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DEREGULATION AND ECONOMIC STATISTICS: EUROPE 1992*)

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Abstract

The consequences of deregulation for economic statistics are discussed with a view to Europe 1992. In particular, the effects of the introduction of the Intrastat-system for statistics on international trade are investigated. It is argued that if the Statistical Offices of the EC-countries do not respond adequately, Europe 1992 will lead to a deterioration of economic statistics in several respects: they will become less reliable, less cost effective and less balanced.

Contents

1. Introduction

In this paper, deregulation is defined as the policy of removing or reducing government regulation. Official statistics may be affected by this trend in many ways.

First of all, deregulation can be directed at statistics themselves. This may imply the abolition of legislation that makes certain statistics statutory. In the Netherlands, as in many other countries, there is a law obliging enterprises to supply data for certain essential economic statistics, such as statistics on industrial production. In our country, there is continual concern about the respondent burden (which is only caused by statistics for a very limited part) of enterprises. Luckily, so far it has not been suggested that this law be repealed, or its applicability reduced. It is still generally accepted that such a repeal would be very harmful, if not disastrous for economic statistics. However, there is a strong reluctance to bring new statistics under the existing law.

Secondly, deregulation in a broader sense may lead to the disappearance of certain administrative documents or registrations which are used as a data source for statistics. This affects official statistics maybe less directly, but equally seriously. "Europe 1992", on which this paper focusses in particular, is an example of this form of deregulation.

A third type of influence concerns changes which take place in the economy as a result of deregulation. Again, Europe 1992 is an excellent example.

Ironically, despite the European Community's credo of deregulation on the one hand, it is creating an increasing number of statistical Regulations on the other, making a growing number of statistics compulsory. For countries which have a rather well-developed programme of statistics, such as the Netherlands, this has not had much immediate influence on respondent burden yet (although the proposed new Regulation on

statistics of the services sector does mean that many additional enterprises will have to supply basic information in the near future). For other countries, however, it means a substantial increase in statistical work and consequently, in respondent burden. Thus, the Commission could be said to be giving with one hand and taking (a little bit more) with the other.

Community regulation may also have detrimental effects in the sense that national statistical regulations which are tapered to the particular national institutional setting are replaced by uniform community rules. This could also present a serious threat to the quality of economic statistics.

In the remainder of this paper, more specific interactions between regulation and economic statistics are dealt with. The focus is on the consequences of Europe 1992, in particular the Intrastat-system for statistics on international trade. The latter can be regarded as a major and concrete example of the effects of deregulation on economic statistics.

2. Europe 1992 and economic statistics

2.1 Removal of barriers

In order to establish a single EC market, it was decided in 1985 to remove the barriers that impede the free flow of goods, services, persons and financial capital between EC-countries. In the so-called 'White Paper', three types of barriers are distinguished: physical barriers (customs posts at frontiers), technical barriers (differences in laws and regulations of EC Member States) and fiscal barriers (differences in Value Added Tax and excise duties). (Commission of the European Communities, 1985).

Since the publication of the White Paper, substantial progress has been made in its implementation. Nevertheless, a lot of decision-making has still to take place and there are several backlogs (see Commission of the European Communities, 1990). With respect to the collection of statistics on intra-EC trade in goods after 199?, it has been decided to introduce a new regulation for statistical purposes: the Intrastat-system.

2.2 Consequences for economic statistics

The significance of regulation and deregulation for official statistics has been discussed in general terms in section 1. This section will focus on the more specific consequences of Europe 1992 on economic statistics.

Deregulation like the elimination of intra EC-barriers changes the institutional arrangements and economic structure. These changes can be important in three respects.

Firstly, these changes could affect the quality of economic statistics. For example, harmonization and approximation of taxation and other regulations reduce the incentives for transactions that arise in order to benefit from differences in tax rates or regulation. These transactions may be legal as well as illegal. The reduction of illegal transac-

tions would be beneficial to the quality of economic statistics, as the estimates on the hidden economy are usually subject to (relatively) wide ranges of error.

Another case in point is that the merging of enterprises from different EC-countries could increase the importance of transfer pricing (as long as direct tax rates differ in EC-countries). The internationalization of enterprises will probably also hamper the linkage between on the one hand statistics based on establishment-type units like the statistics on industrial production and the input-output table, and on the other hand statistics like Company Finance Accounts based on institutional units (e.g. enterprises) (see Al, 1985 and UN, 1968). Europe 1992 may also bring about an increase in across-the-border activity, particularly in respect of construction and engineering projects abroad. For example, it could be the consequence of the elimination of requirements on the nationality of enterprises or the acknowledgement of professional qualifications from other EC-countries. Such temporary projects abroad frequently involve conceptual and estimation problems. For instance: there is not always a separate administration per project or the revenues are only recorded at the end of a project lasting several years. A similar argument could be applied to the relatively troublesome estimation of tourist expenditure and other across-the-border purchases.

Secondly, the changes in economic structure due to Europe 1992 will change the relative importance of various statistics. This implies that additional requirements (e.g. more detail, increased reliability) should be imposed on statistics that become more important. In a similar vein, imposing fewer requirements should be taken into consideration for statistics of decreased importance. Topics of increased importance may be:

* Trade in services (usually particularly affected by differences in national regulations, e.g. construction and financial services)
* Establishment trade (due to the internationalization of enterprises)
* International money flows
* "Brain drain", i.e. changes in the labour supply due to migration
* EC-projects, e.g. on infrastructure or research.

A third consequence of changes in economic structure is that the applicability of national accounting concepts also changes (cf. Bos, 1989b). According to present conventions, the major part of the production of banks (the indirectly financed banking services) and the total production of life insurance companies, pension funds and (international) government institutions cannot be imported and exported. These conventions become more problematic as Europe 1992 advances. This could induce a change in conventions. Without such a change, it could be argued that international comparability of national accounting figures will decrease. However, there are also arguments for an increase in comparability due to Europe 1992. For example, relative prices and the regulatory conditions of producing and consuming in EC-countries will become more comparable. If, for example, all producers in the EC have to meet broadly the same environmental requirements, this could be regarded as an increase in the comparability of national accounting figures.

However, the most direct effect of deregulation in general is that it affects the availability and quality of some of the datasources based on regulation. As a consequence, all compilation strategies based on these sources have to be reconsidered. With respect to Europe 1992, the most obvious example that comes to mind is customs data that must be replaced by other data. The consequences of this important change in a regulatory data source will be discussed in section 3. However, many other regulatory data sources may be affected by Europe 1992. Examples are the business accounts (see Nobes, 1985 and Gray and Coenenberg, 1988), tax data and data on international money flows compiled by Central Banks. The consequences of a change or elimination of a regulatory data source are usually not clearcut, as they depend on the specific regulatory data source and the opportunities to collect information from other sources.

If Statistical Offices do not respond adequately to all these changes, their description of a nation's economy will become more unbalanced and will reflect the features of a past economic structure; overall reliability of their systems of economic statistics will most probably deteriorate.

As a final consequence, we can mention that the comparability of economic statistics of EC-countries will change. A common regulation for statistical purposes and an increased harmonization of other regulations will make several data sources employed in compiling statistics in the EC-countries more compatible. Therefore, a major reason for differences in compilation strategies employed in various EC-countries will become less valid and the compilation strategies may become more similar. Increased comparability of data sources as well as that of compilation strategies can improve the comparability of the economic statistics of EC-countries.

3. Consequences of the Intrastat-system

3.1 General remarks

On 31 December 1992, a new system to register imports and exports of goods between Member Countries will come into force: the Intrastat-system. This system will replace the present informational obligations at the intra-EC customs borders. Under the Intrastat system, enterprises will be obliged to provide information to their National Statistical Office on imports and exports from and to other EC-countries. For all Member countries, intra-EC trade is the major part of total merchandise imports and exports. In 1987, the average percentages for the EC-countries were 60% for merchandise imports as well as exports. For the Netherlands, the figures are 60% of merchandise imports and 75% of merchandise exports. The establishment of the Common market will no doubt imply an increase in these percentages.

At present, the main uses of customs data in the Dutch system of economic statistics are:

1. As the basis of the Foreign Trade Statistics. In these statistics, monthly values and volumes of merchandise imports and exports are published for over 9600 items and, broken down (by item) per country/region of provenance, origin or destination.
2. In compiling annual statistics on the goods transport across national borders.
3. By the National Accounts Department, which employs the data indirectly to construct:
   * Monthly indicators of foreign trade, capital formation and production.
   * The Quarterly Accounts.
   * The National Accounts and the annual input-output table.
   * The Balance of Payments (in cooperation with the Dutch Central Bank). To this end, the integrated national accounts data on imports and exports of goods and services are linked to data on international money flows.

(see Holle and Smits, 1990, Gorter and others, 1990 and Janssen and Algera, 1988). All these statistics will be affected by the introduction

of the Intrastat-system.

It is difficult to foresee all the statistical problems from 1992 and to devise in advance new compilation strategies. Fortunately, we can draw some practical lessons from the experiences with direct recording of intra-Benelux trade in the period 1971-1984. These will therefore be discussed in section 3.2. However, the situations are not comparable in all respects. Therefore, a more general and forward-looking approach to devising new compilation strategies will be presented in section 3.3. These new compilation strategies are to be accommodated by the Intrastat-system. Section 3.4 looks briefly at how this new regulation for statistical purposes can best be fit in with the ideas on Europe 1992.

3.2 Experiences with direct recording of intra-Benelux trade

In 1948, the Benelux was established as a customs union and import duties were abolished. In 1971, also the customs formalities were abolished. As a consequence, the Dutch Central Bureau of Statistics "had to develop an alternative method in which data on trade with Belgium and Luxemburg were obtained directly from the importers and exporters concerned. The method consisted in direct recording in which, just as for trade with other countries, data were to be supplied on an integral basis (i.e. not by way of sample surveys)... From mid-1984, trade within the Benelux has been recorded differently. The introduction of the single document meant the end of direct recording" (Holle, 1986). The new system again uses forms collected by the customs authorities at the internal Benelux frontiers. The direct reporting of intra-Benelux trade in the years 1971-1984, revealed some of the types of problems that may occur after 1992. In particular, the problems with the imports from the BLEU (the economic union of Belgium and Luxembourg) are relevant, as in estimating exports information could also be used from the Belgium customs.

A very serious problem was that the quality of the data on trade with

the BLEU deteriorated. This was mainly caused by incompleteness of the list of reporting firms and problems in keeping this list up to date. For example, if a firm which started importing from or exporting to Belgium did not register with the Dutch Central Bureau of Statistics of its own accord, it could take a long time before it was included in the statistics. In the period 1973-1984, incompleteness resulted in a recorded value of total merchandise imports of 85 to 90% of the estimated value; in the years 1971 and 1972 the percentages were even 75 and 80% (Holle, 1986, p. 28). A lack of coverage of 10 to 15% at the most aggregate level suggests that for specific goods the lack of coverage may have been 20%, 30% or even more. So, due to deregulation, the reliability of the figures on Dutch imports from the BLEU in the period 1971-1984 decreased substantially.

Another problem was that the timeliness of the data was affected. "By means of intensive checks, the field service tried to get firms to send their returns to the CBS in the appropriate month. This nonetheless remained a serious problem throughout the entire period of direct recording. On average, the percentage of overrun [i.e. recorded imports and exports relating to an earlier month] was around 40% for imports and 30% for exports" (Holle, 1986).

Direct recording turned out to be highly labour intensive and costly "as it was necessary to supplement the system of direct recording with a *field service* responsible for checking the accuracy and completeness of the returns. Based on the experience of the first few years, 20% (approx. 7,000) of the firms, accounting for 80% of the trade with Belgium and Luxembourg, were visited periodically and had their accounts checked... [It] placed an unduly heavy burden on available manpower. A good 30% of available personnal were engaged in recording some 14% of the Netherlands' external trade" (Holle, 1986).

In drawing inferences from these Dutch experiences, it should be realized that the substantial difference in size between Dutch trade with the BLEU and Dutch trade with the EC-countries is of importance in judging statistical problems and devising compilation strategies. For

example, some economies of scale will occur as a list of Dutch companies trading with companies from other EC-countries will include many enterprises that trade with the BLEU as well as with other EC-countries. More importantly, as intra-EC trade involves the major part of international trade of all EC-countries, fundamental changes in, e.g., priorities and definitions also become feasible. Another difference important in drawing inferences is that the direct reporting of trade with the BLEU was not supported by a regulation for statistical purposes. Enterprises could not be forced to cooperate and this probably had an adverse effect on the quality of the data.

3.3 The choice of new compilation methods

In deciding on new compilation methods, one should be aware of the differences between surveys and a regulatory data source like the customs data. In setting up a survey, a statistician can choose the various data requirements to a substantial extent. In contrast, customs data and other regulatory data sources (e.g. tax data and business accounts) are rather rigid instruments for statistical needs. For instance, customs data are available with a rather fixed delay. Similarly, the detail available in customs data can only be used or not; more detail can only be obtained by using other sources, e.g. setting up an additional survey. Partly as a consequence of this difference, a survey may on the one hand have data qualities absent in the customs data, while on the other, some data qualities of the customs data may not be attainable at all (simultaneously) by a survey. It should be realized that the extent of the choice of data requirements in setting up a survey is limited by the existence of several important trade-offs between data requirements:

- respondent burden versus reliability and detail
- reliability versus timeliness
- non-response/completeness versus detail and timeliness
- costs versus reliability, timeliness and detail.

For example, costs can be kept within limits by reducing the size of the sample, the timeliness of the data or the amount of detail in the ques-

tionaires.

In this section, we will further investigate how and to what extent the data requirements of the various economic statistics can be met after 1992.

Completeness and reliability may be affected after 1992 in several ways. As the BLEU-experiences already indicated, it will be much more difficult to check which enterprises should provide information on intra-EC trade and whether the information they provide is accurate and complete. In particular, small enterprises or enterprises which import or export infrequently may pose problems. Furthermore, at present the main sanction on not providing information is that the merchandise will not be allowed to pass the border. From 1993 onwards, this important sanction will be absent. At the customs, checks were sometimes carried out on values and volume of imports and exports. So, other ways of checking the information provided will have to be found. On the other hand, it can be argued that the main impetus to provide wrong information disappears as differences in VAT-rates decrease and import duties and quotas are abolished for intra-EC trade.

At present, customs data provide the information on transport crossing the national border. According to Intrastat, the National Statistical Office will receive only information from resident enterprises. However, in order to get a complete picture of transport that has crossed the national borders, information from non-resident transporters is also needed on their transport of goods in transit. Moreover, transport arranged by a Dutch transporter within another country may not be covered. The only solution is exchange of such information between Member Countries. As this exchange should involve all Statistical Offices in the EC, this amounts to a huge coordination problem and it will not be easy to achieve completeness in this respect. Furthermore, such an exchange of information will take time, which could be a serious problem in publishing timely data.

Completeness of international trade in merchandise will be a problem

if Intrastat-data on intra-EC trade in merchandise are difficult to link to customs data on extra-EC trade. For example, following the original proposals, there is a major problem with respect to extra-EC trade that is cleared for community purposes in an EC-country other than the EC-country of origin (destination). Another case in point is that Intrastat includes thresholds for exclusion and simplification. Furthermore, private individuals will not be obliged to provide information on their purchases in other EC-countries. In particular, the choice of the level of the thresholds may substantially affect the accuracy of the figures on intra-EC trade after 1992; information on some specific types of imports and exports may even become utterly unreliable.

Intrastat does not aim to provide information on international trade in services. This is a pity for several reasons. The Commission has explicitly acknowledged the importance of statistics on international trade in services and has decided to draft a Directive relating to statistics on services. The Commission has also made an explicit link in the Intrastat proposals between providing information for tax (VAT) purposes and for statistical purposes (Commission of the European Communities, 1989 and 1990). For tax purposes, the distinction between goods and services is irrelevant: the information to be provided relates to goods as well as services. Nevertheless, the Intrastat-proposals seem to imply that the present bias for statistics on international trade in goods will be maintained after 1992.

From the point of view of the system of economic statistics as a whole, completeness and overall reliability can only be achieved if linkage is possible between:

- data on intra-EC trade in goods and data on extra-EC trade in goods
- data on international trade in goods and data on international trade in services
- data on external trade and data on internal trade.

As most information on internal trade and, from 1993 onwards, intra-EC trade in goods are collected by surveys, completeness can be increased by the usage of '<u>layered questioning</u>' in an integrated survey

(see Bos, 1989a, p. 29). For example, an enterprise could be presented a sequence of questions like:

- What were your total sales last month?
- What were your sales to abroad last month?
- What were your sales to countries outside the EC last month?
- What were your sales of goods to countries outside the EC last month?

The respondent burden can be a problem with such an integrated survey, particularly if information on extra-EC trade in merchandise has to be provided at the customs frontier as well.

Whatever the case, after 1992, coordination and integration of data will increase in importance as the present strategy based on a complete count of merchandise imports and exports cannot be maintained. Only in this way can a sufficient level of completeness and reliability be attained, in particular in publishing timely figures.

At present, it is yet unclear which classification and which detail will be used in the Intrastat system. Opinions range from the four-digit classification of the Harmonised system to the present nine-digit classification. Striving for reduction of the respondent burden seems to favour a four-digit classification. However, as enterprises will have to provide information on their extra-EC trade according to the present classification, such a choice will most probably increase the respondent burden of enterprises involved in extra-EC as well as intra-EC trade. Furthermore, it might be questioned to what extent the respondent burden is reduced by a reduction in the amount of detail in the classification. The frequency of surveys and the amount of additional features (mode of transport, nationality of transporter, conditions of delivery, country of origin, provenance and destination, various measures of value and volume, etc.) are probably much more important variables in reducing respondent burdens.

The choice of the amount of detail in collecting data is not very important for the timeliness of data to be published. However, as coordinating and integrating data is a time-consuming process, it may be necessary to use a more aggregate level for compiling and publishing

timely data.

The definitions used in the customs data were not developed for statistical purposes. As a consequence, there may be room for improvement in several respects. For example, an important issue is whether the Intrastat-system should register primarily sales and purchases of goods and services instead of the physical inflow and outflow of goods. If so, this should have consequences for:

- The scope of imports and exports:
  * processing to order would simply be regarded as providing a service and the related inflow and outflow of goods should no longer be recorded as imports and exports at all.
  * goods in transit could be ignored.
  * imports and exports of services will also be recorded.
- The preferred moment of registration: the moment of the change in ownership would replace the moment of crossing the national border.
- The preferred principle of valuation: the cif valuation of merchandise imports (at the EC-customs frontier/at the national border) and the fob-valuation of exports would be replaced by:
  * the invoice value for imports as well as exports in order to facilitate linkage between various statistics, and
  * producers' prices for exports and value at the establishment of the user for imports in order to achieve homogeneity from the point of view of the resident importer/exporter (see Bos, 1989a).

These possible changes could be regarded as a logical consequence of the choice of the Commission to replace customs data by information from surveys. Maintaining present definitions would imply that enterprises have to provide information as if the intra-EC customs borders still exist. For enterprises this is very inconvenient as these definitions will hardly correspond to their perceptions. For example, from 1993, cif and fob valuations at intra-EC borders are mostly irrelevant to enterprises.

Nevertheless, such changes in definitions are not without problems. The main problem is that difficulties will arise in linking Intrastat

data to extra-EC trade data if the latter keep the present definitions. In the short term, a solution can be found by linking on the basis of additional features: information about invoice values and whether the goods are sold (type of transaction) already have to be provided at the customs frontier. In the somewhat longer term, the formalities and definitions for statistical and tax purposes at the EC-customs border could be simplified and brought (more) in line with Intrastat. This is also very important in limiting the respondent burden of enterprises involved in intra as well as extra-EC trade. Such a harmonization makes sense as the definitions most useful for Intrastat are also very useful in formalities at the EC-frontier. For example, levying import duties could be limited to goods purchased by residents of the EC; the criterium of crossing the border could be disregarded (levying import duties on goods that are to be processed to order?).

Changing definitions for intra-EC trade will result in a discontinuity in figures on intra-EC trade. Although this could be regarded as a disadvantage, the drastic change in compilation strategies will involve a discontinuity anyhow. Solutions to bridge the 1993 discontinuity, e.g. starting with the calculation of shadow-index figures right away, could also be applied to changes in definitions.

Our discussion of the effects of the introduction of Intrastat provides an example of the effects of the elimination of a regulatory data source in general. The effects could be positive as well as negative. Some of the negative effects are hard to avoid. For example in the case of the Intrastat-system, it will be very difficult to maintain the same amount of detail, timeliness and reliability for intra-EC trade in merchandise. The positive effects depend mainly on the attitude of the Statistical Offices. Positive effects are absent if Statistical Offices try to collect exactly the same type of information as before, but now from different sources. This strategy is not optimal for three reasons:

- The bad features of the former source will then still be used. For example, sticking to the definitions in the customs data (e.g. the principles of valuation) obstructs the linking of these data to the

rest of the system of economic statistics and maintains some of the old problems (e.g. with respect to processing to order). The only possible result is that the quality of the statistics deteriorates, because the specific features of former data sources cannot be reproduced exactly by other sources.

- Deregulation leads in general to a more explicit trade-off between timeliness and detail in compiling statistics. The economic statistician therefore obtains a much wider range of choice for the various qualities of the data sources and statistics. With respect to Intrastat, it could for example be decided to compile and publish the annual data with much detail, while for timely data a more aggregate level of compilation could be chosen.
- The good features of new sources will then not be fully employed. A case in point is the coverage of the Intrastat-system, which -according to the present proposals- will not encompass international trade in services mainly for historical reasons.

3.4 Regulation for statistical purposes

Like all regulation, regulation for statistical purposes, like Intrastat, will probably be very difficult to change in a later stage. Therefore, a long-term view should be used in deciding on its specific content. In order to fit in with the ideas on Europe 1992, the regulation should aim at obtaining the necessary information as efficiently as possible, while keeping the respondent burden within clear limits. This implies that the regulation should take account of the basic needs of the new compilation strategies and be aware of, e.g., the fundamental differences between surveys and a regulatory data source like the customs data. Statistical Offices can contribute to limiting the respondent burden by improved coordination and linking of various surveys for statistical purposes. For the same reason, regulation for statistical purposes should be linked to other regulation after 1992. The European Commission has already decided to link the Intrastat-system to the lodging of regular returns for indirect tax purposes. Another possible linkage is that to the customs formalities on trade with non-EC coun-

tries. This linkage is very important as many enterprises are involved in intra- as well as extra-EC trade.

4. Conclusions

Europe 1992 is one of the largest projects of deregulation under way, perhaps even in the entire history of mankind. Furthermore, it is rather unique to the extent that it is an international operation and that solutions to the most pressing statistical problems which result from the project are equally sought at an international level. In the next decades, several deregulation projects similar to Europe 1992 will probably be started or have progressed. An example of the latter is the economic union between the United States, Canada and Mexico. Initiatives for economic unions also have been taken in countries like Egypt and Libia and the ASEAN-countries. Economic unions and trade blocks seem to be one of the signs of the near future. So, the statistical problems of Europe 1992 will then also be relevant to many other countries.

Europe 1992 will have many effects on economic statistics. The changes in institutional arrangements and economic structure due to Europe 1992 bear consequences for the quality of economic statistics, the relative importance of various statistics and the applicability of national accounting concepts. However, the most direct effect of Europe 1992 on economic statistics is that data sources used in compiling economic statistics will change or even be eliminated. The major instance is that customs data on intra-EC trade in merchandise will cease to exist. Data from the newly created so-called Intrastat-system are intended to serve as a substitute. Another case in point is that Central Banks will probably stop collecting detailed information on international money flows.

In this paper, we have discussed the consequences of the introduction of the Intrastat-system in more detail. It could serve as a major example of the general consequences of Europe 1992 for economic statistics. If the Statistical Offices of the EC-countries do not respond adequately, Europe 1992 will lead to a deterioration of their economic statistics in several respects: they will become less reliable, less cost effective and less balanced. The deregulation due to Europe 1992, will probably only have positive effects if Statistical Offices do not

try to collect exactly the same type of information (with respect to e.g. coverage, definitions, detail and timeliness) as before. Only in this way can a proper balance between relevance and effort in the system of economic statistics be found.

Massive deregulation, like Europe 1992, provides a challenge to economic statisticians. Present compilation strategies are often the fruits of history. In order to meet the statistical needs of the future with the statistical means of the future, we should not be afraid to reconsider present compilation strategies. Europe 1992 forces us to take a fresh look at the challenges of the future. This is probably the most positive effect of Europe 1992.

References

Al, P.G., 1985, Dual sectoring, National Accounts Occasional Paper nr. 10 (Netherlands Central Bureau of Statistics, Voorburg).

Algera, S., 1989, In- en uitvoerstatistieken na 1992: een alternatieve opzet ("Foreign Trade Statistics after 1992: an alternative approach") (CBS, Voorburg).

Bos, F., 1989a, Valuation of merchandise imports and exports and the registration of trade in services, CBS-Select 5, Statistical Essays (SDU-publishers, The Hague), p. 63-75.

Bos, F., 1989b, A systems view on concepts of income in the National Accounts, National Accounts Occasional Paper nr. 33 (CBS, Voorburg).

Bos, F., 1990, Uitgangspunten voor de registratie van de internationale handel in diensten ("Concepts and methods for the registration of international trade in services"), (CBS, Voorburg).

Commission of the European Communities, 1985, Completing the internal market; White Paper from the Commission to the European Council (Office for Official Publications of the European Communities, Luxembourg).

Commission of the European Communities, 1989, Proposal for a Council Regulation (EEC) on the statistics relating to the trading of goods between Member States, Official Journal of the European Communities, No. C 41 of 18-2-1989, p. 5-11.

Commission of the European Communities, 1990, Fifth Report of the Commission to the Council and the European Parliament; concerning the implementation of the White Paper on the Completion of the Internal Market (Office for Official Publications of the European Communities, Luxembourg).

Eurostat, 1990, Statistics relating to the trading of goods between ECE member States after 1992: Progress Report, Paper transmitted at the Thirty-eight plenary session of the Conference of European Statisticians, Statistical Commission and Economic Commission for Europe.

Gorter, Cor N. and others, 1990, A summary description of sources and methods used in compiling the final estimates of Dutch National Income 1986, National Accounts Occasional Paper Nr. 35 (CBS, Voorburg).

Gray, S.J. and A.G. Coenenberg, 1988, International group accounting: international harmonisation and the seventh EEC directive (Croom Helm Ltd., Kent).

Holle, W., 1986, Direct recording of intra-Benelux trade, Netherlands Official Statistics, vol 1, no. 3, pp. 26-28.

Holle, W. and W.F. Smits, 1990, Recente en verwachte ontwikkelingen in de methode van waarneming van de buitenlandse handel; Statistiek van de invoer en uitvoer: Quo vadis? ("Actual and expected developments in the methods of the Foreign Trade Statistics: Quo vadis?"), CBS-Select 6, Statistical Essays (SDU-publishers, The Hague), pp. 91-108.

Janssen, R.J.A. and S.B. Algera, 1988, The methodology of the Dutch system of quarterly accounts, National Accounts Occasional Paper Nr. 25 (CBS, Voorburg).

Nobes, C.W., 1985, Harmonisation of financial reporting, in: C.W. Nobes and R.H. Parker, Comparative international accounting (Philip Allan Publishers Limited, Oxford/St. Martin's Press Inc., New York), pp. 331-352.

United Nations, 1968, A system of National Accounts, Studies in Methods, Series F, No. 2, Rev. 3 (UN, New York).

National Accounts Occasional Papers

NA/01 **Flexibility in the system of National Accounts**, Van Eck, R., C.N. Gorter and H.K. van Tuinen (1983).
This paper sets out some of the main ideas of what gradually developed into the Dutch view on the fourth revision of the SNA. In particular it focuses on the validity and even desirability of the inclusion of a number of carefully chosen alternative definitions in the "Blue Book", and the organization of a flexible system starting from a core that is easier to understand than the 1968 SNA.

NA/02 **The unobserved economy and the National Accounts in the Netherlands, a sensitivity analysis**, Broesterhuizen, G.A.A.M. (1983).
This paper studies the influence of fraud on macro-economic statistics, especially GDP. The term "fraud" is used as meaning unreporting or underreporting income (e.g. to the tax authorities). The conclusion of the analysis of growth figures is that a bias in the growth of GDP of more than 0.5% is very unlikely.

NA/03 **Secondary activities and the National Accounts: Aspects of the Dutch measurement practice and its effects on the unofficial economy**, Van Eck, R. (1985).
In the process of estimating national product and other variables in the National Accounts a number of methods is used to obtain initial estimates for each economic activity. These methods are described and for each method various possibilities for distortion are considered.

NA/04 **Comparability of input-output tables in time**, Al, P.G. and G.A.A.M. Broesterhuizen (1985).
It is argued that the comparability in time of statistics, and input-output tables in particular, can be filled in in various ways. The way in which it is filled depends on the structure and object of the statistics concerned. In this respect it is important to differentiate between coordinated input-output tables, in which groups of units (industries) are divided into rows and columns, and analytical input-output tables, in which the rows and columns refer to homogeneous activities.

NA/05 **The use of chain indices for deflating the National Accounts**, Al, P.G., B.M. Balk, S. de Boer and G.P. den Bakker (1985).
This paper is devoted to the problem of deflating National Accounts and input-output tables. This problem is approached from the theoretical as well as from the practical side. Although the theoretical argument favors the use of chained Vartia-I indices, the current practice of compilating National Accounts restricts to using chained Paasche and Laspeyres indices. Various possible objections to the use of chained indices are discussed and rejected.

NA/06 **Revision of the system of National Accounts: the case for flexibility**, Van Bochove, C.A. and H.K. van Tuinen (1985).
It is argued that the structure of the SNA should be made more flexible. This can be achieved by means of a system of a general purpose core supplemented with special modules. This core is a fully fledged, detailed system of National Accounts with a greater institutional content than the present SNA and a more elaborate description of the economy at the meso-level. The modules are more analytic and reflect special purposes and specific theoretical views.

NA/07 **Integration of input-output tables and sector accounts; a possible solution**, Van den Bos, C. (1985).
The establishment-enterprise problem is tackled by taking the institutional sectors to which the establishments belong into account during the construction of input-output tables. The extra burden on the construction of input-output tables resulting from this approach is examined for the Dutch situation. An adapted sectoring of institutional units is proposed for the construction of input-output tables.

NA/08 **A note on Dutch National Accounting data 1900-1984**, Van Bochove, C.A. (1985).
This note provides a brief survey of Dutch national accounting data for 1900-1984, concentrating on national income. It indicates where these data can be found and what the major discontinuities are. The note concludes that estimates of the level of national income may contain inaccuracies; that its growth rate is measured accurately for the period since 1948; and that the real income growth rate series for 1900-1984 may contain a systematic bias.

NA/09 **The structure of the next SNA: review of the basic options**, Van Bochove, C.A. and A.M. Bloem (1985).
There are two basic issues with respect to the structure of the next version of the UN System of National Accounts. The first is its 'size': reviewing this issue, it can be concluded that the next SNA should contain an integrated meso-economic statistical system. It is essential that the next SNA contains an institutional system without the imputations and attributions that pollute the present SNA. This can be achieved by distinguishing, in the central system of the next SNA, a core (the institutional system), a standard module for non-market production and a standard module describing attributed income and consumption of the household sector.

NA/10 **Dual sectoring in National Accounts**, Al, P.G. (1985).
Following a conceptual explanation of dual sectoring, an outline is given of a statistical system with complete dual sectoring in which the linkages are also defined and worked out. It is shown that the SNA 1968 is incomplete and obscure with respect to the links between the two sub-processes.

NA/11 **Backward and forward linkages with an application to the Dutch agro-industrial complex**, Harthoorn, R. (1985).
Some industries induce production in other industries. An elegant method is developed for calculating forward and backward linkages avoiding double counting. For 1981 these methods have been applied to determine the influence of Dutch agriculture in the Dutch economy in terms of value added and labour force.

NA/12 **Production chains**, Harthoorn, R. (1986).
This paper introduces the notion of production chains as a measure of the hierarchy of industries in the production process. Production chains are sequences of transformation of products by successive industries. It is possible to calculate forward transformations as well as backward ones.

NA/13 **The simultaneous compilation of current price and deflated input-output tables**, De Boer, S. and G.A.A.M. Broesterhuizen (1986).
A few years ago the method of compiling input-output tables underwent in the Netherlands an essential revision. The most significant improvement is that during the entire statistical process, from the processing and analysis of the basic data up to and including the phase of balancing the tables, data in current prices and deflated data are obtained simultaneously and in consistency with each other.

NA/14 **A proposal for the synoptic structure of the next SNA**, Al, P.G. and C.A. van Bochove (1986).

NA/15 **Features of the hidden economy in the Netherlands**, Van Eck, R. and B. Kazemier (1986).
This paper presents survey results on the size and structure of the hidden labour market in the Netherlands.

NA/16 **Uncovering hidden income distributions: the Dutch approach**, Van Bochove, C.A. (1987).

NA/17 **Main national accounting series 1900-1986**, Van Bochove, C.A. and T.A. Huitker (1987).
The main national accounting series for the Netherlands, 1900-1986, are provided, along with a brief explanation.

NA/18 **The Dutch economy, 1921-1939 and 1969-1985. A comparison based on revised macro-economic data for the interwar period**, Den Bakker, G.P., T.A. Huitker and C.A. van Bochove (1987).
A set of macro-economic time series for the Netherlands 1921-1939 is presented. The new series differ considerably from the data that had been published before. They are also more comprehensive, more detailed, and conceptually consistent with the modern National Accounts. The macro-economic developments that are shown by the new series are discussed. It turns out that the traditional economic-historical view of the Dutch economy has to be reversed.

NA/19 **Constant wealth national income: accounting for war damage with an application to the Netherlands, 1940-1945**, Van Bochove, C.A. and W. van Sorge (1987).

NA/20 **The micro-meso-macro linkage for business in an SNA-compatible system of economic statistics**, Van Bochove, C.A. (1987).

NA/21 **Micro-macro link for government**, Bloem, A.M. (1987).
This paper describes the way the link between the statistics on government finance and national accounts is provided for in the Dutch government finance statistics.

NA/22 **Some extensions of the static open Leontief model**, Harthoorn, R.(1987).
The results of input-output analysis are invariant for a transformation of the system of units. Such transformation can be used to derive the Leontief price model, for forecasting input-output tables and for the calculation of cumulative factor costs. Finally the series expansion of the Leontief inverse is used to describe how certain economic processes are spread out over time.

NA/23 **Compilation of household sector accounts in the Netherlands National Accounts**, Van der Laan, P. (1987).
This paper provides a concise description of the way in which household sector accounts are compiled within the Netherlands National Accounts. Special attention is paid to differences with the recommendations in the United Nations System of National Accounts (SNA).

NA/24 **On the adjustment of tables with Lagrange multipliers**, Harthoorn, R. and J. van Dalen (1987).
An efficient variant of the Lagrange method is given, which uses no more computer time and central memory then the widely used RAS method. Also some special cases are discussed: the adjustment of row sums and column sums, additional restraints, mutual connections between tables and three dimensional tables.

NA/25 **The methodology of the Dutch system of quarterly accounts**, Janssen, R.J.A. and S.B. Algera (1988).
In this paper a description is given of the Dutch system of quarterly national accounts. The backbone of the method is the compilation of a quarterly input-output table by integrating short-term economic statistics.

NA/26 **Imputations and re-routeings in the National Accounts**, Gorter, Cor N. (1988).
Starting out from a definition of 'actual' transactions an inventory of all imputations and re-routeings in the SNA is made. It is discussed which of those should be retained in the core of a flexible system of National Accounts. Conceptual and practical questions of presentation are brought up. Numerical examples are given.

NA/27 **Registration of trade in services and market valuation of imports and exports in the National Accounts**, Bos, Frits (1988).
The registration of external trade transactions in the main tables of the National Accounts should be based on invoice value; this is not only conceptually very attractive, but also suitable for data collection purposes.

NA/28 **The institutional sector classification**, Van den Bos, C. (1988).
A background paper on the conceptual side of the grouping of financing units. A limited number of criteria are formulated.

NA/29 **The concept of (transactor-)units in the National Accounts and in the basic system of economic statistics**, Bloem, Adriaan M. (1989).
Units in legal-administrative reality are often not suitable as statistical units in describing economic processes. Some transformation of legal-administrative units into economic statistical units is needed. This paper examines this transformation and furnishes definitions of economic statistical units. Proper definitions are especially important because of the forthcoming revision of the SNA.

NA/30 **Regional income concepts**, Bloem, Adriaan M. and Bas De Vet (1989).
In this paper, the conceptual and statistical problems involved in the regionalization of national accounting variables are discussed. Examples are the regionalization of Gross Domestic Product, Gross National Income, Disposable National Income and Total Income of the Population.

NA/31 **The use of tendency surveys in extrapolating National Accounts**, Oudde-ken, Frank and Gerrit Zijlmans (1989).
This paper discusses the feasibility of the use of tendency survey data in the compilation of very timely Quarterly Accounts. Some preliminary estimates of relations between tendency survey data and regular Quarterly Accounts-indicators are also presented.

NA/32 **An economic core system and the socio-economic accounts module for the Netherlands**, Gorter, Cor N. and Paul van der Laan (1989).
A discussion of the core and various types of modules in an overall system of economy related statistics. Special attention is paid to the Dutch Socio-economic Accounts. Tables and figures for the Netherlands are added.

NA/33 **A systems view on concepts of income in the National Accounts**, Bos, Frits (1989).
In this paper, concepts of income are explicitly linked to the purposes of use and to actual circumstances. Main choices in defining income are presented in a general system. The National Accounts is a multi-purpose framework. It should therefore contain several concepts of income, e.g. differing with respect to the production boundary. Furthermore, concepts of national income do not necessarily constitute an aggregation of income at a micro-level.

NA/34 **How to treat borrowing and leasing in the next SNA**, Keuning, Steven J. (1990).
The use of services related to borrowing money, leasing capital goods, and renting land should not be considered as intermediate inputs into specific production processes. It is argued that the way of recording the use of financial services in the present SNA should remain largely intact.

NA/35 **A summary description of sources and methods used in compiling the final estimates of Dutch National Income 1986**, Gorter, Cor N. and others (1990).
Translation of the inventory report submitted to the GNP Management Committee of the European Communities.

NA/36 **The registration of processing in make and use tables and input-output tables**, Bloem, Adriaan M., Sake De Boer and Pieter Wind (1990, forthcoming).
The registration of processing is discussed primarily with regard to its effects on input-output-type tables and input-output quotes. Links between National Accounts and basic statistics, user demands and international guidelines are examined.

NA/37 **A proposal for a SAM which fits into the next System of National Accounts**, Keuning, Steven J. (1990).
This paper shows that all flow accounts which may become part of the next System of National Accounts can be embedded easily in a Social Accounting Matrix (SAM). In fact, for many purposes a SAM format may be preferred to the traditional T-accounts for the institutional sectors, since it allows for more flexibility in selecting relevant classifications and valuation principles.

NA/38 **Net versus gross National Income**, Bos, Frits (1990).
In practice, gross figures of Domestic Product, National Product and National Income are most often preferred to net figures. In this paper, this practice is challenged. Conceptual issues and the reliability of capital consumption estimates are discussed.

NA/39 **Concealed interest income of households in the Netherlands; 1977, 1979 and 1981**, Kazemier, Brugt (1990).
The major problem in estimating the size of hidden income is that total income, reported plus unreported, is unknown. However, this is not the case with total interest income of households in the Netherlands. This makes it possible to estimate at least the order of magnitude of this part of hidden income. In this paper it will be shown that in 1977, 1979 and 1981 almost 50% of total interest received by households was concealed.

NA/40 **Who came off worst: Structural change of Dutch value added and employ-- ment during the interwar period**, Den Bakker, Gert P. and Jan de Gijt (1990).
In this paper new data for the interwar period are presented. The distribution of value added over industries and a break-down of value added into components is given. Employment by industry is estimated as well. Moreover, structural changes during the interwar years and in the more recent past are juxtaposed.

NA/41 **The supply of hidden labour in the Netherlands: a model**, Kazemier, Brugt and Rob van Eck (1990).
This paper presents a model of the supply of hidden labour in the Netherlands. Model simulations show that the supply of hidden labour is not very sensitive to cyclical fluctuations. A tax exempt of 1500 guilders for second jobs and a higher probability of detection, however, may substantially decrease the magnitude of the hidden labour market.

NA/42 **Benefits from productivity growth and the distribution of income**, Keuning, Steven J. (1990).
This paper contains a discussion on the measurement of multifactor productivity and sketches a framework for analyzing the relation between productivity changes and changes in the average factor remuneration rate by industry. Subsequently, the effects on the average wage rate by labour category and the household primary income distribution are studied.

NA/43 **Valuation principles in supply and use tables and in the sectoral accounts**, Keuning, Steven J. (1991).
In many instances, the valuation of transactions in goods and services in the national accounts poses a problem. The main reason is that the price paid by the purchaser deviates from the price received by the producers. The paper discusses these problems and demonstrates that different valuations should be used in the supply and use tables and in the sectoral accounts.

NA/44 **The choice of index number formulae and weights in the National Accounts. A sensitivity analysis based on macro-economic data for the interwar period**, Bakker, Gert P. den (1991).
The sensitivity of growth estimates to variations in index number formulae and weighting procedures is discussed. The calculations concern the macro-economic variables for the interwar period in the Netherlands. It appears, that the use of different formulae and weights yields large differences in growth rates. Comparisons of Gross Domestic Product growth rates among countries are presently obscured by the use of different deflation methods. There exists an urgent need for standardization of deflation methods at the international level.

NA/45 **Volume measurement of government output in the Netherlands; some alternatives**, Kazemier, Brugt (1991).
This paper discusses three alternative methods for the measurement of the production volume of government. All methods yield almost similar results: the average annual increase in the last two decades of government labour productivity is about 0.7 percent per full-time worker equivalent. The implementation of either one of these methods would have led to circa 0.1 percentage points higher estimates of economic growth in the Netherlands.

NA/46 **An environmental module and the complete system of national accounts**, Boo, Abram J. De, Peter R. Bosch, Cor N. Gorter and Steven J. Keuning (1991).
A linkage between environmental data and the National Accounts is often limited to the production accounts. This paper argues that the consequences of economic actions on ecosystems and vice versa should be considered in terms of the complete System of National Accounts (SNA). One should begin with relating volume flows of environmental matter to the standard economic accounts. For this purpose, a so-called National Accounting Matrix including Environmental Accounts (NAMEA) is proposed. This is illustrated with an example.

NA/47 Deregulation and economic statistics: Europe 1992, Bos, Frits (1992).
The consequences of deregulation for economic statistics are discussed with a view to Europe 1992. In particular, the effects of the introduction of the Intrastat-system for statistics on international trade are investigated. It is argued that if the Statistical Offices of the EC-countries do not respond adequately, Europe 1992 will lead to a deterioration of economic statistics: they will become less reliable, less cost effective and less balanced.

NA/48 The history of national accounting, Bos, Frits (1992).
At present, the national accounts in most countries are compiled on the basis of concepts and classifications recommended in the 1968-UN-guidelines. In this paper, we trace the roots of these guidelines, compare the subsequent guidelines and discuss also alternative accounting systems like extended accounts and SAMs.

NA/49 Quality assessment of macroeconomic figures: The Dutch Quarterly Flash, Reininga, Ted, Gerrit Zijlmans and Ron Janssen (1992).
Since 1989-IV, the Dutch Central Bureau of Statistics has made preliminary estimates of quarterly macroeconomic figures at about 8 weeks after the end of the reference quarter. Since 1991-II, a preliminary or "Flash" estimate of GDP has been published. The decision to do so was based on a study comparing the Flash estimates and the regular Quarterly Accounts figures, which have a 17-week delay. This paper reports on a similar study with figures through 1991-III.

NA/50 Quality improvement of the Dutch Quarterly Flash: A Time Series Analysis of some Service Industries, Reininga, Ted and Gerrit Zijlmans (1992).
The Dutch Quarterly Flash (QF) is, just like the regular Quarterly Accounts (QA), a fully integrated statistic based on a quarterly updated input-output table. Not all short term statistics used to update the QA's IO-table are timely enough to be of use for the QF, so other sources have to be found or forecasts have to be made. In large parts of the service industry the latter is the only possibility. This paper reports on the use of econometric techniques (viz. series decomposition and ARIMA modelling) to improve the quality of the forecasts in five parts of the service industry.

NA/51 A Research and Development Module supplementing the National Accounts, Bos, Frits, Hugo Hollanders and Steven Keuning (1992).
This paper presents a modified national accounting system tailored to a description of the role of Research and Development (R&D) in the national economy. The main differences with the standard National Accounts are some changes in basic concepts (e.g. own-account production of R&D is considered as capital formation) and the introducton of additional, more detailed, classifications (e.g. new subsectors).

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