

**The final speech by Dale Jorgenson (Professor of Harvard University) at the RU-KLEMS seminar, March 31, 2008.**

It is a great privilege for me to visit the Higher School of Economics and to participate in the RU-KLEMS seminar. I have learned a lot about the project and I would like to give special thanks to the organizers. This seminar has demonstrated the need for a project like this in Russia. There is an opportunity to make use of the statistical raw material, while it is being collected, on the transition that the Russian economy is undergoing.

My first reaction is that Rosstat has achieved a great deal in making the transition in the Russian national accounts. Alexei Ponomarenko has described the task that was undertaken to transform the national accounts from the materials-product system, used under the Soviet Union, to the United Nations' System of National Accounts (SNA). We have developed an appreciation of the details that are involved – the definition of the activities, the definition of commodities, and the standardization of these classifications.

What would be known about the transition of the Russian economy without these statistics? They are cited every day here and around the world. We can see the level of confidence that these statistics enjoy. They reflect very careful thinking and extremely careful work under the most arduous conditions. So, first of all, I would like to extend my congratulations to Rosstat for this incredible achievement that they have made as part of the transition of the Russian economy.

Secondly, I think we have to recognize that international standards in statistics have evolved even as this work has taken place. As we all aware, the United Nations and its associated international agencies are undertaking a revision of SNA 1993. The objective is to have the revised system available this year with additional details to be published next year. One of the important features of the national accounts that I had an opportunity to discuss here about a year and a half ago was the development of an official role for capital services and the value of capital stocks in terms of their value as capital services. This is the key to linking the system of national accounts to the next big development.

The next big development in international statistics is the EU KLEMS project, the European Union version of the KLEMS project: capital (K), labor (L), energy (E), materials (M), and services (S). This was initiated by the European Commission and carried out by 18 research groups all over Europe. We have here two of the leading participants – Robert Inklaar from Groningen and Peter Havlik from Vienna. They participated as members of the research group that brought about the completion of the EU KLEMS project. This establishes a basis in statistical practice for carrying out a project like this in Russia. The starting point for the EU KLEMS project is the SNA. The objective of the project was to address gaps in the system of national accounts.

The specific question addressed by the EU KLEMS project is: Where does economic growth come from? We've seen dramatic economic growth in Russia. Oleg Lugovoy has documented this in terms of the growth of inputs and productivity. The EU was interested in a similar set of issues and they addressed these issues in two categories. The first category was to understand the role of investment in information technology. In the Russian context this is something that may appear to be a second-order issue, but in fact it is a very important. In the EU the issue was phrased in the following way: Why is it that most European economies invest about half the amount in information technology as the US and what is the consequence of that for productivity and economic growth?

The EU KLEMS project produced the answer that investment in information technology is concentrated in a sector of the economy not typically the focus of economic research, namely, the services and trade sector. The characteristics of the service and trade industries in Europe relative to

the United States explain the difference in this IT investment. Documenting this fact was a very important goal of the EU KLEMS project. Providing an explanation of this fact was a major achievement of the project. However, the achievements of the project were not limited to this initial focus of the investigation. Something quite remarkable appeared when the data on productivity began to be generated for European countries and the US as the part of this project.

A remarkable surge in total factor productivity, output per unit of input, began to take place in the United States around 1995. In Europe the trend in total factor productivity was exactly a reverse – there was a tremendous slowdown. The EU KLEMS project also investigated this problem and came up with the solution that this was characteristic of market-based services. In other words all of the increased productivity growth in the US was due to the characteristics of market-based services in the US and very little of this growth could be found in the corresponding industries in Europe. This is something that also has an explanation that I will discuss in greater detail in my lecture two days from now.

These two findings produced great receptivity in the European Commission for the results. As a consequence the European Community has begun to take steps to make the EU KLEMS data-set a continuing exercise within the European statistical system. The official agency that deals with statistics in Europe, called Eurostat, is working with the individual statistical agencies around Europe to find how the KLEMS-type data can be generated within the existing statistical systems. This development will be underway for several years before the critical step is taken of incorporating this into the official statistics. In the U.S. several steps have been taken so that the KLEMS-type data will be incorporated into the aggregate statistics this year and into the industry statistics next year. This is the kind of speed that Professor Yassin can appreciate in terms of the progress of the statistical system, since this is a very recent development.

So, what are the challenges for the Russian implementation of the KLEMS-type data set? I think Vladimir Bessonov has put this very well. Developments that are taking place in Russia are similar to developments elsewhere in many respects. The only difference is that the speed of these developments is incredibly fast in Russia by comparison with other countries. This is not unique to Russia, obviously, but is something you also find in China or in India. The characteristics, of course, differ from one country to another. In order to understand these developments the Chinese have started a KLEMS-type project, and there is similar project that is under discussion in India, but I think that in the case of the Russian economy that this project could play a very important role in filling the gap between what Rosstat has already achieved in terms of documenting the very rapid transition of the Russian economy, and then trying to understand the issue that Oleg Lugovoy raised of trying to understand the sources – where has this growth come from?

The questions about the sources of Russian economic growth will engage economists for decades and even generations. The research community of economists will need a guide that is based on the national accounts, much in the same way that this was identified in the EU KLEMS project. First of all, it is important for the research community to participate in the development of the statistics. Obviously, the research community can never achieve what an agency like Rosstat with its vast experience and access to the primary sources of data can achieve in terms of accuracy, reliability and coherence, and internal consistency.

However, research of the sort we have discussed today is something that can produce a glimpse of the future, an idea about what the future could hold, the way that the future could develop. That's precisely the role that the KLEMS project has played in European statistical system and in the U.S. statistical system. There was a gap that opened up an opportunity for research. New methods like the ones we discussed for trying to understand the sources of economic growth could be carried up within

the framework of the official statistics. It is important to emphasize that this is not as a substitute for the official statistics, not as an alternative to the official statistics, but as a framework for the future development of the statistical system. This is the goal of the RU KLEMS project. It is important to understand the details and we've had a very detailed discussion here of many of the issues that are involved.

Igor Kim has described for us the challenges that are involved in disaggregating the sources of the economic growth to the industry level. One of them that we have discussed many times today is the issue of double deflation, in other words, giving a proper role to intermediate inputs, as well as capital and labor inputs in order to understand the contribution of the individual industries to the output of the economy as a whole. What this has produced in the U.S., as I described, and in Europe was an amazing change in focus. The traditional focus of quantitative research on economic growth was manufacturing. It turns out that the central issues for industrialized countries involve the trade and services industries. This will generate needs for primary data and better measurement at every level of the official statistics. In particular, this will give input-output research the prominence that it has deserved. The traditional focus of the Russian statistical system going back to Goskomstat has been the development of input-output statistics with basic indicators that were physical.

Now we come to the new challenge, which is that in order to measure the outputs of the service industries and trade we can no longer rely exclusively on physical indicators. In services and in trade it is important to begin to use the kind of economic tools that we have taught for generations, based in many cases on Russian contributions like those of Konyus and Byushgens. These are the based on index numbers and I do not need to tell you more about that. This will be a new challenge to filling the further gaps that Igor Kim identified in measuring intermediate inputs not only for industry but also for services.

The service inputs will be a growing part of Russian economic activity. One of the transitions that is taking place as the Russian economy is opened up is a transition to outsourcing. A separate set of service industries has been created that support the primary activities of the industries, the extractive industries, and so on, that have been typically emphasized in studies of the Russian economy. So it is going to be a very important challenge to develop the Russian statistical system in this direction. I think Igor has highlighted the challenges and Irina also contributed to emphasizing the importance of the integrating input-output statistics with the national income statistics, which is carried out at very high level in Rosstat.

The next challenge will be to fill in the remaining gaps. The KLEMS project is a story about capital, labor, energy and materials – intermediate goods – and services, of course. We also have to think of the primary inputs – capital and labor inputs. This is where Vladimir Bessonov and Ilya Voskoboynikov have contributed by attempting to survey the need for capital statistics that can contribute to understanding the impact of investment. The situation in Russia is apparently quite different from that in most industrialized countries, even those in Eastern and Central Europe that participated in the Soviet trading system.

Capital is the predominant source of primary input and the main source of the economic growth in industrialized economies. This is something that came out of the EU KLEMS project and needs to be understood much more thoroughly. We have had a demonstration here of the fact that there are surprising resources for the measuring capital in the Russian economy, using indirect methods, especially the Perpetual Inventory Method. There are many challenges such as obtaining the appropriate prices and choosing an appropriate classification of different types of capital. The one that we emphasize in the EU KLEMS project is information technology.

The most important issue is the one that Ilya emphasized in his presentation, which is that the capital statistics have to be carried out in the way that is consistent with the national accounts and therefore there are two links that we need emphasize. One is the source of capital formation itself and its allocation among the different using industries and the second is the income generated by that capital and its allocation among the different capital goods that are actually working in the economy and are part of the production process. Both of these points require, once again, the platform that has been solidly put in place. The SNA has to be the starting point for the development of the capital data.

We finally come to the labor data which we heard discussed in the last session and I want to make some comments about this. The work that has been done at Rosstat on labor productivity has to be the starting point for the labor statistics that are going to be constructed. I think that we had an excellent discussion by Professor Vladimir Gimpelson and by Rosstat as well. Needless to say we are left with many unanswered questions, both in terms of how these issues are going to be addressed and resolved. This is a very important area of research and there are many things that we do not know, so that is a great research opportunity. Under the leadership of the Professor Evgeny Yassin the Higher School of Economics has grasped this opportunity and will soon have the opportunity to collaborate with Rosstat to address the issues at the research level.

It seems to me that EU KLEMS project provides the following lessons. At the start of a project like this, we must make use of resources that have been generated within the statistical agency, in this case Rosstat. But the basic initiative has to be with the researchers in the community who become interested in the issues of the economic measurement. Over time and because of the speed of the transition that is taking place and the transition that I described in Europe, after the completion of this project, the European statistical agencies themselves along with their national counterparts are absorbing this project into the ongoing work of the national accounts, as daunting as this may appear at this juncture.

This is not something that many of the statistical agencies foresaw. At the beginning the first reaction was that the EU KLEMS project was impossible. Many of the statistical agencies were reluctant to participate and certainly did not want to have the official stamp of approval given casually to a research effort that did not appear to conform to the standards of the statistical agencies. But after it became clear that the research was going to be carried out within the framework of the statistical system, in other words it was not in opposition but was rather intended to strengthen the statistical system, this attitude gave way to a more typical attitude of trying to collaborate, trying to be helpful, trying to do anything what can be conducive to a success.

At the final stages the statistical agencies began to take possession of the project, because it was not going to be successful unless the project is owned by the people who have the resources and the ability and the understanding to turn this into production mode. What do I mean by the production mode? I mean something that could be produced alongside the official statistics may be at first as kind of a satellite, then absorbed into the official statistical system. This is a transition which is taking place with a surprising speed: in Europe, in the U.S., and now, I think, it will take place around the world. Other countries are beginning to work in this area, countries like India and China that I mentioned, and also the Economic Commission for Latin America and the Caribbean, which is going to cover the Latin American countries.

I am very encouraged by this seminar. I think this is great achievement so far. The organizers of this project have made a very good use of their opportunity. I have also learned a lot about the Russian statistical system, even quite a lot about the Russian economy here today, so I am very grateful to have been able to participate in the seminar.