
TURNING IDEAS INTO MONEY. WHICH IDEAS AND WHOM MONEY?



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Abstract

Romania plays no part in the world technological race. In the last three decades, we have lost the technological leadership role in the oil industry, simply because the communist regime was reluctant to encourage the growth of information technology in general, and personal computers in particular. Sadly, we failed to close the technological gap in the post-communist era. Only one in five Romanian companies currently introduces a new product, service, technology, etc., or brings about innovative business practices. This rate represents half of the European average. We are lagging one decade behind the Czech Republic and Estonia, and two decades behind the rest of the European Union. We did find, however, a number of successful initiatives, rewarded at international innovation and trade shows. Unfortunately, the overall picture is rather bleak; this paper suggests a series of possible solutions aimed at improving it.

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1. Chance only favours the prepared mind

That Romanians win one award after the other in international invention and innovation exhibitions is no news. But the arithmetic of economic power has nothing to do with shiny medals. And it obviously defies such quantitative aspects as the number of researchers in the business environment: 1 in 1,000 employees in the Romanian private sector, as against a European average which is 3.6 times higher (Eurostat, 2008). Innovation skills refer to generating something new,

whether in the public or the private sector, whether in an apartment or in the R&D department of a multinational holding. Wherever it comes, an original idea must then be scaled, transferred and capitalised on, in the business environment.

Without doubt, there are also research projects which cannot be seen through in production, either because the existing technology does not allow it, or because prohibitive costs make the process inefficient. Synthetic rubber only started to be mass produced during World War 2. It took a surge in oil prices, an oil crisis, for the development of the crude in the North Sea to become economically efficient. The RAV antivirus technology developed by GeCad Software in Cluj, needed the products, services and distribution network of giant Microsoft. So technical success does not necessarily imply economic efficiency.

There is also the opposite case, that of chance discoveries. Efforts seem minimal, and effects huge in this case. But “seem” is the keyword here. Such discoveries take place in a research environment, and require adjustments if they are to be applicable in production. *“Chance, as Pasteur put it, only favours the prepared mind.”*

2. What are the best romanian innovations of the past few years?

I cannot talk about turning an idea into money before answering this question first. I have selected three exceptional achievements (ANCS, 2008), which won the gold in the *Geneva International Salon des Inventions, des Techniques et Produits Nouveaux* in 2004 (the first), and 2007 (the other 2):

- **Eugen PAVEL**, holder of a Ph.D. in condensed matter physics, has created the three-dimensional memory, with a storage capacity of over 1,000 GB: “**Hyper CD-ROM.**” He used new materials, specially created for this application: fluorescent photosensitive glasses and vitroceraamics (for which he was awarded by the Romanian Academy as far back as in 1991). Such a device may store an entire library. The Romanian private business environment was unable to capitalise on such an innovation, so the Hyper CD-ROM is currently preparing for production in **Asia** (confidentiality clauses in the contract do not allow us to disclose the name of the partner at this stage).
- **Ene Alexandra Gabriela, Mihai Carmen, Petrescu Adriana**, researchers with the National Textile and Leather Research and Development Institute, are the authors of the “**Gastroenterological bio-implant and its production process.**” Its use? In the reconstruction of soft tissue further to gastroenterological surgery. The bio-implant is made out of a special fabric, and boasts relevant bio-medical and bio-functional performances, including: structural support of abdominal muscles, in hernias and incisional hernias; use irrespective of the size and location of the defect; appropriate stability of the abdominal muscles; integration with the host tissues without side effects such

as implant rejection. Sustained efforts are currently being made for EC certification, so as to enable the efficient use of the product in the national healthcare network and new community markets.

- **Claudiu ȘUȚAN**, currently attending a doctoral programme, is the author of the PVC double glazing system with incorporated shutters. The product is currently pending production with SEND '92 Impex S.R.L., the company which financed the participation of the product in the Geneva Exhibition—although only four per cent of the local innovative companies work with universities or research institutes.

Although spectacular, the examples above are the exception, rather than the rule; in Romania, cooperation between the private and public sectors is inefficient and sporadic. The former has inadequate interest in and funds for innovation, while the latter is affected by a steady decline in terms of quality. Communication bridges between them are mostly down.

3. Chronic public under-financing, over come

The chronic public under-financing and the absence of a structural reform of the national innovation system significantly delayed the mobilisation of sources for a good economic performance, based on productivity and high value-added. This high-priority objective, at a political declarative level, has only been pursued since 2006. The unprecedented increase in the funds earmarked for research and development (RD) will continue to fuel black holes. Moreover, given the recent raise of budgetary funds for research from 0.2% of GDP in 2004, to 0.7% of GDP in 2008, chances are the 1% target will be reached in 2010. The Lisbon Strategy ties this objective to another 2% GDP in private funds allotted for RD. But a lot is still to be done until true performance is pursued by a critical mass of companies, universities and research institutes.

4. We still focus on growth, rather than performance

The performances of our private research sector are also inadequate. Most international standings prove it. 80% of the Romanian companies foster no innovation effort whatsoever, 4% of the companies are strategic innovators, 8% are occasional innovators, 5% of the companies adopt and adjust technologies, and only 3% of the companies implement new technologies (NIS, 2008). The echo of such successful cases as those in the software or automotive sectors can hardly sweeten the pill.

Unleashing the Romanian innovation potential in the private sector today depends on stronger capital inflows, with adequate fiscal incentives, and on the set up of new innovative companies. Moreover, Romania is one of the countries where the

young are poorly represented in the business sector. To a great extent, these aspects explain the reluctance to scientific research or to implementing findings that have never been applied before—a general feature of the Romanian business environment, which avoids major expenditures, and prefers successive accruals. The private funds earmarked for research are insignificant, and so is the universities' ability to provide relevant research findings, in response to requests from the industry or public institutions.

5. Which ideas and whose money?

Whereas one million European citizens manage to register over 100 patents a year, one million Romanian citizens only get two patents registered (*latest data available for the reference year 2005, Eurostat, 2008*). Romanian inventors are hardly capable of turning an idea / product / method / technology into a patent, and a patent into a business.

The only option they have is to import technology, to transfer know-how and to market new ideas from abroad. But this requires money, the so-called venture capital, and efficient financial and fiscal incentives.

How else can the market handle the possible failure of investments in research? Indeed, the risks associated to such an endeavour are significant, and a poor ability to capitalise on the findings may block the entire process. In Romania, **private funds** allotted for innovation, just like the public funds in 2003-2005, failed to keep up with the rate of increase in the public allocations of the past three years. In exchange, **the share of technology and knowledge intensive industries** in the business environment has risen.

There are at least two fields, in the European research, which receive an increasing amount of research-development-innovation (RDI) funds, and therefore stand significant success chances: **energy** and **environment**. Furthermore, **organic farming** remains another viable option, which should become a national priority. Romania may grow into a strategic provider of innovative results in these fields, if it manages to apply a thorough, ambitious and firm action plan. State aid seems readily available, but bringing results into the real economy heavily depends on fiscal incentives, particularly to new enterprises.

6. A consistent innovation-friendly fiscal environment

The mix of political tools for innovation—tax relieves, subsidies for research and development and fiscal credits—vary substantially from one Member State to another. But there is a community-wide trend to channel about one-third of these instruments towards small and medium-sized enterprises (SME), particularly innovative start-ups.

Who benefits from these deductions, and what is their size? Depending on the goal of the incentive, some are applied on the total RDI expenditure, while others are only applicable to additional expenses incurred. In yet other cases, both types of expenses benefit from tax deductions, although at different rates. A vicious circle thus emerges: high profit taxes – high governmental incentives, versus low profit taxes – fewer incentives. Obviously, the size of tax deductions in favour of actual RDI investments is interpreted, in each Member State, in terms of the basic effect. Another drawback of this type of incentives is that companies' plans for the future are overlooked, and emphasis is laid on past efforts alone.

I suggest we dwell on two practices which have recently proved their effectiveness.

a) The French give tax in incentives to innovative strat-ups

France was the first EU Member State to introduce special tax incentives for innovative start-ups: the JEI (*Jeune Entreprise Innovante*) mechanism, in 2004. New innovation-oriented companies, which meet certain eligibility criteria, are fully exempted from payment of the profit tax in the first three years since the company breaks even. For the following two years, the incentive is cut down to 50% of the tax. For eight years, the company is also exempted from payment of social contributions for the highly skilled employees (COM(2006) 728 final). The goal? To encourage research in the private sector and to reduce business set-up costs.

b) The British develop venture capital funds

The United Kingdom of Great Britain proposes a mechanism to encourage investments, under the “*Enterprise Investment Scheme*” (EIS) and “*Venture Capital Trust*” (VCT). Operating on the principle of collective investments listed in the “*Alternative Investment Market*” (AIM), enterprises must meet a number of eligibility criteria to qualify for both mechanisms. Some of the invested amount is deductible from the income tax: 20% (EIS), and 30% (VCT) respectively (COM(2006) 728 final).

The capital gains achieved after the "qualifying" period are exempted from the tax on capital income, including the VCT dividends. The goal? To encourage British investors to subscribe for venture capital trust shares, so as to significantly offset the risks of investing in a new enterprise.

c) The Romanian taxation, whereto?

The adjustment to the European research space requires, first and foremost, that we give up investment efforts in over-costly research infrastructures which already exist at an EU level. Complementariness, cooperation and mobility of researchers

and of knowledge are the new strategic values. They call for specific fiscal mechanisms, focusing on industry participants in trans-national research projects.

The set of measures intended to support the RDI activities carried out by business operators—as stipulated in the 2003 Fiscal Code—includes 100 per cent tax relieves for certain expenditure categories which do not include intangible long-term assets, for the improvement of management and IT systems, marketing, market analysis, promotion in current or new markets, participation in trade fairs and exhibitions, environment protection and conservation of resources.

Business operators also have flexible options to amortise the acquisition of patents, copyrights, licenses, trade marks, technology such as devices, tools and machinery. In the first 5 years, revenues made by individuals from the application of patents by owners or licensees or from leasing patents, are also tax exempt.

But what we lack are specific fiscal programmes, and this is a flaw of the most recent draft law tabled by the *National Authority for Scientific Research* (May 27th, 2008). It is intended to broaden tax facilities, through:

- More varied forms of profit tax deduction/relief for business operators whose RDI expenditure accounts for at least 15 per cent of the total annual expenses;
- Deductibility of development expenses, which do not qualify as intangible assets, financed from own resources, by a 120 % rate for all profit tax payers, regardless of the size or length of enterprise operations;
- Deductibility of amortisation expenses accounting for 20% of the entry value of fixed assets or invention patents, copyrights, licenses, trade marks;
- An additional deduction from taxable revenues, accounting for 20 per cent of the value of investments in constructions or building revamping, interior infrastructure and connection to the public utility networks for investments in industrial parks or scientific and technology parks.

Conclusions

There is no doubt that, as far as the design of financial mechanisms goes, Romania should define its objectives more clearly, focusing on how to encourage additional expenses for innovation, how to change companies' behaviour, how to assess larger-scale social effects, how to draw up criteria for assessment as early as in the design stage, while at the same time testing whether such incentives meet their goals. Here are a few examples:

- The selective fiscal encouragement of research on measures to prevent floods, on organic farming or areas of interests across Europe, such as the energy or environment;

- Fiscal incentives for innovative start-ups, drawing on the French model, and for individual investors coming from the academic or academic research field (*business angels*);
- Fiscal incentives and technical assistance aimed at facilitating contacts between small Romanian producers and local or foreign researchers, in view of revamping products or processing, so as to secure their access to international markets. One focus could be the special freezing or packaging processes for the foodstuff industry, in which Romania has significant export potential;
- Fiscal incentives for venture capital subscription by big companies, drawing on the British model;
- Regulating a special framework to allow for the relocation of researchers from universities to private companies, to set up strong temporary clusters for concrete research and design purposes;
- Fiscal incentives for private companies which request and finance - within doctoral programmes - research projects on topics still awaiting solutions, or whose solutions in international research are too expensive.

To more efficiently capitalise on Romanians' much-publicised resourcefulness, in order to catch up with the European performances as soon as possible, we also need something else. A 12 % flat tax rate, perhaps, which would allow the management of economic resources at a private level, instead of politically-driven public allocations. A measure that we will discuss in detail on another occasion.

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