A NEW STATISTICAL SYSTEM FOR THE EUROPEAN UNION

Andreas V Georgiou

Quality statistics are fundamental to economic policy. In the European Union a number of critical official statistics are the basis for economic surveillance of member states. These statistics are the product of a system in which Eurostat relies on the statistical offices of EU countries. This essay shows how this system is no longer adequate, argues that a more efficient, integrated approach is required, and sets out a model that would deliver the statistics the European Union needs.

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A new statistical system for the European Union

Andreas V Georgiou

Bruegel
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www.bruegel.org

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FOREWORD

Quality statistics are fundamental to economic policy. Policymakers have to rely on official statistics all the time. They have to, for example, decide on government spending based on, among many factors, an accurate picture of tax revenues. When policymakers take decisions on borrowing, they trust that the official statistics report accurately on debt and other necessary information. But it is not only policymakers who rely on official statistics. It is also citizens, financial market participants, companies and many other stakeholders who have a right to expect that statistical offices provide an accurate picture of the economic phenomena they describe.

In the European Union, economic surveillance of member states is based on a number of critical official statistics. In particular, the deficit and debt-to-GDP ratios are central to Europe's Stability and Growth Pact, the fiscal surveillance framework. The sources of these statistics are largely national statistical offices, even though the European statistical office Eurostat plays a role in validating reported statistics.

This system has shown weaknesses. It is well known that prior to the introduction of the euro, statistical tricks were used to comply with the Maastricht criteria. Research has shown that during the first years of the euro, member states' deficit numbers were modified when compliance with the Stability and Growth Pact's three percent deficit number was endangered.

But the Greek experience of 2009-10 still came as a shock and turned into a wake-up call on the shortcomings of the

European statistical system, which sadly remain substantial even after the post-2009 reforms. The size of the correction of misreported Greek deficit numbers came as a surprise to policymakers, markets and citizens. The size of the Greek fiscal problem was greater than officially reported for many years.

Clearly, the European statistical system needs to become better to avoid future surprises. The author of this essay makes a proposal on how the European statistical system could be reformed to reduce the likelihood that statistics will be misused by national governments against European interests.

I am happy that Andreas Georgiou has agreed to reflect on how Europe's statistical system could evolve. He is, of course, uniquely qualified to write about the topic. His successful International Monetary Fund career and his tenure during 2010-2015 at the helm of the Greek national statistical institute ELSTAT, provide him with unique insights into the system's problems.

This is not an essay about his time at ELSTAT, nor is it an essay about the still ongoing legal travails to which he is subjected in the context of his reporting of statistics in compliance with Eurostat rules. Instead, this essay is a facts-based empirical and theoretical exposition of the problems confronting the European statistical system. It then provides a blueprint of how it could evolve. Even those who won't agree with his vision for Europe's statistical system will concur that Europe badly needs to reflect on how to improve the quality of its official statistics. I hope this essay can make a contribution to this debate.

Guntram Wolff, Director of Bruegel

"It always seems impossible until it is done"

Nelson Mandela

Brussels, November 2018

1 INTRODUCTION

The system for the production of critical European statistics is not adequate. There have been significant crises in the European Statistical System (ESS) and there have been *ex-post* efforts to strengthen it over the past twenty years. However, these efforts have remained within the confines of the same paradigm: autonomous production of European statistics at the national level by member states under a self-regulatory approach, with some occasional external surveillance and quality assessment of member states' production of European statistics by Eurostat. Thus, while member states have moved to union mode in other areas, the ESS has remained in partnership mode, trying to produce an EU-level public good at national level. Moreover, the inherent conflict of interest in having autonomous member-state production of statistics, which are in turn used to apply EU rules to member states, can be expected to lead to recurring cases of differential application of the common statistical rules.

Despite the efforts of many official statisticians and

policymakers over decades, the current system of production of European statistics is lagging behind the needs of the times. Instead of being an enabling condition for the implementation of the current EU rules, it actually hampers the EU and creates vulnerabilities, leading to welfare losses for the EU. As well as being inherently incapable of consistently producing European statistics at the appropriate level of quality and harmonisation, it is simply a costly system – financially and in terms of burden – foregoing significant economies of scale and other possible efficiency gains. A new, integrated ESS is essential for the current level of integration of the European Union. In addition, such a system is a precondition for any further integration of the EU. The new ESS would achieve the goals of assured and harmonised quality for European statistics, as well as of minimising their cost of production and response burden to survey populations, by integrating the production and dissemination of statistics, and engaging in all investment and innovation as a single organisation. This study provides an outline of such a new ESS and also discusses various issues that would arise in the transition to the new system, including institutional and legal issues.

The EU needs reliable European statistics of assured and harmonised quality, while minimising the costs of production and the response burden for survey populations. This study shows how the experience with the performance of the current system over many years as well as theoretical analysis of the current system point to suboptimal fulfilment of these needs. In addition, there is empirical evidence of increasing legitimation challenges for European statistics. This study provides an assessment of risks and costs of the current

system of production of European statistics to economic and broader social welfare of the European Union, and discusses indications of foregone efficiency in the operation of the current system of production itself. On the basis of its analysis, the study concludes that the existing system for the production of critical European statistics is not adequate and thus there is a need for a paradigm shift – bringing about a new ESS.

It is important to state up front that our intention is not to underestimate or criticise the well-meaning efforts of many official statisticians, policymakers and legislators across the European Union – at national level and EU level – over many years to create a system of production of European statistics that is adequate for the needs of the EU. These efforts should be recognised and applauded. Our intention is to look at the path taken and to assess whether it is time for a change to best serve in a sustainable manner the current and future needs of the EU and its citizens.

As European statistics are an EU-level public good, there is an inherent problem in the capacity of a national government to meet the objective of appropriate quality statistics from an EU perspective. In terms of the cost of production of European statistics, for different countries to produce these statistics at the appropriate level of quality and harmonisation, and for the EU to appropriately monitor, coordinate and validate their production, it could take significantly more resources than are devoted to such production under the current system. An audit of the European Court of Auditors (2012) found that the European Statistics Code of Practice (the basic quality assurance guide and tool for European statistics) *"is only partly being implemented and that full implementation is remaining a challenge for all those involved*

both at the European level and within member states, as there is a lack of strong verification and enforcement tools". In addition, economies of scale are clearly foregone in the current fragmented production of European statistics. The burden on respondents (statistical units) in survey populations across the EU is also greater than it could be.

The current system, with its higher risk of non-harmonised quality European statistics, leads to lower than feasible welfare in the EU. The implementation of the current economic management rules of the EU and the single market, and thus EU economic welfare, cannot be served properly if there is uncertainty about the economic environment in the EU and its constituent parts. In addition, the fundamental EU values and principles of, *inter alia*, democracy, the rule of law, justice, fairness, solidarity and even human rights, are not effectively served by the current system of production of European statistics. This system is also inadequate because it simply does not deliver statistics that are credible and trustworthy to the majority of Europeans, as shown by the findings of European Commission surveys, which in addition show a persistent downward trend over time in terms of the trust placed by Europeans in European statistics. It is also telling that this downward trend in trust – and thus in legitimation – has continued even after clear efforts were made to strengthen the system of production of European statistics, albeit within the confines of the current paradigm.

The purpose of this study is not to catalogue, assess and report cases of significant problems in the quality of the entire gamut of European statistics anywhere in the European Union. The instances of problems presented in this paper are meant to help demonstrate the existence of fundamental

risks inherent in the European Statistical System. Moreover, the absence of a detailed discussion in this study of various European statistics beyond statistics primarily relevant for the Excessive Deficit Procedure (EDP), the Macroeconomic Imbalances Procedure (MIP) and the EU budget – government finance statistics and GDP/GNI statistics – does not mean other European statistics have experienced no problems of quality and harmonisation. We have focused on these major economic aggregates because (i) they have been very important in the governance of the European Union; (ii) by their nature as major aggregates, they provide some idea about the quality of wide swathes of other official statistics and upstream data sources; and (iii) there is significant information about them in the public domain, as these are statistics – in particular the statistics relevant for the Excessive Deficit Procedure – that have been subject to relatively more scrutiny provided for by European regulations. The fact that other statistical domains have not been subject to the relatively heavy scrutiny reserved for statistics relevant for, say, the EDP and the EU budget, has meant they have not been in the public eye. It would be a serious mistake to simply equate an absence of public discussion of problems in various areas of European statistics with a lack of problems. Such an absence of discussion is to a great extent because of the lack of explicit, thorough and publicised scrutiny of the quality of the statistics.

We urge recognition of the findings of behavioural economics and their application in assessing the current setup of the ESS, where there is autonomous production of European statistics by national administrations and these statistics are used in turn to apply the governance rules of the EU to these very same national administrations. Consistent with the find-

ings of behavioural economics research, we argue that the current setup of production of European statistics is imbued with conflicts of interest, and the corresponding behavioural consequences have damaging effects on the harmonised-to-a-high-standard quality of European statistics.

The problems of the current ESS are not the result of 'just' some aberrant entities or bad apples within it, but are the natural and expected outcomes of the fundamental modalities of operation of the ESS in combination with the roles the statistical outputs of the ESS increasingly play in the functioning of the EU. Thus, we reject the simplistic view that the problems and risks would disappear if the aberrant entities (bad apples) were removed from the ESS and that subsequent member-state self-regulation, aided by occasional quality assessments by Eurostat and by peer reviews, would result in nationally produced European statistics of optimal quality from the point of view of the EU as a whole.

We argue that a new approach – a paradigm shift – is necessary for the production of statistics for the EU. A new, integrated ESS is essential for the current level of integration of the EU. In addition, a new ESS is a precondition for any further integration of the EU. The new ESS would have as its goal that official statistics for the EU are of assured and harmonised quality, provided in a very timely and punctual manner and made available in a highly accessible, uniform and coordinated manner. The new ESS would have to ensure that European statistics are produced efficiently, minimising costs of production and the response burden on survey populations, securely exploiting confidential national microdata from all member states, and fully taking advantage of the latest technological and other innovations. Finally, the new

ESS should be a vehicle for enhanced world leadership by the EU in statistical methodology, technology and governance.

A new, integrated ESS would be capable of achieving these goals for European statistics given that these official statistics are more an EU-level public good than a national level ('local') public good. The new ESS would be able to achieve all these goals by integrating the production and dissemination of European statistics, and engaging in all investment and innovation as a single organisation. The current National Statistical Institutes (NSIs) would become the branches of a single organisation and would be transformed into European Statistical Institutes (ESIs). They would be part of a bigger whole and would operate as such. Integrating the production and dissemination of statistics and collective investment in innovation would be accompanied by the pooling and sharing of human and financial resources and of confidential microdata. The ESIs would not be part of national administrations or of European Union policy structures. Financial resources would be provided to the new ESS at EU level from the general budget of the EU and distributed from a central source to the various ESIs according to need, for carrying out the specific tasks allocated to them in the integrated system of production and dissemination of European statistics. The new ESS would allow for significant reductions in the cost of production of European statistics compared to the current system. Cost reductions would arise from exploiting significant economies of scale and other efficiency gains. Substantial reductions in the burden on respondents would also come about from the adoption of the new system.

The governance arrangements for the new integrated ESS would first and foremost be informed by statistical principles

and would be geared to ensure that the new system operates with professional independence, impartiality and objectivity, and is committed to the quality of European statistics in all its aspects. The specific governance arrangements we propose would promote efficiency in the management of the new ESS while ensuring accountability.

The new ESS would reduce the risk of non-harmonised quality European statistics leading to a significant reduction in uncertainty about the economic environment in the EU and its constituent parts. The benefits to the implementation of the current economic management rules of the EU and the single market would translate into higher economic welfare for the EU. In addition, fundamental EU values and principles would be more effectively served by the new, integrated ESS. The new ESS would promote the objectives of the Treaties and at the same time be consistent with the principle of subsidiarity. We discuss transitional arrangements towards the new, integrated ESS, which could potentially, *inter alia*, involve the gradual incorporation of member states and statistical domains/products into the new system.

It should be stressed that the discussion in this study should not be understood as claiming that some of the national statistical systems that are part of the ESS cannot be or are not some of the best in the world, and that specific statistical processes and practices that can be found in some national statistical systems within the ESS cannot be or are not models for national statistical systems around the world. Our discussion is a discussion about risks (and their mitigation) to the harmonised quality of European statistics produced autonomously by member states' national statistical systems and used for the purposes of the governance of the EU and, more generally, as an EU-level public good.

2 DEVELOPMENT OF THE EUROPEAN STATISTICAL SYSTEM TO ADDRESS THE NEEDS OF THE EU AND ADAPT TO RECURRENT PROBLEMS

2.1 Origins of the ESS and the lead up to the first crisis of European statistics

The origins of the statistical competence of the EU are found in the 1951 Treaty of Paris establishing the European Coal and Steel Community, which included references to the need for the High Authority to gather information relevant to its purposes and publish it[1] and, more generally, included

1 See for example the treaty's Article 46: *"In order to provide guidance for the action of all of the interested parties in the achievement of the purposes assigned to the Community, and to determine its own action within the framework of the present Treaty, the High Authority shall, by means of the consultations mentioned above: (1) carry on a permanent study of markets and price tendencies …"* and Article 47: *"The High Authority may gather such information as may be necessary to the accomplishment of its mission. It may have the necessary verifications carried out. The High Authority shall not divulge information which by its nature is considered a professional secret, and in particular information pertaining to the commercial relations or the breakdown of the costs of production of enterprises. With this reservation, it shall publish such data as may be useful to governments or to any other interested parties".*

references to objectives that presupposed the availability of statistics (HM Government, 2014). The statistical service came into being at the end of 1952[2]. In its presentation of the ESS, the European Commission (Eurostat) notes that *"since the early days of the Community it was realised that decisions on and planning and implementation of Community policies must be based on reliable and comparable statistics. So the European Statistical System (ESS) was built up gradually with the objective of providing comparable statistics at EU level"*[3].

Thus, the idea that the European Union needs harmonised, high quality official statistics for member states and for the Union as a whole, so that the latter can function properly, has been there from the very beginning. The history of European statistics has been a history of trying to address this fundamental issue. However, history also shows that developments in the production of European statistics have been by-and-large lagging and not fully adequate responses to the existing (and continuously mounting) needs for such statistics and after-the-fact reactions to outright crises involving these statistics. This has been the result of a reactive and gradualist approach within the confines of the same basic paradigm. In that sense the approach followed has been akin to mending and patching the same old limited garment.

This pattern of lag and shortfall in fulfilling the needs of the European Community/Union at any point in time became very clear since the 1980s and 1990s with the enhanced integration, and associated policy needs, of the EU. The state of European statistics has never really caught up with the needs of the EU.

2 See http://ec.europa.eu/eurostat/statistics-explained/index.php/Eurostat_and_the_European_Statistical_System

3 See http://ec.europa.eu/eurostat/web/european-statistical-system.

Thus, instead of European statistics being made available as a necessary and enabling condition for the functioning of the EU at whatever stage of development it happens to be, they have rather been a constraint and a liability.

In the first decades of the European Community, statistical legislation was focused on areas where there was a common European Community policy, such as in agriculture, transport and foreign trade. The heads of national statistical offices of the European Community met just once a year and operated on the basis of 'gentlemen's agreements' in order to provide statistics for European Community purposes by harmonising statistics that were already generally available for national purposes, without the benefit of European regulations for many important areas of statistics.

It should be noted that it is unclear if in the period prior to the late 1990s one can speak of a well-defined and coherent system of production of European statistics. One might better speak of attempts to align the various national systems, with efforts to increase cooperation and coordination. The often belated attempts at cooperation and coordination were not conceived or thought of as steps towards a coherent and well-defined European Statistical System. Thus, a statistical system for the European Union, even as fragmented as the European Statistical System is today, was not evident in the period up to the late 1990s. The development of what has become today's ESS was indeed very gradual and, in our view, always lagged behind the needs of the times.

In the 1980s there was a sharp increase in demand for information in the European Community, in particular following the signing of the Single European Act in February 1986, which was the first major revision of the 1957 Treaty of

Rome and had the objective of establishing a single market by 31 December 1992. There was a need for producers of European statistics to respond to the increased needs of the Community for relevant official statistics of standardised quality in various areas, such as business statistics and also increasingly in the important area of macroeconomic statistics.

In 1989, Council Decision No 89/382/EEC established the Statistical Programme Committee (SPC) to assist the Commission in the general coordination of the Multiannual Statistical Programmes, in order to ensure that the actions to be undertaken were consistent with those decided upon in the national statistical programmes[4]. The reasons are said to have been twofold: first, the discussions in annual meetings up to that point did not have any formal basis and, second, there was a need to create a structure that could meet the demands imposed by the Council Decision of 1987 on the delegation of implementing powers to the Commission (comitology).

The SPC met four times a year and represented a strengthening and a formalisation of the coordination of the national statistical offices in the European Community. The SPC's emphasis was on the statistical production programmes for the European Community – notably – on the basis of what was decided upon at national level. The harmonisation (at the appropriate level) of the quality of European statistics across member states was not mentioned in Council Decision 382[5] as an explicit goal behind the creation of the SPC. Such a goal could potentially be inferred from the function of the SPC *"to assist the Commission when defining the measures*

4 Ibid.

5 89/382/EEC, Euratom: Council Decision of 19 June 1989 establishing a Committee on the Statistical Programmes of the European Communities.

contained in an implementing act for which the Commission has been granted implementing powers in the text of a law". While defining the measures in statistical regulations to which member states' statistical producers are supposed to comply might promote a culture favouring harmonisation of the European statistics *actually* produced by member states, it would not necessarily ensure adequate harmonisation of these statistics. Another way that the Decision establishing the SPC indirectly promoted harmonisation was by providing for the SPC to be a platform whereby *"the Commission can consult the Committee on … any other question, in particular questions of methodology, arising from the establishment or implementation of the Statistical Programmes which are raised by its chairman, either on his own initiative or at the request of a member state".* Again, in this case, while movement towards harmonisation could be a by-product of this function of the SPC, it would be based on a relatively loose, voluntarist and *ad-hoc* approach.

In 1990, Council Regulation 1588/90[6] was adopted so that the Statistical Office of the European Communities (Eurostat) would be able to obtain all the national statistical information necessary in order to prepare Community statistics and carry out the necessary analyses for the purpose of providing the European Commission with full and reliable information. The Regulation authorised national authorities to transmit confidential statistical data to Eurostat, and provided a guarantee that Eurostat would take all necessary measures to ensure the confidentiality of data thus transmitted. This was an important step in the process of addressing the treatment

6 On the transmission of data subject to statistical confidentiality to the Statistical Office of the European Communities.

of statistical confidentiality at the level of the European Commission (Eurostat) because by the late 1980s member states were increasingly refusing to provide statistical information (particularly in the area of business statistics) to Eurostat, invoking national confidentiality rules. This legislative step was also important for improving the pre-conditions for potential quality assessment of member states' European statistics by Eurostat.

In 1991, Council Decision 91/115 established the Committee on Monetary, Financial and Balance of Payments Statistics (CMFB) to assist the European Commission in drawing up and implementing the multiannual programme of work relating to monetary, financial and balance of payments statistics. The Committee was, in particular, to have the task of expressing opinions on the development and coordination of the monetary, financial and balance-of-payments statistics required for the policies implemented by the European Council, the European Commission and the various committees assisting them. The European Commission, on its own initiative, and, should the occasion arise, following a request from the Council or from the committees that assist them, could consult the CMFB on: the establishment of multiannual Community programmes for monetary, financial and balance-of-payments statistics; the measures the Commission intended to undertake to achieve the objectives referred to in the multiannual programmes for monetary, financial and balance-of-payments statistics and the resources and timetables involved; any other questions, in particular questions of methodology, arising from the establishment or implementation of the Statistical Programme in the relevant fields. The CMFB could express opinions on its own initi-

ative on any questions relating to the establishment or the implementation of statistical programmes in the monetary, financial and balance-of-payments fields.

The CMFB was thus another tool established in the early 1990s to address the need to produce European statistics necessary for the functioning of the European Union, in particular in the context of the need for progressive convergence of economic policies and performance during stage one of the economic and monetary union. These necessary European statistics were *"consistent indicators, particularly in the monetary, financial and balance of payments areas"* (Council Decision 91/115). Nevertheless, while movement towards harmonisation could result from the functioning of the CMFB (as of the SPC), it would be based on a relatively loose, voluntarist and *ad-hoc* approach.

In 1991, the European Advisory Committee on Statistical Information in the Economic and Social Spheres (better known by its French acronym CEIES) was created to provide *"the opinion of the European society at large on Community statistics"* (Radermacher, 2011). This Committee had as its mandate to give an opinion on the relevance of the Community statistical programme, how it was monitored and on the associated costs incurred by the Community, the national statistical institutes and the data providers (Radermacher, 2011). It was a mixture of statistical users and producers.

The need for high quality, harmonised European statistics then became truly urgent with the signing in February 1992 of the Maastricht Treaty, which established the Maastricht criteria that member states of the European Union were supposed to meet to enter the third stage of European Economic and Monetary Union (EMU) and adopt the euro as

their currency[7]. This and the Protocols attached to the Treaty, whether the Statute of the European System of Central Banks and of the European Central Bank, the Statute of the European Monetary Institute or the Statute of the Excessive Deficit Procedure (EDP)[8], presented clear and exacting demands for harmonised and high quality statistics for the EU and its member states. The conditions for fulfilling these needs were not present at the time.

Following the recognition of these heightened needs of the work of the Union for European statistics, a Regulation was adopted to meet some of them. This was Regulation 3605/1993 on the application of the Protocol on the Excessive Deficit Procedure annexed to the Treaty establishing the European Community. It was meant to provide detailed rules for this Protocol. The European System of Integrated Economic Accounts was the reference for the statistics (definitions, accounting, etc) to be used in implementing the Proto-

7 The four criteria concerned inflation, public debt and the public deficit, exchange rate stability and the convergence of interest rates.

8 The EDP sets out schedules and deadlines for the Council, following reports from and on the basis of opinions by the European Commission and the Economic and Financial Committee, on how to judge whether an excessive deficit exists in an EU member state. The TFEU obliges member states to comply with budgetary discipline by respecting two criteria: a deficit-to-GDP ratio and a debt-to-GDP ratio not exceeding reference values of 3 percent and 60 percent respectively, as defined in the Protocol on the EDP annexed to the TFEU. EU member states report EDP-related data to Eurostat twice per year, at end-March and end-September. The data are reported in harmonised tables. The European Commission's reports and opinions are based on a technical assessment by the Directorate General for Economic and Financial Affairs (DG ECFIN). The European Commission is responsible for providing the data used for the EDP, and within the European Commission this task is undertaken by Eurostat. This is done on the basis of the statistics provided by the EU member states. In addition, Eurostat has sole competence within the European Commission for the statistical methodological basis on which the data for the EDP are compiled. (See http://ec.europa.eu/eurostat/web/government-finance-statistics/excessive-deficit-procedure).

col and Regulation 3605. Regulation 3605 was later amended by Regulation 475/2000 so that the statistical reference point would be replaced by the European System of National and Regional Accounts in the Community (ESA 95), established by Council Regulation 2223/1996 (see Eurostat, 2004, p8).

Regulation 2223/1996 (ESA 95) was an important piece of sectoral statistical legislation meant to help produce comparable, up-to-date and reliable information on the structure and developments in the economic situation of each member state, with a view to implementing and supervising the Economic and Monetary Union. The regulation was supposed to be an important tool for the European Commission in the administration of EMU and, in particular, in its reporting to the Council on the progress made by member states in fulfilling their obligations for the achievement of EMU. The point was explicitly to be able to draw up the accounts of a member state on the basis of a single set of principles that were not open to differing interpretations. In addition, the Commission would use the resulting statistics for Community administrative and budgetary calculations[9].

In 1997, five years after the Maastricht Treaty and four years after the establishment of the single market (with all the needs for reliable and harmonised European statistics that these steps implied), Regulation 322/1997 was adopted to serve as the 'Statistical Law' of the Community. Its goal was *"to establish a legislative framework for the systematic and programmed production of Community statistics with a view to the formulation, application, monitoring and assessment of the policies of the Community".* The regulation made clear in

9 See preamble of Council Regulation (EC) No 2223/1996 of 25 June 1996 on the European system of national and regional accounts in the Community.

its first article what its philosophy/paradigm was, stating that *"the national authorities at national level and the Community authority at Community level shall be responsible for the production of Community statistics in compliance with the principle of subsidiarity. To guarantee comparability of results, Community statistics shall be produced on the basis of uniform standards and, in specific, duly justified cases, of harmonised methods".* At the same time, the legislation noted that *"in order to ensure the best possible quality in both deontological and professional aspects, Community statistics shall be governed by the principles of impartiality, reliability, relevance, cost-effectiveness, statistical confidentiality and transparency".*

However, there were recurring problems in the compilation of European statistics since the mid-1990s. These problems certainly involved Greece[10], but there is a significant number of observers who have expressed views that there were problems with the harmonised production of European statistics according to common rules and statistical principles[11] also in other member states in the Union – especially when the European statistics formed the basis for major policy decisions, such as the accession of a member state

10 Eurostat (2004) showed the nearly continuous discussions with Greece about problems in the compilation of government finance statistics since the mid-1990s. *Inter alia* it stated (p. 2): *"The reliability of Greek deficit and debt statistics has been the object of particular attention by Eurostat in the past. Statistical issues in this field were debated with the Greek statistical authorities far more frequently than with any other member state. Eurostat was forced to introduce several times (see Appendix II for further detail) footnotes about reservations on the quality of Greek debt and deficit figures".*

11 Such as the statistical principles of independence, impartiality and objectivity, according to which, statistical decisions should be made free from political or other interference or influence and solely on the basis of statistical considerations.

to the euro[12]. These perceptions spanned both overt shortfalls in application of explicit statistical rules provided for in European regulations and practices of 'creative accounting' whereby the existing system of statistical rules was being 'managed' in order to obtain figures that met predetermined policy/political goals (more on the latter below, in the present section). Such perceptions, whether always fully corresponding to reality or not, were clearly a challenge for European statistics and the system of their production, not to mention for the policy processes and decisions of the EU, which squarely relied on these statistics. The Council of Ministers (ECOFIN) on 2 June 2004 *"acknowledged deficiencies in the compilation and reporting of fiscal statistics to the Commission, and in particular their vulnerability to political and electoral cycles"* (European Commission, 2004). Given that context, which had been present since the mid-1990s, the Economic and Financial Affairs Council of 18 February 2003

12 The following examples are just indicative of views formally and informally expressed by a noticeable share of academics and researchers. De Grauwe (2009) argued *"The real problem with the budget deficit numbers is that they were manipulated. … It is no exaggeration to conclude that the budget deficit numbers were falsified, thereby allowing countries like Belgium, France, Italy and Greece to obtain free passage into the Eurozone".* Nowak and Shachmurove (2012) noted: *"Certain balance sheet and budget-related items were 'fine-tuned' during the period of adaptation by using some 'innovative' accounting procedures. For example, current expenditures were accounted as future ones while future incomes were recorded as current outlays".* Dyson (2006) alluded to problems with the quality and reliability of fiscal statistics supplied by the Greek and Italian governments as part of the Stability and Growth Pact framework in the context of the adoption of the euro. Balassone *et al* (2009) noted that their work *"discusses a simple model of fiscal gimmickry and provides econometric evidence suggesting that, indeed, different* [stock flow adjustment] *components have been selectively used to reduce both reported net borrowing and the visibility of deficit-specific fiscal gimmickry"*. Their econometric work covers 15 EU countries in the period 1994-2004. They also devote particular attention to case studies of Portugal, Italy and Greece, where they see evidence supporting their thesis.

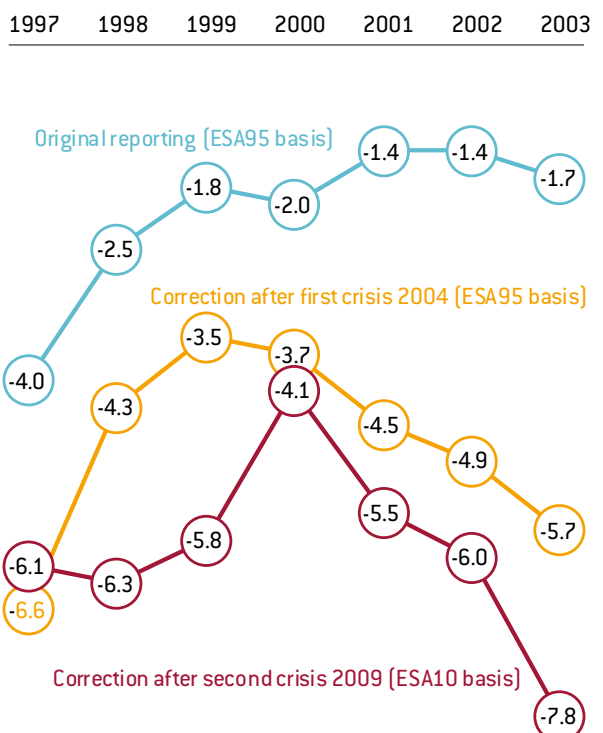
belatedly adopted a code of best practice for the compilation, transmission and publication of data for the purposes of the Excessive Deficit Procedure, in order to clarify the procedures at the levels of the member states and the Commission.

Just before the first major crisis of European statistics erupted in 2004, the system of production of critical official statistics (such as government finance statistics) for the workings of the EU was understood by the European Commission (Eurostat, 2004) to be as follows: member states were responsible for the compilation of the data and for their transmission to the Commission. A code of best practice specified that the statistical institutes had to act in full scientific independence, with strict respect for the accounting standards defined in Regulations 3605/1993 and 2223/1996 (ESA 95). The code also described the obligation of the member states to communicate to the European Commission any revision of the figures as soon as possible, including documentation to explain the revisions. Eurostat performed, on behalf of the Commission, the role of statistical authority. However, the quality assurance of the public accounts involved, initially, each member state. The verification of the accounts by Eurostat did not exonerate member states from their own responsibility. All this was squarely within the paradigm of self-regulation by member states in the production of European statistics, with some surveillance by Eurostat.

However, these developments in the framework for the production of official statistics for the European Community were a case of 'too little and too late'. The developments were not capable of avoiding significant discrepancies in the quality of even a very limited basic set of economic statistics, which were identified as essential for the EU to function

given the needs of its stage of development at that point. The circumstances regarding official statistics used in the context of member states meeting the criteria to adopt the euro is an example of these problems, which culminated in the first crisis of European statistics.

Figure 1: Greece, general government deficit, % of GDP, 1997-2003



Sources: Eurostat database and Eurostat (2004).

The first crisis of European statistics in 2004 was precipitated by European statistics reported by Greece for 1997-2003 and concerned government finance statistics that were used for the monitoring by the EU of the Maastricht criteria and of the conditions for entry of countries into the euro area (Figure 1). During the crisis, it became abundantly clear that these and other statistics, which had been used for years to make policy decisions within and by the EU, were not being subjected to sufficient quality assurance processes and were not of sufficient quality, especially with regard to reliability (Radermacher, 2011; Eurostat, 2004; European Commission, 2004, 2010). However, as is evident from the descriptions provided in the relevant European Commission report, concerns about reliability and comparability had been around for many years[13]. The existing system of production of even these relatively more closely scrutinised European statistics had failed to address these concerns and prevent the crisis.

The problems in the system of production of European statistics that had to do with the outright lack of application of explicit statistical rules provided for in European regulations were combined (in the same or other member states) with problems of 'management' of the system of statistical rules (including any gaps or ambiguities in the rules) in order to end up with statistical results conforming to political/policy goals. The latter set of problems might not be described as giving rise to outright misreported statistics *per se*, but as giving rise to misleading statistical figures that were not true to the original aim of the statistics and to the expectations regarding insights to be gained from the use of these statistics.

13 See Eurostat (2004) pp 2, 11-12.

In effect, the resulting European statistics would in certain cases end up infringing on, *inter alia*, two fundamental principles of official statistics: (i) relevance by meeting the needs of users, and (ii) accuracy and reliability in portraying reality. Researchers have documented this happening in the EU in the period from the late 1990s up to 2003 in the context of EU fiscal rules, such as the EDP and the Stability and Growth Pact (SGP).

It has been argued that while fiscal rules aim at constraining government behaviour, governments circumvent such rules by resorting to *"creative accounting"* (Milesi-Ferretti, 2003). Researchers have documented *"one-off measures and other accounting tricks that EU member states* [used] *to qualify for EMU membership"*, providing clear examples of this *modus operandi* from a survey of France, Belgium, Italy and Germany in the late 1990s (Dafflon and Rossi, 1999). Other researchers have provided further empirical evidence of such creative accounting by EU countries taking various specific forms, for example stock-flow adjustments, to *"hide deficits"* in the context of the EU rules in the period 1998-2003 (Von Hagen and Wolff, 2006).

It is important to note that creative accounting usually takes place with the – drafted or voluntary – collaboration of the producers of official statistics, as they know best the rules that need to be 'managed'. However, even if such collaboration does not take place, the public perception of the existence of such creative accounting usually leads to a summary characterisation of the official statistics involved – in this case European statistics – and the entire set of processes of their production as potentially subject to political/policy interference and manipulation. After all, as noted earlier in this

section, the official statistics resulting from the use of such creative accounting do not fully comply with fundamental principles of official statistics, such as those of relevance and accuracy. And this was the case in the period leading up to the precipitation of the first crisis of European statistics, and it concerned a broad set of EU countries, not just Greece.

2.2 Developments after the first crisis of European statistics

The first crisis of European statistics engulfed not only Greece's European statistics but also shook the foundations of the entire production of European statistics. The crisis demonstrated that the then framework – both legal and institutional – for the production of European statistics was inadequate. It demonstrated that Goodhart's Law was fully operational within the production of these statistics as, anyway, should have been expected[14]. In this context, it is puzzling that statistics recruited to serve as major policy targets would have been expected to remain free of the pressures of manipulation and misreporting, especially under the 'right' circumstances. One would have expected that the crisis would have catalysed recognition of these matters and this would have led to a fundamental re-examination and recasting of the philosophy/paradigm of production of European statistics, in order to protect the EU's economic governance and, actually, the EU itself.

However, the approach that was chosen – *ex-post facto* – was severely constrained by the rationale, presented, for

14 Goodhart's law is a maxim named after economist Charles Goodhart, which states: *"When a measure becomes a target, it ceases to be a good measure".*

example, in December 2004 by European Commission (2004): *"The Commission, as per the principle of subsidiarity, cannot extend its prerogatives to the point of taking the place of member states within a system for collecting, compiling and notifying on data if the legislator has not provided for this".* To deal with the situation, in the same communication, the Commission proposed instead *"three lines of actions relating to, respectively, building up the legislative framework, improving the operational capacities of Eurostat and the Directorate General for Economic and Financial Affairs (DG ECFIN), and lastly, establishing European standards on the independence of national statistical institutes"*[15]. The main objective was, according to the Commission, *"to establish stronger, common oversight of the governance of fiscal statistics at European level, which is itself essential to economic governance"*. Thus the emphasis would be on more rules providing for external surveillance (policing) of member states by Eurostat and more clear reference standards for the self-regulation by each member state of the production of European statistics (only in the fiscal area).

It should be pointed out that even in the wake of the 2004 crisis, Greece's government finance statistics were not corrected fully in accordance with EU rules (ie in accordance with Regulations 2223/1996 and 3065/1993, as then in force). Fundamental rules continued to be grossly evaded. It is possible to get an approximate sense of the degree of misreporting by comparing the government deficit figures for, say, the test

15 Work on establishing these standards had already been underway – driven by-and-large by the member states – to complement and elaborate the statistical principles enshrined in Regulation 322/97 on community statistics, as part of the review and follow up of the Regulation.

year for adopting the euro (1999 for Greece) as 'corrected' in 2004 after the first crisis of European statistics erupted with the figure for the same aggregate as it was estimated in 2015 (in the context of the ESA 2010-based mandatory re-estimation of the 1995-2013 data), ie after the second crisis of European statistics. The two figures are not entirely comparable because the first was supposed to be estimated on the basis of ESA 95, while the second was estimated on the basis of ESA 2010 (ie the revised European standard for compilation of national accounts that was adopted in 2013 via Regulation 549 and replaced ESA 95). However, specifically for Greece the differences in the deficit as a percentage of GDP on account of the change from ESA 95 and ESA 2010 would likely be plus/minus a fraction of a percentage point of GDP, if the differences observed between the two estimations for later years (2006-13), which were calculated by the Greek national statistical institute (ELSTAT) using both methodologies, are used as a guide[16].

The crisis of 2004 was catalytic for the acceleration of the adoption of the European Statistics Code of Practice, which was endorsed in February 2005 by the Statistical Programme Committee – comprising the heads of National Statistical Institutes in the EU and of Eurostat. The Code of Practice

16 Data from the Eurostat database shows that the difference in the estimations of the fiscal deficit of Greece as a percentage of GDP was 0.3 percent for 2006, 0.1 percent for 2007, -0.3 percent for 2008, 0.4 percent for 2009, -0.2 percent for 2010, -0.6 percent for 2011, 0.1 percent for 2012 and -0.3 percent for 2013. A positive value indicates that the ESA 2010 deficit estimate showed a smaller deficit than the ESA 95 deficit estimate, and a negative value the opposite. For some other countries, with economic structures different from Greece's, the differences between the government deficit to GDP ratio estimates using ESA 95 and ESA 2010 methodologies turned out to be greater than in Greece.

could in some ways be considered a derivative and a further development of the UN Fundamental Principles of Official Statistics, which were adopted by the United Nations Statistical Commission in 1994. However, the code of practice went much further than the UN Fundamental Principles[17], and with greater specificity, as it incorporated what was considered to be best practices in the form of 15 statistical principles with various indicators associated with each. The code of practise was also inspired by best practices observed in some countries and work done by the IMF, amongst others[18]. A 2005 Commission Communication and Commission Recommendation on the independence, integrity and accountability of the national and Community statistical authorities (COM(2005) 217 final) recognised the new European Statistics Code of Practice as a common set of standards at European level for the statistical authorities. The Code of Practice was presented at that point as a *"self-regulatory instrument"* by the producers of European statistics in each member state (COM(2005) 217 final).

In the context of the first crisis of European statistics, Regulation 3605 was also amended by Regulation 2103/2005 of 12 December 2005 as regards the quality of statistical data in the context of the EDP. The amended regulation aimed to strengthen the role of Eurostat in assessing the quality of member state statistics in the context of the EDP. The

17 For example, by naming and addressing directly the statistical principle of professional independence in the production of official statistics.
18 Nevertheless, a close reading of the Code of Practice does reveal that in some areas discounts vis-à-vis available best practices were adopted for political reasons, as for example, in the area of privileged pre-release access to official statistics, where policymakers (and others) were still allowed potentially to have such access as long as it was *"limited, controlled and publicised"*.

regulation was strengthened further on 25 May 2009, just before the second crisis of European statistics erupted, with the adoption of Council Regulation (EC) No 479/2009 on the application of the Protocol on the excessive deficit procedure annexed to the Treaty establishing the European Community.

In the same context of the first crisis of European statistics, the 2005 Commission Communication and Commission Recommendation on the independence, integrity and accountability of the national and Community statistical authorities (COM(2005) 217 final) also, *inter alia*, envisaged the creation of a new external advisory body that would be entrusted with overseeing the implementation of the Code of Practice by the ESS as a whole, in addition to advising at European level on statistical priorities. However, in November 2005, the Economic and Financial Affairs Council indicated that there was actually a need for two separate bodies: a reformed CEIES (ie a reformed, more effective user committee) and a future high-level advisory body overseeing the implementation of the Code of Practice (Radermacher, 2011).

These reforms eventually took place in 2008, with considerable delay, while keeping the paradigm of production of European statistics basically unchanged. In the meantime, the vulnerabilities and risks in the production system of European statistics were continuing, setting the ESS up for its second crisis.

In March 2008, the European Statistical Advisory Committee (ESAC) was established[19], replacing the CEIES. The reformed CEIES was to be composed of representatives of all stakeholders of European statistics. ESAC was intended

19 Decision No 234/2008/EC of the European Parliament and of the Council of 11 March 2008 establishing the European Statistical Advisory Committee.

to ensure that users' requirements and the costs borne by information providers and producers were taken into account in the Community's statistical information policy. The Commission was to consult the Committee at an early stage in the preparation of the Community statistical programme. ESAC would also draw the Commission's attention to areas in which it might be necessary to develop new statistical activities and advise the Commission on how to improve the relevance of Community statistics to users, taking into account the costs borne by information providers and producers[20].

Also in March 2008, the European Statistical Governance Advisory Board (ESGAB) was established[21], *"born from the 2004 'Greek crisis' with the aim to help prevent future crises"* (Radermacher, 2011). The purpose of the Board was to provide an independent overview of the European Statistical System in relation to the implementation of the European Statistics Code of Practice. ESGAB was to prepare an annual report for the European Parliament and the Council on the implementation of the Code of Practice insofar as it related to Eurostat, transmitting that report to the Commission prior to submitting it to the European Parliament and to the Council. While the emphasis of ESGAB was on Eurostat, its report would also include an assessment of the implementation of the Code of Practice in the European Statistical System as a whole. ESGAB would also advise the Commission on appro-

20 It should be noted that feedback on the EU Statistical Programme was also to be provided through the process for the approval of the EU Statistical Programme according to the co-decision procedure, and the continuation of scrutiny of the proposal by nearly all the European Parliament's committees.
21 Through Decision No 235/2008/EC of the European Parliament and of the Council of 11 March 2008 establishing the European Statistical Governance Advisory Board.

priate measures to facilitate the implementation of the Code of Practice by Eurostat and the ESS as a whole, on communicating the Code of Practice to users and data providers and on updating the Code of Practice.

It is remarkable that the focus of ESGAB ended up being more on Eurostat than the member states' producers of European statistics. This is indicative of the reluctance of many member states to submit their national production of European statistics to the necessary quality assessment procedures[22]. The member states apparently took this approach even though they must have realised the significant risks to the ESS and the EU as a whole from the quality of European statistics produced by individual member states. Member states seemed to be unwilling to provide to an EU institution robust oversight of the basic institutional settings of their *national* statistical production of *European* statistics and, more broadly, of the implementation of statistical principles in their *national* production of *European* statistics. This is a theme that would re-emerge repeatedly over the next ten years, despite a new major crisis in the ESS and significant further increases in the need for harmonised and reliable European statistics for conducting the business of the EU.

Instead of opting for robust measures, following the adoption of the European Statistics Code of Practice in 2005, the ESS carried out a self-assessment against the principles and indicators of the Code. The results were summarised in

22 The resistance to a stronger role for ESGAB was led by the larger EU countries. They argued against it, invoking (in our view incorrectly) the principle of subsidiarity. Some other countries opposed a stronger role for ESGAB, arguing (in our view inappropriately) that it was another layer of EU bureaucracy, which they maintained was unnecessary for their own production of European statistics, which they assessed as high quality.

a Eurostat report submitted to the Economic and Financial Committee of the EU in May 2006. The self-assessments were followed during 2006-08 by peer reviews of the 31 National Statistical Institutes of the EU member states and EFTA countries and of Eurostat. The peer reviews did not address all the principles and indicators of the Code of Practice. They addressed only the institutional environment and dissemination practices covered by principles 1 to 6 and 15 of the Code[23]. The coordination function of each NSI within its own national statistical system was also evaluated. The peer reviews were organised by Eurostat and efforts were made to follow a harmonised approach in evaluating the NSIs. The peer reviews also involved user satisfaction surveys and discussions with key national and European-level stakeholders.

However, by many accounts, the 2006-08 peer review exercise was a weakly and inadequately prepared endeavour. It is also notable that the scope of the peer reviews was limited, excluding the majority of statistical principles included in the European Statistics Code of Practice. This certainly appears strange given that the 2004 crisis and the lead up to it had provided ample evidence of violations of statistical principles, besides those relating to the institutional environment, eg principle 7 on sound methodology, principle 8 on sound statistical procedures, principle 12 on accuracy and reliability and principle 14 on coherence and comparability. All this corroborates the perception of 'too little too late' that has been a recurring theme in the setting

23 Principles 1-6, which concern the institutional environment for the production of European statistics, *inter alia,* include the principles of Professional Independence, Impartiality and Objectivity, and Commitment to Quality.

up of the conditions for production of high quality and harmonised European statistics.

The Greek national statistical institute (the National Statistical Service of Greece, NSSG, as it was then called) was also subjected to the peer review, the results of which were published in early 2008 (Eurostat, 2008). The report provided a mixed evaluation of the implementation of the fundamental statistical principles under review. Greece was among the countries that had some indicators *"partly met"* (9 out of 35; with all the rest *"fully or largely met"*). Among the 20 countries with some indicators *"partly met"* Greece was in nineteenth place, ie near the bottom of the list, where the least compliant countries were shown. However, Greece was not among the six countries with indicators *"not met"*[24]. Given what followed, which led to the second crisis of European statistics, this can only point to the weakness of the specific tool that was chosen to be used by the European Union to help ensure that European statistics met the statistical needs of the EU at the time. This is a theme that has continuously repeated itself since the acceleration of the EU in the 1980s.

The Peer Review report for Greece included statements such as *"the NSSG and its products are highly esteemed by a large variety of national users. NSSG is clearly respected by national users as a highly professional institute, with professional integrity"*. Considering that the second crisis of European statistics erupted the next year (2009) on account of Greece's statistics (and in light of the first crisis precipi-

24 There were also five countries assessed to have *"largely met"* or *"fully met"* all 35 indicators. These and the other quantitative results of the 2006-08 Peer Review Exercise referred to here are from European Court of Auditors (2012).

tated by NSSG's/Greece's statistics in 2004) this statement is indicative of the disconnect that can exist in the area of European statistics between dominant national perspectives and the interests of the EU as a whole.

It is also noteworthy that, while the Peer Review report for Greece was cautious in certain areas, giving Greece modest marks, it also included statements such as the following regarding observation of the Principle of Impartiality and Objectivity: *"The mission confirmed that there is a clear expression of strong respect for the principles to use the best scientific methods and work professional*[ly] *in the production and dissemination of Greece official statistics"* Moreover, for example, the report found that the crucial indicator 1.4 under the Principle of Professional Independence, which states that *"The head of the statistical authority and, where appropriate, the heads of its statistical bodies have the sole responsibility for deciding on statistical methods, standards and procedures, and on the content and timing of statistical releases"* was fully met. These conclusions, in our view, certainly do not point to any weaknesses in the work capacity of the peer reviewers, but to the fundamental inadequacy of the tool used (ie the peer review) to address phenomena[25] that tend to arise in a setup where the statistics are used for the implementation and enforcement of the rules of a union

25 For frank characterisations of these phenomena by EU institutions, see European Commission (2010) and European Parliament (2013).

of states, but are nationally produced[26].

In this period, between the two crises of European statistics, there were two Eurobarometer reports (Report 67.2 of 2007 and Report 72.1 of 2009) which inquired about the attitudes of Europeans towards official statistics produced in their country (Eurobarometer, 2015). The results were disconcerting because only a minority of Europeans "tended to trust" these official statistics – 46 percent in 2007 and 44 percent in 2009[27]. Large percentages (45 percent and 46 percent for 2007 and 2009, respectively) of Europeans outright "tended not to trust" the statistics, while a noteworthy percentage said they "did not know" if they trusted them or not (9 percent and 10 percent in 2007 and 2009, respectively)[28]. And this troubling lack of trust among the supposedly main users of European statistics – the European public – was

26 Most experts would agree that peer reviews depend *inter alia* on the honesty and openness of the reviewees. Peer reviews work reasonably well in a setup in which reviewees are willing to discuss and not hide problems, but do not work well in a setup in which the reviewees are incentivised or pressed to hide problems and are only willing to talk about 'successes'. The setup in which the reviewees are the member state producers of statistics that are used for the implementation and enforcement of the EU rules is simply not compatible with full honesty and openness in a sustainable manner, and one should not expect it to be so. This should be taken into account when putting together a system of production and control of European statistics, so it is fit for purpose.

27 Interestingly, in the 2009 Eurobarometer report, 48 percent of Europeans tended to trust the European Parliament, and 44 percent tended to trust the European Commission (Eurobarometer, 2009). In our view, European statistics, which should be the impartial and non-political information basis (reference point) of the work of these political institutions, should have scored significantly higher in the scale of trust, not lower or the same.

28 It is interesting to note that this level of trust tends to be lower than that of US respondents to a similar question about US Federal Statistics, information about which is available from surveys conducted in the US *"for strategic and tactical decision making and not for official estimates"*. See for example Hunter Childs (2013, slide 15), which shows the percentage of respondents trusting US Federal Statistics at roughly about 5-15 percentage points higher than for European statistics.

present even before the second crisis of European statistics erupted in late 2009. Moreover, it should be pointed out that the Eurobarometer reports asked Europeans whether they trusted the statistics produced in their own countries. The responses about trust in European statistics produced in other member states could have been even more troubling[29].

In 2009, a revised EU Statistical Law was adopted: Regulation 223/2009, which was presented in its recitals as aiming to ensure the coherence and comparability of European statistics produced in accordance with the principles laid down in Article 285(2) of the Treaty. It would do this by reinforcing and developing in a more systematic manner the cooperation and coordination between the authorities that contribute to the development, production and dissemination of European statistics to adapt to the current reality, to better respond to future challenges. The law formally introduced and defined the concept of "European statistics". The new governance structure for the ESS, comprising, apart from ESGAB and ESAC, also the European Statistical System Committee (ESSC), was also reflected in the law. The ESSC, which replaced the Statistical Programme Committee (SPC), was to be responsible for guiding the ESS in the development, production and dissemination of European statistics. It would be the major decision-making management body of the ESS,

29 Some might try to explain Europeans' low level of trust in official statistics produced in their countries by the close association in the eyes of citizens between statistical agencies and governments. Statistical agencies are seen as 'agents of government', and governments are little trusted by citizens. However, instead of alleviating the concerns expressed in this study about the adequacy of the system of production of European statistics, this argument simply reinforces our view that production of European statistics is inappropriately close to national governments and there is a high price – here in terms of trust –being paid on account of that setup.

chaired by Eurostat and consisting of the representatives of the national statistical systems of the EU member states. It would also assist Eurostat (representing the European Commission) in its delegated legislative powers. The 2009 Statistical Law also assigned to the ESSC responsibility for the transmission and protection of confidential data. This new law also provided for the European Statistics Code of Practice as an explicit reference point for the statistical principles to be followed in the production of European statistics (Radermacher, 2011).

Regulation 223/2009 was aimed at consolidating the activities of the ESS and improving its governance, in particular to further clarify the respective roles of the NSIs and other national authorities, and of Eurostat. With the recasting of the European Statistical Law, the ESS was formally recognised as what it remains up to today – a partnership between the Community statistical authority, which is the Commission (Eurostat), and the NSIs and other national authorities (ONAs) responsible in each member state for the development, production and dissemination of European statistics. Member states would collect data and compile statistics for national and EU purposes. The ESS was to function as a network in which Eurostat's role would be to lead the way in the harmonisation of statistics in close cooperation with the national statistical authorities. The work of the ESS would concentrate mainly on EU policy areas. However, with the extension of EU policies, harmonisation was supposed to extend to nearly all statistical fields[30]. It is notable that the process of reviewing Regulation 322/1997 to produce what

30 See http://ec.europa.eu/eurostat/web/european-statistical-system.

eventually was adopted as Regulation 223/2009 started in 2002 and lasted an impressive seven years, during which time the first crisis of European statistics took place. The review of this regulation could be characterised as an 'evolutionary' response to the requirements and challenges confronted by the system of production of European statistics. Yet, it could also be characterised as a 'reactive' response, instead of an adequately 'proactive' and 'initiative' one, and – as events would, immediately as well as in the years, after its adoption demonstrate – clearly 'behind the curve'.

Thus, in the lead up to the second crisis of European statistics, quality assurance in the ESS had evolved and there had been repeated efforts to strengthen it in a certain direction, within a specific philosophy/paradigm. The philosophy was that there must be:

> *"… a balance … between the objectives of supervision and control by Eurostat and the constraints arising from the principle of subsidiarity and the autonomy of member states in the way they organise and produce Official Statistics. Although the responsibility for monitoring statistical data is vested in the Commission (and in the case of the Excessive Deficit Procedure the Commission 'provides' the data), the Commission does not directly compile statistics or control their production in the member states. In this respect, it depends largely on the data compiled and reported by the member states, as well as the administrative ability, good will and loyal co-operation of the respective national authorities. Appropriate institutional frameworks ('governance'), respect of principles, compliance with production methods, and plausibility checks for transmitted data are the*

available tools for quality assurance in European statistics" (European Commission, 2010).

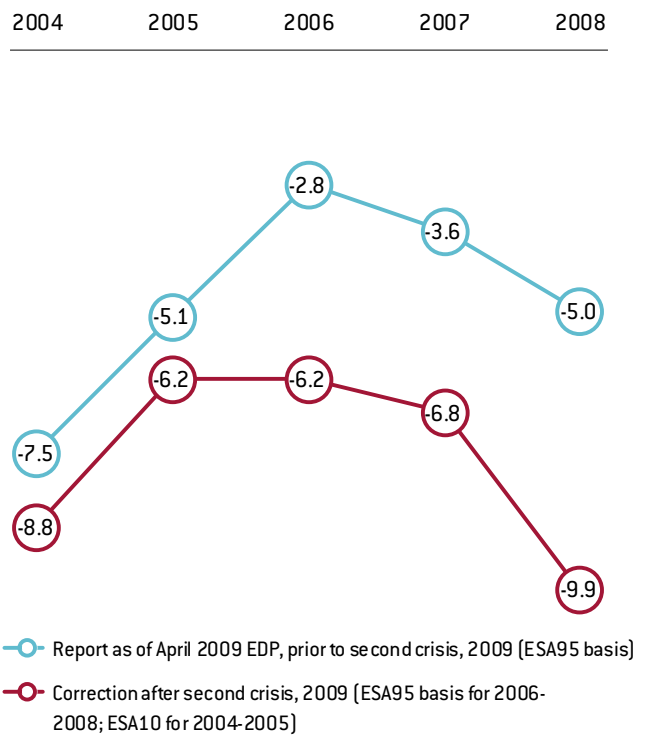
The system had evolved so that, in the case of government finance European statistics used in the Union's Excessive Deficit Procedure (EDP), in accordance with Regulation 479/2009, Eurostat would check compliance with accounting rules, completeness, reliability, timeliness and consistency of the statistical data. Assessments were again guided by what was in the inventories of member states regarding, for example, delimitation of the government sector, the classification of government transactions and liabilities, and the time of recording. Eurostat also had the option of placing reservations on the statistics reported by member states when it could not validate the quality of the reported government finance statistics. This was the 'heaviest' checking process for any European statistics produced. No other European statistics were being subjected to such quality assurance.

But despite this checking under the evolved and strengthened – over a period of fifteen years – ESS quality assurance system, the second crisis of European statistics materialised in late 2009. And it would be important to note that there was some warning and recognition that not all was well.

Following the first crisis in 2004, between the April 2005 EDP notification and the October 2009 EDP notification, Greece received reservations five out of the 10 times its government finance statistics were assessed by Eurostat in the context of the semi-annual EDP notification. In addition, according to a January 2010 European Commission/Eurostat Report (European Commission, 2010), *"when the Greek EDP*

data [were] *published without reservations, this* [had] *been the result of Eurostat interventions before or during the notification period in order to correct mistakes or inappropriate recording, with the result of increasing the notified deficit".*

Figure 2: Greek government deficit as % of GDP, 2004-08



Sources: Eurostat database and European Commission (2010).

The second crisis of European statistics erupted in the autumn of 2009, and was again triggered by European sta-

tistics produced by Greece for EDP purposes (Figure 2). That this kind of crisis could materialise under the legal and institutional framework for the production of European statistics for the purposes of the EDP, which were the most heavily checked of all European statistics, raises the issue of what could have been happening in other, less heavily monitored areas. The 2010 Commission Report on Greek Government Deficit and Debt made the following telling comment:

> *"As the quality problems of Greek statistical information are not only linked to public finance data - National Accounts (GDP) figures have also been significantly revised in the past - and as the events of October 2009 cannot be deemed as exceptional, the report will not deal only with statistical methodological issues. Rather, an analysis of the governance and institutional framework of the Greek system for the production of statistical information is also necessary" (European Commission, 2010).*

It is instructive to recall what the issue with GDP statistics for Greece was, which European Commission (2010) alluded to. In its press release on government deficit and debt data in the context of the October 2006 EDP, Eurostat wrote:

> *"Greece: Eurostat is using for the purpose of this EDP notification the GDP figures notified in April 2006, and not the revised GDP data reported by the Greek authorities on 1 October 2006. Given the magnitude and complexity of the revised GDP data (an increase of 25% compared to the old*

figures), Eurostat will carry out a complete verification of GDP data once Greece has delivered a full inventory of the sources and methods used for the new calculations"[31].

Subsequently, after trying to carry out for about a year the necessary quality control on these European statistics produced by Greece, Eurostat wrote in its October 2007 EDP press release:

"Greece notified in 2006 a substantial upwards revision of GDP (around 26%). This revision has in the last year been subject to a detailed scrutiny by Eurostat and national experts from various member states, following recommendations from the Gross National Income Committee. As a result of this work, Greece has now notified a substantially smaller revision of GDP (around 9.6%). The new notified series are being used for the purpose of this provision of deficit and debt data"[32].

Thus, one conclusion is that the concerns about European statistics beyond government finance statistics should have been significant, especially for statistics used for policy purposes, including the governance of the EU. Such statistics would have been subject to Goodhart's law (see footnote 14). Another conclusion is that the very significant effort necessary (in terms of months of work by Eurostat and member states' national experts) to ex post carry out the necessary quality assessments and corrections of just a single set of

31 See http://ec.europa.eu/eurostat/documents/2995521/5237306/2-23102006-AP1-EN.PDF.
32 See http://ec.europa.eu/eurostat/documents/2995521/5056138/2-22102007-AP-EN.PDF.

European statistics from a single member state, already clearly indicated that the system in place was inefficient, costly and not fit for purpose given the workings and needs of the EU.

2.3 Developments after the second crisis of European statistics

As the second crisis of European statistics was unfolding in the autumn of 2009, on 10 November 2009, the ECOFIN Council invited the Commission to prepare a report on the *"renewed problems in the Greek fiscal statistics"*[33]. The Council also invited the Commission *"to propose the appropriate measures to be taken in this situation"* (European Commission, 2010).

In July 2010, in the wake of the second crisis, there was a strengthening of Regulation 479/2009 via Regulation 679/2010. The amendments provided for access by Eurostat to the accounts of government entities at all subsectors of the general government sector and the underlying detailed accounting information, statistical surveys and questionnaires, and to any further related information (including confidential information), as well as information for public entities classified outside

33 What was surprising in ECOFIN's statement was the characterisation of the problems with Greece's European statistics as *"renewed"* given that since the first crisis in 2004, ie from 2005 to 2009, Greece had received reservations on its fiscal statistics in five out of the 10 EDP notifications, had been the target of many Eurostat missions, including several methodological visits – reserved to be undertaken in cases in which substantial risks or potential problems with the quality of the data had been identified – to investigate Greece's fiscal statistics, and also had its GDP data massively corrected by 15 percentage points by Eurostat.

General Government. The new regulation also provided for a stronger emphasis on verification of accounts and monitoring of processes, and emphasised the accountability of member state institutions and officials who reported data.

In 2011, there was also a somewhat limited amendment to the European Statistics Code of Practice. This amendment reinforced references to quality management, professional independence and administrative data.

Another step taken following the second crisis of European statistics was the adoption on 16 November 2011 of Regulation 1173/2011 on the effective enforcement of budgetary surveillance in the euro area and the corresponding Commission Delegated Decision (2012/678/EU). This new piece of legislation was an effort to, *inter alia*, improve the enforceability and incentives behind the requirement to provide reliable government finance statistics for the purposes of the core of the EU. This regulation gave the Commission the power to launch specific investigations if there were serious indications of a misrepresentation, with on the spot visits to check accounts at all levels, including underlying account information. And quite importantly, the new regulation provided for the imposition of fines if there was misrepresentation of data on account of intentional manipulation or negligence. The reference amount of the fine was set at 5 percent of the impact of misrepresentation on the level of either the general government deficit or debt of the member state for the relevant years covered by the notification opening the context of the excessive deficit procedure. However, the amount of the fine was not to exceed 0.2 percent of the latest official GDP at current market prices of the member state, and reductions in

fines were allowed in case of mitigating factors.

Fines under Regulation 1173/2011 have been applied twice since its adoption: against Spain and Austria. In relation to Spain, the Commission aimed at assessing serious indications of misrepresentation of deficit and debt data in 2012. It concluded that severe irregularities had taken place in the accounting, recording and reporting of expenditure of the Autonomous Community of Valencia over many years[34]. While the non-recording of some expenditure was found to have started in 1988, it had continued until well after the second crisis of European statistics and there had been misreporting up to the first part of 2012. In relation to Austria, the Commission aimed, as for Spain, to assess whether there had been misrepresentation of deficit and debt data in 2012 and previous years and whether this had been the result of intent or serious negligence. The Commission concluded that severe irregularities had taken place in the compilation, control and reporting of financial and non-financial transactions in Land Salzburg for several years[35]. The misreporting of financial transactions and the concealment of bank accounts had started in 2003. Misreporting had continued, leading to the misrepresentation of Austria's actual data in the EDP notifications of 2012 and 2013 of Austria's debt data regarding 2008-2012 to Eurostat, ie after the entry into force of Regulation (EU) 1173/2011, and well after the second crisis of European statistics.

It is clear that the Spanish and Austrian cases related to

34 See COM(2015) 211 final, available at ec.europa.eu/eurostat/documents/1015035/2041365/Report-on-manipulation-of-statistics-in-region-Valencia-Spain.pdf.
35 See COM(2017) 94 final, available at http://ec.europa.eu/eurostat/documents/1015035/2041365/1_EN_ACT_part1_v5.pdf.

problems of protracted misreporting originating in specific regional administrations of the countries and were not generalised like the misreporting in Greece and the impact on the Spanish and Austrian government deficits was small in comparison to the impact of the Greek misreporting. For our purposes, the question is whether such phenomena would be equally likely to arise and persist for many years – an impressive 15 years in the case of Spain – in a different system of production of government finance statistics for EU member states, for example, where the production is carried out by a fully integrated ESS of the type discussed in detail in section 5. The answer, in our view, would be that such phenomena would be less likely to arise in the first place and would not persist for so long. Moreover, the limited impact of these specific phenomena that were identified in the context of the application of Regulation 1173/2011 does not mean that they are not a marker and have no significance for possible misreporting within the EU currently or in the future; quite the opposite[36]. At the very least, the uncertainty about the processes of production of European statistics that these phenomena feed would have a negative effect on trust in European statistics and on the EU as a whole. In our view these negative effects of uncertainty are by themselves enough of a reason to rethink the setup of the ESS.

It should also be noted that the fines levied so far on the basis of Regulation 1173/2011 were a fraction of the reference amounts provided for in the Regulation and could be characterised as immaterial and inconsequential from a fiscal point

36 A cautious observer would think that if a phenomenon of misreporting is identified somewhere, then there are probably several other cases that remain unidentified elsewhere.

of view[37]. This is even more concerning given that one could argue that the upper limit of the potential fine at 0.2 percent of GDP can also be characterised as a relatively minor amount, lacking the necessary weight to constitute a serious disincentive for national authorities.

In light of the above, it is clear that in the wake of the second crisis of European statistics, the paradigm for producing reliable and harmonised European statistics stayed the same as after the first crisis of European statistics, albeit with a certain strengthening of its tools. The steps taken aimed at providing for more effective external surveillance (policing) of member states' autonomous production of European statistics and at further strengthening the reference standards for such national-level statistical production.

In the same vein, a proposal for the amendment of Regulation 223/2009 on European statistics was presented to member states in the first semester 2012. The changes were aimed at clarifying and buttressing the professional independence of NSIs and their heads (including authority over internal management of NSIs, statistical activities and budget

37 For Spain, the effect of €1.89 billion on the 2011 government deficit (ie after Regulation 1173 had come into effect) meant that the fine was originally calculated at €94.6 million; but given circumstances (no significant impact on the deficit and thus no significant impact on EU governance; isolated entity; cooperation of authorities) the Commission proposed to reduce the fine to €18.9 million (European Commission, 2015). In the case of Austria, the revision to the debt for the year 2012 in the April 2014 EDP Notification amounted to €1.19 billion and the reference amount of the fine for that year thus equalled €59.6 million. Given that years 2011 and 2012, were misreported in the 2012 and the 2013 EDP notifications respectively, the reference amount was multiplied by two, amounting to €119.2 million. Given the circumstances (no significant impact on the debt and thus no significant impact on EU governance, no identified concerted action, cooperation of authorities), the amount of the fine proposed by the Commission was reduced to €29.8 million (European Commission, 2017).

execution) as well as the independence of Eurostat and its head. The legislation also sought to generate commitments by national governments (policymakers) to have in place the conditions for the implementation of the European Statistics Code of Practice through the establishment by national governments of Commitments on Confidence in statistics. The proposed legislation also aspired to further specify and strengthen the coordinating role of NSIs in National Statistical Systems, as well as to clarify the roles of NSIs and National Central Banks. Finally, the proposed amendment aimed to enhance the use of administrative data for statistical purposes.

After very protracted discussions, the amendment to the European Statistical Law (Regulation 223) was finally adopted, with a significant delay, three years later by means of Regulation (EU) 2015/759 of the European Parliament and of the Council of 29 April 2015[38]. The fact that the adoption of the amendment took such a long time and that it was arguably weaker than originally hoped for is testament to the difficulties of various stakeholders – because of political and institutional concerns, including 'turf' issues – to take steps

38 The adoption of the amended Regulation 223 in April 2015 was eventually followed in November 2017 by another amendment of the European Statistics Code of Practice. This amendment is billed as aligning the Code of Practice with the related provisions of the amended Regulation 223 (most notably in the area of coordination and cooperation in the development, production and dissemination of European statistics), as well as including some lessons from the second round of ESS peer reviews and reflecting in the Code the use of new, multiple data sources. At the same time, the revised preamble to the amended Code refers to the Code as part of *"a self-regulatory common quality framework"* and notes *"the self-commitment of all its members to continuously developing, producing and disseminating high-quality European statistics and services"*, which points to the strength and persistence of the paradigm of a fragmented/autonomous and self-regulated production of European statistics.

towards further improving the quality and harmonisation of European statistics production, even within the existing paradigm of autonomous production of European statistics by each member state with some surveillance by Eurostat. It also indicated that the 'availability heuristic'[39] was in operation, as the willingness to take vigorous steps seemed to decrease as the distance from the most recent crisis of European statistics increased and the concerns opposing change referred to above progressively acquired relatively more weight.

The EU Statistical Law was finally amended and was improved in a number of areas but the fate of another important piece of proposed statistical legislation was sealed by the operation of the 'availability heuristic' and the resistance from various quarters in the EU to move in that direction. This initiative was the proposal for a regulation of the European Parliament and of the Council on the provision and quality of statistics for the macroeconomic imbalances procedure. It was meant to support implementation of Regulation (EU) No 1176/2011 of the European Parliament and of the Council of 16 November 2011 on the prevention and correction of macroeconomic imbalances, by providing to EU policymaking bodies harmonised high-quality data to assess macroeconomic imbalances.

The Macroeconomic Imbalances Procedure (MIP) aims to prevent and correct risky macroeconomic developments,

39 The availability heuristic is a heuristic examined by Tversky and Kahneman (1974), whereby people rely on immediate examples that come to mind when considering a matter in order to make an assessment about the probability of an event. More generally, if something can be recalled, it must be important, or at least more important than alternatives that are not as readily recalled. Consequently, under the availability heuristic, people tend to weigh recent information more and older information less in forming their opinions.

such as high current account deficits, unsustainable external indebtedness and housing bubbles. The MIP is part of the EU's so-called 'six-pack' legislation, which aims to reinforce the monitoring and surveillance of macroeconomic policies in the EU and the euro area. The essential point is that Regulation 1176/2011 is meant to broaden surveillance beyond government finance because there is a need to prevent macroeconomic imbalances from becoming a problem even if their source is not the public finances of member states. The exercise is supposed to be based on *"an indicative and transparent scoreboard comprising indicative thresholds, combined with economic judgment"* (Regulation 1176/2011). The Commission publishes annual reports assessing which member states might be affected by imbalances and informing the European Parliament, the Council and the Eurogroup, with this assessment based on the above mentioned scoreboard of indicators, to which the Commission would make changes as necessary.

Thus, critical European statistics, in addition to those already being monitored with the help of the 'heavy' EDP procedure enshrined in Regulation 479/2009, needed to be compiled with a similar level of quality assurance to the statistics used for the EDP. The proposed statistical legislation was needed to ensure that the quality of the statistics underlying the MIP scoreboard was truly up to that standard of quality. The statistics underlying the first scoreboard were from the domains of government finance statistics, national accounts, balance of payments statistics, trade statistics, labour market statistics, monetary and financial statistics, and housing, foreign exchange and goods and services price statistics.

The legislative proposal was submitted in the first half of

2013. At the time of writing (2018), it has not been adopted[40]. Work on the proposed legislation apparently ceased in 2015 after attempts to redraft it to address objections from member states and EU institutions. There was resistance to enshrining into EU law, *inter alia,* the potentially 'open-ended' scope of the indicators and the statistics needed; standardised and specifically tailored quality reporting by member states of the statistics used for MIP; standardised and regular quality assessments of each member state's statistics used for MIP by the Commission/Eurostat; the possibility of investigations into misreporting of these statistics by member states; and the possibility of fines in the case of misreporting. There was overall resistance to some centralisation and to having a 'heavy' EDP-type procedure for the other European statistics, which was needed for the MIP to be effective and credible. In the meantime, the MIP is at the time of writing (2018) in its seventh year without a sufficiently robust quality assurance framework for the European statistics it uses, while the importance of these statistics in the governance of the EU has been elevated through the legislation and implementation of Regulation 1176/2011. Thus, the risks to the quality of these European statistics are there and may have actually increased since 2011 in accordance with Goodhart's law (see footnote 14).

While the member states and EU institutions were becoming less sensitive to the need to take measures to strengthen production of harmonised and high quality European statistics with the increasing distance from the trauma of the second crisis of European statistics in 2009, another disconcerting development was taking place in Greece. There was

40 See https://eur-lex.europa.eu/procedure/EN/202762.

a challenge to European statistics produced according to EU legislation and EU statistical principles enshrined in the Code of Practice and a prosecution of official statisticians who produced these statistics. Following the second crisis of European statistics, which erupted in late 2009 on account of the publicising of long-running manipulation and misreporting of Greece's government finance statistics, Greece was pressed by its European and international partners into reforming its production of European statistics. The Greek government finance statistics produced from the second notification under the Excessive Deficit Procedure in 2010 (published in November 2010) onwards were consistently validated by Eurostat following very thorough checking.

However, already by September 2011 criminal investigations were being initiated against the president[41] and some senior staff of the Greek NSI[42] precisely in relation to these fully validated European statistics. Criminal and civil charges were pressed in 2013 and 2014 both for the deficit and debt statistics themselves – which the charges claimed were artificially inflated – and the implementation of statistical principles from the Code of Practice (Eurostat, 2011). Convictions were secured in some courts in 2017 and 2018 in some of the criminal and civil cases. Other cases continued to be prosecuted or litigated[43], eight years after

41 The president of ELSTAT, who has been under prosecution, is the author of this study.
42 The NSI, formerly known as NSSG, had been recast as Hellenic Statistical Authority (ELSTAT) through a new Statistical Law adopted in March 2010.
43 A summary of the legal proceedings against official statisticians in Greece from 2011 to 2018 can be found on the website of the International Statistical Institute; see https://isi-web.org/images/news/2018-07_Court-proceedings-against-Andreas-Georgiou.pdf.

the publication of the relevant European statistics[44].

Moreover, in this period there were challenges in the form of legal cases against the Greek NSI in the Greek administrative courts. One such case concerned the implementation of the statistical principle of statistical confidentiality (indicator 5.2 in the Code of Practice) (Eurostat, 2011). Other cases concerned the classifications of a number of entities within General Government in accordance with ESA 95, where the classification had actually been the object of specific case-by-case clarification provided by Eurostat pursuant to article 10, paragraph 1 of Regulation 479/2009 confirming the classifications of these entities into General Government[45].

During this extended period (2011-18), EU institutions (including the European Statistical System) offered some expressions of concern about the prosecutions. However, issues so central to the production of European statistics and the governance of the EU as a whole continued to be handled in a controversial – to say the least – manner and as a strictly national matter. Politically driven prosecutions at national level of official statisticians for following EU statistical rules within a member state demonstrate remarkably clearly the limits

44 It should be noted that no judicial investigations and thus no prosecutions have ever taken place in relation to the rampant problems of Greece's pre-2010 production and reporting of European statistics in the areas of government finance and national accounts.

45 It is characteristic of the fundamental challenges to the framework of production of European statistics that the highest Greek administrative court's 2013 decision on the classification of the Music Hall of Athens (Megaron/OMMA), ordered the NSI to extract the Music Hall from the register of General Government Entities with the reasoning that the explanations of the Commission (Eurostat) provided by letter to the NSI (ELSTAT) in the form of a clarification pursuant to article 10 of Regulation 479/2009 would not alter the judgment of the Court, because the relevant department of the Commission (Eurostat) *"... does not make its own judgment about classifying OMMA into General Government, but accepts the relevant analysis of the competent national authority... "*.

of the current system of production of European statistics and its vulnerability to perverse incentives at national level[46].

In its 2012 report, the European Court of Auditors assessed whether the European Commission and Eurostat had improved the process of producing reliable and credible European statistics. The Court argued that this depended on adherence to the European Statistics Code of Practice, which provided the standards for developing, producing and disseminating statistics, and on the implementation of the European statistical programme. The Court's audit found that *"the European Statistics Code of Practice has only been partly implemented and that full implementation remained a challenge for all those involved both at the European level and within member states".* The Court noted that *"the code sets demanding standards but lacks strong verification and enforcement tools"*[47] (European Court of Auditors, 2012).

A second round of peer reviews within the ESS was launched in December 2013. All EU and EFTA countries[48] and Eurostat were included, as in the first round of peer reviews in 2006-08. A second round within five years had been envisaged in the 2008 Commission Report on the implementation of the Code of Practice (European Commission, 2008). In addition, the European Court of Auditors had recommended,

46 Such prosecutions have significant implications in terms of the risks to the actual quality (and the perception of the quality) of European statistics going forward given the incentive structures created for official statisticians, both within the country directly involved and in the rest of the EU. There are also significant implications for the practice and the perception of the rule of law and of human rights within the EU.

47 The legal proceedings and convictions in Greece against official statisticians (see above) are a glaring recent example of this lack.

48 European Free Trade Association: Iceland, Liechtenstein, Norway and Switzerland.

in its 2012 special report (European Court of Auditors, 2012) that a new round of peer reviews be started in 2013. The new round of peer reviews was more ambitious than the first, covering now all principles of the Code of Practice, the coordination role of NSIs within their national statistical systems and cooperation within and integration of the ESS. The ESS Task Force developed self-assessment questionnaires to assess these elements. Independent experts conducted the peer review following an "audit-like" approach in which all answers to the questionnaire were to be supported by evidence. Three-member peer review teams were responsible for assessing replies to the self-assessment questionnaires. The assessments were complemented by a five-day visit to each country.

The 2013-15 peer reviews were a positive step towards monitoring the implementation of the Code of Practice. However, despite the better preparation of the 2013-15 peer reviews, compared to those of 2006-08, the improvement in the effectiveness of the peer reviews was bound to be limited given the setup of autonomous production of European statistics by member states while these statistics are being used for the implementation and enforcement of the rules of the union of member states. In addition, generally there are limits to the effectiveness of peer reviews in the monitoring of the implementation of international statistical principles and of the quality of statistics (Georgiou 2017).

The 2015 Eurobarometer Report (Eurobarometer, 2015), which asked about the attitudes of Europeans towards official statistics produced in their countries, showed that trust in European statistics had declined from the already disconcertingly low levels of 2007 and 2009 (see section 2.2). According to the report *"an absolute majority … do not trust*

these statistics". Fifty percent of Europeans *"tend not to trust"* these official statistics (up from 45 percent and 46 percent in 2007 and 2009, respectively), while 6 percent said they *"do not know"* if they trust them or not (compared to 9 percent and 10 percent in 2007 and 2009, respectively). As Eurobarometer (2015) notes *"although the changes are modest, they confirm the downward trend in trust since 2007, when a narrow majority of Europeans 'tended to trust' the statistics (this had already ceased to be the case in 2009). The trust index therefore fell from +1 to -6 between 2007 and 2015".* The trend of declining credibility of and trust in European statistics[49] over the last decade, despite the steps to strengthen the existing system of production of European statistics, is outright disturbing and points to fundamental problems with this system of production and its philosophy.

A point to address is whether the problems and risks of the production of European statistics are problems of just a limited set of statistics or if they characterise also a broad range of statistical domains. The discussion in this study has

49 Some might assess the weight of these phenomena differently by arguing that the Eurobarometer survey actually measures trust in national official statistics and not European statistics (whereby European statistics "*are determined in the European statistical programme*" (Regulation (EC) No 223/2009), and that people do not identify with the concept of European statistics. However, the reality is that according to informal Eurostat staff estimates, 95 percent of official statistics produced by national statistical systems are European statistics. Moreover, if it were true that the public does not identify with the concept of European statistics, but only with national official statistics, it would be another indication that the 'brand' of European statistics, with its hoped-for signalling of high quality harmonised statistics, is not operational, and the reason would be none other than the fragmented production of European statistics by independent national producers. Following this argument to its logical conclusion, it would be important to shed the national identity of European statistics in order to increase trust in them and not to have them be burdened by the constraints to credibility faced by statistical producers embedded in national governments, which is precisely what we argue.

explicitly referred to problems that have repeatedly arisen in the area of government finance statistics. We have also noted that significant problems have arisen in the area of GDP/GNI statistics. Our aim has not been to identify, assess and catalogue every instance of significant problems in the quality of European statistics. The instances of problems presented in this paper are clear and are meant to help demonstrate the existence of fundamental risks inherent in the European Statistical System. In addition, the absence of detailed discussion in this paper of statistics from statistical domains beyond those relevant for inter alia the EDP, the MIP and the EU budget – government finance statistics and GDP/GNI statistics – does not mean that other European statistics have had no problems of quality and harmonisation. We have focused on these major economic aggregates because (i) they have been very important in the governance of the European Union; (ii) by their nature as major aggregates, they provide some idea about the quality of wide swaths of other official statistics; and (iii) there is significant information about them in the public domain, as these are statistics that have been subjected to relatively heavy scrutiny explicitly provided for by European Regulations.

It should be noted that the absence of detailed public discussion of issues in European statistics beyond those relevant for the EDP and the EU budget (government finance statistics and GDP/GNI statistics) does not mean that other European statistics have had no problems of quality and harmonisation. It is a fact that there have been problems in other statistical domains, but the fact that these other statistical domains have not been subjected to the relatively heavy and publicised scrutiny of statistics relevant for, say, the EDP

has meant that they have not been in the public eye. It would be a serious mistake to simply equate an absence of public discussion of problems in various areas of European statistics with a lack of problems so far and with a lack of risks going forward as these European statistics are increasingly used in the European Union.

To quickly summarise, as we approach the end of the second decade of the twenty-first century, the production of European statistics is carried out by the European Statistical System (ESS), which, according to the European Commission, can be described as a:

> *"... partnership between the Community statistical authority, which is the Commission (Eurostat), and the national statistical institutes (NSIs) and other national authorities responsible in each member state for the development, production and dissemination of European statistics. This Partnership also includes the EEA and EFTA countries. Member states collect data and compile statistics for national and EU purposes. The ESS functions as a network in which Eurostat's role is to lead the way in the harmonisation of statistics in close cooperation with the national statistical authorities. ESS work concentrates mainly on EU policy areas - but, with the extension of EU policies, harmonisation has been extended to nearly all statistical fields"*[50].

In 2015, the ESS as whole had an estimated 46,300 employees and incurred a total cost of production of all official statistics (not only European statistics) of €3 billion.

50 See http://ec.europa.eu/eurostat/web/european-statistical-system.

These figures have been provided by Eurostat staff[51] on the basis of responses to surveys by member states and Eurostat staff estimates (in case of non-response). The figures cover NSIs, their regional statistical offices and a significant part of Other National Authorities (eg ministries and other entities designated by member states as responsible for the development, production and dissemination of European statistics)[52]. Eurostat's costs and staff are also included in these figures. The figures include non-recurrent expenditure (eg for the census) and are on an accrual basis. On the basis of this information, we proceed with a rough estimate of the cost, in resources and staff, of the production of European statistics for the EU28 (including those European statistics that happen to be produced by National Central Banks) as of 2015[53]. According to this estimate, the production of European statistics *per se* (ie excluding official statistics for national needs) by the EU of 28 member states (ie excluding EFTA countries) cost about €2.8 billion and required about 43,500 staff in 2015. That cost was equivalent to about 0.019 percent of EU28 GDP.

51 The source of this information is Everaers (2017). The information was subsequently reproduced in ESGAB (2017).
52 Few, if any, of the National Central Banks' data are said to have been included in these data.
53 The estimates are based on inter alia the assumptions that European statistics products amount to about 95 percent of total official statistics products and this percentage translates into a similar share in terms of total monetary cost and staff resources (FTEs) needed for their production. Moreover, it is assumed that European statistics produced by National Central Banks and the ECB amount to about 5 percent of all European statistics in terms of monetary cost and staff resources.

3 EUROPEAN STATISTICS AS A PUBLIC GOOD

3.1 A basic theoretical view of European statistics as an EU-level public good

European statistics are often referred to as a *"public good"*. For example, the Eurostat (2015) notes: *"Official statistics offer an information infrastructure and a public good that responds to the needs of many categories of users – citizens, decision makers, researchers and journalists".* The Director General of Eurostat in a speech at the 2011 International Statistical Institute World Congress said that *"the free dissemination of statistics, as is the practice of Eurostat, reinforces the notion of statistics as being a public good"* (Radermacher, 2011).

Thus, the view of European statistics as a public good is generally accepted. We argue however that European statistics are a public good at the level of the EU and not just a local public good, ie not just a public good at the national level, and that this public good is also characterised by significant externalities on its production side. Below is a basic theoretical view of European statistics as an EU-level public good that gives more rigour to the argument and allows us to draw some significant conclusions.

European statistics are a public good at the EU level

because they provide *non-excludable* and *non-rival* benefits to all users in the Union.

Non-excludability is the property of a pure public good that makes it technically impossible or extremely costly to exclude any individual from the enjoyment of the good (Nicholson, 1978). Once a given amount of the good is available for anyone, it is available to everyone automatically and irrespective of whether any payment is made for the consumption of the good by any consumer. Should a larger amount or better quality of the good be produced, it is available to everyone as well. The good is characterised by indivisibilities. European statistics meets the criterion of non-excludability as they are by current practice and by law available to all users in the EU, irrespective of whether they have paid for this good or not. At the same time, improvements in the scope of European statistics or their quality are available to all users in the EU.

The other criterion of a public good – nonrivalness – is the property of a good that prevents rivalry among its consumers because enjoyment of the good by any one person does not deplete its availability to others (Nicholson, 1978). The appearance of new consumers does not lead to a correspondingly diminished consumption of others, as is the case with private goods, ie the good is non-depletable. European statistics meet this criterion because the use of the statistics by one user does not prevent other users in the EU from using them.

The demand for European statistics arises from the different types of users that exist. These users are the government and state administration of the member state producing them, but also – very importantly for the present analysis – those of other member states, the Union institutions, the

research/scientific community across the EU, the domestic and EU markets, the domestic public as well as the public of other member states that in one way or another are affected by what is going on in the producing member state[54]. As a public good at the level of the EU, the demand for official statistics is not derived by horizontally summing the 'demand curves' of the various EU users, as would be the case for goods that are not public (ie they are private goods), but by vertically summing them, as the given quantity and quality of official statistics is consumed simultaneously by the various users.

There can be a derivation of the 'demand curve' for European statistics regarding a specific member state from the declining marginal benefit curves of the individual users across the EU. One could schematically depict the marginal private benefits of various levels of quality of these statistics. The height of the curve indicates the maximum value or price the user would be willing to pay for increases in the quality of European Statistics of a given member state. Consecutive increases in the quality of European statistics would fetch declining prices. However, this is a pseudo-demand curve because European statistics are not offered in the market. The various users' pseudo-demand curves are combined to produce the marginal social benefits associated with the various levels of quality of the European statistics. The summation of the 'demand curves' is done vertically, as the given quantity or quality of an official statistic is consumed simultaneously by the various users. Thus, in a two-user example for illustra-

54 Of course, countries, markets and populations beyond the EU borders also present a demand for European statistics. This points to European statistics (and official statistics in general) being a global public good.

tion purposes, a given level of quality yields a marginal social benefit, which is MSB = MPB_{U1}+MPB_{U2}, in which MPB_{U1} could be the marginal private benefit to the government of the member state that the statistics describe (user U1) and MPB_{U2} could be the marginal private benefit to the government of another member state (user U2). Therefore, the marginal social benefit curve lies above any one marginal benefit curve (Figure 3). This is very different from the case of a private good, where the first unit of a product consumed by user U1 is different from the unit of the product consumed by user U2. So the demand for European statistics is characterised by:

For an increment of quality in the European statistics of a member state,

Marginal Social Benefit = Vertical Σ_i Marginal Private Benefit of User i (for i = 1, … , n)

The supply side for European statistics is provided by the Marginal Social Cost. The government of a member state that is producing European statistics is presumably estimating the marginal social cost. However, in the context of externalities, the marginal social cost may be different from the marginal private cost – the marginal internal cost of Pigou (Kohler, 1982). In the specific case of European statistics, the marginal private cost is the cost borne by the entity (member state government) actually producing the European statistics that describe the member state. If the production of a certain level of quality of European statistics involves a positive externality, the production of an extra increment of quality in such statistics reduces the cost of producing other goods/services. The producers of the other goods/services will benefit from an increase in their output for a given outlay or a reduction in their marginal cost. This is the marginal external cost of Pigou

and in this case, of generation of quality in the European statistics of a member state, it would be negative. This describes a production-side externality of the quality of European statistics of a member state.

Who are the other producers who are experiencing a reduction in their marginal cost from an additional increment in the quality of European statistics of member state A? They are producers of official statistics in other EU member states and in EU institutions (as well as official statistics producers in countries around the world and in international institutions). The rationale behind the decrease in their marginal private costs from an extra increment in the quality of the European statistics in member state A is as follows. If the quality of European statistics of member state A is low, then by association, the producer of European statistics for member state B will have to work harder in order to avoid the perception of country B's European statistics being afflicted by the same predicament, especially given that the various member states are supposed to operate on the basis of exactly the same rules – regulations and standards – and are subject to the same quality assurance mechanisms, eg by Eurostat[55]. Put differently, the statistics producer of member state B will have to work less hard to establish a given level of credibility (which is part of the quality of its European statistics) if the quality of the European statistics of member state A is increased by an increment.

Moreover, there is a quality-increasing effect for other pro-

55 This effect on other statistical producers also exists for the case of countries outside the Union. However, the effect is very powerful within the EU exactly because of all the legal and institutional framework in place, which is seen linking together the European statistics produced in the various member states.

ducers of European statistics given the same private inputs, in that higher quality statistics in one member state will lead to higher quality statistics in another member state when counterpart data is used in the production of its European statistics. The more counterpart data is used, the greater the dependence on the quality of the output of other statistical producers in the EU. The effect on European statistics producers at EU level, such as Eurostat and the European Central Bank, who use the statistics of each member state as inputs in producing their European statistics for the Union as a whole and subsets of members, increases further the importance of these external marginal costs[56].

The various conduits of contagion (with positive or negative effects) described above are the basis for this externality to operate vis-a-vis European statistics producers across the Union (producing statistics at member state level and at Union level).

Thus the supply of European statistics is characterised by:

For an increment of quality in European statistics,

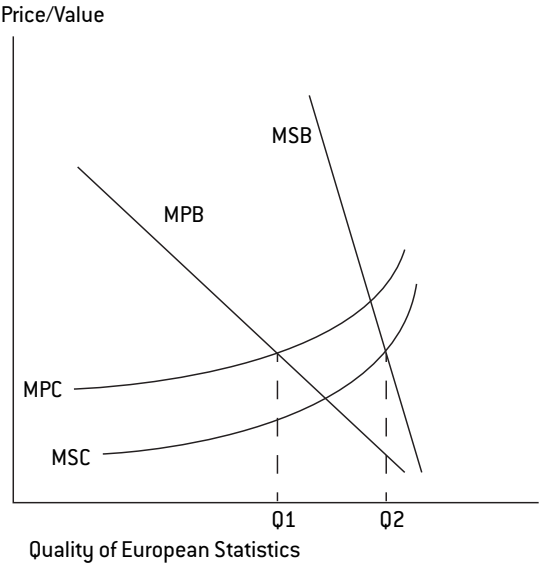
Marginal Social Cost = Marginal Private Cost + Σ_j Marginal External Cost of other producer j (for j = 1,…, m)

Therefore, the marginal social cost of producing an increment of quality of European statistics in member state A is the vertical addition of the marginal private cost of the producer member state A and the marginal external costs of the other producers in the EU. The implicit supply curve for increments of quality in European statistics in member state A is therefore located below the one that would be estimated from the perspective of the producer member state A alone (Figure 3),

56 There are similar effects at the international level, as international institutions, such as the International Monetary Fund, use member country official statistics to compile aggregated statistics.

as the government of that member state might overstate the marginal social cost for a given level of quality of its European statistics.

Figure 3: EU optimal quality of European statistics of a member state



The intersection of the Marginal Social Cost (MSC) line and the Marginal Social Benefit (MSB) line in Figure 3 corresponds to the optimal level of quality of European statistics of a member state, Q^2, for the EU. The outcome is higher quality than the one provided by the intersection of the Marginal Private Benefit (MPB) and Marginal Private Cost (MPC), Q^1, (or actually of MSB and MPC or of MPB and MSC). Moreover, the net social benefit shown as the area between the MSB and MSC lines in Figure 3 up to their intersection is larger than the area between the MPB and MPC lines up to their intersec-

tion, the area between MPB and MSC and the area between MSB and MPC.

This analysis of European statistics as an EU-level public good points to two fundamental conclusions:

- If this public good is left to be produced at a level decided upon by the individual member states, its level of quality will *inherently tend* to be lower than if the level is decided from the point of view of the EU as a whole.
- There would be an *increase in the welfare* of the EU as a whole from the adoption of a system of production of European statistics that would take into account their EU-level public good nature and their production externalities. By the same token, the perpetuation of a paradigm of production of European statistics that effectively leaves European statistics to be produced at a level of quality decided upon by the individual member states results in lower welfare for the EU as a whole.

3.2 European statistics as a public good and the theory of federalism

We believe it is important to explore further the implications of European statistics being a public good in the context of the European Union. In exploring this matter we take account of and use as an interlocutor the theory of federalism.

In his seminal paper on fiscal federalism, Oates (1999) discusses how the traditional theory of fiscal federalism lays out a general normative framework for the assignment of functions to different levels of government and the appro-

priate fiscal instruments for carrying out these functions. He notes that at the most general level, this theory contends that the central government should have the basic responsibility for the macroeconomic stabilisation function and income redistribution in the form of assistance to the poor. Then he makes the point that is important for our discussion:

> *"In addition to these functions, the central government must provide certain "national" public goods (like national defence) that provide services to the entire population of the country. Decentralised levels of government have their raison d'être in the provision of goods and services whose consumption is limited to their own jurisdictions. By tailoring outputs of such goods and services to the particular preferences and circumstances of their constituencies, decentralised provision increases economic welfare above that which results from the above uniform levels of such services that are likely under national provision. The basic point here is simply that that the efficient level of output of a 'local' public good (ie that for which the sum of residents' marginal benefits equals marginal cost) is likely to vary across jurisdictions as a result of both differences in preferences and cost differences. To maximise overall social welfare thus requires that local outputs vary accordingly" (Oates, 1999).*

In the context of the theory of federalism, the notion of an EU-level public good – as opposed to a member state-level, public good – applies to European statistics as these statistics provide services to the entire population of the EU. The member state level of statistical production does not have a *"raison d' être"* in the provision of European statistics *"whose*

consumption is limited to [the producing member states'] *own jurisdictions"* because – by definition and on account of the reality of use of European statistics – there is no provision of European statistics for consumption solely within the jurisdiction of a single member state. Such a solely national consumption could only apply to some official statistics conceivably produced for national needs, but not to European statistics.

The theory of federalism allows for goods and services produced in a decentralised manner to be tailored in accordance with the particular preferences and circumstances of the constituencies of various jurisdictions. On this basis some might argue for tailoring the output, and very importantly the quality, of European statistics to the particular preferences and circumstances of the various member state constituencies. Moreover, the decentralisation theorem in the theory of federalism provides another formulation of conditions that might be recalled by those who consider that national level production of European statistics is more appropriate than EU-level production. The theorem as presented in Oates (1999) states that:

> *"... in the absence of cost-savings from the centralised provision of a [local public] good and of interjurisdictional externalities, the level of welfare will always be at least as high (and typically higher) if Pareto-efficient levels of consumption are provided in each jurisdiction than if any single, uniform level of consumption is maintained across all jurisdictions".*

However, these arguments **cannot** apply to the production European statistics for the following reasons:

- First, regarding the argument for national production of European statistics as a local public good, these statistics are clearly not a local public good, ie the sum of all the marginal benefits in the EU is different from the marginal cost of the production of European statistics of the member state, when the production takes place locally.
- Second, decentralised provision of European statistics with local outputs varying in quality (and quantity-scope) could not possibly increase welfare beyond that which would result from a uniform federal, ie EU-level, production of a standard quality, taking into account the associated marginal benefits and costs for the EU as a whole. The analysis in section 3.1 points to the same conclusion. Furthermore, we would argue that decentralised provision of European statistics with local outputs varying in quality would actually produce lower welfare for the EU as a whole compared to centralised provision of statistics of standard quality.
- Third, there would be significant cost-savings in a system of centralised production compared to the current decentralised production of European statistics.
- Fourth, the argument in favour of decentralised provision of European statistics to achieve a variation in quality of statistics because some member states might prefer for themselves less quality in the European statistics they are responsible for than other member states is simply unacceptable, even if some might quietly think that this kind of 'flexibility' may be attractive to have available in reserve.
- Fifth, the seemingly broader (but similar to the above) argument in favour of decentralised provision of European statistics in order to 'not impose the one size fits all

paradigm' on the different administrative and political systems of member states begs the question of why different political and administrative systems in member states would *sensibly* need to affect and tailor to their own needs the production of an EU-level public good, which by definition is supposed to be harmonised across the EU[57].

The theory of federalism addresses the issue of spillovers. Oates (1999) states:

> *"The existence and magnitude of spillover effects from localised public policies clearly depend on the geographical extent of the relevant jurisdiction. One way to deal with such spillovers is to increase the size of the jurisdiction, thereby internalising the benefits and costs. … In practice, much of the problem stems from a set of existing boundaries that are largely historically and culturally determined and that may make little sense in terms of economic and geographical realities".*

This succinct and relevant formulation is very important for the European Statistical System and points to the need for an increase in the size of the jurisdiction that would be responsible for the production of European statistics, ie the need to integrate the production of European statistics. Oates' statement about boundaries that are largely historically and culturally determined and that might *"make little sense in*

57 National-level practices and institutions that may currently interact with nationally produced European statistics as if these statistics were just another 'cog in the wheel' of national politics and government administration should change for a welfare improvement at both national and EU levels.

terms of economic and geographical realities" is also quite appropriate for the EU context, and specifically for the production of its statistics. It could be argued that in a European Union with external borders and only vestiges of internal borders, free mobility of factors of production, integration of monetary policy (in some countries), direct supervision of significant banks and other integrated functions, the old, historically determined boundaries for European statistics are something that – as Oates' formulation implies – does not make much sense.

The production of European statistics can be seen as the public good, like a river between countries, the output of which is jointly shared by currently independent and autonomous jurisdictions that make decisions that affect the public good. From the perspective of the management of the public good (the river), as Oates (1999) would argue, it would make much more sense to place the river within a single jurisdiction. As we have argued in section 3.1, jointly shared output surely characterises the aggregated European statistics published at EU or euro-area level. Then there are the statistics such as trade or business statistics that are supposed to be produced using components from different jurisdictions (member states). Finally, the statistics produced seemingly fully within a single jurisdiction-member state actually have externalities involving other jurisdictions.

A potential objection to a centralisation/integration of the production of European statistics could be that it is better to let the member states' NSIs innovate by themselves because this would generate more innovation in general. But other NSIs can free ride on the innovation of others. This would actually lead to socially suboptimal innovation with the cur-

rent decentralised approach to the production of European statistics. Moreover, individual NSIs face cost/expertise constraints and are not capable of exploiting economies of scale in the current decentralised model of production of European statistics. Both these factors imply that pooling of resources is likely to generate more innovation in a centralised/integrated ESS. And if one feels that a single place for conducting research might hold back innovation, there is no reason why there cannot be 'competing' research centres within a centralised/integrated ESS.

In the absence of centralised/integrated production of the EU level public good of European statistics, a potential alternative approach to handling the interjurisdictional spillover effects could theoretically be the provision of matching grants from some central budget to the member states' National Statistical Institutes (NSIs). Matching grants (under which a central budget finances a specified share of the recipient's expenditure) could, according to theory, be used where the provision of a local good generates benefits for residents of other jurisdictions. The magnitude of the matching shares, in such instances, should reflect the extent of spillovers. Thus, one could imagine and argue for a significant increase in matching grants aiming to ensure the appropriate quality of European statistics produced in the decentralised NSIs, to complement the enhanced legal framework put in place in recent years, as described in section 2. The fundamental issue here is whether these measures would be sufficient.

While measures such as those mentioned above might help address some aspects of deficient and non-harmonised quality of European statistics, there are other aspects that it might not be possible to address. The diversity in the quality of statistics is

an issue that on some occasions arises simply because political forces want to influence, for their own reasons, the quality of statistics, and operate through the reaches of the state apparatus – of which the NSI in the current system is a part – to achieve this. These influences might not be deterred by the enhanced resource allocations and the legal framework. For example, it is questionable whether large matching grants from the European Commission for the production of government finance statistics in member states would have prevented the two crises of European statistics (section 2). Nor is it clear, more generally, that such Commission grants would prevent the emergence of problems if there were certain incentive structures (eg associated with the calculus of politicians/political groups) in the national setting to misreport statistics. Besides such considerations, another important issue is the total cost implication of this kind of a match-funding system, taking into account the outlays of the matching grants, the already cost-inefficient national production of European statistics and the enhanced need for monitoring the latter from the centre.

In conclusion, from the vantage point of the theory of federalism, European statistics do not fit the role of a local public good in the EU context, whereby national governments acting as *"decentralised levels of government focus their efforts on providing public goods whose consumption is limited primarily to their own constituencies* [and] *in this way, they can adapt outputs of such services to the particular tastes, costs, and other circumstances that characterise their jurisdictions"* (Oates, 1999). The consumption of European statistics is simply not limited to the member state producing them and they are not supposed to be adapted to fit the particular tastes, costs and other circumstances of the member state.

4 IS THE CURRENT STATE OF THE EUROPEAN STATISTICAL SYSTEM ADEQUATE?

The existing system for the production of critical European statistics is not adequate for the current state of the Union. Though the EU moved from Community to Union mode with the 1991 Maastricht Treaty, the European Statistical System (ESS) has remained in the partnership mode. Despite efforts over a period of decades to develop the ESS so it adequately serves the needs of the EU, these efforts have taken place within a confining paradigm with clear limitations[58]. The result is that there is a fundamental mismatch here – between the *current* state of the EU and the *current* ESS. It goes without saying that the current ESS would also not be consistent with

58 We do not underestimate the well-meaning and extensive efforts of many official statisticians as well as policy makers and legislators across the European Union – at national and EU levels – over many years to create a system of production of European statistics that is adequate for the needs of the EU. These efforts should be recognised and applauded. However, in the quest for progress one must not shy away from looking at the path taken and assessing whether it is time for a change in the path going forward so as to best serve in a sustainable manner the current and future needs of the EU and its citizens.

a further strengthening of the Union, with a more integrated euro area and EU. There is both historical evidence and analytical argumentation that the current system is not fit for purpose. In respect of the historical evidence, the history of the ESS (section 2) points to it being not fit for purpose. In this section, we review and summarise some of the analytical arguments that also support such an assessment.

European statistics is a public good at the EU level as it provides nonexcludable and nonrival benefits to all users in the EU. Moreover, the production of a certain level of quality of European statistics for one member state involves a positive production externality, whereby the production of an extra increment of quality in such statistics reduces the cost of producing other European statistics for other member states. These characteristics of European statistics imply that the optimal for the EU quality of European statistics of a member state is higher than the optimal for the government of that member state quality of its statistics. This means that left to national governments to produce European statistics for their countries, the quality of these statistics would be inherently lower than if the statistics were produced in an integrated manner serving the EU as a whole. Moreover, the approach of national governments autonomously producing European statistics results in lower than feasible welfare for the European Union as a whole (see section 3).

As European statistics describing any member state provide services to the entire population of the EU, they are not a 'local' – member state level – public good. However, European statistics are currently being produced under a decentralised system by member state-level producers as if they were such a local public good. This set-up is consistent

with varying and tailoring that local public good – the output, and very importantly the quality, of European statistics – to the particular preferences, costs and other circumstances of the various member state constituencies. This, of course, is inconsistent with the goals of *"ensur*[ing] *coherence and comparability of European statistics produced in accordance with the principles laid down in Article 285(2) of the Treaty"* that are highlighted upfront in the European Statistical Law.[59]

Behavioural economics research clearly indicates the potential for differential application of common European rules and for uneven quality in the compilation of European statistics. Lab studies in behavioural economics research have found repeatedly that *"while not everyone cheats when presented with the opportunity, under some circumstances most people will do so to a certain extent"*[60]. Behavioural economists have argued that *"one of the major implications of this work has to do with the troubling role of conflicts of interest and how they infect much of our lives in places we don't expect them to"*[61]. This point is fundamental for official statisticians in the current setup of the ESS, where there is autonomous production of European statistics by national administrations and these statistics are then used to apply the EU governance

59 See the first item of Preamble of Regulation (EC) No 223/2009 on European statistics.
60 See the work of expert groups such as Ethical Systems, https://www.ethicalsystems.org/content/cheating-honesty.
61 See https://www.ethicalsystems.org/content/cheating-honesty.

rules on these very same national administrations[62]. There is a fundamental conflict of interest in this setup of production of European statistics, which will inherently, sooner or later, lead official statisticians in some member states under certain circumstances to feel they have to choose between loyalty to their professional ethics and what they (and their political/policy-side nationals) might consider loyalty to the member state administration they are part of. The recognition that the current setup of production of European statistics is imbued with this conflict of interest and that the corresponding effect on behaviour can damage the harmonised and high quality of European statistics is an additional reason to consider the current ESS as inadequate for the current state of the EU.

There is a significant number of observers and users (including from academia), who have expressed views that there have been problems with the harmonised and high quality production of European statistics on account of lack of adherence to common rules and statistical principles in various EU countries.[63] Specifically, there is a common enough perception that either member states, in some cases, overtly failed to adhere to the common statistical rules or, in more widespread fashion, 'managed' the rules on the basis

62 Behavioural economist D. Ariely sets out what is certainly relevant for official statisticians in general and the current ESS in particular: *"accountants are plagued by deep ethical dilemmas – there may be times when their employers ask them to twist and tweak the financial position of the company because they've had a bad year. The usual spiel given is that they're definitely going to rake in the profits in the months that follow and that the deficits that have been covered up this year will more than be taken care of in the years to come. So the accountant is left wondering if he/she should be loyal to their professional ethics or show loyalty to the company that has hired them"* (Ariely, 2010).
63 See section 2 for examples of such views.

of political/policy considerations. Such perceptions, whether always fully corresponding to reality or not, are clearly a challenge to the view that the current paradigm of production of European statistics is adequate. Such perceptions remain a challenge even after the efforts undertaken over time to strengthen some of the components of the – albeit unchanged in its fundamentals – system.

In general, perceptions about official statistics by a noticeable percentage of users, while not necessarily an indicator of the quality of the statistics themselves, is certainly a significant factor in the creditability and effectiveness of the statistics, which is the end goal of official statistics production. It should thus be emphasised that the persistent perceptions of manipulation, falsification, fine tuning, creative accounting, innovative accounting, opportunistic accounting, fiscal gimmickry, etc[64] in relation to European statistics by a noticeable percentage of users cannot be ignored, even if one is persuaded of the actual accuracy of these official statistics. The adequacy of a system of production of European statistics would thus have to be judged not only on the basis of how the quality and harmonisation of these statistics is assessed by the producers of the statistics, their peer reviewers or major users of these official statistics (eg national governments). The adequacy of the system would have to be judged also on the basis of whether there is truly widespread acceptance of the view that European statistics are of high and harmonised quality, produced with independence, impartiality and objectivity. In the absence of that widespread acceptance, the

64 See indicatively De Grauwe (2009), Nowak and Shachmurove (2012), Dyson (2006), Balassone *et al* (2009), Milesi-Ferretti (2003), Dafflon and Rossi (1999) and Von Hagen and Wolff (2006).

system of production of European statistics would fall short of the requirements.

The current system of production of European statistics is not an enabling condition for the implementation of the EU's current rules (eg under the European Semester, including the Stability and Growth Pact and the Macroeconomic Imbalances Procedure[65]). The statistics production system is actually a drag on the implementation of these rules and creates vulnerabilities. The current set of complex economic policy rules in the EU relies on the measurement of unobserved decision variables (eg output gap, structural fiscal balance), which are in turn constructed using European statistics that might be of variable quality across member states. At the same time, the current system of production of these statistics does not allow for the necessary harmonisation of quality to a high standard *on a sustained basis*. This is also true for the statistics necessary for the measurement of social conditions and the effects of social policies, which are supposed to be monitored in tandem with economic conditions and policies with a view to calibrating all policies.

The current system is also not adequate for the needs of the market of the euro area or of the EU as a whole. The EU single market and economic welfare cannot be served properly if there is uncertainty about the economic environment in member states on account of uncertainty about the quality of statistics across member states. The uncertainty will surely lead to lower investment, consumption and employment within these member states characterised by this uncertainty, as well as more imbalanced trade and an imbalanced

65 For a discussion of the limitations of policy coordination in the euro area under the European Semester see Darvas and Leandro (2015).

allocation of investment across member states. As a consequence, there will be lower and more lopsided growth, with corresponding effects on welfare[66, 67] This is a similar situation to that of differentiated uncertainty about the effectiveness of policies across member states.

The current system of production of European statistics is also not adequate for the interests of supranational and subnational regions within the EU as well as for the Union as a whole because of uncertainty, reputation and contagion effects, in addition to any actual variability in the quality of statistics. Given the uncertainty about the standardisation of the quality of statistics, entire sections (groups of member states) in the EU that might be considered higher risk in terms of statistical quality and adherence to the common statistical and – as a consequence – policy rules would suffer the trade, investment, growth and welfare consequences described above for member states. This would tend to accentuate the differences and disparities between entire EU regions (and feed conceptualisations such as core versus periphery, north versus south, etc). Even for regions within member states there would be adverse consequences. First, the lack of harmonisation of the quality of statistics would tend to adversely affect subnational regions that, for example, may not be able to have their regional GDP *per capita* and other indicators accurately estimated, which in turn might lead to

66 The negative relationship between uncertainty and economic activity in the euro area has been recognised; see for example ECB (2016).
67 The difference in the trust placed in European statistics across member states by their own citizens, as presented by the 2015 Eurobarometer Report, is telling. The range of the percentage of Europeans that tend to trust their countries' official statistics is from a high of 73 percent in Sweden to 27 percent in Spain.

fewer subsidies or other assistance flowing to these regions within member states that most need them. Second, even if one were to argue that there would be no deficit in the actual accuracy of statistics directly resulting in lower support for weaker regions, such regions would still suffer – even though they can least afford it – from the weaker economic performance of the member states with more uncertain statistical quality they belong to.

The uncertain harmonisation of European statistics has negative effects on the economic fortunes of the EU as a whole. There is a reputation effect in relation to the reliability of statistics of all member states because uncertainty about some member states' statistics tends to reduce the confidence in all member states' statistics and in EU aggregated statistics, implying lower trade, investment and growth for the entire Union. Investors from outside the EU would tend to have greater doubts about the entire EU's statistics if they are uncertain about some of its member states' statistics, because investors tend to make assessments for the EU as a whole (reputation effect). In addition, the presentation of the EU in international forums would be weaker if there were uncertainties about the harmonisation of the quality of its statistics to an adequate standard across member states.

The underlying variability in the quality of European statistics across the member states (or the perception of variability) leads to a higher probability of economic crises for the EU as a whole. This is because a given member state may tend to get more easily into severe difficulties from its real (or perceived) shortfalls in statistical quality, which in turn can spread to the rest of the EU given the EU's deeply interconnected economic and financial system.

Beyond economic welfare arguments, the EU as a whole and individual member states are negatively affected in their fundamental values and principles[68] of inter alia democracy, the rule of law, justice, fairness, solidarity and even human rights, if European statistics are not of harmonised high quality. Statistics are an essential basis for a democratic society because reliable statistics enable the oversight and control of political leaders by their constituencies. Thus, an approach that permits differentiated quality of statistics across member states implies a differentiated implementation of democracy across the member states of the EU. It also means that the democratic EU institutions themselves may be undermined. This is because the evidence on the basis of which the leadership (including elected officials and representatives) of EU institutions is to be judged is potentially of lower than required quality as a whole, given the potentially uneven quality across parts of that evidence.

The current system of production of European statistics exudes a sense of excessive leeway for 'national specificities' and 'national approaches'. This is because there are different entities with different incentives producing the statistics across member states, while the appropriate control mechanisms for most European statistics are not in place. And even when some mechanism exists, such as for government finance statistics for the purposes of the Excessive Deficit Procedure, the mechanism has been proven repeatedly to not

68 Treaty on European Union, Article 2: *"The Union is founded on the values of respect for human dignity, freedom, democracy, equality, the rule of law and respect for human rights, including the rights of persons belonging to minorities. These values are common to the member states in a society in which pluralism, non-discrimination, tolerance, justice, solidarity and equality between women and men prevail".*

be fool proof. Indeed, in any given area of European statistics, Eurostat lacks the legal framework and/or the capacity/resources to fully monitor the quality and enforce the comparability of statistics of 28 member states with their own separate statistical production processes[69]. Therefore, there is a problem with properly monitoring the necessary array of European statistics across the entire membership of the EU. Shortcomings in monitoring can lead to different quality data or simply non-comparable data, which can be unfit for the governance of the EU, and the use of the markets and of EU citizens. Thus, the 'autonomous national production *cum* external surveillance' model underlying the quality assurance of European statistics is not even remotely fully applied and is far from fool proof (and would probably always remain so, especially given the cost implications if there were ever an effort to apply it in a fool proof manner).

European statistics production decentralised to the member states, with 28 different entities doing the same thing in 28 different ways, as well as increasing the risk that quality is uneven and that this goes undetected, is also outright wasteful. This is because economies of scale are not utilised, other cost reducing approaches to statistical production (such as microdata sharing) are difficult if not impossible to

69 Eurostat has often expressed in various forums its concern about the excessive costs in terms of staff and other resources involved in monitoring just a subset of the European statistics produced by Greece (see, for example, Radermacher, 2016). The interaction between the Greek NSI (ELSTAT) and Eurostat from 2010-15 was about ensuring the quality and comparability of the European statistics produced by ELSTAT (even after significant capacity building and radical reform had taken place in ELSTAT). If this was done for all member states and for all the critical European statistics they produce, it is obvious that the present system would not be able to accommodate it. It is not fit for the purpose.

implement, and there is a need for extensive quality control, without the latter being adequately effective, and with a good part of it amounting to double work[70].

An idea of the foregone economies of scale can be gleaned from data collected by Eurostat from surveyed member states (Everaers, 2017) and reproduced in the 2017 annual report of the European Statistical Governance Advisory Board (ESGAB, 2017). These data indicate that the cost of production of official statistics (the vast majority – about 95 percent – of which are European statistics) for small countries with fewer than 1 million inhabitants is more than double in terms of percent of GDP the cost for countries with more than 20 million inhabitants. There is a clear trend for continuous reduction in cost – albeit at a diminishing rate – as the size of a country, in terms of number of inhabitants, increases. And this is not an artefact of differences in the labour costs in smaller and larger countries[71]. As ESGAB (2017) states:

> *"In general, the production of statistics tends to have higher costs in smaller countries, whereas larger countries can benefit from an economy of scale… In terms of FTE - relating the number of permanent staff in 2015 to the country population - the corresponding ratios ranged from 1:2,500 to 1:28,000 and indicate larger countries tend to have less staff working in statistics per total population".*

70 Quality control would remain essential in any system and thus not all quality control currently carried out is unnecessary and a waste.
71 Labour (staff) costs account for most of the cost of statistical production. An estimate would be about 75 percent.

Taking these data into account[72], according to our rough estimates, European statistics produced in a fragmented manner by 28 different national production outfits results in foregone economies of scale that could correspond to higher costs of production by €0.5 billion to €1 billion (20 - 40 percent of 2015 costs). The lower bound of €0.5 billion incorporates the strong assumption that the salaries staff located throughout the EU would earn in an alternative, integrated ESS would equal the average Eurostat staff expenditure in 2015 (in Luxembourg)[73], with no adjustment for local purchasing power[74].

It should also be noted that in the current system, the production of European statistics using components from different member states that are subject to statistical confidentiality is hampered. This is because of the possibility of deleterious effects on the market competitiveness of a respondent in one country if confidential information leaks to competitors in another country in the process of the relevant microdata (for example, of European trade statistics) being exchanged between NSIs for statistical production purposes. This has contributed to the lack of timely adoption in the EU

72 Eurostat did not provide these data in tabular form, claiming confidentiality of individual member states' data. Thus the (anonymised) member states' data were only available in graphical form and had to be estimated from the graphs for the purposes of this study.

73 Estimated at about €96,000 annually.

74 The lower bound of €0.5 billion is produced using also the information that, in 2015, in some larger member states the ratio of permanent staff to the country population reached 1:28,000, and the assumption that this ratio is achievable for a system of production of European statistics matched to the population size of the EU28. In these circumstances the foregone economies of scale could translate into a nearly 60 percent difference in full-time equivalent staff – the difference between about 43,500 staff currently employed in the production of European statistics and about 17,750 staff that would be employed after exploiting economies of scale.

of the cost-reducing approach of sharing the microdata with corresponding negative effects on the cost of European statistics production. Even if these delays were overcome, the risk of 'state sponsored' leaks would continue to be significant as long as NSIs are separate institutions belonging to separate national administrations. However, both the risk of leaks and the cost of production of relevant European statistics could be minimised by carrying out the production of such statistics at European level and not at the level of individual member states (see section 5).

The current system of production of European statistics is also inadequate because it simply does not deliver statistics that are trusted by the majority of Europeans, and trust in statistics seems to be diminishing. This downward trend in trust has continued though the system of production of European statistics has been successively strengthened within the constraints of the current paradigm of each member state autonomously producing European statistics. Thus, the current paradigm of production of European statistics has simply not worked in terms of the fundamental issue of generating trust.

The problems of the current ESS are not the result of violations of the rules by 'just' some aberrant entities – 'bad apples' – within it. They are the natural and expected outcomes of the fundamental modalities of operation of the ESS in combination with the roles the statistical outputs of the ESS increasingly play in the functioning of the EU. It is too easy, and even borders on prejudice, to assign any problems of European statistics to one member state – Greece, for example – and to identify it as a 'special case'. Such a view would indicate that all is basically well with the ESS and the risks it faces are negligible, despite the multiplicity of argu-

ments made above, and only the 'special case' has caused the performance of the ESS to be less than expected on some occasions. Such a view might indicate that in the absence of the 'special case' ESS statistical production would be close to the ideal state, with all partners engaged effectively in self-regulation, aided by the occasional quality assessment by Eurostat (as a "partner") and by peer reviews every few years. According to this view, national level production of European statistics would be performing in ways that are consistent with statistical principles and European statistics would be sustainably produced to a level of quality that is socially optimal from the point of view of the EU as whole. However, this simplistic and idealistic view is just an easy, convenient way out and an excuse for not proactively putting in place the measures that need to be taken to address the deeper, inherent contradictions of the ESS as it is currently set up.

Thus, even though the repeated violations of both EU law and statistical principles in Greece, for example, have been very real and should be condemned, it is also both simplistic and inappropriate to equate the problems in the ESS with the problems in the statistical production of that single member state. Instead, the phenomena in that member state should be more productively recognised as the extreme but natural outcomes of the current setup of the ESS. At the same time, it should be clear that this argumentation is no excuse for any violations of common EU statistical rules and principles.

In conclusion, the current system for the production of critical European statistics is not adequate for the current state of the EU. One has to ask for what purpose to maintain such an approach – of member states not letting go of the production of European statistics. It unfortunately gives the

appearance of member states wanting to 'keep one foot out the door' and lack of commitment to the EU. The maintenance of the current approach gives the impression of putting the interests of national political classes and the turf or vested interests of national (political or administration) institutions ahead of the public interest/welfare, at both national and EU levels, or even of wanting to retain control, for opaque purposes, of the critical information that is European statistics. A new approach to the production of statistics for Europe is necessary. This paradigm shift is essential for the current functioning of the EU as well as a precondition for its further development and integration.

5 A PROPOSAL FOR A NEW EUROPEAN STATISTICAL SYSTEM

5.1 The basic model for the new European Statistical System

5.1.1 The goals to be met by the new ESS

The new approach to the European Statistical System (ESS) we present here is necessary for the production of European statistics. We argue that this is essential for the current level of integration of the European Union. In addition, it is a precondition for any further integration of the Union to be successful. The approach would aim at producing official statistics for the EU that are:

- Of assured high quality;
- Of harmonised quality;
- Provided in a very timely and punctual manner;
- Made available in a highly accessible, uniform and coordinated manner;
- Produced efficiently, minimising cost of production and response burden;

- Produced fully exploiting the confidential national micro-data of all member states in a secure manner;
- Produced fully taking advantage of the latest technological and other innovations;
- A vehicle for enhanced world leadership in statistical methodology, technology and governance.

5.1.2 An outline of the vision of the new ESS

The new ESS would achieve its goals by integrating the production and dissemination of statistics, and engaging in all investment and innovation as a single organisation. The reconstructed ESS would produce and disseminate European statistics under centralised responsibility. The National Statistical Institutes (NSIs) of the current system would be integrated and would become the branches of a single organisation – they would be transformed into European Statistical Institutes (ESIs). They would be part of a bigger total and would operate as such. In this context, all the ESIs would participate in appropriate division of labour and undergo necessary specialisation within the statistical business process of the integrated production and dissemination of European statistics, whereby, *inter alia*, different aspects of the business chain of European statistics would be designated to specific ESIs as competence centres. This integration would apply both to those parts of the statistical business process that have a statistical component, and those that are more general and applicable to the new ESS as an organisation. The ESIs would not be part of other national government administrative bodies, such as ministries. They would actually not be part of national administrations. At the

same time, the evolved ESS would not be part of European Union policy structures.

Integrating production and dissemination of European statistics and collective investment in innovation would be accompanied by the pooling and sharing of human and financial resources and of confidential microdata.

- The new system would be squarely based on the mobility of human resources between the branches of the integrated system – the ESIs – with their staff being multinational and having the status and conditions of employment of EU officials.
- A necessary element of the new system of production of European statistics would be the full sharing and unhindered exploitation across national boundaries of confidential microdata, with a single secure area that would allow distribution to and processing in specialised processing centres.
- Financial resources would be provided to the new ESS at EU level eliminating the financial dependence on national administrations and national budgets for the production of European statistics. The financing of the new integrated ESS would be provided within the general budget of the EU. In that sense the financing and accountability aspects would be akin to those of the European Court of Auditors. Resources would be distributed from a central source to the various ESIs according to need for carrying out the specific tasks allocated to them.

The ESIs would physically remain in the member states and would therefore have responsibility for data collec-

tion in the states where they would be located, in the cases where that would be considered appropriate and has not in the meantime been overtaken by technological developments. Some data collections, for example for multinational corporations, would naturally not be confined to a national setting from the start. National data collection for a while would be differentiated across member states on account of the availability of administrative records, and to the extent that such differences in data collection would result in higher quality statistics than in the case of harmonisation of the collection methods. In any event, following data collection and the necessary follow up, the production of these statistics would be centralised in competence centres.

5.1.3 Governance of the new ESS

Governance of the ESS would be first and foremost informed by statistical principles. This is the organising principle of the approach presented here.

The model currently applied to NSIs as provided for in article 5a of Regulation 223/2009 (as in force) would be an appropriate basis for the management of the ESS. There is no reason why the principles therein should not apply to the arrangements for the integrated ESS and its president. These provisions are fully consistent with the European Statistics Code of Practice, and in particular Principle 1 on Professional Independence (Eurostat, 2011). European statistical principles clearly point to the president of the entire integrated ESS having the following responsibilities (following closely the equivalent formulation in 5a of Regulation 223, as currently in force):

1. Sole responsibility for deciding on processes, statistical methods, standards and procedures, and on the content and timing of statistical releases and publications of European statistics developed, produced and disseminated by the integrated ESS;
2. The power to decide on all matters relating to the internal management of the integrated ESS;
3. To act in an independent manner while performing statistical tasks; neither seeking nor taking instructions from the European Union institutions or bodies, from any member state government or other institution, body, office or agency;
4. Responsibility for the statistical activities and budget execution of the integrated ESS;
5. Publication of an annual report and the right to comment on EU budget allocation issues related to the integrated ESS;
6. Coordination of the statistical activities of all national authorities outside the integrated ESS that might still be responsible for the development, production and dissemination of European statistics;
7. Production of guidelines, where necessary, to ensure quality in the development, production and dissemination of all European statistics within the integrated ESS, as well as of those European statistics that might still be produced outside the integrated ESS; monitoring and reviewing implementation of guidelines; responsibility for ensuring compliance with those guidelines solely within the integrated ESS; and

8. Representing the ESS internationally[75].

The process of selection of the president of the new ESS would be very important in ensuring the implementation of the principles of professional independence, impartiality and objectivity in the production of European statistics. Best practices would have to be used in an effort to ensure that this critical position is staffed solely on the basis of criteria of (a) high scientific training, with professional or academic expertise in the field of statistics or similar fields, combined with strong managerial capacity, and (b) the candidate's proven ability, as indicated by her/his professional and scientific career, to meet the requirements of the statistical principles

75 An alternative governance model would be to have the final responsibility for each major area of statistical production, eg government finance statistics or business statistics, belong to the head of that Directorate of the new ESS and not to the President of the new ESS. This alternative might offer the advantage of more focused or dedicated supervision by the final decision maker of the work in a statistical domain. However, there would be significant downsides. The heads of Directorates responsible for separate statistical domains would also need to control administration and finance in their Directorates to ensure the independence and impartiality of their statistical decisions as final decision makers. This would create centrifugal forces acting against integration and impeding the reaping of the benefits sought by the approach described in the present study. An equilibrium in which this system would very likely settle would be that of a decentralised-by-statistical-domain ESS. This would be akin in some ways to the situation in the US Federal Statistical System. However, the US system faces various challenges, which argue for further consolidation in the mode of the baseline model presented above for the new ESS. The challenges are related to a fragmentation of the legal and institutional framework, which may inter alia give rise to vulnerabilities for the uniform implementation of statistical principles. Thus, for the EU, moving to a new ESS that is decentralised by statistical domain would have negative repercussions for the harmonisation of quality across statistical products/domains. For example, the fragmentation of responsibility for the microdata on statistical units would result in significant costs in terms of both resources and quality. In conclusion, we believe that the alternative governance model in which final responsibility would be divided among different heads of ESS Directorates would not be optimal or consistent with the goals for the new ESS (section 5.1.1).

provided for in article 338 paragraph 2 of the Treaty on the Functioning of the European Union (TFEU), in article 2 of Regulation (EC) No 223/2009 and in the European Statistics Code of Practice. The president should be appointed on the basis of a mandate of adequate duration (eg seven years), strictly limited to one term. Appropriate criteria and procedures for dismissal of the ESS president would also need to be in place in the law to protect against infringing on the president's professional independence.

Governance of the ESIs, which would comprise the integrated ESS and be located in every member state, could take various alternative forms. Here we present one such model:

- Each ESI would have an administrative head – a director of management and administration, with responsibility for the ESI's finances, IT, national-level publications, public relations within the member state, and other administrative matters. This person would report to a general director of management and administration at the central level, who would manage these support functions for the entire ESS and report in turn to the ESS president.
- ESI statistical functions would be taken care of through a line of hierarchy that would be different from that for administrative functions. There would not be a 'traditional' director of statistical production at ESI level. Instead, there would be one or more specialised domain directors posted to each ESI. Domain directors would be located in the competence centres for the domains under their responsibility, and thus would be located across the EU in the corresponding ESIs. The various statistical domains would be managed by a general director for

statistical production (potentially with the assistance of deputies, each overseeing appropriately grouped statistical domains) at the central level, with domain directors for each domain reporting through this line of hierarchy.
- The general director for statistical production and the general director for management and administration would report to the ESS President. Ultimate responsibility and accountability for all matters within the integrated ESS would lie with the president.

Human and financial resource policies and administration would be planned and implemented for the ESS as a whole. Specifically, human resource issues (eg staff hiring, promotion, remuneration, terms and conditions of work), financial resource issues (eg access to approved budget funds, distribution of approved budget to expenditure lines, expenditure commitments, financial administration, settlement of expenditures), and other resource issues would all be under the purview of the general director for management and administration at the central level, managing these support functions for the entire ESS and reporting in turn to the president of the ESS where final accountability would lie.

The ESS accounting officer would draw up the ESS financial statements, which would be audited annually by an external auditor. The external auditor's reports would be published in the Official Journal of the European Union and sent to the European Parliament and to the Council. The ESS would compile a budgetary and financial management report providing an overview of the implementation of the ESS budget. The report would be submitted to the European Parliament and to the Council and would be made public. These

arrangements would be necessary ingredients of the system of accountability of the new ESS.

A further element of accountability of the ESS would be an internal audit service that would be independent in carrying out audits, which would cover all the ESS's activities and parts. It would have full and unlimited access to all the information needed to carry out its work. The European Parliament and the Council would receive reports containing the number and type of internal audits carried out, the recommendations made and the action taken on the basis of those recommendations.

Finally, there would be three additional institutions working with the ESS to provide it with oversight, advice, feedback and transparency, and thus contribute in important ways to its accountability. These would be: (i) a body that would check/oversee the ESS's adherence to statistical principles, (ii) a body representing users of European statistics that would convey user needs, and (iii) a body of non-EU official statisticians (ie statisticians from outside the EU) tasked with a regular and thorough review of the ESS's key statistical outputs.

The first of these – that would check/oversee the ESS's adherence to statistical principles – would be an advisory body resembling the currently existing European Statistical Governance Advisory Board (ESGAB), but would have a stronger mandate and ample human and financial resources allocated to it. Its purpose would be to provide an independent overview of the ESS's implementation of international statistical principles as set out in the European Statistics Code of Practice. This advisory body would prepare an annual report to the European Parliament and the Council on the

implementation of the Code of Practice in the ESS. The report would be made public at the time of its submission to the above EU institutions. The body would also advise the ESS on appropriate measures to facilitate the implementation of the Code of Practice, on how to communicate the Code of Practice to users and data providers and on the updating of the Code of Practice. The body would be outside the statistical perimeter, thus having no responsibility for processes, statistical methods, standards and procedures, or for the content and timing of statistical releases and publications for European statistics developed, produced and disseminated by the integrated ESS.

The members of the body that would check/oversee the adherence to statistical principles would be selected from among experts with exceptional skills and national and/or international experience in matters relating to international statistical principles. The members would not concurrently hold positions within the ESS and would be prohibited from holding such positions for a number of years following their departure from the body. They would be able to serve only a single term in the body and they would be expected to act with complete independence during their tenure. The procedures for the recruitment and dismissal of the members of this body would be transparent, laid down in EU law, and based only on professional criteria. Members of the body would be nominated by important stakeholders (that would also be named in EU law) in the quality of European statistics. Stakeholders would include EU institutions and, very importantly, stakeholders from the international community. Stakeholders that nominate members to this body would have no privileged access to, and would be explicitly expected

to exert no influence over, the members of the body.

Subsumed within the governance body exercising oversight over the implementation of statistical principles in the new ESS might need to exist a dedicated collective body to address the specific oversight needs of IT architecture and systems. It would contribute to accountability and quality assessment in a very important and specialised area, which in the new ESS would acquire even greater importance given the needs for security of the massive data movements and data storage. Securing and maintaining over time the independence of all IT operations of the integrated ESS from any supranational or national entities would be a challenge, as it has been in national settings[76]. This dedicated advisory oversight body would not have access to any confidential information, but would provide its opinion on the implementation of IT standards and the adequacy of confidentiality arrangements in place[77].

The second body, representing users of European statistics would resemble the current European Statistical Advisory Committee (ESAC) but with an evolved mandate and composition. It would be an advisory body tasked with advising the integrated ESS on users' needs so that they are taken into account in the coordination of the strategic goals and priorities of the ESS's statistical dissemination policy. The body would provide a published advisory opinion to the ESS in the preparation of ESS multiannual and annual statistical

76 The experience of the Canadian National Statistical Office (STATCAN) and Shared Services Canada regarding the governance of the former's IT systems is one example of challenges that would have to be addressed.
77 This oversight body could alternatively be completely separate from the body exercising oversight over the implementation of statistical principles and could have representation from all member states.

programmes by providing an advisory opinion covering: a) the areas in which it might be necessary for the ESS to develop new statistics; b) potential changes in the priorities of production of existing statistics by the ESS; c) the ways in which the relevance of ESS statistics can increase for users; d) whether the scope, level of analysis and cost of statistics correspond to the needs of users. This body would also provide an advisory opinion to the ESS, if a request is submitted to it by the ESS, on matters relating to the requirements of the users of European statistics, assessments of the relevance of existing European statistics and ESS policy on the dissemination of statistics.

The members of the advisory user body would be nominated by major institutions recognised in EU statistical law as users of European statistics or representatives of important groups of users. Thus, alongside nominations from institutional users such as the Council of the European Union and the European Parliament, there would be nominations from institutions representing the scientific community, social partners and civil society. In that sense, the body would resemble the currently existing European Statistical Advisory Committee. However, there would also be dedicated places in the body for nominees from users from the global community of users of European statistics. However, this advisory body would not include any representatives of producers of statistics or any currently active ESS staff. It would be exclusively a user committee.

The third body, of non-EU official statisticians (statisticians from outside the EU), would carry out regular and thorough reviews of the ESS's key statistical outputs. This would be consistent with the European Statistics Code of Practice

and Principle 4 on Commitment to Quality[78]. This body of non-EU statisticians would be staffed with expert staff from statistical offices and statistical systems around the world as well as statistical experts from international institutions. The outcomes of its reviews of ESS statistical outputs would be available to the public. The body would be exclusively advisory in nature and would have no responsibility for processes, statistical methods, standards and procedures, or for the content and timing of statistical releases and publications for European statistics developed, produced and disseminated by the integrated ESS.

Finally, to buttress its accountability, the ESS should be ready to submit itself to peer reviews that might exist within the international statistical community, as well as to the scrutiny of any international institution that might be set up in the future for monitoring the implementation of the United Nations Fundamental Principles of Official Statistics[79].

5.1.4 The benefits of the new ESS

The reconstruction of the business chain and the collective investment of the ESS would lead to the standardisation of the production process and thus to the desired harmonised quality and uniform availability of European statistics, with the effective elimination of discrepancies between member states/EU regions in the quality of statistical output and services. The standardisation of the full production process

78 Indicator 4.4 of Principle 4 of the Code of Practice: There is a regular and thorough review of the key statistical outputs using also external experts where appropriate.

79 For a proposal for the creation of an international institution for monitoring the implementation of the UN fundamental principles in national official statistics see Georgiou (2017).

would lead to quality improvements for European statistics without reducing the quality of statistics for any member state compared to what is produced under the current system of NSIs. Concentration of activities in a limited number of competence centres, along with multinational processing and distribution systems, would lead to a further increase in control over the quality of statistical outputs and services.

Specialisation of competence centres in specific areas of statistical production would improve the reliability, harmonisation and overall quality of European statistics, while significantly increasing cost effectiveness. Specialisation would increase professionalism, rendering the competence centres the most professionally advanced statistical units worldwide in their respective areas of work. The centres would be world leaders in developments in statistical methodology and processes. They would provide the sort of environment in which the conditions would be right for continuous improvement of processes and systems, with further salutary effects on quality, including cost effectiveness. The concentration of human capital and the wealth of data available would generally stimulate and support innovation in all areas.

The pooling and sharing of the multinational human resources in the ESS would be essential to ensure the legitimisation of the new approach to the production of European statistics[80] and the successful implementation of the innovated business chain. It would also be essential for reaping the full benefits of the system through increased professionalism and dynamism.

The 'multinationalisation' and federalisation of the ESIs

80 It would be a challenge to legitimise the production of, say, the government finance statistics of member state A by an ESI staffed exclusively by nationals of member state B.

would also serve as a fundamental condition for independence, impartiality and objectivity in the production of statistics, critically helping to keep political influences in the production of statistics for any given member state or part of the Union at bay, by severing the umbilical cord between national governments and the production of statistics by their own nationals, who would always be subject to some real or perceived conflicts of interest[81].

The fact that the ESIs would not only not be part of member state administrations or part of EU policy structures would be important in supporting the professional independence, impartiality and objectivity of the production of European statistics in relation to potential political influences at all levels – member states as well as EU institutions[82].

The provision at EU level of the new ESS's financial resources would eliminate the financial dependence of the production of European statistics on national administrations and national budgets. This would be another very important step – in addition to steps discussed earlier – in the breaking of the nexus of statistical production with national political systems and drastically reducing the possibility of pressures

81 As the production of European statistics is extracted from the purview of national governments, the capacity of such governments to use various means of pressure and influence (including judicial prosecution or threat of prosecution at the national level) on statistical authorities and on individual official statisticians to not follow EU statistical rules and statistical principles would significantly decrease.

82 Political influences emanating from member states or elsewhere could theoretically be exerted via European institutions controlling the new ESS's budget allocation and financial administration as well as the staffing and remuneration of the leadership and the rank and file of the new ESS. This is why, the position of the new ESS outside any EU policy structures and the provision of financing to the ESS in a transparent manner from the budget of the EU, with appropriate autonomy and accountability of the ESS in using its budget, are important.

on professional independence, impartiality and objectivity on the part of these systems.

An implication of the new ESS being financed within the general budget of the EU – in a similar setup to the European Court of Auditors – is that the new ESS would need to be established as an institution of the European Union, along with the European Council, the Council of the EU, the European Parliament, the European Commission, the Court of Justice of the EU, the European Court of Auditors and the European Central Bank. This would require a change to the Treaty on the Functioning of the European Union (TFEU) and it would be the appropriate long-term solution. Section 5.2 discusses transitional arrangements.

The appropriate governance of the new ESS, together with its financing arrangements, the extraction of the ESS/ESIs from administrative and policy structures at both national and EU levels and the 'multinationalisation' of the ESS/ESIs, would bring about **institutional** independence for the ESS.

Achieving the institutional independence of the production of official statistics (and in this case European statistics) as a distinct concept from that of professional independence of official statisticians is fundamental[83, 84]. To be institutionally independent, the production of official statistics must be independent from the executive, legislative or judicial branches of government. To be professionally independent, official statisticians must (i) have the sole responsibility for deciding on statistical methods, standards and procedures,

83 The discussion here of the issue of institutional independence of official statistics production and its relation to professional independence is from Georgiou (2018).
84 The distinction is akin to the distinction between institutional independence and decisional independence in the case of the judiciary.

and on the content and timing of statistical releases; (ii) have responsibility for ensuring that statistics are developed, produced and disseminated in an independent manner; (iii) be free from political and other external interference in developing, producing and disseminating statistics; and (iv) be able to compile statistics solely on the basis of statistical principles and statistical legislation in force, without letting any other concerns, including fear or favour, sway their statistical decisions. Thus, in the same way as the judiciary's institutional independence is a fundamental condition for its decisional independence, so the institutional independence of the production of European statistics (official statistics) is a fundamental condition of existence of **sustainable** professional independence, impartiality and objectivity in the production of European statistics (official statistics) (Georgiou, 2018).

The result of the arrangements envisaged above (sections 5.1.1 - 5.1.3) for the new ESS would not only be reliable and objective European statistics produced with professional independence, but also highly harmonised European statistics.[85]

Turning to the sharing of all data, and in particular of microdata, its importance under an integrated ESS – no matter what the member state of origin within the produc-

85 This does not mean that situations could not possibly arise in the new ESS where there would be some problem with the quality and harmonisation of European statistics produced for some member state. Such a problem could potentially arise, for example, from actions by a member state's government/administration to 'manage' the statistical rules (see discussion in section 2.1) or affect the integrity of upstream data sources. However, without the presence and collaboration of official statisticians as civil servants of the member state and with the new ESS being independent of policy structures at both national and EU levels, such 'management' of the rules, for example, would be a lot more difficult to pull off and a lot easier to detect/expose, and thus to control, than under the current setup for the production of European statistics.

tion chains of the new ESS – cannot be overemphasised. The sharing would allow for large efficiency gains, as well as significant reductions in the risk to the confidentiality of respondents and in the burden of respondents, leading in turn to improvements in accuracy and reliability.

More specifically, the full sharing and unhindered exploitation of confidential microdata across national boundaries with a single secure area, which would allow distribution and processing in specialised processing centres, would result in the more efficient production of statistics, such as trade and business statistics, within the EU. Full sharing would have a major impact on costs in terms of human and financial resources, but also in terms of time and administrative friction, which would be incurred in any system aiming to carry out data sharing among the current – separated by national borders – NSIs. All the above, would also result in improvements in reliability, accuracy and timeliness.

The sharing of microdata in the framework of the new ESS would significantly reduce the risks to statistical confidentiality. Very importantly, there would be significant benefits for respondents within survey populations (statistical units) from improved confidentiality protection, with the move away from a system of sharing microdata among separate NSIs belonging to national administrations. At the same time, the reputation risk faced by any NSI, which might decide under the current system to engage in exchanges of microdata with other NSIs, will disappear. In its place in the new ESS there will be, in our view, a much smaller risk corresponding to the perceived probability of leakages (eg to industry competitors) from a centrally-run supranational system. A perception of more secure confidentiality would benefit the reliability and

accuracy of statistics through improved response rates and more accurate responses from statistical units, compared to the situation in a system of microdata exchanges between separate NSIs.

At the same time, there would be burden reduction for respondents within survey populations because the same data would not be collected twice in case of economic and financial transactions and positions across national boundaries. There would also be reduced burden from the adoption of the most efficient approach to data sharing between/across statistical domains, using the best practice available and applying it uniformly for all member states, affecting the burden on the respondents in these states.

The above matters – confidentiality, burden, cost effectiveness, timeliness, accuracy and reliability – are of course fundamental aspects of quality of official statistics that are affected by a sharing of confidential microdata within a new ESS. The sharing of microdata across jurisdictions and statistical domains in the new ESS would simply improve the quality of European statistics.

At the same time, the sharing of the microdata would become an integration engine and would shape the new ESS. It actually requires the integration presented here. The sustainable sharing of microdata across national frontiers is not likely in a system of 'partnering' national-level statistical producers. Even within a single national system that is decentralised to subject-matter statistical producers, it is very difficult to achieve full and sustainable sharing of microdata

across statistical producers/domains[86]. Sharing of microdata requires full integration across both national statistical institutes and statistical domains. Therefore, a decentralised system such as the current ESS that aims to reap the benefits of sharing microdata will – as the current one does – face challenges in achieving extensive and sustainable sharing of the microdata relevant for a single statistical domain. Such a system will very likely have further trouble allowing for the sharing of the microdata between/across different statistical domains. Thus, the sharing of microdata requires, and at the same time is a basic driver for, the integration of the ESS, while an integrated ESS would need to share microdata in order to exploit the large potential gains in many aspects of quality.

The integration of collection, production and dissemination of European statistics would lead to significant cost reductions on account of economies of scale. Data from member states from 2015 indicate that there is a tendency for continuous reduction in the cost of production of European statistics – albeit at a diminishing rate – as the size of a country in terms of population increases. Taking these data into account, as discussed in section 4, one can get a rough idea of the scale of possible cost savings from the elimination of the current fragmentation in the collection, production and dissemination of European statistics. These savings could amount to €0.5 billion to €1 billion euro, or a 20-40 percent cost reduction, assuming that the cost efficiency of the most

86 The long-lasting difficulty in effecting the sharing of microdata between federal statistical agencies in the US Federal Statistical System is testament to the difficulties when there is no integration across statistical domains and producers. For a brief description of some pressing issues of microdata sharing in the US Federal Statistical System, see Pilot (2011).

cost efficient large countries could be reproduced in a new, integrated ESS serving the statistical needs of the EU-28. The cost reduction from exploiting the economies of scale, simply by eliminating fragmentation, would be on the higher side if the trends of increasing labour efficiency and declining total production cost (as a percent of GDP) with increasing population size are taken into account and modelled/extrapolated for the EU28 as a whole and if EU institution salaries provided to official statisticians in ESIs located in member states are adjusted for purchasing power.

Collective investment in the technology of collection, production and dissemination of statistics, the use of common databases (notably regarding microdata) and implementation of cutting-edge systems across the ESS would enable technological and financial options and solutions that would not be there in a fragmented system. This in turn would lead to sustained, rapid and continuous gains in efficiency over time, at significantly lower cost as a percent of GDP, for the production of European statistics.

The elimination of duplication of statistical activities would apply all along the production chain. The associated increase in cost effectiveness would affect both the production of European statistics and the administration/management aspects of this production. Moreover, only the most resource-efficient procedures would be maintained and applied across countries, with savings arising from this rationalisation. As already noted, specialisation of competence centres in specific areas of statistical production would further increase the cost effectiveness of the production of the statistics, given the use of the most highly qualified staff on the subject matter in fully adequate numbers, working with

the most advanced systems and processes, with unhindered access to the necessary databases, exploiting economies of scale. These competence centres, by the sheer concentration of human capital and data/information, would also maximise the speed of improvements in processes and systems, and thus of cost effectiveness gains.

The above noted cost reductions would arise first from reductions in labour costs, which are estimated to account in the current decentralised production arrangements for about three quarters of the cost of producing European statistics. Under the new integrated production system, fewer staff would be needed on account of non-duplication of methodological/statistical expertise across the ESS. Competence centres handling and processing at the same time the data of all member states would operate with a fraction of the number of staff currently used for the handling of all the separate databases in the current, fragmented ESS. The resources currently used for the collection and follow up of the data could also be reduced, but less so in the early stages of the integrated system. However, as collection moves more decisively, uniformly and rapidly under the new system to internet-mediated, administrative data, data capture, big-data exploitation and other data-collection modes, the labour required for 'legacy' collection modalities in the national-based ESIs would also decline, because these functions would be transferred to competence centres and consolidated. This would lead to additional savings in labour costs. Furthermore, fewer staff would be needed as best practices from a cost efficiency point of view would be adopted across all ESIs and all statistical domains, with standardised best practices encompassing *inter alia* collection systems, pro-

cessing systems, tabulation systems, database management and IT systems more broadly. Importantly, the standardised practices would also concern the administration of the ESIs. In addition to the above considerations, a big part of staff resources associated with the communications/dialogue/data transmissions between member state statistical authorities and Eurostat would no longer be necessary.

The consolidation of the large number of currently existing technology systems into a significantly smaller number of state-of-the-art systems would reduce costs by avoiding the current setup of multiple non-interchangeable (non-interoperable) systems of various vintages, processing capabilities, susceptibilities to problems and amenabilities to solutions. Addressing any emerging problems in the smaller number of larger interoperable systems, with extensive technical experience and expertise, would reduce maintenance and operation costs.

The salutary effects of the integration in terms of labour costs would also apply to the maintenance costs of systems and investments in infrastructure. It would be possible to negotiate cheaper purchase, installation and maintenance of a consolidated massive system in any given area, than in the current situation of doing so separately and with no coordination for 28 NSIs, Eurostat and a multitude of Other National Authorities that produce European statistics.

5.2 Issues of transition to the new European Statistical System

5.2.1 The scope of the statistics produced and the participation of member states

The baseline model of the new ESS (section 5.1) involves the production of all European statistics of all EU member states by the new, integrated ESS. In regards to the scope of the statistics produced, this would involve absorbing into the network of ESIs – the transformed NSIs – all the statistics currently covered by EU regulations, irrespective of whether they are currently produced by NSIs or Other National Authorities (ONAs). In the current situation, the division of labour for the production of European statistics across member states is not uniform. In some countries, the production of a given statistical product may be taking place in the NSI, while in others it could be taking place in a ministry or in the national central bank. Thus the baseline model would have all European statistics gathered from these different groups of statistical producers in the member states and produced by the new ESS.

There can be transitional arrangements towards the baseline model of the ESS producing the entire scope of European statistics.

A basic transitional arrangement in terms of the scope of statistics to be produced by the new ESS is the gradual or stage-like absorption of all European statistical domains in the new ESS, with the initial core being composed of the statistics that are currently most vital to the management, stability and growth of the EU. These could be defined, for example, as the statistics that are considered the basis for the implementation of the Stability and Growth Pact and the Macroeconomic Imbalances Procedure. These statistics would

inter alia include annual and quarterly national accounts, government finance statistics, monetary and financial accounts, employment statistics, balance of payments statistics and housing prices[87]. These European statistics would be carved out from the production of NSIs and ONAs in member states and would be produced by the integrated ESS. This would automatically imply that the rest of European statistics produced would initially remain under national production, which would in turn imply the continued existence of NSIs as well as ONAs in member states.

This approach would be dynamic, with the absorption of further domains into the integrated ESS in phases. It has the advantage that the rationale for the integrated production of European statistics so evidently critical to the management – and even survival – of the EU would be evident to most stakeholders and decision makers and would allow the gathering of the necessary 'take-off speed' for a new ESS.

A variation of this approach is one where a more limited group of statistics is selected in an exploratory manner or in

87 The focus on these economic statistics certainly reflects the data priorities already identified in EU collective economic management processes. However, it is already some years now that it is accepted that non-economic considerations would need to enter into the EU's collective (including economic) management decision making. For example, the President of the Commission in 2014 declared that *"any support and reform programme goes not only through a fiscal sustainability assessment; but through a social impact assessment as well"* (Juncker, 2014). More recently there have been renewed pledges in this area, with *inter alia* the European Commission wanting to include a social pillar in the European semester. *"We from the Commission, we are going to integrate this social pillar in the European semester",* Marianne Thyssen, the Commissioner in charge of social affairs and employment, as well as issues of European statistics, stated after an EU summit in November 2017 *"to strengthen the social aspect of the bloc to protect workers, and help the underprivileged"* (Kirk and Zalan, 2017). Thus, looking forward, certain social and environmental statistics will also be important at EU level and would constitute potential candidates for inclusion in the initial core of statistics to be produced by the new ESS.

order to address other goals, such as the sharing of microdata across member states, which would be difficult to achieve without integrated ESS collection and production of the corresponding statistics. Thus, for example, the integration of international trade and business statistics could be the starting point of such an approach.

In regards to the participation of EU member states, a transitional arrangement (model) before reaching the baseline model could be to have initial participation in the new ESS by a subset of EU member states, with others joining over time. The first group of participants in the integrated ESS could, for instance, be those member states that need to coordinate their policies the most – euro-area members. Members of other policy-related groupings, such as those associated with the Single Resolution Mechanism or the Euro Plus Pact, could then be considered as natural second-wave participants. Alternatively, a looser approach could be followed, and the first participants in the new ESS could be those that desire more rapid integration with other member states (akin to the 'multiple speeds integration approach' discussed in EU policy circles).

Table 1 shows eight different alternatives to the fully integrated ESS baseline model.

Table 1: Variations of a model for the beginning of an integrated ESS

	All EU members	Euro-area members	Willing EU members
All European statistics	Baseline model - A	B	C
SGP & MIP statistics	D	E	F
Some European statistics	G	H	I

Moving immediately to baseline model A might appear somewhat daunting in terms of the logistics of setting it up as well as the political will that would be needed to set it up with all EU member states participating and all European statistics domains covered. At the same time, baseline model A sets the bar at the right level and, even if it is not created in a full-fledged manner from the start, it can serve as an explicit and well-defined long-term target – a beacon – to be reached with a reasonable but catalytic timetable. Alternative models, focusing on the needs of the euro area (such as model B) or the needs to secure specific statistical domains (such as models D or G) or a combination of the two types of needs (such as models E or H) could be more easy to argue for as starting points. The fact that there is already significant coordination on the user side of the statistical products in terms of European policy institutions (eg the Eurogroup) certainly helps in arguing for such transitional arrangements. Finally, models that appeal to a voluntarist and/or exploratory approach, involving some EU members and/or some limited statistical domains (such as model I) might seem appealing in the first instance, but would depend too much on the will of specific governments and decision makers, with somewhat uncertain follow up in terms of the path to full integration (both in terms of member states and statistical domains).

In discussing the alternative transition models, it is important to note the implied coexistence within these models of (i) a partially integrated ESS and EU member states producing European statistics on their own and/or (ii) European statistics domains that are not produced by the integrated ESS and European statistics that are. The presence of such phenomena would actually require the existence of institu-

tions and practices akin to the currently existing ones in the ESS, alongside the partially integrated ESS. Thus, NSIs producing European statistics would coexist (at least for a while) with ESIs and the central administration of the new ESS.

A related issue to address is the genesis of the network of ESIs of the new integrated ESS, in the context of pre-existing NSIs. One model would be that the network of ESIs is generated in the first instance as a carved out set of current NSI functions and facilities. For example, the beginning could be a separation (carving out) of some structures in each NSI, responsible for certain statistical products such as government finance and GDP statistics or statistics that underlie the MIP. These carved out structures (with corresponding facilities in each member state) would be staffed by local-origin and multinational staff. To the extent that these separated structures become a competence centre in the integrated ESS, the mixing of staff, from all over the EU, would be accelerated. The above facilities, structures and processes would be part of the new integrated ESS, and would not be part of the NSI and the national administration of the member state. The rest of the NSI would continue to be there, operating as it currently does and interacting with the ESI regarding data flows in the way that upstream and downstream data producers currently interact. Over time and as more European statistics are incorporated in the ESS/ESI mandate, the local NSI would shrink and its funding needs would decline, while the ESI – locally, as well as in other locations in the ESS – would burgeon.

A question that arises concerns the nature of the relationship between the new integrated ESS and the parts of the 'old' system that would remain active, whether 'rump' NSIs

(see above) or ONAs still producing European statistics. One approach would be that the new ESS would take on a coordination and leadership role in relation to the rest of the statistical producers in the national statistical system, in quite a similar way that a NSI is supposed to coordinate and lead production of European statistics within national statistical systems[88]. However, it would not be appropriate to have the relationship between the new integrated ESS and the rump NSI of the member state mediated to any significant extent by the ESI located in that member state. While there would be some contact, the governance links/mechanisms would be between the EU-level parts of the new ESS and the rump NSI. In this relationship, which would be similar in some ways to that between Eurostat and NSIs in the current system, there would be coordination, leadership as well as quality control on the basis of provisions similar to those provided for in current EU statistical legislation – whether the EU's statistics law (Regulation 223/2009) or sectoral statistical legislation.

In an alternative approach, the ESS would not take on the role that the NSI is currently playing in the national statistical system. The rump NSI would continue (during the transition period and until the NSI's European statistics mandate is fully transferred to the ESI) to play the leadership and coordination role in the production of European statistics in relation to the unconsolidated (with the new ESS) national statistical system, broadly as provided for in Regulation 223/2009. This approach would be different from the one in the previous paragraph only on account of the

88 See articles 5, 5a in Regulation (EU) 2015/759 amending Regulation (EC) No 223/2009 on European statistics.

identity of the entity coordinating the unconsolidated (with the new ESS) national statistical system; here it would be the rump NSI, while in the previous paragraph it would be the new ESS (centrally at EU level).

The fundamental point is that any transition model, ie any model in Table 1, except baseline model A, should be seen exactly as that – as an interim/transitional arrangement – while the next stage of integration, either by accession of more member states or by incorporation of more statistical domains into the new ESS, is being prepared. Eventually, all European statistics of all member states would be produced within the new, fully integrated ESS.

5.2.2 Issues of financing and institutional setup

The baseline model for the new ESS (section 5.1) envisages that the financing of the new integrated ESS would be provided within the general budget of the EU and the financing and accountability aspects could be similar to those applying to the European Court of Auditors. As already noted, this would go hand in hand with the new ESS being established as an institution of the European Union, which would require a change in the TFEU. This would be the appropriate long-term solution. Transitional arrangements could be considered.

A transitional arrangement in terms of institutional setup would be to proceed with the ESS as a part of the European Commission, but with very clear and unambiguous independence enshrined in the Statistical Law of the Union, through a revision of Regulation 223. The new ESS could borrow some elements of a Commission institution but with full guarantees of its independence in the production and dissemination of statistics as well as, very importantly, in

terms of its administration. This transitional arrangement would imply that the ESS would be funded from the European Commission's budget until the TFEU is changed to establish the ESS as an EU institution.

An alternative transitional arrangement could be that the new ESS becomes associated with the European Council, if it were deemed that this would ensure greater independence of the new ESS from the executive and administrative functions of the EU and at the same time enable the ESS to receive the necessary funding. Again, however, EU law would have to provide full guarantees of the independence of the ESS in the production and dissemination of statistics as well as in its administration.

Finally, another possible transitional setup would see the new ESS being a decentralised EU agency, which would have its budget funded by transfers from the Commission budget. Most decentralised agencies are either created by the Council on the basis of Article 352 TFEU[89], or by the Parliament and the Council (ordinary legislative procedure) on the basis of a specific Treaty provision. Such an approach could potentially also be used in the case of the new ESS. Guarantees of ESS independence would again have to be provided for in EU law.

89 Article 352 TFEU: *"1. If action by the Union should prove necessary, within the framework of the policies defined in the Treaties, to attain one of the objectives set out in the Treaties, and the Treaties have not provided the necessary powers, the Council, acting unanimously on a proposal from the Commission and after obtaining the consent of the European Parliament, shall adopt the appropriate measures. Where the measures in question are adopted by the Council in accordance with a special legislative procedure, it shall also act unanimously on a proposal from the Commission and after obtaining the consent of the European Parliament".*

5.2.3 The issue of Other National Authorities producing European statistics

If the statistics of Other National Authorities (ONAs) belong within the perimeter of European statistics, then in accordance with the proposed baseline model A of a fully integrated ESS (Table 1) there would have to be a change in the current situation with the ONAs. One option would be for an ONA to give up its production of the European statistics that it is currently producing and for that production to be picked up by the new, integrated ESS, which would produce these statistics from scratch. The other option would be for the ONA to carve out the statistical production unit (structure) currently within its organisation/agency that is responsible for the production of European statistics and transfer it to the new ESS.

Finally, in any transitional arrangement, before reaching baseline model A of a fully integrated ESS, the European statistics of (some) ONAs could continue to be produced by the ONAs for the duration of the transition period. In that case, the production of statistics by ONAs could be coordinated either by the new ESS or by the rump NSI, if the latter continues to produce some European statistics[90].

5.2.4 The issue of other official statistics for national needs

Baseline model A envisages all statistics defined as European statistics being produced in the long run steady state by the new, integrated ESS. However, other statistics would need to be produced within the borders of the EU that could qualify as official statistics. The issue therefore needs

90 See discussion in section 5.2.1.

to be addressed of how purely national statistical needs would be handled in the era of the new, integrated ESS.

One approach would be to have the new ESS cater also for such needs, in addition to catering for the needs for production of European statistics. This approach would be similar to the way that a NSI accepts and carries out statistical projects for clients today. The specific work associated with each project would be fully costed by the ESS and paid for/financed from the national budget of the member state in need of those statistics.

An alternative approach could be the retention of a NSI-like institution at national level by the member state to satisfy purely national needs. However, in the baseline model, such an institution would not produce any European statistics and would be fully financed from the budget of the member state.

6 INSTITUTIONAL AND LEGAL ISSUES OF EUROPEAN STATISTICAL SYSTEM INTEGRATION

6.1 Consistency of ESS integration with the principle of subsidiarity

Discussion and work towards a new, integrated ESS would have to address the issue of consistency with the principle of subsidiarity. In this section we argue that a new, integrated ESS is consistent with the principle of subsidiarity.

The principle of subsidiarity was established by the Treaty of Maastricht (in force on 1 November 1993). The present formulation is contained in Article 3b of the Treaty on European Union (following the Treaty of Lisbon, which entered into force on December 1 2009):

> *"Under the principle of subsidiarity, in areas which do not fall within its exclusive competence, the Union shall act only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the member states, either at central level or at regional and local level, but can rather,*

by reason of the scale or effects of the proposed action, be better achieved at Union level".

According to European Union publications[91], the principle of subsidiarity:

"... aims to ensure that decisions are taken as closely as possible to the citizen and that constant checks are made to verify that action at EU level is justified in light of the possibilities available at national, regional or local level. Specifically, it is the principle whereby the EU does not take action (except in the areas that fall within its exclusive competence), unless it is more effective than action taken at national, regional or local level. It is closely bound up with the principle of proportionality, which requires that any action by the EU should not go beyond what is necessary to achieve the objectives of the Treaties".

The basic argument that an integrated ESS, as the one we have outlined, would be consistent with the principle of subsidiarity is as follows: To identify whether our integrated ESS would be consistent with the principle of subsidiarity one would have to ask (i) if the local (national) production of European statistics is sufficiently achieved; and (ii) if EU action would be superior. The answer to the first is clear in that there have been and will most likely again be cases of insufficient achievement in terms of level and harmonisation of quality of European statistics. The answer to the second question is also quite clear. Union action would be superior

91 See for example the definition of subsidiarity at https://eur-lex.europa.eu/summary/glossary/subsidiarity.html.

"by reason of scale or effects" of the production of European statistics, fundamentally on account of significant issues of public goods, externalities and cost of production.

In earlier sections we have laid out the arguments: As European statistics is an EU-level public good and they are characterised by production side externalities, there is an inherent problem in the capacity of a national government to sustainably achieve the objective of appropriate, from an EU perspective, quality of statistics. This problem is compounded by the inherent tendency for differential application of EU statistical rules on account of behavioural factors in the current system, which is characterised by inbuilt conflicts of interest. Regarding the cost of production of European statistics, it could take significantly more resources than are currently devoted to such production in the current system for different countries to produce these statistics at the appropriate level of quality and harmonisation and for the Union to effectively monitor, coordinate and validate them. In addition, economies of scale are clearly foregone in the current fragmented system, with data clearly pointing to costs of production decreasing with increases in the size of the jurisdiction. There would be significant reductions in the cost of production of European statistics in a system of integrated production of such statistics for reasons we have discussed in the proposal for a new integrated ESS. The current system is less effective than an integrated ESS as its higher risk of non-harmonised quality European statistics leads to lower welfare in the EU. As we have discussed, the economic management of the EU and the common market cannot be served properly if there is uncertainty about the economic environment in the EU and its parts. In addition, the fundamental

EU values and principles of inter alia democracy, the rule of law, justice, fairness, solidarity and even human rights are not as effectively served by the current system of production of European statistics and adherence to these values and principles could be better achieved by an integrated ESS.

The legal argument for a new, integrated ESS would be that European statistics produced in one member state are used by other member states and the collective institutions of the EU, and their quality might fall below the standard necessary for the relevant uses and it is indispensable to ensure a harmonised minimum level of quality of statistics wherever European statistics are produced in the Community. This shows that the aim of the action of the Community legislature to produce European statistics of harmonised minimum level of quality could, because of the dimensions of the intended action, be best achieved at Community level. Furthermore, the action taken by the member states in response to the EU regulations and Eurostat guidance has not fully achieved the desired result. Therefore, the objective of any legislative action at EU level could not be achieved sufficiently by the member states[92].

In the formulation of the subsidiarity principle in the Treaty, the sentence *"the objectives of the proposed action cannot be sufficiently achieved"* is important. The history of European statistics in the EU shows that there have been various problems with these statistics to the effect that the

92 Legislation passed by the Council and the Parliament that requires the centralisation/integration of the ESS could be challenged and the Court of Justice of the European Union would be the authority to decide whether the regulation falls within the exclusive competence of the EU. The EU institutions involved would have to explain why national legislation seems inadequate and that EU law has an added value, along the broad lines presented here.

objectives of high quality, harmonised official statistics cannot be sufficiently achieved in a sustainable manner with the current partnership model of the ESS. Apart from the European statistics for Greece, there have also been other cases of varying gravity and persistence[93]. The major point, though, is that a significant risk of re-emergence of *"insufficient achievement of the objectives"* is always there[94] and that the EU's objectives would not be sufficiently achieved sooner or later on account of the risks to the quality and harmonisation of European statistics as they are currently produced.

The counterargument might be that, with the strengthening of the legal and institutional framework of production of statistics in the EU, especially since the second crisis of European statistics in 2009, the above risk goes to zero or very close to it. However, just the resistance in Greece to the European statistics produced in accordance to EU rules, the prosecution of official statisticians who followed EU rules and the politicisation of that process (see section 2) demonstrate that this view is not realistic[95]. Moreover, other cases, such as that of Spain, show that problems have continued to materialise elsewhere in the EU, even materialize the strengthening of the current system. There is also the view shared by difficult-to-ignore groups of researchers, policymakers and market participants:

93 There are various quantified indicators of such problems, such as the assignment of reservations by Eurostat and the fining of countries on the basis of the provisions of Regulation 1173, the majority of EU citizens' lack of trust in European statistics (as reflected in Eurobarometer reports) and others. See section 2. Some of these indicators may even understate the problems.
94 On account of the nature of the current system of production of European statistics.
95 And these phenomena have flourished despite the strengthening of the current ESS legal and institutional framework and a wrenching financial crisis with European statistics a major contributing factor to it.

that the production of European statistics can be subject to political interference and manipulation when it is deemed politically necessary. Moreover, there is the disconcerting trend of declining trust in European statistics on the part of EU citizens from 2007 to 2015, despite the strengthening in that same period of the system of production of these statistics. Even if all these perceptions were unfounded, the risk to legitimacy that they entail is an important enough reason to seriously reconsider the local (national) production of an EU level public good. Finally, the fundamental structural problems of the current paradigm of production of European statistics (reflecting the public good, externality and behavioural tendencies given conflicts of interest) continue to be in operation, despite the strengthening of the legal and institutional framework since 2009.

The European Union's EUR-Lex glossary notes that the principle of subsidiarity *"aims to ensure that decisions are taken as closely as possible to the citizen"*[96]. Academics, such as Barton (2014), also point out that *"at the heart of subsidiarity is the premise that decisions are taken as closely to the citizen as possible"*. However, this rationale behind subsidiarity does not seem to be applicable to European statistics. Why should decisions about European statistics be taken as closely as possible to the citizen of any given member state, when these statistics are supposed to be highly standardised and harmonised pieces of information to be used in the governance of the EU, and their production and dissemination is supposed to take place on the basis of rules set in EU law? More broadly, why should one aim to make statistical decisions (beyond what statistics are pro-

96 See https://eur-lex.europa.eu/summary/glossary/subsidiarity.html.

duced) as close as possible to the citizen? This aim might apply to other subject matters, such as the production of local public goods, but European statistics are not local public goods, as discussed in section 3.

The wording of the principle of subsidiarity, *"objectives of the proposed action … can … by reason of the scale or effects of the proposed action, be better achieved at Union level"*, is a somewhat abstract allusion to effectiveness and cost efficiency. Thus, for the principle of subsidiarity not to be contradicted by the integrated production of European statistics, the EU-level action should be more effective than action taken at national, regional or local level regarding production of high quality, harmonised European statistics. It would be. Put differently, action at national level is not consistently and uniformly effective in the production of European statistics, as experience has shown. Given the issues of public goods, externalities and behaviour given conflicts of interest, one would not expect it to be (see sections 3 and 4).

Furthermore, effectiveness involves also cost-effectiveness. The current replication of the same product by 28 different national 'shops,' as well as the ineffectiveness of trying to monitor the quality of the output of these 28 different national shops from afar by the European Commission (and the imputed cost if one wanted to properly monitor that quality so as to ensure harmonisation), means that the current action at national level is not cost effective. Finally, the *"scale or effects of the proposed action"* aspect of the subsidiarity criteria is addressed by analytical arguments (see section 4) but also by data (see sections 4 and 5), where the cost (as percent of GDP and official statisticians per capita) of European statistics is shown to decline as the population size of the member state for which European

statistics are compiled increases.

It could be argued that subsidiarity is required to *"prevent a complete infantilisation of national governments"*[97]. However, the question is why this concern should be a defining priority and issue for the production of European statistics. It might make sense for other subject matters but surely not for EU statistics.

It could also be argued that subsidiarity is consistent with localised decision making and *"decisions taken at national level come under inevitably intense scrutiny by the press and therefore by the electorate. This places pressure upon national parliaments to produce well formulated, widely popular policies which they are then able to defend against criticism by the population. … It is considerably easier for citizens to hold national governments to account for their actions than it is to hold EU institutions to account"*[98]. It would be difficult to argue that this argument applies to statistical decisions about the production and dissemination of European statistics. The electorate is not supposed to take part in such decisions[99], and an approach whereby the decision making of a NSI responds to the national electorate, adopting the most 'popular' approaches to statistical methodologies, seems like a certain way to violate the principles of independence, impartiality and

97 Davies as quoted in Barton (2014).
98 Berman as quoted in Barton (2014).
99 This does not mean that the national electorate cannot express its views about the quality of European statistics for the country. At the same time, statistical production is not a usual public policy area. The nature of statistical production is such that arguments and arrangements that may very well apply to most public policy areas would not apply to statistical production. The institutional setup has to ensure that there exists a distance between methodological or dissemination decisions in European statistics and the national electorate (and those that represent it).

objectivity in the production of European statistics[100].

Subsidiarity is also presented as providing the potential for *"national governments to create more flexible laws which are better adapted to their individual State. While some issues will be better dealt with by EU-wide legislation, it is submitted that the EU consists of twenty seven very different states and their ability to legislate adapting to their own economic, social, political and cultural circumstances whenever possible ought to be valued"*[101]. However, such an argument could not sensibly apply to the production of European statistics. There cannot be an argument for the need to adapt the production of European statistics to the individual state's economic, social, political and cultural circumstances.

Finally, subsidiarity is also presented as providing legitimacy to the EU as a democratic institution, whereby such legitimacy *"depends upon* [the EU's] *acceptance by citizens as a tolerable legislative body which must be considered in light of its impact upon highly valued constitutional principles such as Parliamentary Sovereignty. It is therefore in the Union's own interest to preserve its image as a democratic institution"*[102]. However, the taking of great risks with European statistics

100 In Greece, in the years following the alignment of methodology of fiscal statistics with EU legislation in November 2010, large sections of the parliament and the press accused the NSI (ELSTAT) of not serving the national interest by its application of the methodology provided for in EU law. In such an environment the prosecutions of official statisticians who were following EU rules became feasible. The risks and possible abuse of assigning to the national electorate (and those that represent it) the role of providing accountability about what is a 'well formulated' approach in national statistical production are evident. 'Well formulated' approaches to statistical production are not necessarily the outcome of *"decisions taken at national level under intense scrutiny by the press and therefore by the electorate".*

101 Berman as quoted in Barton (2014).

102 Ibid.

(with all the consequences of that for the European Union, as well as for individual member states) in a process that aims to use the national compilation of European statistics as proof that the European Union is democratic could be characterised as very costly (including for democracy) and, in our view, outright irresponsible[103].

It is clear that a process towards a new, integrated ESS might be challenged in the Court of Justice of the European Union. Barton (2014) also notes that:

> *"[D]ue to the lack of objective criteria by which to assess compliance with subsidiarity, the Court of Justice of the European Union (CJEU) is 'understandably reluctant to apply in a robust way a principle which is so heavily political.' It is for this reason that they have taken a 'minimalist' approach to decision making, merely assessing whether procedural subsidiarity has been complied with rather than investigating adherence to substantive subsidiarity".*

Barton notes that this was clearly seen in the Working Time Directive case in which the CJEU held that the failure to show that EU legislation was comparatively more effective than national action did not place the Directive in breach of subsidiarity. Barton highlights that *"the Court stated that whenever the Council seeks to fulfil an obligation through*

103 Actually, ensuring parliamentary sovereignty and a functioning democracy require that parliaments are provided with reliable statistics of the highest quality, which are produced independently, impartially and objectively. This can be most sustainably achieved by having statistics produced by an integrated ESS, such as the one we describe. Such a system would maximise the probability that the information parliaments use in their debates and decisions is reliable and not subject to political interference or influence.

harmonisation this 'necessarily pre-supposes [EU]*-wide action'"*. This is a fundamental point. The issue of harmonised statistics across the EU is something that pre-supposes EU-wide action and thus the issue of subsidiarity should not be presented as an objection.

6.2 ESS integration and the EU legal framework

The creation of an integrated ESS would have implications for the legal framework of the EU and would require changes in that framework for the proposed integration to proceed.

The competences of the EU are divided into three categories:

- Exclusive competences of the EU (Article 3 TFEU), where only the EU can act;
- Shared competences between the EU and the member states (Article 4 TFEU), where the member states can act only if the EU has chosen not to;
- EU competence to support, coordinate or supplement the actions of the member states (Article 6 TFEU), whereby the EU may not adopt legally binding acts that require the member states to harmonise their laws and regulations.

The issue is under which category of competence statistical production would fall. It is clear that European statistics production is not at this time an exclusive competence and thus it is either a shared competence or a competence to support, coordinate or supplement the actions of the member states. For the new, integrated ESS, it is necessary that the production of *European statistics* (not of any official statistics) does not belong in the last category of competences. We

share the view of HM Government (2014) that the EU and member states currently have shared competence in the field of statistics, as set out in Article 338 TFEU.

Under shared competence, both the EU and its member states may adopt legally binding acts in the area concerned. This would mean that the production of European statistics by an integrated ESS would be a shared competence of the EU, with the member states choosing not to act and consenting to give up their national level production of this EU-level public good. At the same time, the EU would not seek to harmonise *national legislation* about statistics. Instead, what the EU would do is extract European statistics production from the competence of national bodies subject to national legislation. So the national legislation could be maintained, if member states so desired, for the fulfilment of national statistical needs.

The discussion in the sections above indicates that the integration of the production of European statistics does not in itself require a Treaty change, and could be initiated without such a change. Eventually the Treaty would, in our view, have to change. The one area most critical to address through a change in the Treaty would be the status of the ESS as one of the institutions of the EU.

Other legislative changes would need to proceed as a matter of priority. First the framework regulation that deals with European statistics (ie European Regulation 223, the Statistical Law of the EU) would need to be changed in order to envisage the production of European statistics in some or all sectors (statistical domains) by an integrated body. The existing sectoral statistical regulations would also have to be amended to reflect the changes in, for example, the govern-

ance structure. Any regulations concerned with the sharing of confidential information would also need to be amended. Finally, any regulations that refer to European statistics (eg Regulation 479/2009 or Regulation 1173/2011) would need to be reviewed and amended as necessary.

Another issue is whether there would be a need for ratification of the creation of an integrated ESS by all member states. This is related to the legislative process necessary for setting up an integrated ESS. If it is done in the form of amendments to Regulation 223 and to sectoral statistical legislation, then the usual qualified majority rules would apply. In this case, a move to a partially integrated ESS (either across member states and/or statistical domains) would depend on the necessary legislation being adopted on the basis of qualified majority rules, with non-participating member states being in a position to block it if they keep the rest from forming a qualified majority.

In the case of a move to a partially integrated ESS, the enhanced cooperation procedure might be explored as an option, as a last resort where the objective cannot be achieved normally[104]. This procedure allows a minimum of nine EU member states to establish advanced integration or cooperation in an area within EU structures but without the other members being involved. This would allow the willing member states to move at a different speed towards the goal of integrating the production of European statistics than those outside the enhanced cooperation area. It would help overcome blocking by an individual state or a small group of states, which do not wish at this stage to be part of this coop-

104 For such an option to be used, its need would have to be argued effectively, which, in our view, would be easy in the case of European statistics.

eration. Under such an approach it would still be permitted to carry out only what is permitted by the Treaties. Moreover, the approach would have to be presented as furthering the objectives of the Treaties. The member states interested in integrating their production of European statistics would have to file a request with the European Commission, and if the Commission accepted it, it would have to be approved by a qualified majority of all member states to proceed[105]. Some of the transitional arrangements to the baseline model of an integrated ESS discussed in section 5.2.1 (models C, F and I in Table 1) would certainly meet these criteria and could become reality in this way.

6.3 Implications of ESS integration for national legal frameworks

National legal frameworks would have to be amended to refer to the new integrated ESS and the changed relationships of national authorities to the new ESS. There should not be a duplication of EU law at national level as this would be neither appropriate nor easy.

National law would have to deal with the so-called statistics for national needs. Thus, the national office, if it was decided to set up one, would need to be provided for by that legislation. However, if it were agreed that the ESI would take care of national needs as for other (non-government) users, then such legislation might not be necessary.

A question is whether there would be a need for constitu-

105 A member state would not be able to veto the establishment of such an enhanced cooperation as the latter does not refer to or affect the area of foreign policy.

tional changes in member states in order to give up national level production of European statistics. This would only need to be the case if the constitution requires/mentions that the member state's European statistics are to be produced nationally, or specifies that the official statistics used by the member state can only be produced by a national agency[106].

106 The German constitution is an example. It makes one reference to statistics: *"Article 73* [Exclusive Legislation] *(1) The Federation has exclusive power to legislate in the following matters: … 11. statistics for federal purposes"*. A first reading indicates that the reference to statistics in this Constitution would not restrict an integrated ESS producing European Statistics. The German Federal Government could very well adopt legislation that is consistent with the statistics it uses being produced by the integrated ESS. One would have to look at all constitutions for this kind of reference, which goes beyond the goals of this study.

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Andreas V Georgiou is a Visiting Lecturer and Visiting Scholar at Amherst College, USA, where he teaches statistical ethics and macroeconomics. From 1989 until 2010 he worked at the International Monetary Fund, holding positions in various departments. In 2010, he returned to Greece to head the newly established Hellenic Statistical Authority (ELSTAT) – the National Statistical Institute of Greece. He was President of ELSTAT for five years. He is an elected member of the Council of the International Statistical Institute (2019-23) and a member of the Committee on Professional Ethics of the American Statistical Association. He has published on institutional and legal frameworks for national and supranational statistical systems, on financial crises and on macroeconomic programming.

Bruegel, Rue de la Charité 33,
B-1210 Brussels
(+32) 2 227 4210
info@bruegel.org
www.bruegel.org