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Supporting Innovation: Why and How

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Honorable President of the Chamber of Deputies, Distinguished Guests, Ladies and Gentlemen:

It is a very great honor to be invited to speak at this important conference here in the historic Camera dei Deputati. I am grateful to have this opportunity to express some of my ideas. This invitation is especially meaningful to me, as I have been making substantial visits to Italy for nearly 30 years. I feel close to the Italian people.

My subject here is innovation in Italy: Why increase it? And how? An innovation is always the extensive or significant adoption of some new practice in the society or in some community. It is never the invention of something that fails to be adopted. That is exactly how Joseph Schumpeter used the term. Another point: The same Schumpeter nearly destroyed the subject at birth by supposing that every innovation must originate out of some discovery by a scientist or navigator – by people *outside* the business sector; and all innovative projects are successful, because financiers have the uncanny ability to identify the projects that will succeed and reject the projects that would fail. In fact, scholars have found that the great bulk of economic change is the result of innovations, small and large, springing from inside the business economy. The improvement of medical practice is a stunning example. And, as people in business or the professions know, most new ideas are never developed and most newly developed products fail to achieve an appreciable innovation in the industry.

Innovation is apt to be important even from the perspective of an extremely conventional theory of what the economy's structure is and how it works. Production of capital goods is the great employer, as the "Austrian" and Swedish capital theorists liked to suppose; in contrast, consumer good production makes heavy use of capital and relatively little use of labor.[1] Looking at past waves of innovation, such the one in the second half of the 1990s, we see that they achieve big advances in the way capital is used in producing consumer products. Evidently, innovation typically drives down the prices of consumer goods – in other words, it raises the real prices obtainable by capital goods producers. So investment activity is stepped up. Also, wages and labor's share are pulled up. As a result, employment is elevated. The higher the rate of innovation, the higher is the average level of employment. In my country, Washington economists are yearning for a return of such booming economic activity. For me, this conventional analysis is correct – as far as it goes. (The economy is complicated, though. Stepped-up innovation could take an unusual and much less desirable direction: It could cheapen the production of some capital goods, which is what Intel did in the 1990s. At first, that might increase chip-making jobs; but endless advances ahead might ultimately lower chip prices so much as to contract such jobs.)

Innovation is even *more* important from the (radically different) perspective on what a *good economy* is about. A "good" economy – and even the not-so-good economy of the United States these days – is

[1] R. E. Hall, *American Economic Review*, 1980s, Phelps, *Structural Slumps: The Modern Equilibrium Theory of Unemployment*, *Interest and Assets* (Harvard, 1994), Phelps and G. Zoega, 'Structural booms,' *Economic Policy* April 2001, and J. B. Taylor, "A Two-Track Plan to Restore Growth," Wall Street Journal, January 28, 2011.

all about the creation and application of new ideas: Business people, as David Hume would have understood, are imagining new concepts and novel departures. Entrepreneurs, as Friedrich Hayek conceived, are attempting the developing of a new product embodying the new idea, on the hope that sufficient consumers or managers will adopt it. Technical personnel, in the spirit of Francis Bacon, are experimenting with ways of producing the new product. Managers, as Nelson-Phelps modeled them, are using their education to assess the possible value of adopting novel products coming on to the market. Consumers, as Amar Bhidé has described, are venturesome enough to take home some of the latest things seen at the mall. Thus this economy is shot through with the *exercise* and the *expression* of the participants' creativity, their curiosity, their appetite for change, their ambition and their personality. Of course, in nations that are badly missing some of the institutions that would *enable and encourage* such innovation, the economy is not going to be good.

I can imagine you might say, "fine, but with so many good causes to support, why should the Italian government put enough value on your 'good economy' to want to give support to innovation?" I would say that, without such a good economy, the participants cannot have the prospect of a *good life*: for a good life, people need to be stimulated by new developments, to be engaged by new problems, to be enlisted to meet new challenges, to find personal growth in the process and to have a chance – which is all anyone can ask for – to make a difference, to achieve something. (We witnessed outcries of precisely these needs in Tunisia in recent weeks.) As I have been arguing for several years now, a high-income country is not doing justice to the potentialities of its population for self-actualization, selfdiscovery, and inclusion if it allows its economy to lack institutions and attitudes necessary for high economic dynamism.

I can also imagine it being asked whether there is really any link between the dynamism of a nation's economy – the capabilities and the tendencies to innovate – and the human satisfaction and sense of fulfillment in the country. I have spent a lot of time attempting to understand intercountry differences in job engagement and job satisfaction among the high-income countries. To be brief: According to data from the 1990s, among the G7 nations, Canada ranked highest and next came the U.S. and U.K. with Japan in the fourth rank. France was at the bottom and Germany next to it. Italy was in both respects in the middle. Data from the year 2000, which do not include job engagement, job satisfaction was highest in the U.K., next the U.S., then Germany and France, with Italy having sunk to the bottom. These results are consistent with my thesis that where we see among high-income countries boredom and a deficiency of engagement and satisfaction in the workplace, the explanation is usually a deficiency of innovation. On this thesis, Italy is deficient in job engagement and job satisfaction because it is deficient in economic dynamism. Italy would appear, therefore, to be a prime candidate for boosts to innovation. So would the United States, where job satisfaction plummeted in 2004 with the increased overseas competition and decline of innovation, which caused many companies to prune themselves of employees in fun jobs doing forward-looking work: product development, strategic planning and so forth.

Two points are of critical importance in the present discussion. Many neo-Schumpeterians are telling us that, although the great navigators of the Mercantile era and the great scientists of the Enlightenment are no longer with us, the central government of the nation can – and should – recreate the days of Queen Isabella and the more recent days of the space agency, NASA, by instituting government-sponsored research projects in green technologies, alternative fuels, and pharmaceutical research. One drawback of this approach is that in a company placed under a government contract to do research or a research agency of government, radically new ideas – ideas that are "out of the box" – are unlikely to get the ear of the government overseers. And the directions decided on by these well-funded organizations entities may crowd out competing visions. Perhaps the true genius of the modern economies that emerged in the 19th century was that they achieved *mass innovation* by encouraging the diverse business people to come up with new ideas, by requiring that these new ideas "make it" with the public, not the government, and by allowing these ideas to compete for the support of entrepreneurs and financiers possessing a pluralism of beliefs, so that ideas that were suspect because of their great novelty would have a chance.

I have to add that I was surprised to see the reference last week in President Obama's State of the Union Message to the "Sputnik moment" in 1961. He asserted that the outpouring of U.S. government money for research, basic and applied, that was spurred over the 1960s led, with time, to heightened innovation in the business sector. However, But the fact is that, by 1973, the U.S. economy was in the grip of a massive productivity slowdown, which it did not escape until the 1990s. .

The second point is that the Washington economists are nevertheless likely to be right in supposing that fewer business people are going to take the plunge of developing their new idea and, if getting that far, bringing the product to the market when the prospect for prosperity in the future has dimmed with the structural problems that have beset so many western economies. So it makes sense to me that, in Italy and the U.S. as well, the government would voice support for innovation and to throw its financial support into efforts to boost innovation in the economy. The symbolic significance of such a movement could help lift entrepreneurial spirits.

For two years now, I have been suggesting that the state could give a boost to business innovation by introducing into the financial sector new “banks” or other bodies dedicated to financing company projects in the business sector, including the formation of start-up companies, of a demonstrably innovative character.

> I have been moving toward a proposal to establish *banks of a new kind*. It is not uncommon to see financial entities in a country that are dedicated to residential construction or to agriculture or to exports and so forth. This is curious and disturbing because little or no economic dynamism comes from [that]. … There is no awareness among the general public and its legislatures that most of the economic dynamism inherent in the structure of a country’s economy comes from the innovative inclinations of ordinary people making their careers in the business sector! To right the balance, I suggest to every country that its government establish a *corps* of banks that are dedicated to lending to – or investing in – companies in the *business* sector. I like to remind audiences that Germany, with its famous Deutsche Bank, had just such a financial institution serving its business sector during its brilliant

> economic development in the 1880s and 1890s, when the bank backed the new electrical engineering industries.[2]

I stand by this proposal. It will not be a panacea. But I believe it will be a step in the right direction and have detectable benefits.

A concrete version of the idea emerged in subsequent discussions with Leo Tilman. In the blueprint we developed, the state would make an initial capital contribution to a government sponsored enterprise (GSE) and the latter would create a system of new "banks" or other bodies under its umbrella. We came to realize that this financial "system" – the Innovation Finance System – could be loosely modeled after the mission and structure of the U.S. Farm Credit System. Every one of the members of the System would be engaged in "relationship-based" investing in or lending for entrepreneurial ventures of various industries and regions. These entities would be properly chartered and capitalized to reflect risk/return characteristics of investing and lending to the targeted category of entrepreneurs. Through a dedicated funding arm, akin to the Federal Farm Credit Banks Funding Corporation, our System would raise funds in the global capital markets at the relatively attractive rates owing to its status as a government-sponsored enterprise and economies of scale. These funds would be passed onto entrepreneurs at rates commensurate with risks of their projects, as judged by experienced investment and loan officers. Finally, the "joint and several liability" of our System's members, a separate insurance fund that protects debt holders, and

[2] Phelps, "The Justice of a Well-Functiong Capitalism and the Reforms that Will Realize It, Not Kill It," Sarkozy-Blair Symposium, *New World, New Capitalism*, Paris, 8-9 January 2009. The same proposal was advanced in the Letter to the G20 from the Center on Capitalism and Society, sent on March 24, 2009 following the Center's February 20th conference on the crisis.

proper oversight and transparency can all foster well-judged business decisions, rigorous risk management, and properly aligned incentives.[3]

Another version of the basic idea would make available equity financing as well as lending, and the finance extended by the new institution would be concentrated on equity stakes rather than loans. The “bank” in that case might better be called a *fund* for innovation.

I have come to see that it is better to invest in new ventures than to lend. A lender is apt to find that there is no interest rate high enough to cover the losses from the loans that do not work out in view of the other lending opportunities. And even in the case where the entrepreneur and the financier could agree on the terms of a loan, the entrepreneur’s preference to spread the risk might be strong enough to induce the financier to become a partner rather than a creditor.[4]

I would like now to address some of the questions raised by this proposal. One question is what could justify committing the resources of the state for this initiative or other similarly aimed initiatives when there are so many other worthy causes. My answer is that, as I have already said, is that the government owes its citizens, young and old, the dignity of work, the pride of being self-supporting, and the opportunity for realization of talents and discovery of one’s capabilities – and to have these primary goods in one’s own country rather than having to go abroad to get them.

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[3] Phelps and Leo Tilman, “Wanted: the First National Bank for Innovation,” *Harvard Business Review*, January-February 2010, p. 101-103.

[4] Richard Robb adds that in the not unlikely event of a default on the loan, the lender might become the owner of the business and, to run it, need to employ the entrepreneur who started it up. Since that outcome would have costs, a more orderly arrangement, in which the financier begins with an ownership stake, could be preferable for both parties.

Another question is whether this is not a time for the government to spend less rather than more. My answer is that most of the annual outlay of the new financial initiative is an investment that will bring back cash returns. Furthermore, cutting back on government expenditure is not a reliable way to increase employment; it might or might not do any good while costing something in other social dimensions. (I do believe that many initiatives of the welfare state are counterproductive: they sap incentives to work and to take business risks.)

A worry among many economists is whether any investment-type expenditure by the government crowds out other kinds of investment expenditure – more or less dollar for dollar – so that the benefit, if any, is signficiantly offset by the loss of the benefits of some other government investments. My answer is that actions to enhance the attractiveness and financing of innovative projects does not significantly take away from the value placed on the other investment projects or add to the cost of undertaking them. Think of the business investment boom of the 1990s – the internet boom. It may have dented alternative investments (housing etc.) but it did not crowd out such investment enough to block the huge rise of employment.

Many financial people question whether it is a good idea to inject into the financial sector an investment fund for innovation that will do a poor job as compared to the good job that venture capitalists and other private investors do. My answer is, first, that it is not at all clear that venture capitalists do a very good job: they demand towering interest rates, so the most uncertain projects – even if visionary – have little chance. Second, the VC industry is only a tiny bit of the financial sector, so it is preposterous to suggest that the VC industry should be depended upon to do the whole job of supporting a nation's innovation. Third, we must not cling to the highest standards for financing innovative investments when the more important objective is to get a larger volume of innovative investment projects underway by boosting the availability of their finance and reducing their cost of capital. Finally, we should welcome a new investor to the financial sector that, owing to its size, is willing to take risks that are unknown and quite possibly large for the sake of a comparably large payoff. We would welcome a Mickey Mantle to our baseball team in order to have his home runs even if he strikes out a lot. Or, to take another example that may resonate with my Italian friends, we would welcome a Franco Corelli to our opera company even if there are many days when he fails to perform!

To conclude: This is a time of economic crisis for Italy as well as many other countries these days. In most of these countries, if not all, the birth or rebirth of economic dynamism is the key to the prosperity and the personal development of the people. Italy is fortunate that it largely has the economic culture that is required for a *rinascimento* of creation and adventure in the economy. What now needs to be put in place are the institutions that will enable Italy to regain its potential.

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