

Output Report - Restructuring of R&D systems - BRUIT project

This report is based on written responses from eight national experts that took part in an innovation policy workshop on “Restructuring of R&D Systems” in Kiev in November 2007 involving innovation policy experts from Armenia, Azerbaijan, Georgia, Kazakhstan, Russia and Ukraine. This report lists the main questions discussed and summarises the answers of the eight national experts.

1. How can we explain the absence of policy of inter-sectoral restructuring in Ukraine?

The different explanations from the national experts point to three main groups of factors for the absence of any policy of inter-sectoral restructuring in Ukrainian R&D.

Supply deficiencies

The lack of political will in the face of strong sectoral interests;
The dominance of resources based economy in national political economy. So, political economy context of CIS is different. R&D is not priority due to structural reasons;
No funds which would attract different actors from different sectors;
Funds which are not discriminating against individual sectors are needed;
There is no demand for RTD and hence no pressure for political solutions;
A privileged status of Academy of Sciences as result of ‘path dependency’ or “walls” between the sectors in form of mentality, management style, and tradition.

Deficiency of demand

The lack of demand for domestic RTD due to strong dependence on foreign technology;
Short term thinking in fight for survival or short term gains.

Weaknesses in linking supply and demand

Objective structural differences in terms of different economic and incentive regimes of different sectors (profit based, non profit based sectors);
There is a weak understanding of interactive relationship between R&D and growth;
Funds which are not discriminating against individual sectors are needed.

In CEE, EU is substitute of ‘political will’ in the form of administrative criteria and conformance to EU rules of the game

2. How do we explain limited transformation of academic sector? Please, evaluate inter-linkages between higher education and academic R&D?

Limited transformation is explained by:

- The system of funding which is oriented towards funding of organisations not programs and projects. Also, singular source of income for Academy – budget – is hindering its restructuring. AoS is in need of diversifying its sources of funding i.e. over-reliance on state budget

- In new conditions, AoS does not have its function in inter-sectoral division of labour in R&D. In other words, there is no real demand for AoS research. However, this is mixing up that there will be rarely be strong demand for academic type of R&D, especially basic science.
- Academy of sciences is primarily an umbrella organisation whose system of funding and lack of ‘demand’ creates strong inward orientation. This is further reiterated by common belief that ‘all science should be performed in AoS, not in higher education sector.
- Links between AoS – HES are formal. There are not enough incentives for closer cooperation i.e. it is up to departments and individuals to cooperate.
- There are links at the level of departments and through personal links. It seems that the number of successful links at this level is significant. However, teaching mostly does not require link to frontier science and hence there are not institutional links at a higher level.

3. Why R&D in higher education sector is not developing? What is the impact of Bologna process on HES?

- R&D in HES is undeveloped due to limited funding. Its share of GERD is 10%
- Universities are oriented towards earning money from teaching which seems to be more profitable than research.
- A HE is not homogenous group and there are examples of an emerging integration of teaching and research. There are some good examples of new models in education like Kyiv Mohyla Academy. This type of “new” university could become points of growth as well as models for “old” universities on how to undertake both, research and education.
- Only positive sides of Bologna process are taken into account but not negative like increased potential emigration
- The main obstacle is high working load of teachers

4. What are patterns of transformation of ex-industrial institutes? Why their transformation proceeds so slowly?

- Demand side as the key weakness
- The position of ex-industrial institutes is determined by the needs of BES.
- There is not domestic demand for their results.
- Industrial institutes should be left to their own devices.
- The solution is not support to industrial institutes but to formation of NTBFs.

- Industrial institutes should become innovation infrastructure and they should not expect support from branch ministries.
- There is also an opposite view that industrial institutes could become key actors in innovation system but only if they become clients of ministries i.e. through public procurement

5. What are perspectives for development of in-house business R&D?

- BES R&D can be successful in cases of successful exporters
- BES R&D can develop only when linked to growth of individual sectors. Examples of this type are food industry, energy machinery and aerospace sector.
- A modernisation is limited and is not present in high tech sector which are usually carriers of R&D
- It is not promising to develop or to try to improve this sector. Instead, we should turn to support of technology based SMEs

6. Please, evaluate new technology based firms? What is their functional role in national innovation system?

- There are 3 types of NTBFs
 - Real NTBFs which produce new, original production
 - Service companies, which support implementation of new technologies into practice
 - Firms in innovation technoparks and innovation centres
- Most of respondents admitted that they do not have an overview of the real situation. There were views that many NTBFs are actually operating in 'hiding'. Also, there is view that they quite marginal role.

7. What are problems in funding R&D? To which extent funding procedures ensure transparency?

- A small share of competition based funding. There is estimate that 10% of the overall R&D funds are distributed in that manner.
- A very weak transparency of competition system
- Evaluations are formal and not undertaken by independent experts
- There are not clear criteria used in distribution of public funds for R&D. It is personal factor which seems to dominate.
- Programme funding is developing
- All new increases in funding should be devoted to grants based funding

CONCLUSIONS

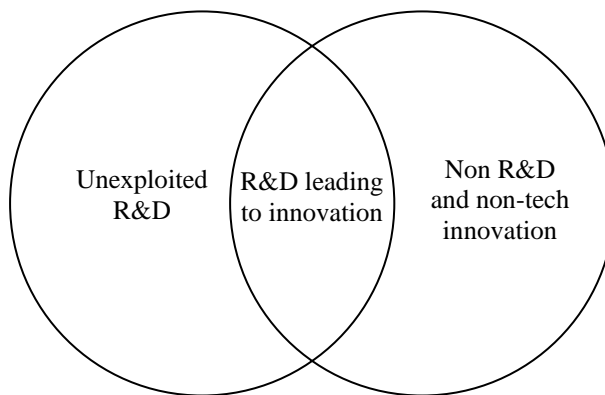
1. Replies from eight experts of Ukrainian R&D system points to different factors on supply and demand side as well as to weaknesses in linking supply and demand which lie behind poor links between four R&D sectors (universities, ex-industrial institutes, Academy of Sciences and enterprises R&D)
2. There is no vision for an R&D system. This vision can be built only by involving all stakeholders and should reflect current and future drivers of growth of Ukrainian economy.
3. There is a need for speeding up of restructuring of R&D system which throughout transition period remained either semi-reformed or marginally reformed system
4. An immediate obstacle which should be removed and which could improve working of the R&D system is transparency of funding procedures. This would involve posting on Internet priorities, eligibility, criteria as well as results of competitive funding rounds. This move should be part of first steps in introducing evaluation culture in Ukrainian R&D system.
5. A current system supports perpetuation of barriers or walls among R&D sectors. The priority is to introduce funding mechanisms which are eligible for organisations from all sectors or which explicitly support projects by partners which come from different sectors. This is one of the biggest changes brought to new member states through EU funding through structural funds which presents a great opportunity for enhancing new linkages in national innovation system. As Ukraine is missing on this opportunity its move towards more inter-setoral cooperation, linkages and thus transformation of each of the four sectors (universities, academy, ex-industrial institutes and enterprises) requires much bigger mobilization in terms of building consensus and changes in the funding system.
6. Individual cases suggest that we should pay more attention to bottom up process. If policy is discovery process then individual examples may illuminate direction of changes in the system and what kind of models should be supported. Examples of currently good practice are:
 - Integration of research and teaching within new university like Kyiv Mohyla
 - Academy
 - Examples of cooperation between universities and Academy of Sciences at the level of individual departments
 - Examples of some successful technoparks (see Trendchart Ukraine Report)
 - Examples of individual new technology based firms
7. There is a lack of any systematic knowledge on NTBFs in Ukraine. This should be focus of one of future EU funded projects.

Output Report – Policy Monitoring - BRUIT project

On policy monitoring in general

- Who monitors? An appointed policy coordinator; ones hierarchically superior organisation; a formally appointed external unit; an international organisation?
- What? Governance; innovation policy cycle; individual policies; changes; trends; milestones; individual acts; processes?
- How? Systematically or ad hoc; specific methodologies like benchmarks; the need for surveys and indicators; the role of evaluation; transparency;
- When? Ex ante; real time; ex post

Innovation policy is not just R&D



Policy monitoring should be concerned with R&D that leads to innovation (where the “unexploited R&D” and “non R&D and non-tech innovation” sets intersect).

MONIT (OECD): The policy cycle

- agenda setting and prioritisation;
- implementation;
- evaluation and learning.

Note: MONIT stands for “Monitoring innovation and technology transfer cycle”. It is an approach developed by the OECD that emphasises monitoring the whole 3 stage innovation policy cycle (agenda setting and prioritisation; implementation; and evaluation and learning). The cycle typically lasts 3-4 years. Further details about MONIT can be found on the OECD website.

PRO INNO TC (EU): a practical approach

- Distinguishing the NIS, governance and policy
- Rating policy monitoring as evidence-based policy tool

Policy monitoring in the EU-27: the model cases

- Who monitors? internal and external, involvement of the Parliament
- What? The whole cycle
- How? Transparency, experimentation
- When? Ex ante, real time, ex post, five-years later

- Traditional champion: the UK
- Best practices: the Nordic countries
- Quick and effective learning, creating champions: Germany, Austria, the Netherlands
- Learning with pain: the Cohesion Countries

Nordic countries are especially good at combining sociological as well as technological aspects in their policy monitoring.

Regularity and transparency of policy monitoring and review processes: all major policy documents and instruments are the subject of a regular review involving stakeholder consultation	1: Luxembourg, Slovenia 2: Austria, Belgium, Czech Republic, Greece, Hungary, Israel, Italy, Latvia, Lithuania (2-3), Malta, Poland, Portugal, Slovak Republic, Turkey 3: Bulgaria, Cyprus, Denmark, Estonia (3-4), France, Iceland, Ireland, Norway, Romania, Spain 4: Finland, Sweden, Switzerland, UK 5: Germany, Netherlands
Average score: 2.53	

Lessons from the EU-27: trends

- Identify and analyse the relevance of the objectives being set at national (and increasingly regional) level in terms of innovation policy (except in a few exceptional cases, high-level policy objectives tend not to change radically on a year-on-year basis)
- Policy statements and objectives tend to be governed by a number of internal or external planning cycles or 'policy watersheds' such as the election of a new government, political independence or not of specific agencies (able to set their own objectives), programming periods related to funding sources (notably the EU Structural Fund programmes), etc..
- In some cases, it becomes increasingly difficult for a new government to change objectives set by a previous one since funding is blocked in multi-year programming rounds which do not necessarily follow the electoral cycle.

Lessons from the EU-27: TC Synthesis statement

TrendChart policy monitoring: the message for Europe's policy-makers is that innovation policy is not just about "spending more on R&D". Innovation really does have to be "everywhere" if our economies and societies are to continue to catch-up (the EIS evidence suggests that within Europe the gap is closing thanks to improving innovation performance of the new Member States, but European countries have to look outwards and face the challenge of innovating better and faster than our neighbours to the east and west, and even south!

Policy monitoring in the EECA – current situation

Who monitors?

- As yet, and to some extent, the organisation responsible for innovation policy
- No interest at the higher levels of government
- First attempts for external monitoring: BRUIT, RIPKA, SCRIPTS

What?

- Practically only R&D (no reference on policy cycle, innovation beyond R&D, milestones; individual acts or processes)
- *Which means that is it urgent to expand the approach for policy and monitoring from R&D into innovation*

How?

- Ad hoc
- No benchmarks (is the EIS the most appropriate target for benchmarks?)
- No systematic transnational learning (but the description of some good practices)
- The emergence of surveys and indicators
- Practically no evaluation (efforts for setting up the ex ante evaluation mechanisms)
- What about transparency? More willingness than interest?

When?

- Worries on the ex ante evaluation of R&D proposals, individual efforts for real time, very limited ex post

In Russia, a law has been passed that meant the Russian Academy of Sciences is responsible for agenda setting and implementation of fundamental and some applied sciences. Being given responsibility for evaluation and learning may come later.

A Foresight exercise has been carried out recently in Ukraine (i.e. agenda setting and prioritisation) but it was not linked to a policy cycle.

A general conclusion

This is a very normal situation based on international experiences and one should not worry or become unnecessarily self-critical; this is destructive. One only needs to create a plan what to do, from whom to learn, how to be constructive and optimistic

Some hints for the debate

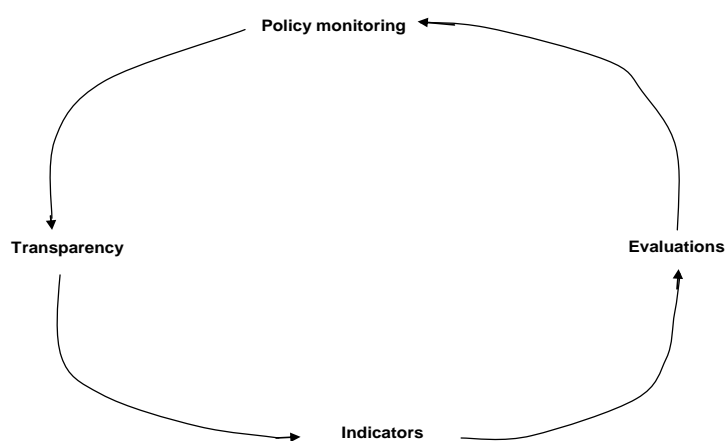
- Set the targets for better policy monitoring
- Identify what resources are needed
- Generate the political climate
- Get resources from international sources (EU, WB, individual donors)
- Create the process

Transnational learning is important. EECA countries can probably learn more from each other than from the UK or USA. The break-up of the Soviet Union had led to a dramatic reduction in demand and sales of products and services between EECA

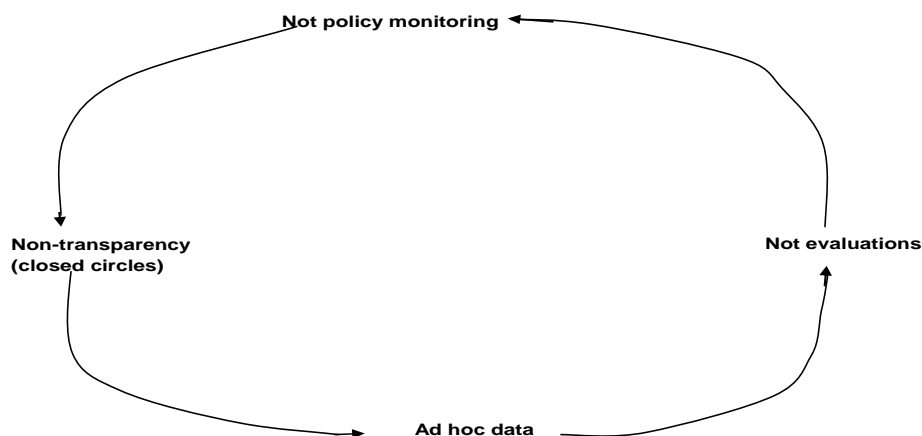
countries. In other words, renewed co-operation in the area of R&D and innovation policy would be beneficial.

The current situation of policy monitoring in the EECA countries is comparable to a “vicious circle” – no policy monitoring, no evaluation, ad hoc data, and no transparency. In order to establish a “virtuous circle”, one should attack each component in parallel.

Building evidence-based policy monitoring: target



Building evidence-based policy monitoring: reality



There are some grounds for optimism that EU funding schemes could help: the FP7 SSH programme could potentially provide a means for disseminating EU RDI surveying methods (Frascati and CIS); the FP7 INCO programme could potentially provide a means to extend the participation in TrendChart; and the ENP Twinning Scheme could potentially provide a means for implementing public R&D reforms.