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MAIN SUBJECT

**PUBLIC INNOVATION POLICY**

## Innovation Approach Needed to Create Unconventional Institutions



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### **What do you think are the most and least successful examples of innovation-oriented policies in the world?**

The term “innovation” has many meanings; it needs to be clarified. The Federal State Statistics Service differentiates between advanced production technologies that are new for Russia and those that are totally new. Totally new means ones that have been developed for the first time and have no substitutes anywhere in the world. And new technologies for Russia mean ones that have been essentially borrowed from other nations. In 2007, Russia borrowed for the first time 653 advanced technologies, and developed a mere 75 totally new ones.

If your objective is not to amaze the world but to improve performance and therefore living standards, you can opt for borrowing rather than developing new technologies. Moreover, if a country lags behind in technology, it usually finds it much cheaper to borrow. Advanced nations, on the

other hand, are limited in their choices of borrowing; they are forced to develop totally new solutions.

The most successful among such nations is naturally the USA. The Americans have developed an effective mechanism for generating and implementing innovations from fundamental research to commercialization and to retailing. It drains brains from all over the world, enticing researchers with high compensation packages and comfortable working and living conditions. Using venture funds and a well-oiled stock market, it skims the best projects. They know how to commercialize the products and solutions developed. The USA supplies innovations to the world at large, and the world pays for their development by putting its savings in dollars. This is an example of the best innovation-oriented policy.

Economic-miracle countries, such as Japan, South Korea, Taiwan, as well as Finland and a number of other economies, use sophisticated innovative strategies. To begin with, they imported foreign-made machine tools and equipment, then they bought patents, set up their manufacturing facilities, and forced out imports. After that they committed to exporting, gradually upgrading their products and switching over to high technologies. And only then they did opt for innovative growth. These nations provide examples of successful innovation policies. But there are many more nations that have failed.

### **Why?**

They failed to follow the correct sequence of switching. A case in point is Brazil, which is not the most backward nation in Latin America, not by a long shot. Brazil is growing at a fairly good rate. But there has been no leap forward in Brazil, as there was in Japan, as there was in Taiwan and South Korea, because it has failed to come up with the correct strategy.

It must be emphasized here that a successful strategy at each stage of development has both distinctive macro-political features and specific methods of government intervention. For example, small businesses play an important role at the stage of innovation-driven growth, typical of advanced nations. And major corporations are much better at arranging borrowing.

Sometimes we hear even from, one would think, the authoritative lips of spokespersons for the World Bank that all Russia's troubles come from the insufficient number of

small and medium-sized businesses in Russia. But history and theory provide evidence to the contrary. To be sure, we need to support small businesses. But we should not expect them to become major drivers of economic growth at this juncture. At the stage we are at this role must be played by major economic players.

**What are the latest changes in innovation policies in the world?**

As a crisis management measure, developed countries have increased expenditure on fundamental research. First of all, they have increased expenditure on the development of nanotechnology and energy-saving.

mechanism. But what we need is exactly an innovation approach to form unconventional institutions to ensure effective borrowing. Borrowing is far from simple. Had it been simple, there would have been no developing countries left by now: they would all have become developed.

**What research and development areas do you see as enabling a leap forward? Which ones can be expected to deliver the next technological breakthrough? After all, many believe that one of the causes of the crisis is the end of the previous technological cycle.**

investing in new technologies, first of all in nanotechnology. It looks like nanotechnology is precisely the future technology of wide application. Experts say it will take quite some time for them to fuel new growth – up to ten years. So we shouldn't expect Western economies to grow at their former rates in the nearest future. More or less a similar situation prevailed after the '30s crisis, with the aftermath of the crisis casting its shadow over an entire decade. And after the war the era of new technologies began, and eventually they pushed the Western economy to a new level.

Russia must find an institutional structure that would enable effective borrowing and a gradual transition to innovative growth. In my recent articles I have attempted to outline such a structure. It is based on the experience of the economic-miracle countries and factors in the development mechanisms that have emerged relatively recently. Its further elaboration is the subject matter of a multi-author book which I have edited, which is scheduled to appear in September. It is called "A Strategy for Modernization of the Russian Economy".

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As early as 2000, by way of response to the crash in the market for securities of high-tech companies, the USA launched its National Nanotechnology Initiative. The President has a National Nanotechnology Coordination Office. In the European Union, nanotechnologies take a place of prominence in the EU's [Seventh] Framework Programme for Research and Technological Development. But developing economies should have a different strategy. The global crisis is creating good conditions for import substitution and acquisition of marked-down solutions, for recruitment of experts who now find it more difficult to get jobs in their home countries. China is very active in this respect.

**Does Russia have an innovation system, and what are its distinctive features?**

Of course it has. We have been very busy these last ten years in setting it up. And it is in a very sorry state because it was built without rhyme or reason. It is a hotchpotch of various institutions set up by blind copying of Western ones.

It's a catch-22: we copy institutions in hope of acquiring an innovation

I do believe that new technologies must come into being: ones of wide application, i.e., technologies that can be integrated into a wide range

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of industrial applications, becoming a driver of economic growth. In the same way as, say, the computer was integrated.

Old technologies of wide application, such as the computer, the Internet, are gradually exhausting themselves. It means that they can no longer provide a platform for rapid growth of advanced economies. In the final analysis, this is what triggered the crisis, which actually started not in 2007-2008 but as early as 2000, when a crisis occurred in the hi-tech market.

The Western nations seem to understand this. Maybe this hasn't been made explicit in so many words, but they are doing exactly what needs to be done. They are

The keynote of the proposed strategy is as follows. In order for Russia to join within the next 20 years the group of developed economies (in terms of per-capita GDP, this means at least 50% of the US level), it needs a system of interactive growth management. Its major components are a system of regional agencies for interactive planning headed by a federal agency; a national innovation system, geared up for borrowing with a gradual shift towards innovation; and macroeconomic and foreign-trade policies aligned with the development objectives.

**What would you call the best and the worst examples of governments' innovation policies?**

In Europe I think that Finland is a good case and that the UK is a rather awful one. Finland has a pragmatic approach where the public and private sector interacts and develops a common strategy, while the very negative attitude to the public sector in the UK and the bad industrial relations there hamper the development of balanced solutions.

**Could you please give your opinion on innovation policies of the countries you are familiar with?**

I have studied China's innovation strategy for some years. China benefits from a rather pragmatic approach, where regional experimentation is allowed and where 'good practice' is diffused through 'policy learning'.

workplace. There has been some successful transformation away from traditional manufacturing toward some high tech sectors. But especially there has been a strong growth in the service economy. I have a feeling that the UK has been more successful in developing new 'business models' in the financial sector than in implementing ICT-solutions in the real production sector.

**What research and developments may assure a technological breakthrough in the nearest future? Do you think that such a breakthrough will happen?**

Biotechnology is an obvious candidate. But I do not expect it to have as wide and deep impact as ICT. ICT has still a big potential for raising living standards and solve problem - a potential that has not yet been exploited. The most promising

breakthrough could come in relation to low-carbon technologies. But here a common global effort and strong national government intervention may be necessary to trigger and foster a new techno-economic trajectory. This is not different from earlier breakthroughs - it is a rule rather than exception that governments have played a major role for such breakthroughs. This last

option is especially interesting for economic transformation in countries such as Norway and Russia, where the current economy is dependent on the continued use of carbon technologies.

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Over the last couple of years I have collaborated with innovation policy makers in Sweden and Norway. I think that the Swedish innovation policy is too narrowly focused upon the transformation of academic research into innovation and that too little attention is given to the important role of work organisation in connection with absorption of innovation. Norway has recently developed a promising collaboration between trade unions and employer associations regarding a national competence strategy.

**What are your thoughts on Russian innovation policy?**

I think that the most important weaknesses of the Russian innovation system has to do with 'institutions' defined as norms, rules and relationships in the economy. Lack of trust and irregularities in economic life undermines the capacity of the system to learn and innovate. A strong effort to fight corruption and crime and to establish a new type of collective solidarity is a major task where government needs support from all layers of civil society. There is also a need for a change in the incentive system so that creativity is stimulated among employees as well as among entrepreneurs. Easy access to profit from financial speculation may undermine innovative efforts. Without such changes increased investments in science and technology may not be very helpful.

**What are the peculiarities of the innovation system in Britain?**

I have nothing original to offer here. In most innovation surveys the UK looks weak and the same is true when you look at the frequency of 'organisational learning' at the