The Role of Investment in Human Capital in Economic Development

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Dr. Gregory T. Papanikos
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Athens Institute for Education and Research

This paper should be cited as follows:

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Abstract

Throughout history the ‘human’ factor has been the most important resource in the world, which shows its significance in macro and microeconomic levels. To illustrate, for a business to realize its vision and reach its targets, it should have sufficient number of qualified personnel who have been equipped with the required knowledge and skills and have developed the right approaches. In macro manner, the example wouldn’t change; for a country to achieve its optimal level of development, the capital and investment allocated to human is a well-contributing factor. This is because, out of all components of economic development, human capital is the most difficult to find and educate as well as the fastest to adopt in undergoing change. On the other hand, the interest in economic growth, although still an important indicator for developed countries in high income groups, is more important for those who are still developing with middle income levels or lower, since the growth in developing countries is not solely an indicator but also the main source for stable employment and economic environment. As most countries are not able to enhance their growth levels by using orthodox methods such as trade and production for more than a decade now (Dequech, 2007; Bresser-Pereira, 2012), new approaches towards increasing growth as well as development indexes are on trial. The growing interest in human capital, apart from its sociological and welfare reasons, can be a result of this search for new approaches. The aim of this study is to analyze this abstract concept and its impacts on economic environment by analyzing its causalities. The general health insurance system, the abolishment of entrance fees to universities can be named as mainstream methods for investments in human capital, but some different methods for it also implemented such as the microcredits that are supported by KOSGEB (Development and support institute for small and medium-sized enterprises) in past 15 years in Turkey. By examining all those empirical events in Turkey for the last decade, it will be analyzed whether the investment in human capital – beside from its welfare contributions- is actually a contributing factor to economic growth or is it doomed to stay as a tool that is used in political business cycles.

Keywords: Economic Development, Human Capital, Turkey
Introduction

Government actions on the human capital are usually perceived as populist moves; even for some economist it is a tool for managing the unemployment rate and labor market\(^1\), for some, it gives the *level of democracy* and works with *redistribution through human capital*\(^2\) (Ansell, 2008). On the other hand, as the means of increasing growth and development by conventional methods are becoming less and less effective, investment in human capital through education, health and entrepreneurship is becoming popular for developing countries. Since the aim of this article is not to discuss the amount of government’s role in the society, neither libertarian nor paternalist approaches will be held. But instead, the relation between growth and human capital will be discussed in accordance with government interventions and whether they are required or efficient for Turkey’s economic development. First and foremost, the investment in education will be discussed, by examining government policies; how does the abolishment of entrance fees to universities in Turkey affected the labor market participation rates and unemployment will be taken into account. The main drawbacks in skilled labor force, and the areas in which the legislations should focus on will be analyzed. Further discussion on this topic will focus on different types of universities, and the contribution of vocational schools will be discussed, while considering the need for specialized skilled worker in Turkey. Secondly, the investments or interventions in health system is another way of capturing the effect of investment in human capital for Turkey’s and other developing countries. In this part, we examine how and why we observe Sen’s Paradox in some countries while the investment in human capital is success for others and try to derive lessons for Turkey’s case. Finally, the investment in human capital by providing microcredits with KOSGEB will be touched upon. As the unemployment ratio for women in Turkey is lower, this particular case will be focused on gender issues and its interpretations for economic development. Again in this part, the examined problems of female participation will be examined to discuss the efficiency of KOSGEB microcredits. Overall, the interventions by government will be reviewed critically, while the balance of government’s role as a purchaser and informer\(^3\) will be discussed. While still not neglecting the role of government as purchaser, i.e. financing the legislations from the government’s budget for increasing the investment in human capital, the role of government as informer, i.e. providing public knowledge about the lacking or needs of certain sectors such as health, education and entrepreneurship, will be focused.


\(^{2}\) The authors use education as a component of human capital in this part.

\(^{3}\) It is discussed that the government can act as a purchaser through directly financing investment in human capital and as an informer through providing the knowledge about the areas in which the human capital is needed (Davies, 2012). From now on the role as purchaser and informer will be used accordingly.
Background, Methodology, Purpose and Limitations

The paper will use a heterodox method of analyzing the economic development, which is chosen as analyzing the effects of investment in human capital in economic development outcomes. The reason for choosing this topic, as mentioned earlier, to provide an alternative perspective for mostly developing countries’ development and growth parameters as well as their welfare stages and to suggests new ways of creating and implementing policies in that field by showing the shortages of current legislations and policies. The research will consist of qualitative and quantitative methods when the data and cases give opportunity to do so. In the education investments, mostly qualitative data is used, for that it provides with possibilities of using theoretical knowledge with wide discussions. For the health and entrepreneurship with microcredits part the quantitative data is used. In the investments in health sector the simple statistical tools and graphics are applied to examine the trends of the variables such as income per capita or life expectancy. On the other hand, in the entrepreneurship investments, the simple regression models with \( R^2 \) analysis are derived to see the significance and correlation of variables. As the research of the effect of investment in human capital from economic development perspective (normative and positive economics) has its duality, also the investment methods in human capital has its duality in structure (direct and indirect\(^4\)); to minimalize this duality all aspects will be looked over with different examples. The purpose of this research is to provide deeper analysis and connection between the interpretation of human capital in economic development and their reflection to today’s empirical studies considering Turkey, while offering a more human – capital focused model for economic development. The reason for choosing the last fifteen years for the scope of this study is the fact that, each governmental change in office may generally lead to changing and altering the legislations implemented during the period of the preceding ruling party, therefore the period which the current government in Turkey is in power are chosen as the time period. Due to the human condition this research may lead to some ethical dilemmas and conflicts, since for many times the investment in human capital has rather high opportunity cost to bear and analysis may conclude that the investment amount should be decreased. But with adding some normative indicators into the equation and analysis with heterodox economics, the ethical problems could be minimized. The other limitation with the research is the fact that data regarding investment in human capital is rather narrow, and therefore some other measures for the calculation of investment in human capital should be gathered up from different resources, this may lead to inconsistencies in data or the result. But since the quantitative measures will only be used for proving a point or to gather some insight about issues and not as the core of the analysis, this discrepancy may be overlooked or overcome. Delimitations of

\(^4\)The investment in education and health will be taken as direct investments as they are straight methods aiming the human, whereas the microcredits and entrepreneurship will be mentioned as indirect investment.
this research is that there are many literature about heterodox economic development and its relation to human capital, while still offering new areas and perspectives to handle this issue.

Different Aspects of Investment in Human Capital

Although human capital is a wide concept that can be interpreted in sociological and economic perspectives and consists of many areas from preliminary schools to retirement funds, within the scope of this paper only three will be discussed and both normative and positive analysis will be held, to minimize the previously mentioned obstacles of the study. Education, health and encouragement for entrepreneurship are chosen as the components of human capital and the legislations towards increasing the quality and quantity towards them are mentioned as investment in human capital. The reason for limiting the components to those three is the fact that within fifteen years new programs or legislations are implemented in those areas in Turkey. Although, fifteen years are not long enough to capture the full capacity of a program in human capital, the short-term results may show ways of improving the current legislations and give opportunity to create some new ones. For the upcoming parts, the overall obstacles in the examined areas will be mentioned some short-term results of those legislations as well; and a general suggestion will be tried to be constructed by combining them.

Investment in Education

Investment in education for increasing the quality of human capital is a concept started in micro levels –usually family- and then step by step includes macro scaled components. For this cycle to end in a successful and sustainable way for individuals as well as the country as a whole, it is clear that governments should adopt some roles to state education’s importance or provide means for getting higher level education. In line with this responsibility of government, Turkish education system is always under new system trials or program changes, which was no different in the last 15 years. Turkish education system went through some structural changes; “4+4+4 system” became active where the education of students will be divided into 4 year periods which at the end of each period you are eligible for a diploma, and the abolishment of tuition fees for university enrollment and study, the focus of this study will be the latter one. The analysis on this topic will be divided into two main parts; the examination of the legislation and discussions for enhancing the legislation.

Abolishment of Tuition Fees

The legislation of the removal of tuition fee to public universities is applicable to the students whom are studying at education institutions in 2012-
2013 education year\textsuperscript{5}. According to this legislation the government will cover the necessary amount for the education of students until their graduation time comes, which is usually four years for main faculties and two for vocational school\textsuperscript{6}. This policy has the significant economic and social implications; on the social point, the families with lower income has the chance to send their children to universities without making payments and on the economic point, how the government will reimburse that investment or is it necessary for government to act as a purchaser. According to data in World Bank, Turkey’s enrollment to school rates for primary, secondary and tertiary are increasing but to define the relation between this legislation and the enrollment to colleges the data are inefficient. But overall, as Acemoglu (2002) suggests, the increase in enrollment and graduation rates are mostly driven by supply side factors; changes in location or curricula of schools. This legislation may increase the enrollment to universities but whether it has a significant positive effect on growth, should be looked at more deeply.

Obstacles in the Labor Force and Suggestions

First of all, Turkey is a country with a compulsory military service\textsuperscript{7}, thus enrolling to a university may have different reasons than getting the education. When combining the fact that enrolled students cannot be expelled from universities regardless of their attendance or academic results, the suspicion gets harder to ignore. Therefore, the graduation rates and duration is the key component, not the enrollment rates. Furthermore, it leads to the discussion of need for skilled worker –worker with appropriate degree in his/her area- in the labor market. It is a known fact that the newly graduated-unemployment is a major issue for countries with relatively younger population, which indicates that either the labor force in those countries are not demanding skilled worker as they used to do or the areas in which the skilled worker is required are not known by those newly graduates or students enrolling to universities. Therefore, specialization in a single area becomes more important, where the effect of increasing demand for vocational schools took stage. The enrollment to vocational school can be interpreted as a deeper specialization in labor market. From 2008, the amount in vocational schools increased nearly 50\%, while the number of universities overall increased by 38\%\textsuperscript{8}. This means the education sector in Turkey focused on specialization deeper and that it should give more efficient results in economic development perspective. Although the role of government as a purchaser is hard to neglect, the role of it as an informer should not be as well. With more channels to know which areas the

\textsuperscript{5} The information is mainly taken from the official gazette of Turkey.
\textsuperscript{6} For departments that are in English one year of preliminary school that consists of basic English teachings are also included within the scope of this legislation.
\textsuperscript{7} After the age of 18, the eligible men will join the military force for 15 months if not enrolled to a higher level of education.
\textsuperscript{8} The percentages here are calculated by the data for mentioned years from the website of OSYM (www.osym.gov.tr)
labor force need human capital the most, prior to entering into higher education, the future workers can decide on their choice more securely or confidently. The obstacles towards the initial legislation that is discussed that, it did not focus on the main problem for Turkey, therefore -without dropping the current legislation- the government with contributions from universities and institutions should be informing choice to directly aiming the newly-graduated unemployment problem and the skilled-unskilled worker discussion that is borne from it.

Investment in Health

As the population-mostly in developed countries- gets older, the demand for health and the health costs are increased. This is the one side of the development of health economics, the other side is that for every society, health became a differentiating factor for human capital. As the analysis on health investments are more theoretical and historical, this part will only be used to drive conclusions for Turkey’s case. It is shown that most developing countries are faced with Sen’s Paradox investing in health sector. The causes of Sen’s Paradox vary differently; it can be due to a change in political office, a change in income inequality, or implementation of new policies. The two cases are chosen accordingly to their income and development stages and similarities to Turkey in that field, so that their failures and successes can lead to way of improving the current programs in Turkey.

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9 Sen’s Theorem is what he calls inescapable conflict in the collective choice (1970, pp.64- 65): Assume a society with the individual A who is decisive over the choice decision, and that particular individual prefers alternative x to y, whereas the rest of the society prefers y to x. In the decision process, a dilemma for the choice can be observed as, if A chooses x; he violates the liberal (non-dictatorship) axiom, and when he chooses y; he violates the unrestricted domain and self-consistency condition. From the example above, and the example, that is given both in his book (1970) and the article that is published same year (The Impossibility of Paretian Liberal), the choice about reading the book Lady Chatterly’s Lover that has basically same propositions and results, Liberal Paradox concluded that every possible solution set is bettered by some other alternative given liberalism and Pareto Principle.

10 Brazil, India, Ghana, China and Turkey can be mentioned as few.
The Case of India

In the Eighth Five Year Plan (1987-1992) in India, a health reform is supplemented in the economy, where free medical care was supported. The graph above shows that the adjusted net national income per capita levels in that period it was slowing down, then decreasing, and instable. On the other hand, the health outcomes that is chosen as life expectancy was growing but in a slow rate. As Dreze and Sen (2014) suggested, the wrong policies or the inefficiencies in implementation leads to obstacles in India’s development ability. Furthermore, the accessibility to health should be a major concern, mainly in countries that has an urban-rural imbalance of populations and also in providing the health services, where India can be mentioned as one example. The Eight Five Year Plan and implemented free medical care program was not referring to that problem directly and only used as a tool for financing the health services from government’s budget, therefore the sustainability of the outcomes is reduced, as well as the effectiveness of the program. Therefore, this example can be mentioned as a failure as can be understood from the observance of Sen’s Paradox within the period of program.

The Case of China

The Barefoot Doctors Program that was implemented in China during a communism centered political office, which was ended in early 1980s. As in India, China was also a country with urban-rural imbalances and the program was aiming at solving this obstacle in the health sector. However, there is an opposite result from the India’s case. In the duration of the program no significant Paradox was observed.

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1Data is collected from www.worldbank.org
But as can be seen from the figure\textsuperscript{12} above, at the end of the program in early 80s, the economic indicators show negative relation with the health outcomes. The abolishment of the program may have a small effect in this Sen’s Paradox. Therefore, where in India’s case the program was immediately cause a trade-off between the health outcomes and economic development, in China’s case the program was more sustainable—which can be understood from the lack of Paradox during program. Since in Barefoot Doctors Program, the fact that financing was not supported by the government’s budget but by the communes can be a contributing factor. Those facts can also be interpreted as the diminishing role of government as purchaser.

Case of Turkey

Turkey is adopting the general health insurance system where you can reach health care system without any or reduced payment even if you are not employed. This newly adopted system should be analyzed within the findings from previous cases. This program, as in the investment in education system, should be made more focused on the direct problem to reduce the observance of Sen’s Paradox as the example of India. Learning from the experience, in order to sustain a continuous effect for this health intervention, the solutions should not only be monetary help, the accessibility and quality of this service should be improved by assessing the real shortcomings of health sector and services in Turkey and try to include solutions for them with new policies. The sustainability of this legislation should also be increased by making it more self-sufficient and less dependent on government’s budget, since Turkey is a country in mid-income level. For this legislation to become as a contributing factor to development levels as much as socioeconomic outcomes, it should widen its purposes beyond providing free health-care with a limited budget and create strong and goal-oriented outcomes.

\textsuperscript{12} Data is collected from www.worldbank.org
Investment by Providing Microcredits

For almost two decades, countries are trying to find new ways to improve their economic development as well as their economic growth. For countries that have similar economic endowments, they are focusing more on the investment on human capital. Both education and health were primary components of human capital, and solely considering them will be neglecting the indirect investment in human capital. Therefore, the microcredits, and encouragement to entrepreneurship can be one way to capturing final aspect also entrepreneurship levels for such structurally similar countries are becoming one of the key factors for improving their human capital. Schumpeter (1943) foreseen that in the form of a creative destruction entrepreneurship will be the core of economic change and it will start with the individual change and then spread through the whole economy. After nearly seventy years the emphasis on entrepreneurship became clearer and the different approaches towards improving this part of the economy is segmented: one segment is the women’s role in the entrepreneurship. Many researches and arguments are shaped in order to investigate the low levels of participation of women for business start-ups. The special interest in women entrepreneurship is coming from the fact that the recent research shows that the probability of a man becoming an entrepreneur is three times higher than a women’s, and the expected earnings of a women start-up is nearly sixty percent lower than a men’s (Piacentini, 2013). Within the scope of those findings, the investment by microcredit will be examined between 2002 and 2013 in Turkey. The data, which is taken from World Bank Database, is divided into two parts first part (2002-2008) is the period before legislation and last part (2009-2013) is the part where we observe the effects (power) of legislation. The variables and their interpretation could be classified into two parts: first the research aims to examining the relation between labor force participation and employment rates of females (LF-E), second one is the trends in the self-employed female levels. The first analyze will provide insight about the reasons of low participation rates of female in Turkey, and the latter one will lead to a more specific analysis of the legislation.

The Reason for Requirement of a Legislation

The data showed that the female population to total in Turkey is nearly 50% for each year; however, the participation rate of female had a decreasing trend since 2002. Thus, although no significant decrease of female population relative to the total is observed for the selected period of time, less and less women are entering to the labor force in Turkey, which necessitated the requirement for a program to encourage women into business life (see Graph below; Variable: “Participation Rate of Female; % of Total).
The decreases in employment severely effect labor force participation by women, because the decreased amount joins the discouraged worker and not to the unemployed population. Therefore, to improve labor force participation of women in Turkey, policies should focus on this effect and encourage women to enter the business life. Discouraged worker effect is a condition where we observe after a time of searching and failing at finding the proper job, the prospective worker gives up hope to find a job and gets out of the labor force (LF) by not searching or actively holding a job. For women in Turkey, as we see the significance of this effect (see the regression models below), it is clear from the high coefficient, the significance of variables and R^2 in first equation that women are tend to join the discouraged workers and not entering the labor force after a time (if any) of search for proper job. We saw that the microcredit incentives and KOSGEB Act refer to that aim for women to join the labor force by opening their own businesses and therefore can join the LF even if they can not find the proper job, however the significant point from here on is the effectiveness of this policy. Figure shown below states that in the pre-legislation period, the self-employed female rate is decreasing with an increasing trend.

<table>
<thead>
<tr>
<th>Model 1</th>
<th>Model 2</th>
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<tbody>
<tr>
<td>( \hat{\gamma}<em>{\text{Unef}} = -1.24 + 11.7 \hat{\gamma}</em>{\text{Zt}} + 26.6 \hat{\gamma}_{\text{LFt}} )</td>
<td>( \hat{\gamma}<em>{\text{Unef}} = 0.621 + 0.625 \hat{\gamma}</em>{\text{Zt}} )</td>
</tr>
<tr>
<td>(32.4) (2.87) (6.89)</td>
<td>(0.665) (0.244)</td>
</tr>
<tr>
<td>( T = 7, \text{ R-squared } = 0.908 ) (standard errors in parentheses)</td>
<td>( T = 7, \text{ R-squared } = 0.568 ) (standard errors in parentheses)</td>
</tr>
</tbody>
</table>

The table above shows the regression models for female unemployment and discouraged female workers. The equations are used to predict the female labor force participation in Turkey.

<table>
<thead>
<tr>
<th>Name of Data</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>UE_{F,t}</td>
<td>Female unemployment (% of Female LF)</td>
</tr>
<tr>
<td>Z_{d,t}</td>
<td>Discouraged female worker (% of total)</td>
</tr>
<tr>
<td>P_{F,t}</td>
<td>Female population (% of total)</td>
</tr>
<tr>
<td>LF_{F,t}</td>
<td>Female Labor Force Participation (% of total)</td>
</tr>
</tbody>
</table>

The equation for Z_t is given as \( Z_t = P_{F,t} - LF_{F,t} \). Explanations are taken from www.worldbank.org.
The Analysis of the Legislation

After the implementation of legislation in 2009, the indicator shows a sudden jump, which is the usual response in Turkish Economy: a sudden optimism (or pessimism) about the policy. But the trend in self-employed female also suggests that the optimism about the legislation was not sustainable. This insight could give the answer of why Turkish Program of Women Entrepreneurship was not a decisive success. The findings in this part suggest that there is a need for a policy that directed to the discouraged worker effect and an altering in the current policy in that direction as well to achieve sustainability.

When combining the findings above and the current literature available for the encouragement for entrepreneurship, the microcredits provided by KOSGEB are not an off-target program for Turkish economy. The low participation of women to LF can be overcame by giving incentives to women to take place in business life rather than mainstream methods of occupation. But the fact that the problem in the market –the discouraged worker effect– is not considered directly, the efficiency of the legislation may not be maximized. Therefore, with combining the findings in the “Investment in Education”, altering the current encouragement with giving more incentives to the future-entrepreneurs with educational specialization and providing information on enhancing the businesses for keeping the discouraged ones in the LF may lead to greater effects both in welfare outcomes as well as development levels.

Final Remarks and Discussion

For any legislation or reform to show its full capacity, the effects and results should be spread into a large amount of time, and adaptation period. In human capital, the time required is more significant, since as the changes in the sector become enduring its effects may get bigger. The effects of legislations in Turkey may not show its full capacity just yet for this reason, but the examination of those until now can give an insight about making them more
efficient for Turkey’s case, especially by examining the shortcoming of country in those areas. In education, the interventions that we observe are diverge from the initial aim; i.e. sustaining high levels of skilled worker. Furthermore, the necessity of it is also questioned; the specialization in education area becomes more important for the case of Turkey. For health sector, we observe different outcomes in different countries suggesting, increasing growth by investment in health sector is difficult to sustain due to its close relations with Sen’s Paradox. Finally, solving the gender issues in entrepreneurship by providing microcredits did not show its significance for Turkey just yet, for that is not focused on the main problems in high unemployment rates among woman. All those findings suggest that the government’s role as an informer should become more in legislation for Turkey, in order to sustain an efficient legislation with relatively lower contradictory effect in income and expenditures. The fact that the legislations towards human capital are not focused on the main obstacles (newly-graduated unemployment in education, discouraged worker effect in entrepreneurship etc.), they can not reach their highest efficiency in Turkey. Furthermore, though the role of government as a purchaser can not be overlooked, the role of informer should gain importance in Turkey for informing choice. Further studies, should focus on the discussed or found obstacles and try to derive new policies and legislations aiming directly to minimize those, while creating new data sets and modeling for quantitative research by still holding on to ethical issues. Overall, the research on education, health and microcredits showed that if an investment in human capital is not targeting the problems in the sector, such as the urban-rural imbalances in India and the observance of Sen’s Liberal Paradox, the newly-graduated unemployment in developing countries and discouraged worker effect in women LF, the efficiency and sustainability of the legislation decreases. Therefore, the role of government as informer should be increased by aiming at minimizing those problems in the economy while offering new legislations and policies.

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