

ANNEX I: BRIEF HISTORY OF THE PROGRAMME

Introduction

- I.1. The origins of international price and volume comparisons of GDP can be traced back to the experimental comparisons carried out by the Organisation for European Economic Cooperation (OEEC) in the 1950s. Two approaches were adopted. The first was a comparison made from the expenditure side using mainly price data. Initially, it covered France, Germany, Italy, the United Kingdom and the United States.¹ Subsequently, it was expanded to include Belgium, Denmark, the Netherlands and Norway.² The second was a comparison between the United Kingdom and the United States made from the production side using mainly quantity data.³ In both studies, “purchasing power equivalents” rather than exchange rates were used to express the GDPs and their components in a common currency and at uniform price levels.
- I.2. The reasons given for using purchasing power equivalents - or purchasing power parities (PPPs) to use current terminology - can be paraphrased as follows:

Exchange rates are not indicators of the internal purchasing power of currencies. At best they could only be so for goods and services that are internationally traded. For them to be so, it would be necessary for a long-term free-market equilibrium in exchange rates to exist which, even without the exchange controls, multiple exchange rates and prevailing quantitative restrictions on trade, would be difficult to establish. Moreover, if established, the equilibrium exchange rates would not, even for internationally traded goods, reflect the final prices at which these goods are sold to domestic buyers because of tariffs and other indirect taxes, costs of transportation - both to the country and within the country - and costs of domestic processing and distribution. Given also that a significant proportion of goods and services are not traded internationally, exchange rates should not be used for international price and volume comparisons of GDP.

- I.3. An important practical lesson learnt from the OEEC studies was that PPP-based GDP comparisons made from the expenditure side demand less data than those made from the production side. Comparisons from the expenditure side only require prices for final goods and services, but comparisons from the production side require prices of both outputs and intermediate inputs. Consequently, when, in the late 1960s, the research was continued under the auspices of the International Comparison Project (ICP), it was decided that it would focus on comparisons made from the expenditure side. Comparisons are still made from the production side, but usually they cover a small number of countries, focus on a limited number of economic activities and are based generally on unit values rather than prices.⁴ Almost all of these comparisons have been organised under the programme for International Comparisons of Output and Productivity (ICOP) initiated by Professor Angus Maddison at Groningen University in the Netherlands.

International Comparison Project⁵

- I.4. The ICP was started as a research project, but its ultimate goal was to set up worldwide PPP-based comparisons of GDP on a regular basis. Responsibility for the project was shared by the United Nations Statistics Division (UNSD)⁶ and the University of Pennsylvania with the University of Pennsylvania taking the leading role. The research was a co-operative effort involving many institutions and persons in the countries participating in the project. Both the Ford Foundation and the World Bank made major financial contributions. The first director of the project was Professor Irving Kravis of the University of Pennsylvania.
- I.5. The project's initial task was to develop a methodology which would serve for a comprehensive system of international comparisons based on PPPs. In this it was assisted by the experiences gained from the two OEEC comparisons of market economies mentioned above, the comparisons of centrally-planned economies co-ordinated by the Council for Mutual Economic Assistance since 1959⁷, the comparisons carried out in the early and late 1960s in Latin America⁸ and the comparisons between centrally-planned and market economies started by Statistics Austria⁹ during the 1960s¹⁰.
- I.6. The next task was to test the methodology by making actual comparisons using PPPs. Thus, the first three rounds or phases of the ICP – 1970, 1973 and 1975 - were essentially experimental in character. Comparisons were set up for a small group of countries representative of different income levels, social systems and geographical regions. During Phase I, comparisons of GDP were made for ten countries for 1970. Six of the ten countries also supplied data for 1967 and for these six countries comparisons were made for 1967 as well.¹¹ In Phase II, the ten Phase I countries were joined by six others. Comparisons covering all sixteen countries were made for 1970 and for 1973.¹² Phase III comparisons covered 34 countries and had 1975 as the reference year.¹³ The results of these and subsequent ICP comparisons were published with the United States as reference country and the international dollar as numeraire.

Box I.1: ICP comparisons 1970 to 1993 (countries by region)

<u>Region</u>	<u>Phase I</u> <u>1970</u>	<u>Phase II</u> <u>1973</u>	<u>Phase III</u> <u>1975</u>	<u>Phase IV</u> <u>1980</u>	<u>Phase V</u> <u>1985</u>	<u>Phase VI</u> <u>1993</u>
Africa	1	1	3	15	22	22
Middle East	-	-	1	-	-	8
Asia & Oceania	2	6	9	8	13	16
N. America	1	1	1	2	2	2
C. & S. America	1	1	5	16	7	-
Europe	5	7	15	19	20	35
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Total	10	16	34	60	64	83
Published	1975	1978	1982	1986/7	1994	---

- I.7. After Phase III, there were three major developments. First, the ICP became a regular part of the work programme of the UNSD with the University of Pennsylvania advising on methodological issues. Second, Eurostat started to play an increasingly important role, organising the comparisons for the European Union¹⁴, providing technical and financial assistance to regional comparisons in Africa and encouraging the OECD to become involved in the work. The third and most significant development was the regionalisation of the ICP.
- I.8. The need for regionalisation became evident in several respects during Phase III. It was clear that, as the number of participating countries increased, a highly centralised scheme of organisation was no longer feasible, especially as there was no one international body in a position to manage it. Early results from Phase III had indicated that countries within regions tended to form more or less homogeneous subsets and it was recognised that there were operational advantages in grouping countries according to their geographical proximity. The Phase III comparison for the European Union had demonstrated that a comparison tailored to meet the specific requirements of a region need not jeopardise the larger comparison of which it is a part. Eurostat had made the comparison using a different list of representative items and a different aggregation method. At the same time, the basic methodological rules and classification system of the ICP had been retained and the price and expenditure data could still be used for the world comparison.
- I.9. Regionalisation placed a greater share of the work on the regional organisations of the United Nations, namely: the Economic Commission for Europe (ECE), the Economic Commission for Latin America and the Caribbean (ECLAC), the Economic and Social Commission for Asia and the Pacific (ESCAP) and the Economic and Social Commission for Western Asia (ESCWA). This left UNSD at the centre to co-ordinate the regional comparisons and to ensure that they could be linked in a global comparison. Two rounds of the ICP were completed after regionalisation: Phase IV which covered 60 countries and had 1980 as the reference year¹⁵; and Phase V which covered 64 countries and had 1985 as the reference year¹⁶. A third round, Phase VI, covering 83 countries and having 1993 as the reference year, was started but not completed. Reports were published for the regional comparisons carried out in Africa¹⁷, the Middle East¹⁸, Asia¹⁹ and Europe²⁰.
- I.10. Box I.1 summarises the regional distribution of countries that participated in the six rounds of the ICP. It shows that at the global level coverage was limited and uneven. Box I.1 also gives the years when the results were published. On average there was a six year gap between the reference year and the year of publication.
- I.11. After Phase VI failed to produce a world comparison, the United Nations Statistical Commission (UNSC) decided at its twenty-ninth session (New York, February 1997) that the ICP should be thoroughly reviewed before any further round was attempted. A consultant was recruited to establish whether or not the ICP should continue and, if it should, what improvements were required and how these improvements should be brought about. The consultant's report was presented to the UNSC at its thirtieth session (New York, March 1999).²¹ It concluded that PPPs and PPP-related statistics are needed, but that the ICP was not producing these data on a timely and regular basis for a sufficient number of countries as required by important potential users such as the World Bank.
- I.12. Poor management and insufficient resources at all levels – central, regional and national - were identified as the principal reasons for this. Other important contributory factors included inadequate documentation, heavy data requirements that did not take account of the circumstances of individual countries, lack of uniformity in the execution of activities across regions, lack of confidence among countries that others were following guidelines and standards consistently, and failure to involve countries in the editing and calculation stages of the exercise. The report recommended that the UNSC should not sanction a new round until at least the management and resource issues had been addressed.

Box I.2: ICP 2005 (countries by region)

<u>Region</u>	<u>Full Comparison</u>	<u>Partial Comparison</u>	<u>Total</u>
Africa	34	15	49
Middle East	11	1	12
Asia & Oceania	22	5	27
N. America	2	-	2
C. & S. America	11	-	11
Europe	45	3	48
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Total	125	24	149
To be published			2007

- I.13. The UNSC response to the report was to ask the World Bank – the de facto global co-ordinator of the ICP since 1993 - to propose a strategy for a comprehensive solution to the deficiencies identified by the consultant. The World Bank, in consultation with other interested agencies, drew up an implementation plan for a new round of the ICP. The plan involved mobilising funds from a variety of sources and establishing a governance infrastructure to provide effective management and co-ordination – both at and between - the central, regional and national levels. It also involved providing complete clearly-written documentation on technical and procedural guidelines and standards, allowing countries to participate in a full comparison covering GDP or a partial comparison covering final consumption expenditure, using, as far as possible, regular national statistical programmes to obtain price and national accounts data for the ICP, and linking participation in the ICP with national statistical capacity building.
- I.14. The UNSC considered the implementation plan at its thirty-first session (New York, March 2000) and again at its thirty-second session (New York, March 2001). It was particularly concerned about securing adequate funding before starting another round. The World Bank, in the meantime, had embarked on a successful major fund raising exercise and, at its thirty-third session (New York, March 2002), the UNSC agreed to a new round.
- I.15. The reference year for the new round is 2005. Data collection is scheduled to start towards the end of 2004. Regional comparisons will be organised by the African Development Bank, the Asian Development Bank, ESCWA, ECLAC and Statistics Canada, the Interstate Statistical Committee of the Commonwealth of Independent States (CISSTAT) and the State Committee of the Russian Federation on Statistics (Goskomstat-Russia), and Eurostat and the OECD²². A global office has been established at the World Bank to provide overall co-ordination and to ensure technical and procedural uniformity across the regions. The global office is also responsible for organising the “ring comparison” which, by comparing a small number of countries from each region across regions, will provide the means to link the regional comparisons with each other in one global or worldwide comparison.²³ The regional distribution of countries expected to take part in ICP 2005 is given in Box I.2. Box I.2 also shows the number of countries participating in a full comparison of GDP and the number of countries participating in a partial comparison covering just final consumption expenditure. Final results of the regional and global comparisons are scheduled to be published at the end of 2007.

European Comparison Programme

- I.16. One of the regional comparison programmes that resulted from the regionalisation of the ICP was the European Comparison Programme (ECP). It was launched at the twenty-seventh plenary session of the Conference of European Statisticians (Geneva, June 1979). The ECE is responsible for the ECP and publishes the results of its comparisons, but the actual comparisons are organised by other agencies. This is because the ECP is an amalgam of independent comparisons involving different groups of countries. The Eurostat-OECD PPP Programme is central to the ECP and brings with it coverage beyond Europe through the inclusion of non-European OECD Member Countries.
- I.17. Box I.3 summarises country participation and organisation during the six rounds of the ECP that were conducted between 1980 and 1999/2000.²⁴ Before 1996, the ECP covered two groups of countries. Group I consisted of the countries that were participating in the comparisons organised by Eurostat and the OECD for their joint programme. These countries are listed in Annex Table A and Annex Table B. Group II consisted of countries from central and eastern Europe that were participating in the comparisons co-ordinated by Statistics Austria specifically for the ECP at the request of the ECE. These countries are listed in Annex Table C.

Box I.3: ECP comparisons 1980 to 1999/2000 (countries by group)

<u>ECP</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1993</u>	<u>1996</u>	<u>1999/ 2000</u>
Group I	18	22	24	24	30	43
Group II	3	3	6	15	13	-
Group III	-	-	-	-	9	11
<u>Total</u>	<u>21</u>	<u>25</u>	<u>30</u>	<u>39</u>	<u>52</u>	<u>54</u>

- I.18. Group I comparisons were multilateral comparisons, based on a common basket of goods and services, with each country being compared directly with each of the other participating countries. Group II comparisons were bilateral comparisons with each country compared directly with Austria. Each bilateral comparison was based on a different basket of goods and services. Quality adjustments were made when it proved impossible to find strictly comparable goods and services. Adjustments were also made for differences in the productivity of producers of non-market services such as general public administration, health and education. (Neither quality adjustments nor productivity adjustments were a feature of Group I comparisons.) Comparisons between Group II countries were made through Austria. Comparisons between countries in Group I and countries in Group II were also made through Austria. Austria participated in the comparisons of both groups for this purpose.
- I.19. The 1996 comparison was a turning point for the ECP. It had three important features. The first was that a third group of countries, Group III, was included in the ECP. The group was made up of the member countries of the Commonwealth of Independent States (CIS) - except Ukraine - plus Mongolia and Turkey. These countries are listed in Annex Table D. The Group III comparison was a multilateral comparison. It was managed by the OECD with the assistance of CISSTAT, Goskomstat-Russia and the State Institute of Statistics of Turkey. Countries in Group III were compared with countries in Group I and Group II through Austria. The link between Group III and Austria was established through the four countries in Group III that had participated with Austria in one of the other groups – the Russian Federation, Belarus and Moldova in Group II and Turkey in Group I.
- I.20. The second feature of ECP 1996 was that the comparisons in Group II were organised as a single multilateral comparison and not as a set of bilateral comparisons with Austria. Quality adjustments were discontinued because, with the adoption of a multilateral approach and the opening up of markets in the transition economies of Group II, it became easier for countries to price comparable products. Productivity adjustments were also stopped. This was to ensure that the treatment of non-market services was the same for the EU Candidate Countries in Group II as it was for the EU Member States and the EU Candidate Countries in Group I.²⁵ These changes aligned the methodology of Group II with that used in the other two groups.
- I.21. The third feature was the start of the break-up of Group II. The Czech Republic, Hungary, Poland and the Slovak Republic – countries which originally had participated in Group II comparisons - moved to Group I. The Russian Federation and Slovenia, while remaining in Group II, also participated in the Group I comparisons on an experimental basis. By ECP 1999/2000, Group II no longer existed. EU Candidate Countries from Group II moved to Group I to work with Eurostat. Croatia, FYROM and Ukraine also joined Group I, but to work with the OECD. Belarus and Moldova, as CIS countries, joined Group III which, since 1999, has been organised by CISSTAT and Goskomstat-Russia with minor assistance from the OECD. The results of all ECP comparisons carried out between 1980 and 1996 were published with Austria as the reference country and the Austrian schilling as numeraire. After 1996, results have been presented with the European Union as reference country and the euro as numeraire.

Eurostat-OECD PPP Programme

- I.22. Annex Table A traces the evolution of the Eurostat PPP Programme. Although EU Member States were involved in a comparison for 1970²⁶, the first official comparison conducted by Eurostat was for 1975. It covered the nine countries that were EU Member States at that time.²⁷ Subsequently, until 1990, Eurostat carried out comparisons every five years, in 1980²⁸, 1985²⁹ and 1990³⁰. These comparisons were principally for EU Member States and countries like Greece, Portugal and Spain that were in line for EU membership. But countries falling into neither of these two categories - such as Israel in 1980³¹, Austria in 1980³², 1985 and 1990, and Switzerland in 1990 - also participated. Austria's participation was occasioned by the need to provide a "bridge" between the EU Member States and other countries in ECP Group I and the eastern and central European countries in ECP Group II. Throughout these first twenty years, the Programme was under the direction of Hugo Krijinse Locker.
- I.23. After 1990, Eurostat adopted the "rolling benchmark approach" and started making annual comparisons.³³ At the same time, the number of countries covered rose from 14 in 1991 to 19 in 1994 after which it stayed stable until 1999. The increase was due to the continuing enlargement of the European Union and to countries of the European Free Trade Association (EFTA)³⁴ harmonising their statistics and statistical programmes with those of EU Member States. In 1999, the number of countries covered by Eurostat comparisons rose to 31 with the inclusion of the 13

Box I.4: Eurostat-OECD Comparisons 1980 to 1999

	1980	1985	1990	1993	1996	1999
Countries co-ordinated by Eurostat	13	13	14	16	19	31
- EU Member States	10	10	12	12	15	15
- Non-EU OECD countries	3	3	2	4	4	8
- Other countries	-	-	-	-	-	8
Countries co-ordinated by the OECD	5	9	10	8	13	12
- Non-EU OECD countries	5	9	10	8	9	7
- Other countries	-	-	-	-	4	5
<hr/> Total	<hr/> 18	<hr/> 22	<hr/> 24	<hr/> 24	<hr/> 32	<hr/> 43

countries that were candidates for EU membership. To accommodate this increase, Eurostat had to rethink the whole modus operandi of its comparisons. This led to the so called "ECP Reform".

- I.24. Encouraged and assisted by Eurostat, the OECD began organising comparisons for those OECD Member Countries that were not already included in Eurostat comparisons in the early 1980s. The first comparison had 1980 as the reference year, but data collection did not start until 1983 and, as can be seen from Annex Table B, was limited to four countries. Two of these - Japan and the United States – were major non-European economies of particular interest to the European Commission because of their trade and investment links with the European Union. The results of this retrospective exercise were combined with those from the Eurostat comparison, thereby covering 18³⁵ of the OECD's 24 Member Countries.³⁶
- I.25. Thereafter the OECD worked closely with Eurostat to effect comparisons for 1985 and 1990. When put together, the Eurostat and OECD comparisons covered 22 OECD Member Countries in 1985³⁷ and all 24 OECD Member Countries in 1990³⁸. It was during this time that formal agreements between the two organisations were made to establish the Eurostat-OECD PPP Programme. Eurostat and the OECD agreed to co-ordinate the data collections in two different groups of countries with the object of combining the data sets of the two groups in a single comparison. Coverage of the combined Eurostat-OECD comparisons is shown in Box I.4.
- I.26. When Eurostat adopted the rolling benchmark approach after the 1990 comparison, the OECD followed suit, but only with respect to the three-year survey schedule for consumer goods and services. It did not adopt the schedule of yearly price surveys for equipment goods and construction projects that the annual comparisons required. Instead, because of the cost involved in pricing capital goods and the resource constraints of countries participating in OECD comparisons, it was decided they would only price capital goods every third year.³⁹ Since 1990, OECD comparisons have been three yearly – 1993⁴⁰, 1996⁴¹ and 1999⁴².
- I.27. From Box I.4, it can be seen that the number of countries being managed by the OECD has fluctuated from comparison to comparison. Prior to 1993, this was due the increased coverage of non-EU OECD Member Countries. After 1993, it can be explained partly by an expansion in OECD membership, partly by OECD Member Countries moving over to participate in Eurostat comparisons, usually as candidates for EU membership, and partly because countries that are neither OECD Member Countries nor EU Member States have joined the comparison as a result of the ECP Reform and the break up of ECP Group II.
- I.28. From the beginning, Eurostat has published the results of comparisons with the European Union as reference country and an artificial currency unit – the Purchasing Power Standard or PPS - as numeraire. (The PPS is, in effect, the "average" of the currencies of all EU Member States.) The OECD published the results of the 1980 and 1985 comparisons with the United States as reference country and the international dollar as numeraire because coverage of OECD Member Countries was incomplete. From 1990, when all Member Countries started to participate in the Programme, the OECD has published results of comparisons with the OECD as reference country and OECD dollars as numeraire. (The OECD dollar is the "average" of the currencies of all OECD Member Countries.)

The "great debate"

- I.29. Prior to 1980, the ICP employed the Country-Product-Dummy (CPD) method to calculate PPPs at the basic heading level and the Geary-Khamis (GK) method to aggregate the basic heading PPPs up to the level of GDP. These methods were not generally accepted at the time and their advantages and disadvantages relative to other methods are still a subject of debate among experts. Regionalisation allowed the use of alternative methods. Eurostat and OECD comparisons have always used the Ëltetö-Köves-Szulc (EKS) method to calculate PPPs at the basic heading level. Eurostat would also have liked to move away from the GK method of aggregation – for the 1975 comparison it had

employed the Gerardi method – but it did not do so. Instead, in consultation with the UNSD and the ECE, it commissioned a study to investigate the relative merits of the GK method and the Gerardi method.⁴³ The study favoured the GK method and it was used by Eurostat and the OECD for their 1980 and 1985 comparisons.

- I.30. Subsequently, Eurostat proposed that the EKS method be used to aggregate basic heading PPPs because it provided volume indices that were free of the Gerschenkron effect and that these indices were better suited to the requirements of users within the European Commission. The OECD, on the other hand, wanted to retain the GK method, because, while its volume indices were not free of the Gerschenkron effect, the real final expenditures on which the indices were based were additive - which EKS real final expenditures are not - and, as such, more relevant to the type of analysis carried out by OECD economists. Consequently, in 1988 and again in 1989, the UNSD, the OECD and Eurostat jointly convened a meeting of experts to discuss aggregation methods. The experts recognised that comparison results serve many different purposes and that there was no one method of aggregation which can be considered satisfactory for all these purposes. They recommended the calculation and dissemination of two sets of results: one set to be aggregated using the EKS method, the other to be aggregated using the GK method.⁴⁴
- I.31. Both Eurostat and the OECD accepted the experts' recommendations in principle, but there was a practical difficulty to it being adopted. The results for EU Member States were used for administrative purposes – the allocation of structural funds - as well as for economic analysis. For this reason, Eurostat required that only one set of results be recognised as the official results for the European Union and that only these official results be disseminated initially. Eurostat selected the EKS results as the official results for the European Union.⁴⁵ The OECD agreed to publish these first and to publish the GK results a year later. This allowed time for the EKS results to be accepted as official and avoided any confusion that could arise from the simultaneous dissemination of two sets of results. This solution was adopted for the 1990 and 1993 comparisons.⁴⁶ Since the 1996 comparison, the OECD has published a complete set of EKS results together with a selected set of GK results. The GK results published are those relevant to the comparative analysis of price and volume structures of countries. As such they complement the EKS results which are better suited to comparing the prices and volumes of individual aggregates across countries.

Fixity

- I.32. The EKS-GK controversy was not the first time that the need to have only one set of official results for EU Member States had been faced by Eurostat and the OECD. Because the relative position of countries can change as the compositions of the group of countries being compared changes, the inclusion of the EU Member States in the comparison covering all OECD Member Countries could change the relativities established between them when they were compared just among themselves. To avoid this, Eurostat and the OECD adopted the “fixity convention”. This convention ensures that the price and volume relativities established by Eurostat between EU Member States remain unchanged, or fixed, when the EU Member States are included in the OECD or other comparisons that encompass a wider group of countries. It has been observed since the 1980 comparison.
- I.33. Fixity has now a more general application than just Eurostat-OECD comparisons. Most countries participating in a comparison that is subsequently to be combined with another comparison expect fixity. It ensures that they have only one set of results to explain to users. Hence, in ECP comparisons, the relativities between countries within each group remain “fixed” when the groups are incorporated in the larger comparison. Similarly, in the forthcoming round of the ICP, it is anticipated that regions will require fixity so that the relativities between countries within their region will remain unchanged when they are included with other regions in the world comparison.

The Castles report⁴⁷

- I.34. After the publication of the results of the 1993 round, the usefulness and reliability of the Eurostat-OECD PPP Programme were seriously questioned by a number of non-European OECD countries which felt that the resources they allocated to participation would be better employed on their own statistical priorities. The OECD response was to anticipate the reassessment that the United Nations was proposing to make of the ICP by recruiting a consultant in 1996 to review the Eurostat-OECD PPP Programme. The consultant was to focus on the uses to which PPPs and PPP-related statistics were put by different users, the extent to which the PPPs produced by Eurostat and the OECD met the needs of these users, the alternative ways of comparing “comparison resistant” goods and services - such as the non-market services produced by government, equipment goods and construction - and the difference that would be made to the existing burden on the statistical resources of participating countries if the alternative ways of comparing comparison resistant goods and services were to be adopted.
- I.35. The consultant's report was considered by all countries participating in the Programme at the meeting convened by Eurostat and the OECD to examine the preliminary results of the 1996 round (Paris, November 1997). It was also discussed, mainly by non-European OECD countries, at a meeting that the OECD held in New York during the UNSC of February 1998. The report commenced by affirming the need for PPPs and the international volume and price comparisons they facilitate. It made two main proposals:

- Because the Programme approached the calculation of real GDP from the expenditure side rather than the production side, its results were of limited value for analysts concerned with the measurement of the output or productivity of particular industries. They were of much greater usefulness for those concerned with the measurement of real incomes and the command over goods and services enjoyed by the recipients of income in their capacity as consumers. Expenditures on government consumption and capital formation could be viewed as household consumption expenditure forgone and treated accordingly - that is, by converting both aggregates to real final expenditures using the PPPs for private consumption.
- Alternatively, consideration could be given to abandoning the input-price approach for non-market services and derive government consumption in real terms either directly using physical measures of output or indirectly using PPPs based on output prices collected for market services. (Real final expenditure on capital formation would still be obtained using the PPPs for private consumption.)

Adoption of either of these proposals would reduce the response burden on participating countries which would no longer be required to carry out the difficult and expensive task of pricing equipment goods and construction projects.

- I.36. Participating countries agreed that the consultant was correct to identify the PPPs for government consumption and capital formation as among the least reliable of the PPPs estimated by the Programme. They did not accept that providing comparative measures of welfare as defined by the report was the only use of PPPs estimated from the expenditure side. The main objective of the Programme was to make volume comparisons of GDP and its component expenditures. Using the PPPs for private consumption as reference PPPs for government consumption and capital formation was not compatible with this objective. Most countries were of the opinion that there was a considerable analytical interest among users, such as economists and researchers, in PPPs for capital formation and that rather than abandon them Eurostat and the OECD should work on improving their accuracy. Countries supported the consultant's recommendation that physical output indicators be developed for deriving real expenditure on government consumption, but recognised that this was a long-term goal dependent on the research that they themselves were undertaking to improve the quality of their national accounts estimates of non-market services. In the short term, Eurostat and the OECD should be working to improve the representativeness of the input prices collected.
- I.37. The consultant also proposed that responsibility for the results of the Programme should be accepted by Eurostat and the OECD and that it should not be shared with the statistical agencies of participating countries. Almost all countries disagreed with the proposal. They preferred that responsibility for the results of the Programme should continue to be shared by Eurostat, the OECD and participating countries. This was of particular relevance to EU Member States because, within the European Union, PPPs are used for administrative purposes as well as for statistical purposes. Shared responsibility required Eurostat and the OECD to improve the transparency of their editing and calculation procedures.
- I.38. Castles' review of the Eurostat-OECD PPP Programme was an important milestone in its history. Most significantly, it confirmed the usefulness of PPPs and fostered a better understanding of their respective responsibilities and roles between Eurostat, the OECD and participating countries. In addition, it identified areas of weakness such as the poor quality of PPPs for non-market services and capital goods, the need for better checks on pricing inconsistencies between benchmarks, the need to investigate the use of alternative data sources available to Eurostat and the OECD, and the lack of transparency of the methodology employed.

ECP reform

- I.39. Thirteen EU Candidate Countries were included in Eurostat comparisons in 1999. At the time, three of the countries - Poland since 1994, Cyprus since 1997 and Malta since 1998 - were already participating in Eurostat comparisons, five of them - the Czech Republic, Hungary, the Slovak Republic, Slovenia and Turkey - were participating in OECD comparisons, while the remaining five - Bulgaria, Estonia, Latvia, Lithuania and Romania - were still participating in ECP Group II comparisons. The reorganisation completed the break-up of ECP Group II referred to earlier. It also increased the number of countries working with Eurostat from 20 to 31.
- I.40. Eurostat was already experiencing difficulties co-ordinating the activities of the 20 countries. With the arrival of eleven more countries pending, it became imperative to find a new way operating. The surveys that were proving particularly hard to organise centrally were - with the exception of the rent survey and the survey of medical goods and services - the consumer price surveys. The product lists for these surveys were becoming unmanageable making countries increasingly reluctant to conduct the pre-surveys essential to their updating. The pre-survey work that was done usually resulted in more products being added to the list than were removed from the list. Each new country introduced into the comparison inevitably lengthened the lists further as its products were added to them. Countries complained that the longer the product lists the more laborious and inefficient became their selection of the subset of products to price. In short, the product lists were not user friendly and this was detrimental to the quality of the prices collected.

- I.41. It was decided to decentralise the management of these consumer surveys. Countries would be broken down into three groups. Each group would be comprised of countries that were relatively homogeneous thereby making it easier to draw up representative product lists. Each group would consist of a balanced mix of experienced EU Member States and inexperienced EU Candidate Countries thereby facilitating the integration of the candidate countries into the comparison. Each group would also have a group leader selected from among the countries in the group. The group leader would be responsible for: drawing up the product lists for the surveys in consultation with the other members of the group; visiting group members to ensure uniformity of product selection and pricing procedures; and editing the price data provided by group members. The group leaders together with Eurostat would also be responsible for ensuring that the product lists for the three groups had a sufficient number of overlap products at each basic heading so the comparisons could be effected across groups. The overall result of the reform would be smaller more manageable lists, more rigorous pre-surveys, easier selection of products for pricing and improved quality of price data.
- I.42. The reform did not touch organisation of other surveys. The surveys dealing with rents, medical goods and services, consumer price indices, compensation of employees in general government, public education and public hospitals, equipment goods, construction projects and expenditure weights would continue to be managed centrally by Eurostat.
- I.43. The three groups that were introduced in 1999, together with their constituent countries and their leaders, are shown in Annex Table E.

ANNEX TABLES

Table A: Eurostat comparisons 1975 to 1999

Country	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Belgium ⁽¹⁾	x	x	x	x	x	x	x	x	x	x	x	x	x
France ⁽¹⁾	x	x	x	x	x	x	x	x	x	x	x	x	x
Germany ⁽¹⁾⁽⁹⁾	x	x	x	x	x	x	x	x	x	x	x	x	x
Italy ⁽¹⁾	x	x	x	x	x	x	x	x	x	x	x	x	x
Luxembourg ⁽¹⁾	x	x	x	x	x	x	x	x	x	x	x	x	x
Netherlands ⁽¹⁾	x	x	x	x	x	x	x	x	x	x	x	x	x
Denmark ⁽²⁾	x	x	x	x	x	x	x	x	x	x	x	x	x
Ireland ⁽²⁾	x	x	x	x	x	x	x	x	x	x	x	x	x
Untd. Kingdom ⁽²⁾	x	x	x	x	x	x	x	x	x	x	x	x	x
Greece ⁽³⁾		x	x	x	x	x	x	x	x	x	x	x	x
Portugal ⁽⁴⁾		x	x	x	x	x	x	x	x	x	x	x	x
Spain ⁽⁴⁾		x	x	x	x	x	x	x	x	x	x	x	x
Austria ⁽⁵⁾		x	x	x	x	x	x	x	x	x	x	x	x
Finland ⁽⁵⁾						x	x	x	x	x	x	x	x
Sweden ⁽⁵⁾							x	x	x	x	x	x	x
Iceland ⁽⁶⁾								x	x	x	x	x	x
Norway ⁽⁶⁾								x	x	x	x	x	x
Switzerland ⁽⁶⁾				x	x	x	x	x	x	x	x	x	x
Poland ⁽⁷⁾								x	x	x	x	x	x
Cyprus ⁽⁷⁾											x	x	x
Malta ⁽⁷⁾												x	x
Czech Rep ⁽⁷⁾													x
Estonia ⁽⁷⁾													x
Hungary ⁽⁷⁾													x
Latvia ⁽⁷⁾													x
Lithuania ⁽⁷⁾													x
Slovak Rep. ⁽⁷⁾													x
Slovenia ⁽⁷⁾													x
Bulgaria ⁽⁸⁾													x
Romania ⁽⁸⁾													x
Turkey ⁽⁸⁾													x
Total	9	13	13	14	14	15	16	19	19	19	20	21	31

⁽¹⁾ Member State since 1958. ⁽²⁾ Member State since 1973. ⁽³⁾ Member State since 1981. ⁽⁴⁾ Member State since 1986. ⁽⁵⁾ Member State since 1995. ⁽⁶⁾ Member of the European Free Trade Area (EFTA). ⁽⁷⁾ Candidate country scheduled for membership in 2004. ⁽⁸⁾ Candidate country scheduled for membership 2007 or after. ⁽⁹⁾ West Germany only before 1992.

Table B: OECD comparisons 1980 to 1999

<u>Country</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1993</u>	<u>1996</u>	<u>1999</u>
Canada	x	x	x	x	x	x
Japan	x	x	x	x	x	x
Norway ⁽³⁾	x	x	x	x		
United States	x	x	x	x	x	x
Australia		x	x	x	x	x
Finland ⁽¹⁾		x	x			
New Zealand		x	x	x	x	x
Sweden ⁽²⁾		x	x			
Turkey ⁽⁴⁾		x	x	x	x	
Iceland ⁽³⁾			x	x		
Czech Rep. ⁽⁴⁾					x	
Hungary ⁽⁴⁾					x	
Mexico					x	x
Slovak Rep. ⁽⁴⁾					x	
Korea						x
Israel					x	x
Russian Fed.					x	x
Croatia						x
FYROM						x
Slovenia ⁽⁴⁾					x	
Ukraine						x
<hr/> Total	<hr/> 4	<hr/> 9	<hr/> 10	<hr/> 8	<hr/> 13	<hr/> 12

Moved to Eurostat comparisons in ⁽¹⁾ 1992; ⁽²⁾ 1993; ⁽³⁾ 1994; ⁽⁴⁾ 1999.

Table C: Group II comparisons 1980 to 1996

<u>Country</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1993</u>	<u>1996</u>
Austria	x	x	x	x	x
Finland ⁽¹⁾	x				
Hungary ⁽²⁾	x	x	x	x	
Poland ⁽³⁾	x	x	x	x	
Yugoslavia	x	x	x		
Czechoslovakia			x		
Romania			x	x	x
USSR			x		
Belarus				x	x
Bulgaria				x	x
Croatia				x	x
Czech Rep. ⁽²⁾				x	
Estonia				x	x
Latvia				x	x
Lithuania				x	x
Moldova				x	x
Russian Fed.				x	x
Slovak Rep. ⁽²⁾				x	
Slovenia				x	x
Ukraine				x	x
Albania					x
FYROM					x
<hr/> Total	<hr/> 5	<hr/> 4	<hr/> 7	<hr/> 16	<hr/> 14

Moved to OECD comparisons in ⁽¹⁾ 1985; ⁽²⁾ 1996. Moved to Eurostat comparisons in ⁽³⁾ 1994

Table D: Group III comparisons 1996 and 2000

<u>Country</u>	<u>1996</u>	<u>2000</u>
Armenia	x	x
Azerbaijan	x	x
Belarus	x	x
Georgia	x	x
Kazakhstan	x	x
Kyrgyz Republic	x	x
Moldova	x	x
Russian Fed.	x	x
Tajikistan	x	x
Turkmenistan	x	x
Turkey	x	
Uzbekistan	x	x
Mongolia	x	x
<hr/>	<hr/>	<hr/>
Total	13	12

Table E: Country groups and group leaders in 1999 after ECP reform

<u>Northern group</u>	<u>Central group</u>	<u>Southern group</u>
Denmark	Austria	Bulgaria
Estonia	Belgium	Cyprus
Finland	Czech Republic	France
Iceland	Germany	Greece
Ireland	Hungary	Italy
Latvia	Luxembourg	Malta
Lithuania	Netherlands	Portugal
Norway	Poland	Romania
Sweden	Slovak Republic	Spain
United Kingdom	Slovenia	Turkey
	Switzerland	
<u>Group leader</u>	<u>Group leader</u>	<u>Group leader</u>
Finland	Austria	Italy

- ¹ *An International Comparison of National Products and the Purchasing Power of Currencies: A Study of the United States, the United Kingdom, France, Germany and Italy*, M. Gilbert and I. Kravis, OEEC, Paris, 1954.
- ² *Comparative National Products and Price Levels: A Study of Western Europe and the United States*, M. Gilbert and Associates, OEEC, Paris, 1958.
- ³ *A Comparison of National Output and Productivity of the United Kingdom and the United States*, D. Paige and G. Bombach, OEEC, Paris, 1959.
- ⁴ See, for example, "International comparisons of purchasing power, real output and labour productivity: a case study of Brazilian, Mexican, and U.S. manufacturing, 1975", A. Maddison and B. van Ark, *The Review of Income and Wealth*, March 1989; or "Productivity levels in Germany, Japan and the United States", B. van Ark and D. Pilat, *Brookings Papers on Economic Activity, Microeconomics*, 2, 1993; or "Prices, quantities and productivity in industry: a study of transition economies in a comparative perspective", B. van Ark, E. Monnikhof and M. Trimmer, *International and Interarea Comparisons of Income, Output and Prices*, edited by A. Heston and R. Lipsey, *National Bureau of Economic Research, Studies in Income and Wealth*, Volume 61, Chicago University Press, 1999.
- ⁵ It was renamed "International Comparison Programme" in 1989.
- ⁶ At that time it was "United Nations Statistical Office (UNSO)", but its present title, "United Nations Statistics Division (UNSD)", is used throughout this Annex.
- ⁷ For a description of these comparisons, see "An intercountry comparison of national income of planned economies", G. Szilagyi, *The Review of Income and Wealth*, June 1962.
- ⁸ See "The measurement of Latin American real income in US dollars", *Economic Bulletin for Latin America*, October 1967, and "Latin American real product comparisons", J. Salazar-Carrillo, *Economic Journal*, December 1977.
- ⁹ At the time it was "Austrian Central Statistics Office", but its present title, "Statistics Austria", is used throughout this Annex.
- ¹⁰ *Comparisons of Levels of Consumption in Austria and Poland*, Conference of European Statisticians, United Nations, New York, 1968.
- ¹¹ *A System of International Comparisons of Gross Product and Purchasing Power*, I. Kravis, Z. Kenessey, A. Heston and R. Summers, The John Hopkins University Press, Baltimore, 1975.
- ¹² *International Comparisons of Real Product and Purchasing Power*, I. Kravis, A. Heston and R. Summers, The John Hopkins University Press, Baltimore, 1978.
- ¹³ *World Product and Income, International Comparisons of Real Product and Purchasing Power*, I. Kravis, A. Heston and R. Summers, The John Hopkins University Press, Baltimore, 1982.
- ¹⁴ At this time it was "European Community". It became "European Union" with the signing of the Maastricht Treaty in November 1993. "European Union" is used throughout this Annex.
- ¹⁵ *World Comparisons of Purchasing Power and Real Product for 1980: Part One, Summary Results for 60 Countries*, United Nations and Eurostat, New York, 1986; and *World Comparisons of Purchasing Power and Real Product for 1980: Part Two, Detailed, Summary Results for 60 Countries*, United Nations and Eurostat, New York, 1987.
- ¹⁶ *World Comparisons of Purchasing Power and Real Product, 1985: Phase V of the International Comparison Programme*, United Nations and Eurostat, New York, 1994.
- ¹⁷ *Comparisons of Price Levels and Economic Aggregates: The Results of 22 African Countries*, M. Mouyelo-Katoula and K. Munnsad, Eurostat, Luxembourg, 1996.
- ¹⁸ *Purchasing Power Parities; Volume and Price Level Comparisons for the Middle East, 1993*, Economic Commission for Western Asia (ESCWA) and the World Bank, Amman, 1997.
- ¹⁹ *ESCAP Comparisons of Real Gross Domestic Product and Purchasing Power Parities, 1993*, United Nations, Bangkok, 1999.
- ²⁰ "International Comparison of Gross Domestic Product in Europe 1993", *Conference of European Statisticians Statistical Standards and Studies*, No. 47, United Nations, New York and Geneva, 1997.
- ²¹ *Evaluation of the International Comparison Programme*, E/CN.3/1999/8, November 1998. More commonly referred to as "the Ryten Report" after its author, Jacob Ryten.
- ²² The comparisons organised by Eurostat and the OECD are not regional. The Eurostat-OECD PPP Programme covers countries in North and Central America, Asia, Oceania, Middle East and Europe. These countries are treated as a "region" for ICP management and organisation.
- ²³ The ring comparison is expected to cover around twenty countries in total.
- ²⁴ "International Comparison of Gross Domestic Product in Europe 1980", *Conference of European Statisticians Statistical Standards and Studies*, No. 37, United Nations, New York, 1985; "International Comparison of Gross Domestic Product in Europe 1985", *Conference of European Statisticians Statistical Standards and Studies*, No. 41, United Nations, New York, 1988; "International Comparison of Gross Domestic Product in Europe 1990", *Conference of European Statisticians Statistical Standards and Studies*, No. 45, United Nations, New York and Geneva, 1994; "International Comparison of Gross Domestic Product in Europe 1993", *Conference of European Statisticians Statistical Standards and Studies*, No. 47, United Nations, New York and Geneva, 1997; "International Comparison of Gross Domestic Product in Europe 1996", *Conference of European Statisticians Statistical Standards and Studies*, No.50, United Nations, Geneva, 1999.
- ²⁵ The other option – that is, Group I adopting productivity adjustments – was not considered because, as explained in the annex to Chapter 5, EU Member States and others in Group I considered the productivity adjustments of Group II to be too subjective and not sufficiently rigorous.
- ²⁶ See "Comparaison réelle du produit intérieur brut des pays de la Communauté européenne", V. Paretto, H. Krijinse Locker and P. Goybet, *Analyse et Prévision*, June 1974, Number 6.
- ²⁷ *Comparison in Real Values of the Aggregates of ESA, 1975*, Eurostat, Luxembourg, 1977.
- ²⁸ *Comparison in Real Values of the Aggregates of ESA, 1980*, Eurostat, Luxembourg, 1983.

- ²⁹ *Purchasing Power Parities and Gross Domestic Product in Real Terms, Results 1985*, Eurostat, 1987.
- ³⁰ *Comparison in Real Values of the Aggregates of ESA, Results for 1990 and 1991*, Eurostat, Luxembourg, 1993.
- ³¹ *Comparison of National Accounts Aggregates between Israel and the European Community*, Eurostat, Luxembourg, 1985.
- ³² *Comparison of National Accounts Aggregates between Austria and the European Community*, Eurostat, Luxembourg, 1984.
- ³³ *Comparison in Real Values of the Aggregates of ESA, Results for 1990 and 1991*, Eurostat, Luxembourg, 1993; *Comparison in Real Values of the Aggregates of ESA, Results for 1992 and 1993*, Eurostat, Luxembourg, 1995; *Comparison in Real Values of the Aggregates of ESA, Results for 1994*, Eurostat, Luxembourg, 1996; *Purchasing Power Parities and Related Economic Indicators, Results for 1995 and 1996*, Eurostat, Luxembourg, 1999; *Purchasing Power Parities and Related Economic Indicators, Results for 1997*, Eurostat, Luxembourg, 1999; *Purchasing Power Parities and Related Economic Indicators, Results for 1998*, Eurostat, Luxembourg, 2000.
- ³⁴ Iceland, Norway and Switzerland, but not Liechtenstein.
- ³⁵ Twelve EU Member States plus Austria, Canada, Japan, Norway, the United States. In 1980 Finland participated in ECP Group II. It was included in the combined Eurostat-OECD comparison through Austria.
- ³⁶ *Purchasing Power Parities and Real Expenditures in the OECD*, M. Ward, OECD, Paris, 1985.
- ³⁷ *Purchasing Power Parities and Real Expenditures, 1985*, OECD, Paris, 1987.
- ³⁸ *Purchasing Power Parities and Real Expenditures, 1990, Volume 1, EKS Results*, OECD, Paris, 1992; *Purchasing Power Parities and Real Expenditures, 1990, Volume 2, GK Results*, OECD, Paris, 1993; *Purchasing Power Parities and Real Expenditures for Nordic Countries, 1990*, OECD, Paris, 1992; *Purchasing Power Parities and Real Expenditures for Canada and the United States, 1990*, OECD, Paris, 1993.
- ³⁹ An important difference between EU Member States and other countries participating in Eurostat-OECD comparisons is that the major part of their data collections are funded by Eurostat. Non-EU countries pay for the data collections themselves. This places an additional burden on their already limited statistical resources. The pricing of capital goods, particularly the pricing of construction projects which usually has to be contracted out to consultants, is especially onerous.
- ⁴⁰ *Purchasing Power Parities and Real Expenditures, 1993, Volume 1, EKS Results*, OECD, Paris, 1995; *Purchasing Power Parities and Real Expenditures, 1993, Volume 2, GK Results*, OECD, Paris, 1996; *Purchasing Power Parities and Real Expenditures for Nordic Countries, 1993*, OECD, Paris, 1995.
- ⁴¹ *Purchasing Power Parities and Real Expenditures, 1996 Results*, OECD, Paris, 1999.
- ⁴² *Purchasing Power Parities and Real Expenditures, 1999 Results*, OECD, Paris, 2002.
- ⁴³ *Multilateral Measurements of Purchasing Power and Real GDP*, P. Hill, Eurostat, 1982.
- ⁴⁴ This recommendation was subsequently included in the SNA 93. See paragraph 16.103.
- ⁴⁵ This is the approach adopted in the ESA 95. See paragraphs 10.73 and 10.74.
- ⁴⁶ See footnotes 38 and 40.
- ⁴⁷ *Review of the OECD-Eurostat PPP Programme*, I. Castles, unpublished OECD document, STD/PPP(97)5, September 1997.