

Higher education and the new development strategy

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A few weeks ago CARIBBEAN BUSINESS carried my column on Finland as an economic model for Puerto Rico. I explained how Finland, faced with a depression, took control of its future by placing its bet on scientific research and the adaptation of its results to commercial purposes. This strategy made the Finnish economy the most competitive in the world. I was greatly pleased when I heard from Jorge Silva-Puras about the new model for economic development, which he wants to pursue because it coincides with the Finnish strategy and is well thought out, down to the re-structuring of Fomento.

In my last column for CARIBBEAN BUSINESS, titled “Reinventing the Wheel,” I went in detail as to the new model and the change that it will bring about in Fomento. Now, I will focus not on the developmental part of such a strategy but rather on the academic participation necessary to achieve the objective of turning an industrialized economy into a knowledge economy based on research and development as the prime movers of economic activity.

Our universities—public and private—will be of paramount importance in implementing the Silva-Puras strategy of “*mentes a la obra*,” which I have called Operation Brain Power. The per capita public spending—commonwealth and federal—in higher education in Puerto Rico is one of the highest in the world. Knowledge is transferred from the universities to businesses and the wider community through the skills acquired by the graduates and to businesses in particular through contract research, collaborative research, consultancy, intellectual property, and licensing agreements. Transferring the knowledge and skills between universities, businesses, and the wider community increases the economic and social returns from public investment. This knowledge transfer that occurs in Puerto Rico in haphazard fashion is optimized when it is made part of a development strategy such as Silva-Puras proposes.

Focusing on research and development mostly related to our pharmaceutical industry as the new model calls for taking advantage of the large concentration of these companies in Puerto Rico. It comes at a time when companies around the world are moving away from a system in which most of their research was done in their own laboratories to one in which they are actively seeking to collaborate with others in a new form of open innovation.

The universities in Puerto Rico should capitalize on this new model of development and on this trend where outsourcing of research and development offers unique opportunities. In its annual report for the year 2000, Merck, one of the pharmaceuticals in Puerto Rico and one of the companies with the largest research budgets in the world, stated that: “The cascade of knowledge flowing from biotechnology and the unraveling of the human genome—to name only two recent developments—are far too complex for any one company to handle alone.”

Puerto Rico must develop policies that will guide our universities in the direction of scientific research and its technological applications. The Council for Higher Education, instead of dedicating its time to such things as monitoring how universities comply with the minutiae of federal or Commonwealth regulations for academic buildings, should focus on the broader picture of how our universities must respond to the challenges that Puerto Rico faces in the beginning of this 21st century. That is the globalized, informatized, highly competitive context in which our economy must prosper.

In Finland, it took enlightened and forceful leadership to turn its governmental and academic institutions around and bring them in line with the new model of development that eventually made Finland the most competitive country in the world. A similar effort will be required in Puerto Rico. Slow moving, bureaucratic and risk-adverse university procedures must give way to effective governance and management supporting good research and knowledge transfer and providing relevant skills for the economy.

The Council for Higher Education also must develop policies that will insure university curricula and courses are more responsive to the needs of the economy. With due respect to academic freedom and to the principle that the role of universities is to educate students rather than to train them for the specific needs of businesses, these policies should insure that students leave universities with skills that are relevant to employers.

To advance in operation “*mentes a la obra*,” it is important that Fomento get businesses to define their skills needs collectively and that this data be furnished to the Council for Higher Education and to the universities. The Council should see to it that this data has a real impact over university courses and curricula. It is further necessary that students receive signals from the market as to the value employers place on particular courses. The universities should be required to publish information for the students on graduate and post graduate employability for each department or faculty.

Fomento also has a new task in creating the conditions that will bring about the necessary change of focus as to research in our universities. It must bring companies and universities together. It must get them to see each other as attractive partners. Although there is some contact today between our universities and businesses, it isn't nearly enough to unleash the great cooperative potential that is out there. Fomento must act as facilitator of business-university relationships by actively seeking out companies that can benefit from this relationship. Research-intensive academic institutions should assess their science departments and infrastructure to point out strengths and weaknesses with input from businesses, to be placed in a position where the demand for university research can be increased and an economically meaningful amount of research outsourced to them.

Private funding of research, whether in company labs, universities, or other outsourced entities, must constitute the principal source of funding to develop meaningfully our research base in Puerto Rico. In Finland, two-thirds of the research that goes on is privately funded. That said, we must hail Silva-Puras' proposal to convert Pridco's substantial real-estate assets—over \$1 billion the last I heard—into financial

assets to create the Trust for Science & Technology. This trust must avoid the mistakes made in the past of funding research projects that academics think are future-oriented without input from the business sector, which is the one that will commercialize them or not.

In Finland, they faced the problem of funds being channeled to scientists without regard for excellence or for the possibilities of commercialization. Strong and enlightened leadership was required to channel funds to the best scientists and the most promising projects, not to projects that weren't getting anywhere. Public funding should be concentrated on world-class research with strong input from businesses in the projects that are of real value for commercialization.

“Operación mentes a la obra” requires the coordination of our developmental efforts with those in higher education to succeed. The changes necessary in the policies and institutions operating in both fields won't be easy to implement. There will continue to be loud cries, political bickering, and shortsighted opportunism opposing them. But they are necessary so Puerto Rico can gain a competitive position in the world economy. The well-being of all Puerto Rico residents is at stake in this battle to reinvent the wheel of Fomento. Let us roll forward together.

