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What is important when using official statistics in government analysis?

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The Danish government is a heavy user of statistic both official and statistic from other sources. In analysis it is important to have a high quality of statistics. The quality of official statistics is characterized by several factors like timeliness, comparability and reliability. Unfortunately the current official statistic do not always fulfill these demands, hence there is some room for improvement in the European statistical system.

1. Statistics used for government analysis

In the analysis for the Danish government different sources of statistics is used both official statistics produced by national statistical institutions and other sources produced by private or government institutions. Usually the official statistics is preferred because it generally has a higher quality but when it is not available other source must be used.

If the official statistics shall be useful it must meet several requirements. The official statistics must be timely, reliable and comparable. Though these requirements should not be attributed the same weight. It will not make sense to have timely data if the consequence is unreliable data.

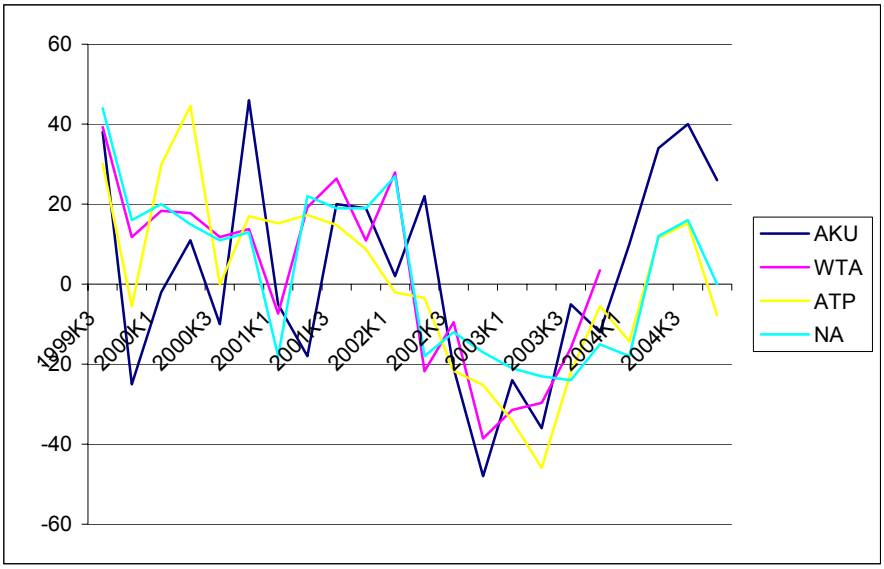
2. Labour market statistic

The development on the labour market is one of the key elements to monitor when making forecasts of the economic development. The reliability of the forecast will to a large extent depend on the quality of the data provided by the national statistical institutions.

To the naïve user it may seem pretty straightforward to produce labour market statistics. In principle it is only a question of adding up the numbers of people working. In practice it is a lot more difficult and there are several measures of the number of people employed.

In Denmark there are 4 different measures of the development of the employment. Namely national account, working time accounts, ATP and labour force survey. Generally it is preferable to have several measures for the development in the labour market. Unfortunately in Denmark the measures have at some point in time given different indications of the development.

Figure 1 Development in employment using different measures



The different developments in the employment using the different employment measures has at times diverted the focus from the underlying development on the labour market and instead towards a debate of which measures is the best measures to analysis the labour market. To avoid such derailing of the debate it is of vital importance that the statistical institutions explain the reasons for the different developments. Unfortunately such explanations are not often available or if available they are difficult to understand even for the professional users of statistics and almost impossible to comprehend for the general public.

Explaining the differences in the various statistics should be an area which the national statistical institutions improve in the future. Not only on labour market statistics but in general. It will not be an easy task to do this but if successful the value of the different statistical sources will increase significantly.

3. Timeliness

Trying to monitor the economic development of the general economy it is essential to get up to date information about the recent development in the employment, industrial production, foreign trade and national account. Getting these information's with too big a lag will significantly reduce their value for monitoring the economy.

But getting the information early just to have them revised significantly every month for the next couple of years will not necessarily be an advantage. Hence if getting the statistics fast involves a

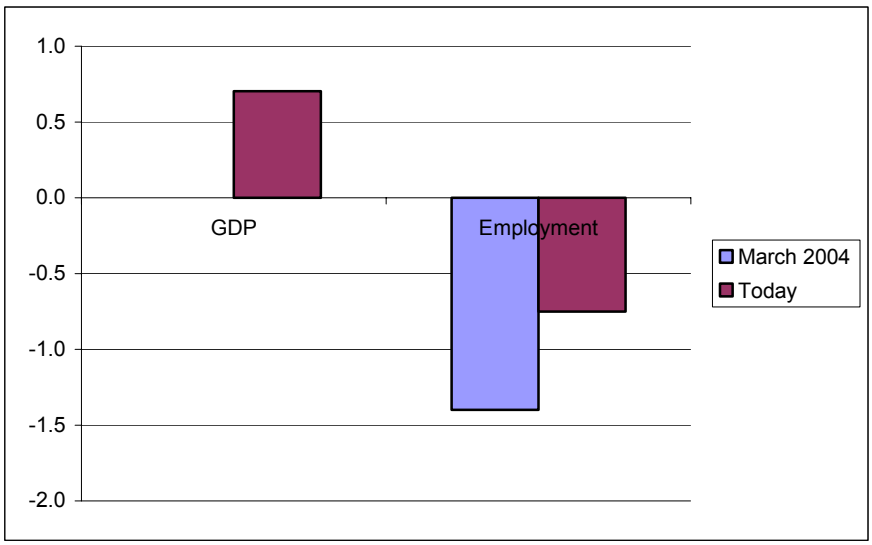
large uncertainty on the initial publication it might be better get the information with a somewhat bigger lag and smaller revisions.

So there should be some consideration to the trade off between fast data and the average revisions the faster availability will lead to. For instance the balance of payments is traditionally revised every month and the revision is often significant. This has led the users to consider the first publication with some reservations and wait until there has been a process with the first rounds of revisions. Therefore faster balance of payments data is not really very interesting. It will be of a greater interest to get more reliable balance of payments data even if this would involve a longer processing period in the statistical institutions.

In the beginning of 2004 the Danish government were worried about the lagging growth in Denmark following the international downturn. The growth in 2003 had been nil according to the first publication of the national accounts and there were a significant drop in the employment, conf. figure 2. The slow growing economy led the politicians to act to stimulate the economy by cutting taxes.

The latest data is quite different. The growth in 2003 was still low but it was 0.7 pct. which is far less dramatic than a situation with zero growth. The drop in the employment is also a lot less dramatic compared to the initial drop. Hence it is possible that the Danish politicians would have acted differently with the current information's. Fortunately the following economic development has shown the stimulus package to be justified.

Figure 2 Growth and employment in 2003 at different points in time



This leads to a conclusion that the preliminary releases from the statistical institutions can have a large - probably too large - impact on the economic policy of a country, which is a bit disturbing if the initial release is followed by significantly revised data. Obviously it is the responsibility of the central administration to inform the politicians that the initial release may be subject to revisions. So there is a shared responsibility between the statistical agencies and the rest of the administration.

4. Comparability over time

Trying to use data it is very important that the data is comparable both over time and between countries. If the data is not comparable it will become impossible to make any serious analysis of the development over time or between countries.

The issue must to a certain extent be governed by the United Nations given it is the only forum covering all nations. But within the European Community there is and must continue to be a significant effort to improve the comparability between the countries.

The comparability over time is to a large extent the responsibility of the individual national statistical institutions but sometimes Eurostat will give some guidelines.

One example where Eurostat gave quite specific guidelines concerning the comparability over time is the national accounts revision where it was stated that all the Member States should implement ESA95 and construct time series back to 1970 for certain variables. Such backwards calculations may be very difficult and time consuming to implement but they will be of vital importance to the users of statistics.

A time series of national accounts that has got breaks every 5 or 10 years will be of little use if you will try to study structural developments of the economy. Whereas a time series of 30 or more years will open up a whole new area of possible structural analysis.

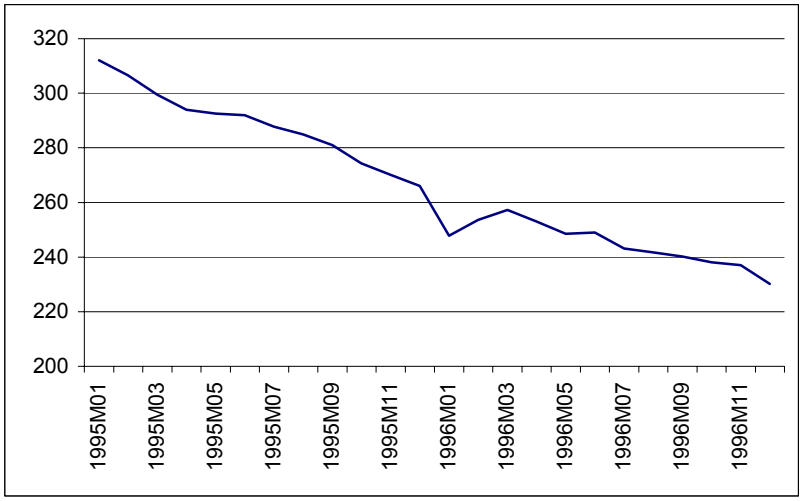
Generally national accounts and populations statistics is probably the area where most countries have the longest time series of compatible data. But other areas are also important. It is very useful to have long time series of for instance labour market statistics like unemployment rates or employment over a time. So if the individual statistical agency makes a revision of the statistic they should attempt to have a time series as long as possible.

In these areas there will be possibilities for the national statistical institutions to improve. Such an improvement will result in a large increase in the value for the user of the statistics. So backwards calculations of historical data should be considered when there are changes in the sources or methods of different statistics. Even if it involves the use of resources that could have been used in

other areas the increase in the value coursed by the long time series will under many circumstance be more important from a user perspective.

The Danish unemployment statistic has experienced large breaks in the series which can make it difficult to use the data for analysis of longer periods. The main break is several years back to January 1996, conf. figure 3. This is a fairly long time ago by now but when the revision in statistic was initially made the time series was very short. Future revisions of for instance the seasonal adjustment of the number of unemployed could shorten such a series significantly which would reduce the value of it from a policy standpoint.

Figure 3 Number of unemployed



5. Comparability between countries

If all the national statistical institutions use there own methods for compiling statistics it will be impossible to make any use of official statistic to compare different countries. Hence this is an area governed by the United Nations to give universal guidelines to all countries. But to make a compromise that can cover the needs of all will lead to some fairly general guidelines. Therefore Eurostat have got an important role in the standardisation of the statistics of the individual Member States.

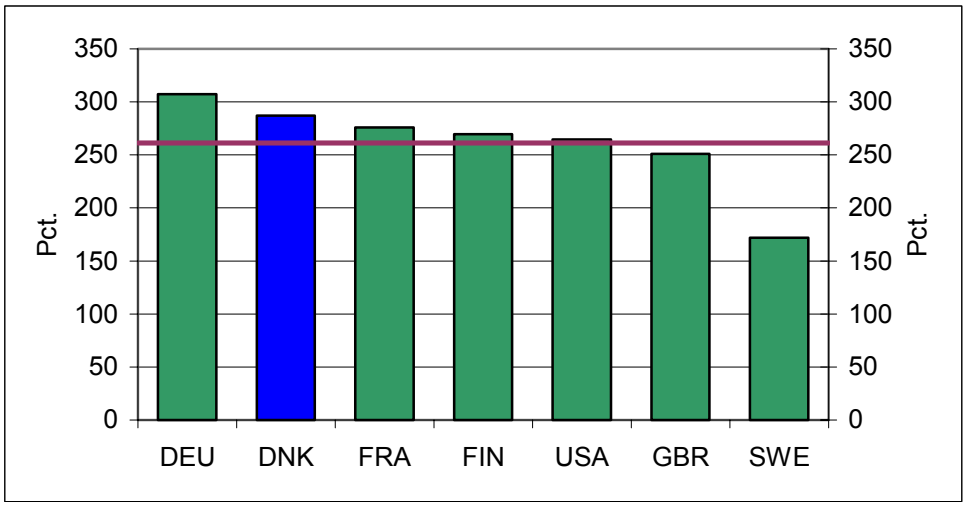
Eurostat do make a huge effort in standardization of the Member States statistics so much that a majority of the production of the national statistical institutions is actually covered by Eurostat regulations. So the general framework for a standardized statistical is already in place.

What is lacking is the dissemination. With Cronos there is a forum to publish the results from the Member States. Which is very useful since it make it fairly easy to find the data from one sources instead of having to collect it from the individual national statistical institutions. But despite the

effort done in the Member States there still seem to be some variations in the method use. So the data in Cronos is not fully comparable between the Member States.

During a bench marking exercise in Denmark a few years back a lot of areas of the general economy were covered. Including the capital stock. In this exercise large differences in the net stock of capital to GDP varied significantly, conf. figure 4. The differences is in the numbers is probably bigger than the real differences and is due to different methods of compiling the data. Especially the Swedish number (from Cronos) seems very low compared to the other countries and further investigation at the time revealed that Sweden did not publish figures for capital stock at that point in time; hence the source of the numbers is uncertain.

Figure 4 Net capital stock as a percentage of GDP, 2000



Source: Eurostat, BEA, ONS, INSEE

The lack of comparability that sometime is present in the data significantly reduces the value of the data. There are different approaches to this issue one could be to further increase the number of regulations from Eurostat and make the existing ones more detailed. This will involve a large effort from the national statistical institutions and probably also lead to increasing burdens on the corporate sector. One solution to the comparability issue that will put a significantly smaller burden on the producers of statistic will be better documentation. Just telling the users where there are differences and how they can interpret these differences will be almost as useful as completely comparable data.

Unfortunately documentation is an area that generally lacking in many countries and for Eurostat as well. Obviously from a producer of statistic point of view it will often appear to be more important to produce timely and accurate statistics than to document the statistic. From a user viewpoint this is

definitely not the case a documentation of the data is vital to be able to understand the data. If the users of statistics do not understand the data well enough their analysis will very likely be inaccurate and maybe even misleading.

Given the great value of documentation of the statistics this would be an area where Eurostat and the individual national statistical institution could do a lot to improve the usefulness of there products. The documentation of the data in Cronos is either not very good or it is difficult to find. It could be connected to tables in Cronos so it would be easily available. Included in such documentations should be information about differences in the data from the individual countries pointing out where there is differences that are caused by different ways of compiling the information's. Ideally there should be made an attempt to try to give boundaries for the possible variations caused by different compilations methods but just pointing out the main differences will be of great value to users.

6. Significant gaps in the statistical system

Even though the statistical system is comprehensive there is still some significant gaps there is not covered by official statistic at least in some Member States.

Among the areas not covered by official statistics in all the Member States are productivity calculations, balance sheets and databases on firm level. These areas are all of great importance for the analysis of the economy. Fortunately there is progress on some of these areas.

When it comes to productivity there is an EU project trying to produce series back to 1970 for the several Member States. This is not a project primarily run by national statistical institutions but the cooperation between researchers and statistical institutions will hopefully give some important information about what are the main drivers of productivity growth. Ideally such a project should be undertaken by the national statistical institutions but when this is not possible because of problems concerning financing or issues about the methods of compilation over such a long period. Then cooperation between researchers is better than not producing the data.

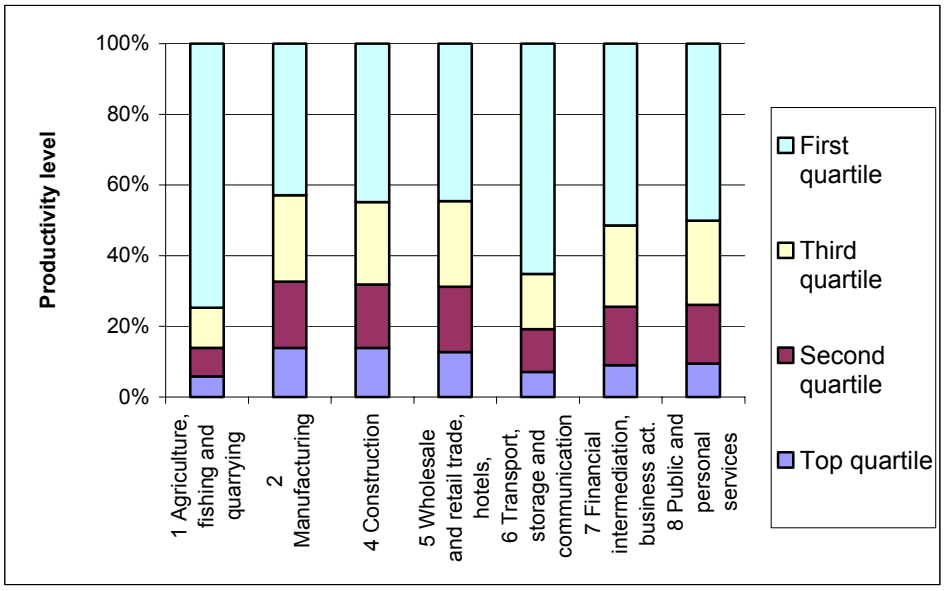
Hopefully the project will result in new and significant information that will increase the understanding of the drivers of economic growth in the European area.

Another important issue is the knowledge of the individual firm. Where it is very interesting to understand how the lifecycle of firms influence on the productivity growth of countries. There are several studies on the subject but they often use private databases because of the lack of an official database in the countries. It is of course always a possibility to use other sources but information's

about individual firms should be an area of importance to the producers of official statistics. Hence a Pan European database covering these kind of information's could be included in the future work of Eurostat most of the data must already be available in the individual Member States.

A database of individual firms will be of great interest not only for the government users of statistics but also for the research community will find it very interesting. One clear advantage is there will be the same criteria for the data in all the countries which is not necessarily the case with a privately supported database.

Figure 5 Production by firms with different productivity levels



In Denmark cooperation between the ministry of Economics and Business Affairs and Statistics Denmark have lead to some of the first results using official data from a database of all Danish companies. So for the first time it has been possible to use official data to study for example the contribution of the firms with different productivity levels. It turned out that the top 25 pct. of firms with the highest productivity levels create about half the value added in the Danish economy, conf figure 5. Just one year ago such an analysis in Denmark would have been impossible.

In most countries there is very limited information about the national wealth. Even though the subject have been of interest to economist for centuries. But only a few countries around the world actually have a full set of balance sheets. Europe is unfortunately not among the international leaders on this area.

The first steps have been made to improve the situation. There is now a set of financial accounts for the majority of the Member States and several countries have already reported capital stocks. But

there is still the question of other assets foremost the value of land which is only available in very few countries. The fact this production factor is not covered by statistics means that it is not possible to fully understand the influence of land on the economic growth of countries. Which makes the estimates of productivity of some industries highly uncertain mainly agriculture but also other industries that use land to a large degree in there production.

The treatment of research and development will probably be one area of increasing interest in the coming years. This is also one area it will be important to include in the balance sheets as soon as possible even though it is not for the moment recognized as an asset in the national accounts. But there is already a lot of interest on the effect of research and development on economic growth and the producers of statistic can give an important input in this debate by providing a better quality of data than the data which is currently used for analysing the effect.