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Effect of Technology on Active–Employment Policies: Turkey 1980–2018

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Abstract: It is commonly known that technology has a big effect on unemployment and the labor force. In this study, the effect of technology on the the active–employment policies, which are the institutions are actively involved. The question is, how technological development affects these policies and implementation tools, will be analyzed. During the literature review, the primary data will be used. At the beginning the conceptual integrity of the work plan will be created and then it will be discussed in what way the specific active–employment policies are affected in Turkey. The Parameters of the active employment policies of the European Union are examined during the Turkey’s process of being included in the European Union and is treated as an important chapter. The definition and conceptual integrity will be developed in relations to the European Union chapters and the parameters related to the subject will be considered in relation with the technology. In the work plan, firstly the main concepts will be emphasized and accordingly its scope will be analyzed. Later on, efficiency will be studied on the basis of technology and its effects in different fields. As a result of the study, it will be pointed out that sectoral analysis of the subject is required while emphasizing that active employment policies are positively related with technology.

Keywords: Active Employment Policies, Technology, Employment, Three Sector Theory

1. Introduction

As one of the basic dynamics of the economy, employment and unemployment are as old as human history. Those concepts have always been associated with other parameters of the economy. In 1958 the Philips curriculum, which is presented as an empirical study by A.W.H. Philips, shows the relationship between short–term unemployment and inflation. The Okun Law, developed by Arthur Okun in 1962, which expresses the relationship between national income and employment, can be given as an example of the relationship between unemployment and economic parameters (Egri, 2009: p.70).

While there are several studies related to economic development and unemployment, there are also many literature studies about how technology is related to technological development and employment. It is known that there is either positive or negative relationship between the above mentioned economic parameters and the technology. With the same methodology, there are different discourses on how the employment is affected by technology or how is the relationship between those two concepts.

In the early days of the industrial revolution, when it is the case that the labour force will have been replaced by the machines, as a current of thought “Luddism” was arised. The essence of Luddism is the idea of rebelling against the rising technology and machine crushing with the reason that those machines are the reason of their unemployment. And the people associated with this movement were the “Luddites”. Luddist movements became a widespread movement right at the beginning of the nineteenth century (Çakır, 2005).

On the other hand it is also argued in the literature that Luddism provides an illuminating way of reflecting on technological change. We may see in the historical moment of Luddism a movement not against technology per se (though technology was indisputably a key issue), but one that was mounting a protest against changing ways of life in the opening decades of the nineteenth century. (Webster and Robins, 2003: p.6).

When it comes to the twenty-first century, a similar manifestation of people against indispensable development of technology can be regarded as a manifestation of a different transformation period. Nowadays, industry 4.0 transformation has started by industry 1.0 with lightless factories are transformed into a robotic industry where intelligent robots are dealing with the whole process of production by communicating with each. It is reported that a production plant in Germany has the capacity to produce 1400 vehicles with only 6 workers per day. Undoubtedly, this is a major problem, especially in case that employees who are suffering from loss of income who are also expected to buy those products as well.

It is inevitable that social workers will be unemployed if they are working in this area. However, this social formation provides for the emergence of professional transformations as well. Just like the new professions that emerged in the industrial revolution, it is possible to see differentiated professions and the ones that are no longer valid or expired.

Accordingly, this study examines how technological developments affect workforce and employment by keeping in mind that there is an index used for measuring the technological developments.

2. Employment Policies

As it is known that there is a requirement for various employment policies in different periods of time in the whole world and in Turkey as well. Undoubtedly, wars and social events are among the most important factors in determining employment policies. In the transition stages of societies, employment is not often the central issue, but in case that the surplus of labour emerges, it became one of the major topics in the case of social reaction. Particularly in such a time period the topic of employment became one of the crucially important agendas for the policy makers. Notably by the period of industrial revolution, it is seen by the nation states that there are policies common or similar developed for global unemployment issue.

Actually, there are inevitable effects of wars on employment. Although it is necessary to evaluate the labour force in the military procurement and its processes beforehand, it is not the issue of labour force surplus but instead the necessity to the labour force for the remaining population after the war. It is possible to see worldwide policy changes as it is case in the implementation of the model which is expressed as "new deal" after the crisis of 1929 which is known as great depression in the world affecting the whole world. It is known that with the New Deal and the Roosevelt practices during the fight against unemployment in the 1930s, 22% of the unemployment in America came to single-digit figures (Tomasky, 2009).

On the other hand, while there are policies of employment with generally accepted policies, there are also employment policies differentiated by different geographical and cultural influences during different time periods in various regions of the world. Particularly 1980s is a breakthrough for Turkey in terms of economy. When the literature is reviewed, it can be seen that most of the studies regarding employment policies in Turkey are considering Turkey after 1980s. After 1980s, by abandoning the import substitution approach, Turkey has given importance to open economy, the free movement of goods and capital and the development of export (Oz, 2018, s. 11).

In the light of the developments in Turkey after 1980s, there has been both social and economic developments differently. There is a transition period from labor-intensive industry to the capital-intensive industry, and the industrial movements that had

started in the 1950s were maintained as well. Following the First Five-Year Development Plan published and implemented in 1933 in the pre-1980 employment policies, it is possible to see the decisions and implementations for the implementation of the following policies until 1980. A summary of the policies expressed in development plans, especially before the development of active employment policies, is mentioned below:

- *The growth of investment volume*: It is emphasized that both domestic and foreign investments will directly positively affect employment as well as economic growth.
- *Slowing down labour substitution instead of labor-intensive investments*: It is emphasized that capital-intensive investments should be slowed down by policymakers in a specific planning.
- *Supporting the construction sector to expand the urbanization*: This means that Turkey is passing through a rapid urbanization period. Therefore, it is emphasized that Turkey is in an important transition period and the construction of residences or work plants should not be restricted and instead it should be supported as well.
- *Support for employment-enhancing sectors*: It is emphasized that the sectors that support employment and that are in need of labour should be supported intensively. Industry projects that will evaluate and increase agricultural products in the first place should be supported.
- *Supporting exports*: In this case, it is stated that projects aimed at producing and dispatching to other countries according to their requirements and demands should be supported in accordance with an open economy other than the production for the materials used and needed in the country.
- *Services and Training Sector Planning*: Beyond the fact that the services sector is gaining importance in this market, training planning is emphasized. It is stated that in the fields that the country needs, it is necessary to set an education plan for the training of the workforce.
- *Prevention of open unemployment*: During the transition period from agriculture to industry, it is emphasized that urbanization will be implemented in a functionally planned manner and a larger relative structure than urbanization will prevent open unemployment.
- *Supporting according to population density*: The emphasis is on promoting the agricultural area industry when more than half of the total population is still in agriculture (rural area). Agriculture is an important parenthesis for employment. There are many positive factors in supporting the industry based on agriculture. These are:

- Reducing the speed of urbanization and the problems with urbanization,
 - Strengthening local governments,
 - Allowing fair distribution of income,
 - Increasing the efficient use of agricultural land, In agriculture, the current deficit is reduced by decreasing loyalty,
 - Reducing open unemployment, increase employment and labour force participation.
- *Reducing the rate of unemployment by “labour mobility” (Yalcintas, 2011: p.44):* As it is the case of Germany where they requested large amount of labour migration have requested from Turkey, however, is the labor for countries of the workers a sense of labour recruited from other countries also will provide partial reduction of the portion of employment it should be encouraged. It is envisaged that the provision of capital flows and the return to the country will also contribute to the opening of new investment opportunities and thus new employment areas.
 - *Employment incentive measures:* In this context, it is emphasized that all kinds of employment oriented projects should be included in the scope of incentives.
 - *Regulation of related legislation:* It has been emphasized that the legislator should take the regulatory measures for the working life and the work conditions should be regulated in order to positively affect employment and the facilities (Gokce, 1985: p.165).

It has been compiled from the above–mentioned policies in the development plan policies for Turkey. Apart from four five–year development plans put into practice until 1980, a very different period began after the 1980s. With the results of the free market open economy and the January 24 decisions instead of imported substitution, the labour market and employment policies with the state have become a big turning point (Karabulut, 2007: p.32)

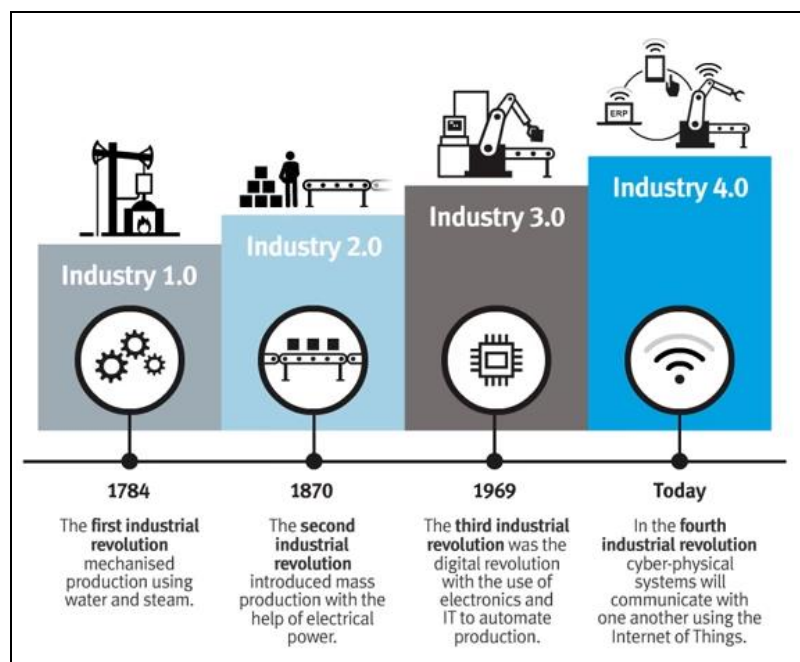
Employment policies emphasize entrepreneurship based on low labour cost for free wage and export in this period, but unemployment is negatively affected by İŞKUR's implementation of active employment policies in 1988.

Active employment policies are the policies that the state implements for employment in the policy maker's practice. This area is the most common institutions İSKUR for Turkey. Organizations such as KOSGEB, TOBB and other ministries are also important institutions related to the issue. Particularly in technological developments, these institutions, which organize training by which the workforce acquires professional knowledge and skills that

should be possessed by the workforce, provide considerable contributions to employment within the framework of active employment policies. Legislative arrangements are also part of active employment policies in the context of establishing private employment bureaus. An important decision taken by the state within the scope of privatization and the agreement signed with the World Bank in 1994 has also been the determining factor in regards to active employment in terms of institutions.

3. The Effects of Technology

In the history of economics, we see that the development of the economy has shifted from the hunter-gatherer society to the agricultural society, then to the industrial society and then to the information society (Oz, 2018: p.48). Technological developments, along with the industrial society, have come to the fourth industrial stage with different technological applications such as mechanization, followed by the use of electricity and digitalization, followed by the use of computer and internet, and finally the third generation industrial revolution and finally humanoid robots, artificial intelligence, virtual reality.



Source: Festo Training and Consultation..., 2018)

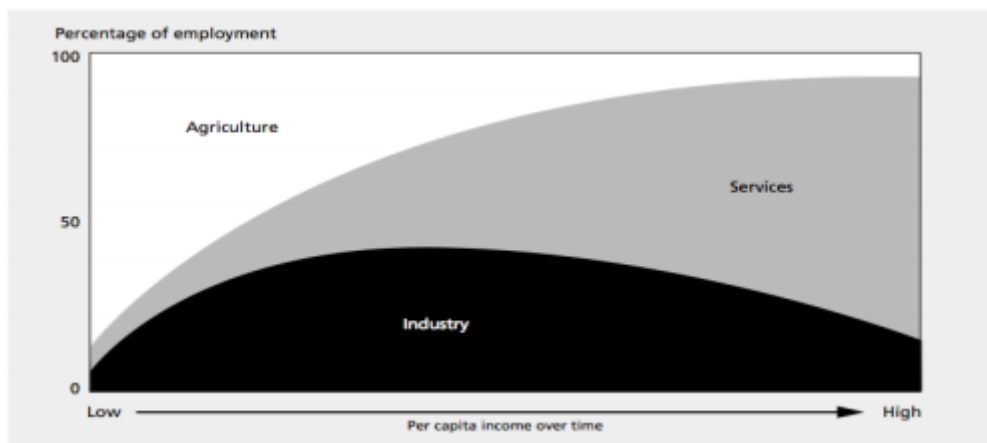
Figure 1. Industrial Revolution Development

**Table 1. Three Sectors of National Income
According to Developing and Developed Countries**

GDP Comes From, %:	Agriculture Sector	Industry Sector	Service Sector
Developing Countries	20	23	57
Developed Countries	5	25	70

Source: (Öz ,2018: p. 19).

It is stated that the development level of the countries and the usage of the technology are parallel to this transformation. This belief is explained by three sector theories. It is expressed in the three sector theories that the developing countries and the national income in the developed countries are recorded in the agricultural services sector (Oz, 2018: p.19). In this context, there should be a connection of unemployment to the developing and developed countries of the same sectors in accordance with the Okun Law, which is linked to national income in employment (Soubotina and Sheram, 2000: pp.51–55). This relation is illustrated in the graphic below:



Source: (Dzhain, 2012: p. 15).

Figure 2. The Relationship Between Employment and Per Capita Income

It is seen that the use and development of technology and the sectoral transformation of employment are inevitable. As mentioned above, a situation requiring a ludist approach can be considered. However, contrary to the thesis of Karl Marx, technological developments in the short term are affecting employment negatively, but there is a view that there will be a rebalancing in the medium and long-term (Zaim, 1997: p.52).

On the other hand, a concept which is expressed as technological unemployment (Ekonomist, 2018) is accepted in the types of unemployment. It is also stated that unemployment should be considered as a variable independent of other economic parameters, with detailed studies on the reasons for unemployment in the struggle with unemployment (Yalcintas, 1996: p.167). Hence the growth of a policy like active employment vs. inflation. It can be concluded that it should be perceived as a way to ensure the positive result of pure employment, not with the parameters. It is emphasized that in the sectoral basis, the same thinking, that is, employment should be examined and addressed alone.

4. The Interaction between Active Employment Policies and Technology: The Case of Turkey

Active employment policies are distinguished by the way and means of application from classical and passive employment policies. The concept and description were first made in 1948, although the active idiosyncratic in the concept of active employment policy was put forward as an intentionally introduced concept of low wages. Gesta Rehn and Rudolph Meidner have expressed the first time as a social democratic strategy for realizing the full employment objective that inflation is under control for the active employment policy (Thomas, 1996: p.698). As mentioned above, they are related to inflation rather than national income. In the active employment policy, there is a contrast to the expression of the Philips Curve for the short term.

OECD identified employment policies in seven main groups. The table below is shown by active and passive distinction from these policies (Asa and Turnham, 1994: p.23).

Table 2. Active Passive Employment Policies

Policy	Active/Passive
Consulting and matching of the Public Sector	Active
Occupational training programs	Active
Private sector employment subsidy	Active
Youth entrepreneurship policies	Active
Disability-oriented employment policies	Active
Unemployment insurance	Passive
Early retirement	Passive

Source: (Biçerli, 2005: p. 4).

In general, although technological developments affect employment with negative aspects as mentioned above, the situation is different when the subject is related to active employment. As it is mentioned in the table 2, the effects of technological developments for each area should be evaluated separately. The situation being reviewed for Turkey in 1988 with a reputation in any field is required to obtain a detailed their contribution to employment in the first five steps mentioned above.

Both the consultancy process and the mapping process can be done in a short time and in a short time with the help of the portals which are written to the consulting and matching of the KAM, İŞKUR or the privatized private employment bureau with technical software. This will positively affect employment, as it will reduce the number of unemployed who have not yet responded to the job during the reference period.

It is also known that technological developments will positively affect the development of vocational training programs and new professions. As mentioned above, the formation of big data in order to qualify the qualifications of both the new professions and the existing professions will have very positive results and shorten the job finding process. This will contribute positively to employment, as it will reduce the likelihood of seeking and finding a job.

The fact that the employment subsidy for the private sector is weighted by supporting the projects on value-added products, the knowledge that technology-based direct investments produced in universities, technoparks and research and development centers are supported, and the share of projects supported by business ideas and unemployed in the labour force It is useful to note that technology directly affects the positive direction.

Although the special employment support given to young people, disabled people and even women is not directly related to technological development, the support of institutions such as KOSGEB as new entrepreneurship and especially the support given to high technology and knowledge-intensive sectors that are added value affects employment positively.

5. Conclusion

In the light of the positive developments expressed, it is necessary to put the data belonging to each domain in order to measure the technology even if it appears that it affects the active business policies positively. As an index of technological

developments, there are parameters set out by the International Telecommunication Union (ITU) (ICT development index, 2018). In order to obtain a statistical clarification, it is necessary to carry out a study in which the role of active employment in the change of employment in the sectoral and regional sense should be taken as dependent variable and the data of ICT development index should be taken as independent variable.

To sum up, in this study as a result of the literature review it is underlined that active employment policies are positively affected by technological developments. However, it is important to note that one another benefit of the study is to set out regression analysis by using the regional and sectoral data which is received. It is expected that such an analysis will be leading the way for future studies related to the interaction between technology and employment policies.

References

- Biçerli, M. K. (2005). Aktif istihdam politikaları işsizliği azaltır mı?. *Çimento İşveren Dergisi*, 6(19), pp.4-15.
- Çakır, S. M. (2005). Ludizm, işçi sınıfı ve tarih hep ileri akar. *Sendika.Org*. Retrieved from <http://sendika62.org/2005/08/ludizm-isci-sinifi-ve-tarih-hep-ileri-akar-s-murat-cakir-4163>.
- Dzhain, N. (2012). Development of the tertiary sector: A comparative analysis between BRIC countries and select developed economies.
- Eğri, T. (2009). İşsizlik ve ekonomik çıktı ilişkisi: Mısır için okun yasası analizi. *Journal of Yaşar University*, 13/49, pp. 68-78.
- Ekin, N. (1971). *Gelişen ülkelerde ve Türkiye'de işsizlik*. İstanbul: İ.Ü. İktisat Fakültesi.
- Ekonomist (2018). Retrieved from <https://ekonomist.co/akademi/issizlik-turleri-6722/>.
- Festo Training and Consultation Documents, Industry 4.0 and Change. Retrieved September 2018, from https://www.ibm.com/internet-of-things/tr-tr/iot-solutions/iot-manufacturing/?cm_mmc=Search_Google_-_MEA_Watson+IoT+forManufacturing_MEA_-_EA_TR_-_+industry+4.0&cm_mmca1=000032LB&cm_mmca2=10005255
- Gökçen, A. M. (1973). Türkiye'de istihdam politikası. *İstanbul Üniversitesi İktisat Fakültesi Mecmuası*, 33(1-4).
- International Telecommunication Unity, ICT development index, Retrieved from <http://www.itu.int/net4/ITU-D/idi/2017/index.html>, s.e. 3 Eylül 2018.
- Janoski, T. (1996). Explaining State intervention to prevent unemployment: the impact of institutions on active labour market policy expenditures in 18 countries. içinde *International Handbook of Labour Market Policy and Evaluation*, Edit: Günter Schmid, Jacqueline O'Reilly ve Klaus Schömann, Edward Elgar, Cambridge, 697-723.
- Karabulut, A. (2007). *Türkiye'deki işsizliği önlemede aktif istihdam politikalarının rolü ve etkinliği*. (Basılmamış Uzmanlık Tezi) , İŞKUR. Ankara.

- Koç, G. (2015). Türkiye ekonomisi 1980–2010: Dışa açılma, dış ticaret, büyüme ve işsizlik. Retrieved from. https://www.researchgate.net/publication/281178687_Turkiye_Ekonomisi_1980-2010_Disa_Acilma_Dis_Ticaret_Buyume_Issizlik.
- Öz, S. (2018). *Multilateral trading system*. İstanbul: Beta Yayınları.
- Öz, S. (2018). *1980 Sonrası Türkiye’de maliye politikalarının gelir dağılımı ve sosyal adalet ile ilişkileri*. İstanbul: Beta Yayınları.
- Öz, S. (2018). Income inequality under technological transformation: Three sector analysis, political, legal and economic conditions to ensure security in Europe, Polond, p. 19.
- Sohlman, Å., & Turnham, D. (1994). What can developing countries learn from OECD labour market programmes and policies?.
- Soubbotina, T. P., & Sheram, K. (2000). *Beyond economic growth: Meeting the challenges of global development*. World Bank Publications.
- Tomasky, M. (2009). Unemployment in the 30’s: The real story. *The Guardian*. Retrieved from <https://www.theguardian.com/commentisfree/michaeltomasky/2009/feb/09/obama-administration-usemployment-new-deal-worked>.
- Webster, F., & Robins, K. (2003). *Times of the technoculture: From the information society to the virtual life*. Routledge.
- Yalçıntaş, N. & Tuna, O. (2011). *Sosyal siyaset*. İstanbul: Filiz.
- Yalçıntaş, N. (1966). *Türkiye’nin Sosyal Büyümesi*.
- Zaim, S. (1997). *Çalışma ekonomisi (10.b)*. İstanbul: Filiz Yayınları.