1.589	1.588
Savone	1.605	1.601	1.586	1.542

source: Chabrol de Volvic, *Statistique des provinces...* (1824) p. 325.

#### Year 4. Constructing GDP and other welfare indicators

In order to transform the crude data retrieved from the records into meaningful socio-economic indicators, we plan to rely on the know-how accumulated by previous experiences, adapt them to the available dataset and extend them to the whole sample of departments. Most team members are already familiar with, or have been, past practitioners in the reconstruction of historical accounts. For GDP we'll rely on the method developed by Smits, Timmer and Van Zanden for their reconstruction of Dutch GDP on the basis of the departmental statistics for 1807 (pertaining to the departments of the then kingdom of Holland). For agricultural production and consumption Martine Goossens' reconstruction of the Belgian accounts on the basis of the 1812 departmental enquiry<sup>38</sup> will be most precious. For the processing of fiscal data, we intend to follow in the steps of Morrison and Snyder (2000) but will have to elaborate a method by which actual turnover (the tax base for the *patente* business tax) can be estimated from the tax schedule used by tax officials throughout the Empire. Finally, for the processing of the conscription data, we have enlisted the collaboration of L. Heyberger (already involved in our earlier Regional Inequality in France and Japan project) who is a long-time practitioner of the early 19<sup>th</sup> Century conscription records and has actually done some work on the records we plan to use<sup>39</sup>.

#### Year 5.

The final year will be devoted to the completion of the dissertations and the publication (on-line and in book form) of the database as well as of the atlas and directory. An international conference will be organised with other colleagues involved in similar projects and other experts on historical national accounts and measurement of welfare and living standards to discuss the results and conclusions of the project. We anticipate that time will have to be devoted to finalizing the publication of articles in progress and prepare a session at the XIX<sup>th</sup> World Economic History Congress planned for 2021.

### 5. Organization

Because the field of enquiry is so far-flung and the handling of historical socio-economic indicators requires scholars to be familiar with their treatment, limitations and pitfalls, such an enterprise wouldn't be possible without the collaboration of colleagues who have accepted to take up the challenge. In addition to being practitioners in the handling of historical statistics, they are also in a position to take advantage of local archival resources, which may have to be tapped in some cases

---

Bremen), the department of which Amsterdam was the prefecture (Zuyderzee) as well as the 4 Catalan departments already mentioned (Bocas del Ebro, Montserrat, Segre and Ter).

<sup>38</sup> Goossens, *The Economic Development of Belgian Agriculture*. See also Ciano, *La vita agricola e le colture* and Berengo, *L'agricoltura veneta*.

<sup>39</sup> Archives Nationales F20 437-438 and 439-440.

(Hamburg, Bremen, Catalonia, the Illyrian provinces). In addition some historian colleagues have joined our team to act as middlemen for locating and transcribing the sources we need and with which they are already acquainted. We are very grateful to Martijn van der Burg, Chiara Coletti, Drago Roksandić and Rok Stergar<sup>40</sup> to have accepted to join us.

Table 4. *Makeup of the research team and contacts at other universities/research centres*

<i>Departments located in :</i>	<i>Number</i>	<i>Collaborators :</i>	<i>Contacts:</i>
Germany, CH	9 + 2	Ulrich Pfister (Münster)	Mark Spoerer (Regensburg)
Austria	1	Christine Tropper (Klagenfurt)	
Belgium	9	Erik Buyst (Leuven)	Denis Klein (Luxembourg)
Croatia	3	Drago Roksandić (Zagreb)	
Spain	4	Daniel Tirado (Valencia)	Julio Martínez-Galarraga (Valencia)
France	89	J. P. Bassino, Igor Moullier (ENS Lyon); L. Heyberger (UTBM)	B. Blancheton, F. Laux (Bordeaux) A. Lignereux (IEP Grenoble)
Holland	8	Herman de Jong (Groningen) Martin van der Burg (Amsterdam)	Jan-Pieter Smits (CBS The Hague)
Italy	15	Chiara Coletti (Perugia)	Michelangelo Vasta (Siena)
Kingdom of Italy	24	Emanuele Felice (Barcelona)	
Slovenia	2	Rok Stergar (Ljubljana)	

Preliminary exchanges with the team members are very encouraging. The PI has known half of the team members for years (the others only for a few months) and all seem enthusiastic about this collaboration. M. Pierre Branda, a director at the Fondation Napoléon has kindly agreed to assist us in locating the sources, which could have escaped us. An inaugural general meeting planned for May 2015 in Bordeaux had to be postponed until the project gets under way. Apart from the general meetings, the PI plans to act as liaison and regularly visit the project's collaborators at their place of residence.

## 6. Outcomes

The possibilities of such a project when and if it comes to fruition are vast. The publication of the database will create the benchmark we need for assessing index based historical GDP data and their comparability across different countries and regions included in the sample; it will hopefully prompt other colleagues to extend their perspective on the 19<sup>th</sup> Century. The conscript height compilation alone should vastly extend the pool of data available to students of the 'biological standard of living' in this crucial transition, post-Malthusian period. Furthermore, the prospective data bank on GDP per capita, welfare ratios, food consumption will make possible comparisons with the handful of countries for which these indicators are already available especially the UK, the US, Sweden and Japan.

The selected indicators harvested during the collection and processing operations could find their way in synthetic tables of a statistical abstract and the identification sheets in a directory of departments – a much reduced version of the library Napoléon planned for the *statistique générale* of his empire. Finally, the maps (either general or of partial segments of the empire) which will have been drawn on the basis of the indicators computed in the course of the enquiry, can find their place in

<sup>40</sup> Prof. Stergar and Prof. Roksandić are the best experts on the 'Illyrian provinces'. See the latter's PhD thesis: *Vojna Hrvatska - La Croatie militaire. Krajiško društvo u Francuskom Carstvu (1809.-1813.)*, Zagreb, 1988.

a atlas dedicated to the display of key economic indicators for Western Europe at an unprecedented level of disaggregation.

This enquiry will afford possibilities of completing a research degree for two broad types of students, in economics and history. To students of history, the prospect of researching and assembling the elements for a monograph covering perhaps one or several departments for a period where this type of scholarship is still rare, can be appealing, all the more so that the project will provide him/her with valuable elements of comparisons (other departments, a larger framework). For instance a doctoral research on Catalonia during this period using basic economic indicators does not exist today and is an obvious candidate for such a strategy.

An economics student could be interested either in working on the manipulation of a large sample of heretofore unavailable data for the production of either standard indicators (GDP, sectoral output) or alternative measures of material well-being (welfare, consumption, human capital).

### Section c. Resources

**Justification:** Because it plans to constitute a pole of research from an international team, UNIDIV's biggest cost will be its *personnel*. Ideally we would like to offer three PhD grants (possibly four) as well as two or three research assistantships and/or postdoctoral grants (of varying duration). The PI plans to devote all or at least most of his research time to the project; as a result it would be in order that half his salary as *enseignant chercheur* be paid on the grant (this would free him of half of his teaching load). During the first phase, the "foreign correspondents" will act as free consultants. Once the tasks ahead are more specifically defined, after the first 12 months, some team members (who appear in Table 5) may want to invest more in the project and should be compensated for the work they will contribute.

With regard to prospective PhD history students, while we'll welcome any suggestion of topic, which could serve the purpose of the enquiry, we think a number of regional monographs on the basis of the documentation exposed in the source section would be welcome (Catalonia, Tuscany, the left bank of the Rhine come to mind) or a comparison between two or more departments across the whole area under investigation). Economist candidates will be able to "customize" their contribution according to their research interests (e.g. issues in historical national accounting, on the measurement of well-being (or the quality of life) in pre-industrial societies, studies of the biological standard of living, money and qualitative indicators of welfare etc.). In addition, short-term contracts may be needed for data entry or reformatting, and the mapping of the results.

Table 5. *Timeline of collaborative fieldwork*

	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>	<i>Year 4</i>	<i>Year 5</i>
Key goals:	<i>Research</i>	<i>Research,</i>	<i>Research &amp; engagement</i>	<i>Research, writing &amp; engagement</i>	<i>Writing, engagement, consolidation</i>
GDP components	PI, M, R	PI, M, D	PI, M, D	PI, M, D	M & R
Food consumption	PI, M, R	PI, D	M, D	M, D	M & R
Prices & wages	-	M, R	M, P	M, P	M & R
Taxation	-	M, D	M, D	M, D	M & R
Conscription	-	PI, P	PI, R	PI, R	M & R
Correlation and other tests, mapping	-	-	M, R	M, R	M & R

D = Doctoral student; P = Post doc; R = Research assistant; M = Members of UNIDIV

Because of the need for extensive travel for research and coordination in the framework of the project, UNIDIV's next biggest cost will be for travel and subsistence. As was hinted in the presentation of the sources, statistical returns for some departments failed to reach the central authorities or are missing from the summary tables and will have to be traced in local archives. So far we have already identified 13 of these cases. There may be more as the enquiry proceeds (depending on the data requested). As a result,

researchers will need to make short-term visits to these sites in order to extract the relevant information from their collections. This will be the case also in the Paris archive where lengthier stays will be necessary (given the mass of documents to scrutinize). This will also be the case for research in the Archivio di Stato in Milan, which has kept the records of the *Ufficio di statistica* of the Kingdom of Italy. Some ‘courtesy’ subcontracting to colleagues in situ could be also considered. In addition, we are planning one general team meeting a year – which will probably take the shape of workshops at first and symposia in the final years. Furthermore, mobility for our researchers, particularly within the compass of co-supervision, also needs to be covered. Given the interest of other research centres in our project, there may also be the possibility of setting up joint meetings, such as a summer school: the chair of economic history at Tübingen (Prof. J. Baten’s) given its strong involvement in economics and human biology is a possibility. Because UNIDIV is committed to a strategy of intellectual engagement, contributions to international conferences (the Economic History Society annual conference in the UK, the Clio and ASSA meetings in the US as well as the triennial European Historical Economics Society conference and World Economic History conference) will also figure on our agenda and hence will have to be supported at a substantial cost (65K€ over five-years). Finally UNIDIV intends to organize one or perhaps two international conferences, one of them in Bordeaux, probably in Years 3 and 5.

As regards the material operations involved in the recording of information and the compilation of the database, our budget also includes a heading for documentation and access to specialised software. Access to printed material won’t be a problem since a sizeable library has already been stored and will be made available to the interested parties as the need arises. But the reproduction of a number of manuscript documents may have to be requested from various archival deposits, which offer this kind of service to avoid an otherwise costly trip. All team members have adequate computing equipment but new entrants, such as PhD students might need such equipment. Also a mapping software licence will have to be secured so that those members in charge of the mapping can use it.

The tables below summarize the procedures followed to evaluate the cost of implementing our project over five years.

Table 6. *Yardsticks for the computation of the various items of expenditure*

Expenditure category	Basis for computation			
		<i>gross salary*</i>	<i>number</i>	<i>Time share</i>
<b>Personnel:</b>				
PI	<i>will devote all (or most) of his research time to the project</i>	90 000	1	50%
Other team members	<i>have pledged 5 to 10% of their research time (from year 2)</i>	90 000	10	5-10%
Post-docs	<i>one post-doc will be active from year 1; 2 from year 4</i>	50 000	1	100%
PhD Students	<i>PhD students will be called during Year 1 (starting in year 2); minimum 3, possibly 4.</i>	33 000	3	100%
Research assistant	<i>will be needed for coordination and managing the database</i>	36 000	1	100%
<b>Other Direct Costs:</b>				
Equipment / Sources	<i>kept at a minimum; incl. mapping software, reproduction of archival material and occasional computer for PhD students</i>			
Travel & upkeep (archival research)	<i>To be carried out by the PI, the Post-doc, the research assistant or occasionally a team member: 4-5 week missions: travel = 200€ + 6 days @ 75€ = 650€ x 5 = 4,000 + expenses 1,000 = €5 000 per year</i>			
PhD students’ mobility	<i>Same estimate as above</i>			
Participation in international conferences	<i>1 a year for all 15 team members @ ±1,000€</i>		15	
Organization of scientific events	<i>1 general meeting of research team in Year 1, 2 and 4; 2 conferences with outside participants in year 3 and 5</i>		25-30	
Publications, Documentation	<i>subsidy publishing needed for statistical abstract, directory and atlas (years 4 and 5).</i>		3	

\* per annum; including social security contributions

Table 7. Summary of expenditures by year over five years

Personnel:	Year 1	Year 2	Year 3	Year 4	Year 5
PI	45 000	45 000	45 000	45 000	45 000
Other team members	0	45 000	45 000	45 000	45 000
Post-docs	50 000	50 000	50 000	100 000	100 000
PhD Students	0	99 000	99 000	99 000	99 000
Research assistant	36 000	36 000	36 000	36 000	36 000
<b>Total Personnel:</b>	<b>131 000</b>	<b>275 000</b>	<b>275 000</b>	<b>325 000</b>	<b>325 000</b>
Other Direct Costs:					
Equipment / Sources	10 000	5 000	5 000	5 000	5 000
Travel & upkeep (archival research)	5 000	6 000	6 000	6 000	6 000
PhD students' mobility	0	18 000	18 000	18 000	9 000
Participation in international conferences	5 000	15 000	15 000	15 000	15 000
Organization of scientific events	25 000		50 000	25 000	50 000
Publications, Documentation	0	0	0	10 000	15 000
<b>Total Other Direct Costs:</b>	<b>45 000</b>	<b>44 000</b>	<b>94 000</b>	<b>79 000</b>	<b>100 000</b>
<b>Total Direct Costs:</b>	<b>176 000</b>	<b>319 000</b>	<b>369 000</b>	<b>404 000</b>	<b>425 000</b>
Indirect Costs (overheads)	31 680	57 420	68 265	72 720	76 500
Subcontracting Costs:	0	0	0	0	0
<b>Total Costs of project:</b>	<b>207 680</b>	<b>376 420</b>	<b>437 265</b>	<b>476 720</b>	<b>501 500</b>
Requested Grant:	210 000	375 000	440 000	475 000	500 000

Requested grant (total): €2 000 000.

## References

- Allen, Robert C., Timothy Bengtsson & Martin Bribe (eds.), *Living Standards in the Past*, Oxford, Oxford University Press, 2005.
- Allen, Robert C. et al., “Wages, Prices, and Living Standards in China, 1738-1925: In Comparison with Europe, Japan, and India”, *Economic History Review*, Vol. 64 (2011), pp. 8-38.
- Antoine, François, Jean-Pierre Jessenne, Hervé Leuwers & Anne Jourdan, *L'Empire napoléonien : une expérience européenne ?* Paris, Armand Colin, 2014.
- Berengo, Marino, *L'agricoltura veneta dalla caduta della Repubblica all'Unità*, Milan, Banca commerciale, 1963.
- Biagioli, Giuliana, “Analisi di alcune fonti toscane: catasti, statistiche, censimenti” in *Villes et territoire pendant la période napoléonienne (France et Italie)*, Rome, Publications de l'Ecole française, vol. 96, 1987, pp. 61-98.
- Biraben, Jean-Noël, « La statistique de la population sous le Consulat et l'Empire », *Revue d'Histoire Moderne et Contemporaine* vol. 17 n° 1 (1970), pp. 352-70.
- Bolt, Jutta, and Jan Luiten Van Zanden, “The Maddison Project: collaborative research on historical national accounts,” *Economic History Review* vol. 67 No. 3 (2014), pp. 627-39.
- Bourguet, Marie-Noëlle, *Déchiffrer la France : la statistique départementale à l'époque napoléonienne*, Paris, Ed. des Archives contemporaines, 1989.
- Chabert, Alexandre, *Essai sur les mouvements des revenus et de l'activité économique en France de 1798 à 1820*, Paris, Librairie Médecis, 1949.
- Chassagne, Serge, « L'enquête, dite de Champagny, sur la situation de l'industrie cotonnière française au début de l'Empire (1805-1806) », *Revue d'Histoire Economique et Sociale* Vol. 54 (1976), p. 336-370.
- Ciano, Cesare, *La vita agricola e le colture sotto il dipartimento del Mediterraneo (1808-1814)*, Milano, Giuffrè, 1963. (Aix)
- Coletti, Chiara, “Il Dipartimento del Trasimeno (1809-1814): amministrazione, economia, società” in: *Umbria Napoleonica: storia, arte e cultura nel dipartimento del Trasimeno*, Passignano, Aguaplano, 2012, pp. 9-55.
- Colquhoun, Patrick, *A Treatise on the wealth, power and resources of the British Empire...*, London, Joseph Mawman, 1814.
- Crouzet, François, “Wars, blockade and economic change in Europe 1792-1815,” *Journal of Economic History* vol. 24 No. 4 (1964), pp. 567-88.
- Comité des travaux historiques et scientifiques, *La statistique agricole de 1814*, Paris, F. Rieder, 1914.
- Darquenne, Roger, *Histoire économique du département de Jemmapes*, Mons, Mémoires et publications de la Société des Sciences, Arts et Lettres de Hainault, 1965.
- Dejean, Etienne, “Une statistique de la Seine-Inférieure au début du siècle dernier sous l'administration de Beugnot”, *La Révolution française*, 1906, t. I, p. 512 et t. II p. 30.
- Demarco, Domenico (a cura di), *La “statistica” del regno di Napoli nel 1811*, Roma, Accademia Nazionale dei Lincei, 4 vol. 1988.
- Dutens, J., *Essai comparatif sur la formation et la distribution du revenu en France de 1815 à 1835*, Paris, Guillaumin, 1842.
- Festy, Octave, « Les enquêtes agricoles en France de 1800 à 1815 », *Revue d'Histoire Économique et Sociale* vol. 34 (1956), pp. 43-59.
- Festy, Octave, « Les essais de statistique économique pendant le Directoire et le Consulat » *Annales Historiques de la Révolution Française* vol. XXV (1953), pp. 161-76.
- Gille, Bertrand, *Les sources statistiques de l'histoire de France*, Paris and Geneva, Droz, 1964.
- Giusti, R. “Melchiorre Gioia e l'Ufficio di statistica del regno italico” in *Studi in onore di Armando Sapori*, Milano, 1957, vol. II pp. 1377-90.
- Goossens, Martine, *The Economic Development of Belgian Agriculture: a regional perspective 1812-1846*, Leuven, Leuven University Press, 1993.
- Hippe, Ralph & Joerg Baten, “Regional Inequality in Human Capital Formation in Europe, 1790-1880,” Working Paper Association Française de Cliométrie No. 11-07 (2011)
- Kohl, Wilhelm & Helmut Riehting, *Behörden der Übergangszeit 1802-1816*, Münster, Selbstverlag des Staatsarchivs, 1964.
- Illaire, Martine, *Énergie et subsistances: enquête sur les moulins à blé, an II-1809. Inventaire des articles F20/290 à 296 et F10/226 et 310*, Paris, Centre Historique des Archives Nationales, 1998.
- Landes, David S., “Statistics as a source for the history of economic development in Western Europe : the proto-statistical era,” in Val Lorwin & Jacob Price (eds.), *The Dimensions of the Past, Materials, Problems, and Opportunities for Quantitative Work in History*, New Haven, Yale University Press, 1972, pp. 53-91.

Jenull, Johann, „Kurze Statistik des Villacher Kreises aus der französischen Handschrift seines vormaligen Intendenten Ludwig de la Moussaye übersetzt mit Anmerkungen begleitet“, *Kärnterische Zeitschrift* vol. 1, Klagenfurt, 1818, pp. 49-76.

Jouvenel, Bertrand de, *Napoléon et l'économie dirigée. Le blocus continental*, Brussels, Edition de la Toison d'or, 1942.

L'Huillier, Fernand, *Étude sur le blocus continental, la mise en vigueur des traités de Trianon et de Fontainebleau dans le grand-duché de Bade*, Paris, Presses Universitaires de France, 1951.

Lignereux, Aurélien, *L'empire des Français*, Paris, Seuil, 2008.

Maccabelli, Terenzio, “Melchiorre Gioia e la statistica del dipartimento del Mella,” Istituto per la Storia del Risorgimento Italiano, Comitato di Brescia, *Giornata di Studi per il II centenario del Regno Italico*, 2 dicembre 2005.

Mercader Riba, Juan, *La organización administrativa francesa en España*, Zaragoza, s.n., 1959.

Id., “España en el bloqueo continental”, *Estudios de Historia moderna*, vol. ii, 1952, p. 231-78.

Montalivet, Comte de, *Exposé de la situation de l'Empire présenté au Corps législatif dans sa séance du 25 février 1813*, Paris, Imprimerie Impériale, 1813.

Morrisson, Christian & Wayne Snyder, “Income inequality of France in historical perspective,” *European Review of Economic History* vol. 4 (2000), pp. 59-83.

Pagano, Emanuele, *Enti locali e Stato in Italia sotto Napoleone. Repubblica e Regno d'Italia, 1802- 1814*, Roma, Carocci, 2007.

Perrot, Jean-Claude & Stuart J. Woolf, *State and Statistics in France 1789-1815*, London, Harwood, 1984.

Petiteau, Natalie (ed.), *Voies nouvelles pour l'histoire du Premier Empire. Territoires, pouvoirs, identités*, Paris, Boutique de l'histoire, 2003.

Pivec-Stelè, Melitta, *La vie économique des provinces illyriennes 1809-1813*, and *Sources de l'histoire économique des provinces illyriennes*, Paris, Bossard, 1930.

Reinhard, Marcel, « La statistique de la population sous le Consulat et l'Empire. Le Bureau de statistique », *Population* vol. 5 n° 1 (1950), pp. 103-20.

Saint-Léger, A. de, « Les mémoires statistiques des départements pendant le Directoire, le Consulat et l'Empire », *Le Bibliographe Moderne* 19<sup>e</sup> année 1918-19, pp. 5-43.

Smits, Jan-Pieter et al., *Dutch GNP and its components 1800-1913*, Groningen Growth and Development Centre, 2001 (<http://nationalaccounts.niwi.knaw.nl/pdf/newgnp1.pdf>)

Tadin, Ornata (ed.), *Napoléon et son administration en Adriatique orientale et dans les Alpes de l'Est 1806-1814. Guide des sources (Napoleon i njegova uprava na istočnoj obali Jadrana i na području istočnih Alpa 1806-1814)*, Zagreb, Hrvatski državni arhiv, 2005.

Tarlé, Eugène, *Le blocus continental et le royaume d'Italie. La situation économique de l'Italie sous Napoléon I<sup>er</sup>*, Paris, Félix Alcan, 1928 (*La vita economica dell'Italia nell'età napoleonica*, Torino, Einaudi, 1950).

Van Zanden, Jan Luiten, “Regionale verschillen in landbouwproductiviteit en loonpeil in de Lage Landen aan het begin van de negentiende eeuw” *NEHA-Jaarboek* Vol. 57 (1994) pp. 271-86.

Van Zanden, Jan Luiten, “What happened to the standard of living before the industrial revolution? New Evidence from the Western Part of the Netherlands,” in Allen, Bengtsson & Bribe (eds.), *Living Standards in the Past*, Chapter 7.

Van Zanden, Jan Luiten, Joerg Baten, Marco Mira d'Ercole, Auke Rijpma, Conal Smith and Marcel Timmer, *How was life? Global well-being since 1820*, Paris, OECD Publishing, 2014.

Verley, Patrick, “Quelques remarques sur l'économie française,” in Natalie Petiteau (ed.), *Voies nouvelles pour l'histoire du Premier Empire*, Paris, Boutique de l'histoire, 2003.

Viennet, Odette, *Napoléon et l'industrie française : la crise de 1810-11*, Paris, Plon, 1948.

Woolf, Stuart, *Napoleon's Integration of Europe*, London, Routledge, 1991.

Woronoff, Denis, *L'industrie sidérurgique en France pendant la Révolution et l'Empire*, Paris, EHESS, 1984.

Zangheri, Renato, *Misure della popolazione e della produzione agricola nel dipartimento del Reno*, Bologna, Cooperativa tipografica Azzoguidi, 1958.

Id., *La popolazione italiana in età napoleonica. Studi sulla struttura demografica del Regno italico e dei dipartimenti italiani*, Bologna, Museo del Risorgimento, 1963.