Natural Resources, Intangible Capital and Sustainable Development in a Small, Oil-Rich Region

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"Where scientific enquiry is stunted, the intellectual life of a nation dries up, which means the withering of many possibilities of future development." – Albert Einstein, 1934 The rampant unemployment rates and the general contraction of economic activity in many western countries rekindled the fear of emigration and brain drain, which for a while seemed to be exclusively a developing-world problem. This brief illustrates a potential new approach to the issue, through a recent experience in a small but oil-rich region of Southern Italy.

Economic Growth and Brain Drain

Since the times of Solow, economic theory represents growth as the result of a process not unlike some sort of portfolio management. Just like any individual investor, countries own and need to manage certain *assets*, characterized by different properties and returns: some are exhaustible, others are renewable or living, and ensure a sustained stream of income. In the original formulations, the economy's productive assets were identified in land, capital and labor, to which human capital was soon added. In 2006, the World Bank published estimates of 120 countries' *total wealth*, in an attempt to introduce a broader view of what these *assets* really are.[1] The report classified a country's capital into three main types: natural, produced (physical) and intangible. A striking pattern emerged. While the share of produced assets in total wealth is virtually constant across income groups of countries, the share of natural capital tends to fall with income, and the share of intangible capital rises. This means that rich countries are largely rich because of the skills of their populations and the quality of the institutions supporting economic activity.

There is an important relation between the different types of assets. In order to avoid illusory and temporary growth based on consuming the readily available natural capital, efficient management through saving and investment can transform one type of asset into another, achieving sustainability over time. Although this may sound as no big news, the analysis of the actual savings and rates of growth in the different form of capital reveals far from ideal situations all over the world. In many resource-rich developing countries, savings rates have been negative for many decades, meaning that resource rents have been at best used for consumption. In the

[1] Updates on these figures for a subset of 20 countries can be found in the newly released *Inclusive Wealth Report 2012*, sponsored by a number of UN agencies, the first of what is intended to be an annual report looking at a broad measure of wealth. From the report: "Wealth is the social worth of an economy's assets: reproducible capital; human capital; knowledge; natural capital; population; institutions; and time."

worst cases, they have fueled corruption and private enrichment of small elites, as highlighted by the extensive literature on the “resource curse”.

Also, renewable natural resources are often exploited in an unsustainable fashion. One case in point is the thorny issue of fish stocks, but many more examples are discussed in the literature on ecosystem services. Even the intangible capital is under stress in many places. In the wording of the 2006 World Bank report, “*intangible assets include the skills and know-how embodied in the labor force; social capital, that is, the trust among people in a society and their ability to work together for a common purpose; all those governance elements that boost the productivity of labor: an efficient judicial system, clear property rights, and an effective government*.” Probably the first component in the list, what is traditionally indicated with the term *human capital*, is the most *tangible*, observable and relatively controllable part of it.

Controlling the Brain Drain?

Although there are many arguments in favor of international careers and general workforce mobility,[2] some regions experienced negative and prolonged *net* outflows – emigrants minus immigrants – to the extent that they now face a real risk of hold ups in their economic development. This, due to shortages of vitally needed high-skilled personnel. Even the economic sustainability of many basic services and businesses is in doubt due to the shrinking customer base.

Southern Italy is one of these regions. The net outflow of people with a bachelor or higher degree is negative[3] even at the national level, -2% over the latest ten years. In southern Italy, with a population of just above 13 million, the net balance of emigrants and immigrants over the same period amounts to -630,000. 70% of these people are aged between 15 and 34, and 25% hold at least a bachelor degree. To this figure, which is based on changes in official residence and therefore grossly underestimates the real size of the phenomenon, must be added the 150,000 that on average every year join the flow of internal migrants or long-distance commuters from the south to Northern Italy. Among these people, 47% are aged between 15 and 34, and almost 30% hold a bachelor or higher degree. The reason for these massive outflows can be identified in the labor market dynamics. If we break down the average 22% decline in job creation for youth between 2008 and 2011, new hires declined by 30% for youth with a bachelor degree and 14% for higher degrees, against 11% decline for youth with only secondary education.[4]

As opposed to physical capital, recent research shows that loss of human capital can have long lasting crippling consequences for economic growth (Waldinger, 2012). Among the policies that have been tried in order to stop or counterbalance the brain drain, a first set targets human capital as embodied in the workforce, i.e. tries to attract highly trained people. Probably the most popular are economic incentives in the form of tax rebates, higher wages or other job-related benefits and amenities. This kind of incentive regime exists in Italy since December 2010, though only targeting Italian nationals. However, for many high-skilled professionals, the important factors are others, such as a generally

[2] The Economist recently pointed out that "[w]hat some call “brain-drain” may in fact be a win-win situation for Europe's economies. [...I]n the short run, migration takes away pressure from budgets as the unemployed don't claim benefits but move [abroad] instead. In the long run, there is a pool of highly skilled workers who have not fallen victim to hysteresis effects and can be re-activated for the [home] economy once the crisis is over." However, it is not at all obvious that this migration is short-run, i.e. that these high-skilled workers will eventually go back. A survey of Italian scientists working aboard reveals, for instance, that the overwhelming majority excludes ever going back to Italy.

[3] The "import" of such people generally more than compensates the "export" in other big European countries.

[4] Source: SVIMEZ, 2012.

innovative and creative environment, a network with a critical mass, a transparent and competitive labor market not contaminated by politics, high quality support services, and other conditions that are not as easy and cheap to modify. Some countries have played the card of instead attracting prestigious foreign schools to their national territory to prevent their brilliant youth from leaving in the first place. Many famous western universities have already initiated partnerships with or lent their names to schools and universities in these countries and even built replicas of themselves – mostly in Asia – so as to get a toehold in the world's largest education market, or in the Gulf States, where financial resources abound. There are successful examples of such partnerships in Italy, too.

A different approach has been taken by the new government, with the realization that the country can benefit from the pool of expatriated talents without moving them permanently back. A program of facilitation for visiting scholars and exchange students was thus launched in September 2012. But a step even further is actually possible. A network of scholars and high-skilled professionals that want to contribute to the development of a particular country or region, for example their place of origin, does not require physical presence on the territory, and not even any formal or institutional bond. The only needed ingredient is the Internet. Not removed from the environment and the conditions where they achieved success, these people can actually contribute even more. This is the idea behind, for example, *Innovitalia.net* and other smaller independent initiatives inspired by the concept of *crowd-sourcing*.[5]

The Experience of Basilicata

I recently witnessed (what I hope is) the birth of one such network in the region where I am from. Basilicata, also known as Lucania, is a small, poor region of less than 600,000 inhabitants scattered across 131 different municipalities on a territory of barely 10,000 squared kilometers, between the heel and the toe of the boot that the Italian peninsula resembles. Here, the crisis hit especially hard and migration outflows are since then even stronger, especially among youths. According to SVIMEZ (a think tank focused on entrepreneurship and economic activity in Southern Italy), Basilicata have lost 10% of its regional GDP since 2007, much more than the national average of -4.6%. Compared to other large European economies, Spain is currently at -2.7, while Germany and France, notwithstanding the low annual growth rates, are now back at the same level as in 2007. The youth employment rate (with the generous definition of 15-34) is alarmingly low at 30%, down by 15% since 2007, and only 24% for women. As a result, the consumption level of 27.5% of families is now below the poverty threshold, compared with 11% of families at the country level.[6]

Enter Europe's largest onshore oil and gas reservoir; about 150,000 oil barrels are extracted in Basilicata every day, covering 12% of the national oil demand. The exploitation started in the late 1990s, although the reservoir has been known since at least the 1970s. It is expected that these oil fields will be operational until 2022, but at least one more reservoir with about the same estimated capacity remains unexploited. The regional government has for the time being blocked any new concession, hoping perhaps to negotiate better conditions. The truth is,

[5] A recent paper analyzing the experience of New Zealand (Davenport, 2040) reviews the waves of brain-drain response policies and calls this latest generation *diaspora policies*: "Diaspora policies are based on an assumption that many expatriates are not likely to return, at least in the short term, but represent a significant resource wherever they are located. This resource is not just embodied in the individual expatriate but also potentially includes their socio-professional networks. A key advantage of any diaspora option is that such connectivity initiatives do not require a large infrastructural investment in order to potentially mobilize this latent 'national' resource."

[6] Source: ISTAT.

there have been strong concerns – related to lack of transparency and in some cases to alleged corruption – voiced at the actual quantities of extracted oil and what is a fair distribution of revenues. After more than 10 years, it is hard to claim any major social impact of the project: there is a clear lack of funds to invest in local small and medium size businesses and, as observed above, unemployment in the area remains a problem while the regional population has plummeted.

Is this a case of "resource curse"? Not really. There is no clear evidence of corruption, or elite capture – the problem seems to be mostly poor management and a lack of ideas, mixed with the deeply rooted penchant of local politics for populism and the *clientela* system (patronage). To give an idea, creativity in using the oil money did not go much beyond the restoration of many of the small town's pavements and facades. In 2009, in line with the so called "Development Action Plan" of the Berlusconi government, an 80 euro lump sum was distributed to all residents. After the crisis hit harder, the royalties have also been used to cover holes here and there in the current account. Data from the Ministry for Economic Development shows that capital investment in the region went down by 8.5% per year between 2008 and 2011, while current expenditure went up by 3%. Going back to the importance from the growth perspective of savings and investment versus consumption, it is worth remarking that current expenditure *is* (in most part) consumption.

Can this bounty instead become an answer to Basilicata's troubles? This was the question driving the first Sustainable Development School, held at the end of October in Viggiano, a small town in the center of the oil field, hosting 23 oil wells. Sponsored by a number of institutions and associations, local or national,[7] the event attracted a group of 45 economists, sociologists, managers and entrepreneurs, engineers and culture sector specialists, in most part born in Basilicata and working or studying abroad. Seven of these participants were instead citizens of various countries in the Middle East and North Africa region, working or studying in Basilicata. This heterogeneous group worked together for two days on concrete proposals to be put on the administrator's tables, in five main areas: Regional Economy in the new Euro-Mediterranean context, Energy and natural resources, Environmental protection, Infrastructure for environmental protection, Promotion of the historical, cultural and social heritage. Given the context, most projects focused on alternative proposals for how to use the royalties. The keyword was, however, sustainability. Everybody was well aware of the fact that for them to last longer than oil itself, these resources must be saved and earmarked to some productive use that, leveraging on other locally abundant resources, can start off a process of self-sustained development. The projects highlighted the stimulation of local small-scale entrepreneurship and the creation of employment opportunities as necessary ingredients for a fairer sharing of the revenues but most importantly for long-term sustainability.

Many local resources, not fully utilized at present, were brought in as examples: the abundant wood, the underexploited waterways, even the wastewater from bigger agricultural and animal farms, connected to the potential for small-scale generation of energy from renewable sources. On a slightly different note, the list continued with the historical and cultural heritage, natural beauty and the religious and culinary traditions that could support a much more developed tourism industry than what it does today. All of this, in the proposals of the participants, has the potential to support profitable businesses that bring employment to the community. This

[7] Sponsors and partners included the municipal and regional administration, the Italian Institute for Asia and Mediterranean (ISIAMED) and its local branch, CeBasMed, the Val d'Agri National Park, the Regional Environmental Protection Agency, SVIMEZ and the University of Basilicata.

ingredient is considered crucial, in the perspective that the long-term survival of any (business) initiative requires tying its success to the welfare of the local communities. The focus was thus overwhelmingly on private initiative, with the public confined to the role of investing partner and provider of supportive infrastructure (material and immaterial) and services.

Overarching is undeniably the question of institutional quality, needed as the underlying canvas to support whatever initiative we hope to see blooming. A proposal that did not make it to the finals, though, involved the creation of a stable watchdog, either on local policies in general (and in particular on the use of the royalties) or more specifically focused on the environmental and health impact of the extractive activity. According to the more politically experienced participants, no administration would agree to finance an independent body with the explicit mandate to criticize them. Never mind that this type of institutions is common in other places. In Italy, the one body that currently operates with a watchdog function on the public administration, although limited to the financial aspect,[8] is facing threats of limitations of its powers. A lot remains to be learnt. However, the perhaps most valuable outcome of this experience was, if not yet policy change at least a promising *method* to produce change, by mobilizing a latent 'local' resource and really transform oil rents in durable intangible capital.

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[8] The *Corte dei Conti* tribunal.

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