

“Investing in knowledge: young people and citizens, training and employment”

Talk by Ignazio Visco, Governor of the Bank of Italy,
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When I was asked to speak at the 30th National Congress of the Italian Association of Children’s and Family Court Judges (AIMMF), I certainly did not imagine that it would be one of my first talks as Governor of the Bank of Italy. So I have wondered whether it might not be best to withdraw from the engagement, since the issues one would expect me to deal with in my new role might be thought to be different, more pressing. But the reasons that led me to accept your invitation in the first place have not lost any of their force. The title of this session, “We are born children, but we become citizens”, not only imbues our everyday economic policy efforts with ultimate meaning but also prompts us to examine the structural problems holding our economy back, and to think about schools and education, public-spiritedness and respect for the rule of law, and human and social capital. And that is what I intend to do here today. It means tackling the issues key to the economic and human progress of our country.

The current economic and financial crisis

The economic and financial crisis that began in 2008 has compounded the difficulties that the Italian economy had been struggling with for a decade. Between 1995 and 2007, per capita GDP had grown on average by just over 1 per cent a year, compared to nearly 2 per cent in the euro area. The recession that hit almost all advanced economies in 2008-09 struck more profoundly in Italy than elsewhere.

Even with little or no growth, the low interest rates made possible by the adoption of the single currency and measures aimed at public finance adjustment made the cost of servicing the large

public debt bearable. In recent months, however, the heightened tension in financial markets has made this balance precarious, fueling operators' doubts over the sustainability of Italy's sovereign debt. The measures adopted starting this summer have improved the public finances but are not sufficient to achieve the lasting, structural rebalancing that the country needs in order to return to growth.

Italy's failure to thrive is in good part due to the hesitancy with which the economy has responded over the past twenty years to the challenges of technological innovation, the emergence of new economies in the world arena, and the powerful increase in European integration. Entry into the monetary union did away with the ephemeral gains deriving from the devaluation and imposed greater fiscal discipline on Italy in order to qualify for membership. Boosting growth potential requires wide-ranging measures, including a reform of the institutions responsible for economic governance, to stimulate business activity and encourage sustainable work inclusion, especially of women and youth. The main measures needed have long been perfectly well known and include: heightened competition, particularly in protected service sectors; wider access to risk capital, especially for innovative firms; regulation of the labour market and a social welfare system which, acting together, help reallocate human resources towards more productive uses; and a more efficient civil justice system. There is, however, one further point that is at least as important, namely measures to increase the stock of human capital.

Human capital and new technologies

Economists have always paid heed to the role of education and knowledge in increasing the productive capacity of individuals. More recently, we have come to use the term "human capital" to indicate people's endowment of skills, technical ability and know-how. The term thus recognizes the economic value of this endowment in improving the quality of work, increasing the efficiency of production processes and facilitating the adoption and development of new techniques and products, with benefits to individuals and the system as a whole. This pool of skills and knowledge evolves over time in response to changes in the technological paradigm.

Starting in the 1990s, the rapid spread of new information and communications technologies and their constant advancement have radically changed the nature of the skills demanded by the productive economy. New technologies enable the automation of routine activities that require the simple application of standard skills and can be codified into sequences (however long) of instructions.

The new technologies tend to reduce the demand for labour for all such activities, while they favour managerial and intellectual roles, and, to a lesser extent, non-repetitive manual jobs as well. Where such trends have been more pronounced, they have been of less benefit to those with intermediate education levels, mainly associated with the possession of a standard skill set.

No longer is human capital acquired once and for all at school and then applied in standard fashion throughout one's entire working life. What educators call "competence" has become crucial: namely, the ability to mobilize internal resources (knowledge and know-how) and external resources in an integrated way to cope with often unprecedented and non-routine situations. "Competence" interacts with innovation and enables rapid adaptation to change; together with specialized knowledge, it allows innovation to emerge from the everyday, by effectively combining available resources with known concepts.

These are the inputs necessary to a fundamental change of gear for mature economies, which need to shift away from a model of growth based essentially on emulation and progressive advance towards a technological frontier to one centring on the ability to generate innovation independently, thus advancing the frontier itself. It will be increasingly necessary to cultivate 21st-century skills, namely critical thinking and an aptitude for problem-solving. Traditional areas of knowledge (including languages, mathematics, science, economics, civics, but also history, art, geography, and our great tradition of classical education) will continue to be an indispensable resource, but will need to be integrated within a dynamic context in which receptiveness towards innovation, as well creativity, intellectual curiosity, the ability to communicate effectively, and openness to collaboration and teamwork, will be decisive.

Italy's laggard performance

Italy is lagging behind the main developed countries, both in high school and university education and in the skill levels of young people and the adult population. Italy's low stock of human capital by international standards is a longstanding issue. At the time of national unification in 1861, the adult population averaged less than one year of education as against four or five in France, Germany, the United Kingdom, and the United States. As Giovanni Vecchi recalls in his recent book *In ricchezza e in povertà*, at the beginning of the last century two British historians, Bolton King and Thomas Okey, observed in a volume entitled *Italy Today*: "Education is the gloomiest chapter in Italian social history, a chapter of painful advance, of national indifference to a primary need, of a present backwardness, that gives Italy (next to Portugal) the sad primacy of illiteracy in

Western Europe”.

Since then, there has been considerable progress in education levels, but not enough to bridge the gap. In 2009, according to the latest OECD figures, 54 per cent of Italians aged between 25 and 64 years had earned a senior high school diploma, compared with the OECD average of 73 per cent. The gap was narrower but still substantial for younger age groups: in the 25-34 age bracket, the proportion of Italian senior high school graduates rose to 70 per cent, against an OECD average of 81 per cent. The proportion of children completing junior high school studies has also been rising, gaining more than 10 points in recent years to over 80 per cent. For university education, however, the gap is certainly worrying. Here, Italy seems hard put to keep up with the other advanced countries: again in 2009, the proportion of graduates in the 25-64 age group was less than 15 per cent, or just half the OECD average; amongst people aged between 25 and 34 years, it exceeded 20 per cent, compared to an OECD average of around 37 per cent.

Over the past twenty years, direct testing of reading comprehension, logical and mathematical skills, and the ability to combine pieces of information to solve problems of varying complexity, reveals a similarly worrying picture. At the end of primary school Italian students are at least as skilled as in the other developed countries, but in the later stages of formal education they fall behind. For 15-year-olds, the gap found by the PISA survey carried out by the OECD in 2006 corresponded to around one school year; and although this diminished between 2006 and 2009, it remained significant. The gap reflects severe disparities between different parts of Italy, with the scores in the North slightly above the OECD average and those in the South dramatically lower.

These disparities are subject to various interpretations involving their geographical distribution or the discrepancies between different schools rather than within any individual school. Yet the fact remains that a country like ours, poor in material resources and now lagging on various fronts, should invest in “knowledge”, not “below” or “around” but above the average of other countries with more natural resources. Such deficits are also observed in respect of the skills of the adult population. The international Adult Literacy and Lifeskills Survey (ALL) conducted in 2003 to gauge functional literacy and numeracy together with analytical and problem-solving abilities shows that about 80 per cent of Italians aged between 16 and 65 are unable to apply linear reasoning and draw inferences of average complexity by extracting and combining information provided in written texts that are little more than basic. They are, that is to say, functionally illiterate: they lack adequate reading comprehension, logical and analytical skills to respond to the demands of modern life and work. This is the highest percentage in any of the advanced countries surveyed. For purposes of comparison, the corresponding figure in Switzerland and the United States is 50 per

cent, in Canada 40 per cent, and in Norway 30 per cent.

These deficits represent a milestone, all the more so for a country like ours with our longstanding shortfall in growth. This is why education policies should not seek just to close the gaps with the other advanced countries but must rather aim for a radical reversal of the situation.

Collective decisions and individual choices

In order to accomplish this, there is a need for reflection on the tools society uses to increase the stock of human capital and on the determinants of individuals' educational choices. We must analyze both the places where human capital is developed, namely schools and universities, and the reasons for individual choices that sometimes seem unwarranted in light of the economic returns to education.

Learning and research evaluation mechanisms, greater decision-making autonomy, and the linking of public funding to indicators of quality in teaching and research in universities are recognized internationally as important to the effectiveness of an educational system. The successive reforms in Italy in recent years seem to be a step in this direction, but the effort for improved and more efficient organization has been undermined by the inadequacy of both public and private resources devoted to the accumulation of human capital. And the situation risks getting worse in the current economic climate. In the middle of the last decade, a point in time for which an international comparison is possible, investment in knowledge – approximated by total public and private expenditure on higher education, research and development, and software – amounted to 2.4 per cent of GDP in Italy, as opposed to an OECD average of 4.9 per cent. The capacity of the educational system to absorb and generate new ideas has probably also been constrained by slower generational turnover, which has dramatically reduced the number of young people in teaching positions.

According to OECD estimates for 2009, only 9 per cent of teachers in Italian senior high schools were under 40 years old, compared with 25 per cent in Germany, 34 per cent in France, and over 40 per cent in the United Kingdom and the United States. In the same year, according to the Eurostat database, 16 per cent of university teachers in Italy were under 40, as against 30 per cent in France, 39 per cent in the United Kingdom and 47 per cent in Germany.

Yet despite these shortcomings, the metrics available indicate that education remains a worthwhile investment in Italy. People with more education have less difficulty in finding employment, have

less discontinuous work careers and earn higher salaries. According to the OECD, in 2009 the average earnings gap in the adult population between people with at most compulsory schooling and high school graduates was close to the average for the developed countries, whilst that between the latter and university graduates, although smaller than in the other major countries, was close to 50 per cent (compared to 63 per cent in France, 67 per cent in Germany, 78 per cent in the United Kingdom and almost 90 per cent in the United States). The additional return over and above that from a senior high school diploma of a degree in a scientific discipline is, in Italy, between three and four times greater than that derived from a degree in the humanities.

Yet, at the end of the last decade, 20 per cent of young people between the ages of 18 and 24 with a junior high school certificate had not gone on to any further qualification, about half of young people aged 20-24 with a senior high school diploma had not enrolled at a university, and of those that had gone to university, nearly half failed to complete their degree.

So what are the reasons for this apparent discrepancy between the returns to education and people's educational choices? Firstly, the economic benefits of higher education are not properly perceived. According to the results of a survey for the European Commission this year, scarcely half of young Italians see higher education as advantageous. This is the lowest proportion amongst all EU countries. Approximately two-thirds of Italian respondents recognized that university training does improve job opportunities, but only a third – less than in all the other countries surveyed – expected a gain in terms of higher remuneration.

This lack of awareness exacerbates the consequences of the obstacles (often economic in nature) to investment in education. The strong correlation between family background and educational choices reduces social mobility. Individuals suffer as a result, and so too does society as a whole, which fails to cultivate and use talent emerging from less privileged backgrounds. Learning and integration difficulties are even greater for the children of foreign nationals. By the end of primary school, around a third of them, compared with 2 per cent of Italian children, have already fallen behind the normal education cycle, and the disadvantage is amplified in later years, as is shown by the smaller proportion promoted to junior high school and their greater likelihood of dropping out at the end of compulsory schooling (twice as high as among Italians). In the absence of effective integration mechanisms, our country's stock of human capital thus risks being further penalized by the rapid increase in the relative proportion of young people with foreign backgrounds, which Istat projects to exceed 30 per cent by 2050.

Furthermore, the Italian economy's ability to reward and make the most of human resources

remains poor. Wage differentials by educational attainment are not only smaller than in other countries but are much smaller for younger than for older workers. Entry-level wages are now at the same level, in real terms, as decades ago, and people entering the workforce today appear to be precluded from the income growth registered in the meantime.

This is probably due to the hesitancy – compounded by the financial and economic crisis – with which Italian industry has adapted to the trends that have changed the world so radically. It is possible that the generally inadequate standard of education provided by the school system – at least as perceived by firms – is a factor in the low salaries offered (and the accordingly low investment in human capital). In terms of the labour market, increased flexibility has certainly facilitated the absorption of the very high levels of unemployment registered in the mid-1990s. But while it has sustained the employment of young people, this increased flexibility – together with protracted wage moderation – may have led firms, especially the less efficient ones, to put off investment in R&D and advanced technologies. Indirect evidence of this is the fact that, in the teeth of conventional economic theory, Italy's shortage of the human capital required by the new technological environment is linked to the comparatively low extra return to university graduates entering the labour market.

So far I have concentrated on university education, a key component in the human capital stock of any modern economy, as it furnishes specialized skills that are not readily codified and that form the basis for the further advancement of knowledge and, hence, the technological frontier. Good graduates are produced by good universities, but, above all, good universities are in need of good students who are capable of learning to think critically and creatively to solve problems. Such students are cultivated at the lower levels of the education system, and many recent studies concur that investment in knowledge directed towards the early years of education is the most effective, and that learning deficits at this stage are difficult to make up for in subsequent years.

Human capital and social capital

Investing in knowledge, especially in the early years of schooling, is important for many reasons, not just because of the positive effects on the productivity of individuals. The benefits of education go beyond private financial gain. For instance, better-educated people on average enjoy better health, due also to their increased awareness of the value of prevention and the cost associated with risk behaviors. According to Eurostat, at 25 years of age the residual life expectancy of a male Italian senior high school or university graduate is 58 years, compared with 53 for those with only

compulsory schooling (for women, 62 and 59 respectively); at 65 years of age, the gap in life expectancy is reduced but not eliminated, still amounting to two years for men and one year for women.

The benefits of better education extend to many other aspects of life. Of special significance to this particular gathering is its positive influence in curbing lawlessness. Whilst we do not have a statistical breakdown for Italy, the data for Sweden and the United States show that a higher average level of schooling brings a substantial reduction in the crime rate against both persons and property. Among other things, this results in significant cost savings for the community.

This outcome is the product of various mechanisms. In strictly financial terms – other things being equal – education reduces the incentives for crime by decreasing the gain compared to that achievable through legal means. Furthermore, there is a cultural impact stemming from the enhanced opportunities for socialization of people going to school compared with dropouts. Conversely, an increase in lawlessness in a community or area may reduce the incentives for school attendance for young people who are lured by the prospect of even small but immediate gains and driven by a strong copycat effect.

It is no surprise, then, that it is in social milieus and geographical areas with lower levels of schooling that crime is rife. Nor is it an accident that those same circles and areas have a smaller stock of “social capital”, a factor increasingly recognized as important also to economic development.

A community of educated and socially aware individuals, which is more likely to condemn deviations from legality and to recognize the benefits of cooperation, is in fact also more inclined to subscribe to values and norms that facilitate the achievement of the shared goals with which “social capital” is frequently identified. For our country this is a particularly meaningful concept, whose broad modern acceptance derives from Robert Putnam’s celebrated study of Italy’s regional administrations. It was that study that turned the spotlight on the poorer endowment of social capital in the regions of southern Italy compared to the Centre and North.

In a market economy, social capital plays a central role by lowering transaction costs and so facilitating commerce between economic agents. This benefits the degree of financial development, the average size and innovation propensity of firms, the design of institutions, and, ultimately, the rate of economic growth. In contexts where education, trust in others and willingness to cooperate are limited, vertical relationships characterized by subordination, cronyism and exploitation are more likely to prevail. It is in such conditions that lawlessness can take hold and crime – including

organized crime – spread more easily. The social and economic costs can be enormous.

Some Italian work has used econometrics to gauge the extent to which the North-South development gap can be ascribed to organized crime. Comparing per capita GDP in some southern regions (where crime has taken hold in relatively recent years) and in several regions in the Centre and North (which had statistically comparable baseline characteristics but where organized crime has not become similarly entrenched), it is estimated that the cumulative economic growth of the former in the thirty years from 1977 to 2007 was some 15 percentage points less. The corresponding impact on the development of regions marked by the long-established presence of mafia-style organized crime can be assumed to be greater still. Whilst these are estimates to be treated with great caution, they do give an indication of the relevance of crime to the inhibited development of the southern regions and of the entire country.

How does one go about augmenting a community's social capital? Civic sense, trust, and willingness to cooperate are values that take time to ingrain themselves, and they display considerable persistence over time. Putnam even traces the current regional discrepancies in Italy back to the different political regimes prevailing in the late Middle Ages. Other scholars, however, maintain that the endowment of social capital can be increased – albeit slowly – by working on factors more directly influenced by policy choices.

The role of schools and education is central. There is a strong correlation, for instance, between the literacy levels in the different regions of Italy at the end of the 19th century and the degree of trust in others observed today. Education level is not the only thing that matters, though. International data also suggest the importance of teaching methods: where active participation and teamwork by students is favoured over the traditional hierarchical relationship with teachers, one finds more trust in others and in institutions as well as more cooperative attitudes. Where more horizontal teaching methods predominate, one may find greater willingness to delegate decision-making within firms and less conflict in the organization of labor.

Some concluding considerations

Like other countries in Europe and around the world, Italy is going through a very difficult stage. But our economic problems are only partly the consequence of the severe global recession. Rather, their origins go far back and are rooted in structural characteristics; today's financial troubles reflect the budgetary policies of past years. There can be no illusion that macroeconomic interventions are

capable of remedying these shortcomings, and this is not so much due to their now limited scope for action as to the belief that only by resolving its structural weaknesses can the Italian economy gain a new lease on life. Our economy must be made more inclusive through increased labour market participation, especially for young people and women, by eliminating the needless obstacles to economic activity and the barriers connected with family background.

This is the meaning of the continual calls for the removal of constraints, vested interests, and restrictions on competition and economic activity. The lack of competition curbs output and employment in many sectors, impinges on competitiveness and the innovative capacity of the entire economy, hinders the regeneration of a manufacturing base that is still too fragmented, and prevents talent from emerging. The institutional system must be such as to favour business dynamism, growth, stability and certainty in the regulatory framework, and to overcome the infrastructure deficit, particularly in high-tech sectors. The North-South labour market divide can be overcome through comprehensive regulatory and welfare reform; more decentralized and flexible collective bargaining arrangements could enable the remuneration and organization of labour to be better tailored to actual production conditions. Particular attention should be paid to the southern regions, where structural weaknesses are more acute.

Human capital and investment in knowledge represent one of the key economic policy variables. The economic returns both to the individual and to the community are unquestionable. They are important not only for their direct impact on productivity but also for their indirect effects, which emerge in the interaction between individuals, in the growth of public spirit, respect for the law and belief in the triumph of justice, and the fight against corruption and crime – two major factors curbing sustained and continuous economic growth.

It is clear, however, that despite the great advances since national unification we have not yet made good Italy's historical lag. There is a pressing need for a strong commitment, both in the public and private sector, to invest in knowledge now, in order to break the vicious circle of the small stock of human capital and its undervaluation.

As an economist, I have considered the consequences of human capital for economic development. However, this talk is not intended to offer a mechanical or one-sided vision of the dynamics of this relationship. It would be narrow-minded to think that knowledge is important and should be invested in solely because it can increase our rate of economic growth. Knowledge, learning, can also help to stimulate public spirit and increase social capital, both of value in and of themselves quite apart from the benefits to economic growth. In other words, investment in knowledge

constitutes a crucial factor in social cohesion and welfare.