«Are investments in human capital attractive in Italy?»[1]

(Augusto Palmieri)

The recent evolution of the global economic layout has drawn major attention to subjects such as productivity, the labour market, unemployment, population aging, rising poverty and growth. Among these, one of the most important subjects in the analysis of the productive system of Western economies is human capital. Human capital is a strategic asset in the development of the individual and of society. More specifically, it is the kind of asset that comes from the totality of knowledge, education, working experience and technical capabilities that an individual is able to store during his/her life.

The stock of human capital is the result of an investment. The individual chooses to abandon an income today for a better one tomorrow. The income, which the individual abandons, comes from an employment that the individual could exercise instead of studying. In this case, the wage earned is the opportunity cost for this kind of investment. In order to absorb this cost in the investment, the return must be worth it. More specifically, the future returns of this investment must be high enough to compensate the current costs. These variables are not absolute, and they vary from country to country, depending on where the individual decides to invest. In order to be attractive for these kinds of investments, a country must offer a series of conditions that make these variables match. Unfortunately, it is in the opinion of many experts that Italy does not match these conditions anymore. We will try to understand why.

Let us begin from an ideal case study. Two twin brothers living in Italy find themselves facing two different choices at the end of High School. The first one chooses to enter immediately in the labour market. Let us imagine that he succeeds in finding a job straightaway at a fair wage. On the contrary, the second one continues to invest in his human capital, and chooses to take up a five-year university degree (bachelor plus master). Which one will have taken the most profitable choice? In other words, is it convenient in Italy to invest in human capital?[2]

In order to answer, we have to analyse the conditions related to this kind of investment. Afterwards, we shall compare them to the conditions that Italy offers. Finally, at the end of this comparison, we shall see that, in this particular moment, Italy is falling behind those countries in

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[1] Abstract from the thesis “In Italia conviene investire in capitale umano?”, by Augusto Palmieri.

[2] Moreover, let us make a hypothesis concerning the interest to invest in human capital. In our case, we are presuming that there is only an economic end to this investment. Thus, as far as this analysis is concerned, we must exclude all extra-economic variables from interpretation. However, we hope – and we know – that there is something more than only the economic return to this kind of investment, such as passion for a particular subject, will to pursue an objective no matter its costs, personal gratification, social gratification, etc.

which such a decision is still convenient. The consequences of this dynamic could be very relevant for the overall productivity of the Italian economy.

Historically, the growth of these kinds of investments is also a direct consequence of the evolution of the productive sphere. Not always has a great stock of human capital been necessary to carry out the working activities that the productive sphere required. Except for a large minority of educated individuals, the majority of workers was highly unskilled and owned a low stock of human capital. This because the kind of activity they had to carry out was based more on physical activities than on the intellectual ones. Therefore, we can state that the evolution of human technicality has raised the standards of the stock of human capital required for each worker. Nowadays, the importance of owning a good stock of human capital is not of secondary importance, and this is why this subject is so relevant.

A greater stock of human capital is not only important for the individual, but also for society in its entirety. The individual invests in human capital because this may lead to a better working position in the future, thus, a better wage. Society has also something to earn from the repetition of similar behaviours. In fact, recent studies concentrate on the possible positive externalities of human capital, and have found some significant results in the growth of the amount of trust in a community. This has a positive consequence on productivity, given that the amount of trust in a community may shift economic interactions on a more cooperative side than before, marking a significant growth productivity gains. Moreover, individuals with a greater stock of human capital tend to be more self-conscious and more aware of the risks of some behaviours, such as the exaggerated assumption of alcohol, the assumption of drugs, and smoking. Even though this is not the key to a decisive self-limitation of these behaviours, it may still be a good starting point, and must not be underestimated.

What is more, human capital is far more important for society because of the gain of productivity that comes from the growth of the social stock of human capital and the results of research and development activities. On the one hand, the interactions between individuals create a social stock of human capital which contains all the knowledge and tradition of a community. This kind of stock is a common good which, through the process of socialisation, is at the grasp of every member of the community. On the other hand, the research and development activity is at the basis of productivity, especially for a country with an advanced productive system. When a country is in a path of catching-up, it stimulates its productivity by copying the most advanced technologies from other countries. In this situation, investments in human capital are not necessarily required. However, when a country has filled the technological gap with the leader countries, it is crucial for

it to invest in those activities which foster technological innovation, such as research and development activities (R&D). Human capital is at the basis of R&D. As a consequence, not investing in human capital means for a country with an advanced economy to lose the productivity gain in the long run.

Investments in human capital work out exactly as any other kind of investment. The only problem is that there are some variables, such as the future wages, or the future employability, which are not certain at the time in which the individual decides to make this investment. As a consequence, the first step one must take is the actualization of expected future variables. After that, one can compare the investments in human capital with any other kind of investment, such as the investment in risk-free bonds. For example, if one chooses to invest in foreign bonds, he must proceed with the actualization of the currency exchange rate at the bond's expiration date. It is an educated prediction based on a variable's former trend. In the same way, the analysis of the former trends of wage variables and educated unemployment variables may lead to a good prediction and actualization. The result is the *internal rate of return* of investments in human capital. Through this variable, economists synthesise all of the predictable variables which may concern this investment. What is more, the rate of this variable allows a direct comparison with other choices of investment.

Concerning Italy, it has been estimated that the internal rate of return is on average 8.9%[3]. This performance may seem sufficient. However, at a straight comparison with other OECD and EU countries, one's opinion might change. The UK (11%), Ireland (12,3%), Finland (10,3%), Spain (10%) and Germany (9,2%) have all greater rates of return[4]. This undoubtedly means that Italy presents a devaluation of human capital compared to these other countries. In order to understand the reasons of this devaluation, we must look both the supply of human capital, and the demand of human capital.

The supply of human capital of each individual is relatively low, if compared to other OECD and EU countries. In the second chapter of the thesis, we analyse the supply of human capital in Italy and show how it is concentrated on average levels of stock of human capital. In the shown classification, this means that the majority of the population between the ages of 25 and 64 has no more than a High School diploma. This information would not be surprising, if it were not that the second major concentration is on low stocks of human capital, which correspond to a Middle School diploma. This means that individuals with a university degree (or more) are in Italy the large minority. As if it were not enough, this fact does not even seem to improve in the long run. The

[3] (Cingano & Cipollone, 2009), page 24 table 3;
[4] (Cipollone & Sestito, 2010), pages 90-91;

trend regarding the number of people with a university degree is losing height. For this reason, every year fewer and fewer graduates enter the labour market.

The consequences for the labour market are inevitable. Human capital supply and labour supply are tightly linked. Since the supply of human capital is aggregated around average levels of human capital stock, so is the excess of labour supply on average levels of specialisation. This rigidity in medium-specialised labour supply has had numerous consequences on the Italian labour market. Several times the State has been forced to correct distortive labour market dynamics that would have been dumped on workers' wages due to this rigidity. Given the high rate of unemployment registered in these sectors after 2007, there seems to be no solution to this situation other than removing this rigidity by investing in workers' specialisation. Which means creating the conditions for these workers to invest themselves in their human capital, or to invest directly in it by fostering specialisation or requalification courses.

The Italian vulnerability in the supply of human capital has to face the challenge of the 2020 Europe Agenda. In this strategic layout, Italy is still far from reaching the objectives concerning education and employment. On the one hand, the two major education goals are 40% of graduated individuals from 30 to 34 years old and 10% of school abandon ratio among the youngest (from 18 to 22 years old). Firstly, Italy has at the moment only 22% of graduated individuals in the age field 30-34. It is true that 6 years still have to pass before the expiry of these objectives. However, if it were not that the number of graduates among the young is decreasing, one could think that Italy may still be in time for fulfilling this objective. Not only is the current graduate stock insufficient, but it is also presumed to diminish. Secondly, school abandon among the youngest is still diffused in Italy (around 16%), especially in the Islands (25%) and Southern regions (19%). Even in this case, the extreme slowness that the reduction of this factor presents may leave a dubious interpretation on Italy's likelihood to eventually tackle this problem by 2020. On the other hand, the EU's occupation rate objective is 75% by 2020. The current occupation rate in Italy is 59%. Nevertheless, the current negative economic conjunction may not allow this employment rate to gain sufficient proximity to the EU's one in such a short time.

Furthermore, the demand of human capital pretty much influences its supply. As human capital supply and labour supply, so is human capital demand and labour demand linked. Labour demand is determined by the aggregate of employers. In Italy this aggregate is majorly represented by small and medium enterprises in the private sector, and by the public sector. In the first case, small enterprises do not invest much of their revenue in research and development. The reason is that R&D is too expensive for their cost structure and their productive cycle is more based on a small quality-based scale. The consequence is that this kind of enterprise rather employs a medium-

low specialised labour force. In this way the employer has to pay lower wages and can always, eventually, train the worker on the working spot. In the second case, the public sector is facing a generational problem. Older workers have their job guaranteed by the law, and their wage is linked to their age. Which means that older workers, who possess in average lower stocks of human capital, are better paid than younger ones, who in average have a greater stock of human capital. The difficulties had in employing young workers with a similar starting wage to that of the older workers denoted a rigidity in the public sector. The consequence of this rigidity was youth unemployment in the public sector. In order to tackle this unemployment, the public sector lowered the starting wages of the youngest. The problem was solved, but at a high price. It is a matter of fact now that younger workers, with a greater stock of human capital, are not only less paid than their older colleagues, but do not have the same career prospects either. The general result is a devaluation of human capital by the public sector. Given the amount of people employed (almost 3 million), such a behaviour cannot pass unnoticed in the labour market. Private employers approximated their wage to the public ones. Consequently, the whole labour market presented an aggregate devaluation of human capital that so much influences those who determine the human capital supply through their investment choices.

One final point must be made on wage differentials. It is wage differentials that most intuitively concern the investment choice in human capital. This is not the only variable summarised in the internal rate of return, but it certainly is the most intuitive one. In Italy, wage differentials between a graduated and a non-graduated worker are still not enough to justify the costs of an investment in human capital. This brings to a conclusion. To a low wage differential corresponds an abundance of high stocks of human capital. The same, to a relatively scarce number of graduates corresponds a high wage. If the laws of scarcity and abundance are correct, then the Italian situation is very peculiar because low wages correspond to a relatively scarce number of graduates.

This is a correct portrait of the Italian situation nowadays. On the one hand, a low return in human capital investments discourages investing. Consequently, the human capital supply is relatively average-low. A lower stock of human capital does not allow to foster those activities (like research and development) that usually have the consequence of appreciating human capital. On the other hand, the demand of human capital does not appreciate high stocks of human capital. In this way, it does not provoke a shock in the offer due to a demand shift. Substantially, it copes with the status of the supply. It seems as though the mechanism of human capital appreciation were stuck. Thus, the overall consequence is, unfortunately, the aggregate devaluation of human capital.

The overall conditions of the Italian economy strongly depend on the country's capacity to unlock the mechanism of human capital appreciation. In this abstract, we have analysed several causes which bring to the situation of general devaluation of human capital in Italy. The only way Italy has to invert this trend is by correcting those reasons which have brought to this point.

Firstly, on the human capital supply side, we have encountered a particular trend for the number of graduates in Italy. While for the other OECD countries this trend shows that the number of graduates grows at a decreasing age, this is not entirely true for Italy. The difference between the number of graduates aged 25 to 34 is not that different from the number of graduates aged 35 to 54. This clearly shows that many young individuals do not invest in their human capital. In other words, conditions that should allow this to happen do not entirely exist. Upon these conditions depends the future of productivity. As a consequence, this may be a field for State intervention.

Secondly, the goals of the 2020 European Agenda have been chosen for the specific reason of endorsing productivity for the recent future. Even though Italy has not fulfilled– or has not even got near to fulfilling - many of these objectives, it is still important for Italy to pursue in following them. These goals are for Italy very important points, and their fulfilment could release a good deal of potential in its economy. Raising the number of graduates to a 40% minimum, fighting school abandon rates among the youngest, raising the occupation rate at 75%, is not only what the 2020 EU Agenda suggests, but also what Italy should do to raise its productivity.

Thirdly, human capital supply is linked to labour supply. Among the problems that require solving without delay are the excess of supply for medium-low specialised jobs. It is the State who has to create better conditions to restore investments in human capital from the individuals, or investing directly in the human capital of these individuals. Only through a shift in the supply of human capital may we see a new adjustment in the labour market. As we have seen, the number of graduates in Italy is starting to decrease among the youngest. The gap between Italy and other OECD and EU countries on this point has to be filled again. Otherwise, the consequences for the economy may be disruptive, especially for the productivity in the long run.

Finally, on the demand side, the problems of employment in the public sector and wage differential have a common solution. Only through a greater difference between the wage of a graduated person and the wage of a non-graduated person may the problem in the public sector be also solved. The dynamic now in place in the public sector must be adjusted, tying wages not only to age, but also to merit. In this case, graduates may have the possibility to have a better wage, and this dynamic may be inverted. Moreover, if graduates will be able to have a better wage, then we are at a good starting point for solving the problem of human capital appreciation.

In conclusion, if we move back to our ideal example, we must answer that, for the time being, the first of the two brothers would have made the better choice. However, this does not mean that this has to be the answer forever. Italy should start to create better conditions for the investments in human capital. The overall benefit, from society to productivity, would be very important. Restarting from human capital would be a great achievement for the individual and for society in Italy. The time has come for the individual to reinvest in himself, for society to reinvest in its members, in order to end this moment of negative conjunction and set a stable path of growth.