ANALYSIS OF SKILLS-MISMATCH IN TURKEY - SUGGESTIONS FOR VOCATIONAL EDUCATION AND TRAINING POLICIES

TÜRKİYEDE BECERİ UYUMSUZLUĞU: MESLEKİ EĞİTİM VE ÖĞRETİM POLİTİKALARI İÇİN ÖNERİLER

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ÖZ

Bireylerin sahip olduğu beceriler ile işgücü piyasasında ihtiyaç duyulan beceriler arasındaki farka beceri uyuşmazlığı denmektedir. Manpower Group'un 2019 yılında yayınladığı Yetenek Açığı Araştırması'na göre Türkiye'deki işletmelerin %54'ü aradıkları kalifiye işgücüne erişememektedir. Bu durum işsizlik ve verimsizlik gibi sorunlara sebep olmaktadır. Doğru tasarlandığında piyasada eksik olan beceriler işsiz bireylere mesleki ve teknik eğitim ile kazandırılabilir. Fakat bunun için öncelikle piyasada eksik olan becerilerin tespiti gereklidir. Bu çalışmanın amacı işverenlerin çalışanlarında ve Türkiye işgücü piyasalarında eksik olduğunu düşündükleri becerileri tespit etmektir. Çalışma gelecekteki mesleki ve teknik eğitim politikalarına ışık tutmayı hedeflemektedir. İşverenlerin bu alanlardaki fikirlerine, 2016 yılında Sanayi ve Teknoloji Bakanlığı'nın Türkiye Bölgesel ve Sektörel Verimlilik Gelişim Haritalarının Oluşturulması Projesi kapsamında 10063 işletme ile gerçekleştirdiği anket çalışması aracılığıyla erişilmiştir. Makale ilk olarak günümüz Türkiye İşgücü Piyasalarının ve sunulan mesleki ve teknik eğitimlerin durumunu anlatacak, daha sonra anket sonuçlarını sunacak ve analiz edecektir. Son bölümde ise bu bulgular daha önce yürütülen farklı çalışmalar ve veriler ışığında tartışılarak gelecekteki mesleki ve teknik eğitim politikaları için önerilerde bulunulacaktır.

Anahtar Kelimeler: *Türkiye İşgücü Piyasaları, beceri uyuşmazlığı, mesleki ve teknik eğitim*

ABSTRACT

The difference between the skills and the skills needed in the labour market is called skill mismatch. According to the Talent Shortage Survey published by Manpower Group in 2019, 54% of businesses in Turkey do not have access to the skilled workforce they are looking for. This causes problems such as unemployment and inefficiency. When designed correctly, the skills that are missing in the market can be gained by vocational and technical training to unemployed individuals. However, in order to do this, it is necessary to determine the skills that are missing in the market first. The aim of this study is to identify the skills that employers think are missing in their employees and in the Turkish labor market. The study aims to shed light on future vocational and technical education policies. Employers' opinions on this matter are reached through Ministry of Industry and Technology of Turkey in 2016, for their own project of Sectoral and Regional Mapping of Productivity and Development in Turkey via a survey conducted on 10063 enterprises. This paper will first analyze the current situation in Turkish Labor Markets and Vocational Education and Training Policies, followed by the presentation and analysis of survey results. In the end, these results will be discussed in light of other data and research done in this area.

Key Words: *Turkish labor markets, skills mismatch, vocational education and training, VET*

INTRODUCTION

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In 2019, 54% of employers in Turkey could not find qualified labor force they are looking for according to Manpower Group's Talent Shortage Survey (2018). In other words, 54% of positions in Turkey are either occupied with workers who are not qualified for the job or not occupied at all. This is especially interesting when Turkey's relatively young population is considered. Turkey does not suffer from an old labor force with dated skills and resistance to vocational trainings as they get closer to end of their career. On the contrary, Turkey's young population emerges as an opportunity. New graduates bring most up-to-date innovations and recent skills from universities to the labor market. Even if new graduates lack skills to find a job, they show more willingness to VET participation as they are at the beginning of their career (Atkinson & Stanwick, 2016). Investing on vocational skills seem viable when there are long years of working ahead. Turkey has energy and flexibility of youth in its labor market.

Yet, throughout 2019, unemployment in Turkey floated around 14%. For individuals between ages of 15-24, unemployment was a striking 27,6%(TÜİK, 2020). In other words, 27,6 percent of graduates who are recently introduced to the labor market did not get the education or skill level required by the labor market. Considering that this is the highest percentage point between all age groups, we can deduce that youth cannot compete against and replace old and experienced. This does not necessarily mean these new graduates are under-skilled. The case might be that these individuals are over-qualified and over-educated who cannot compete with old workers in terms of wage, or simply who seek for job satisfaction and refuse to occupy low-skill positions. In either case, there is a miscommunication between demand and supply sides of the job market.

The gap between skill-level a position requires and skills that a worker has is called skills-mismatch. In a labor market that suffers from skills-mismatch, employers cannot find workers who satisfy requirements of the position. In an over-qualified labor market, employers might find labor force unaffordable. In an underqualified one, they might not find labor force they need at all. These mismatches lead to problems such as inefficiency or under-usage of production capacity within firm, as established in literature (Miner, 2014; Zira, 2016).

Workers on the other hand, cannot find jobs that they can do with their skills. It might be because they are under-qualified and cannot find a job, or because they have high expectations and cannot find a satisfying job that offers wage in their mind. Regardless of the reasons, in such cases, individuals will be unemployed and unsatisfied.

On macro level, enterprises cannot reach their full-potential. They lack their desired work force and talent. This breaks the innovative power and production capacity of enterprises. The skills and potential of unemployed will remain untapped and unused. When employers and employees cannot find each other, an economy is not reaching its full potential. In Turkey, employers cannot find employees they are searching for in the labor market, and unemployed cannot find jobs they can do with skills they have. These point to a skills mismatch problem in Turkish labor markets.

When used right, VET can upskill or re-skill disadvantaged and unemployed populations, help them to enter labor market, find a job and become productive with their newly acquired skills instead of a being a burden on the social system. On the other side of the story, finding skills they are searching for becomes easier for employers with the new supply of skills to the market.

Enterprises can increase their production capacity and efficiency. This requires a precise analysis of labor markets to find answers to two questions; 1) who are the unemployed and 2) what should VET train unemployed on to help them find jobs?

As repeated in literature, one of the best ways to understand skills missing in the labor market is to get feedbacks from the sectors (Miner, 2014; CEDEFOP, 2015). This is also one of the major problems in Turkish labor markets. It appears that enterprises cannot communicate with either formal education to shape vocational and technical high schools or VET organizations such as İŞKUR and İSMEK effectively. According to a CEDEFOP report (2017), education and training curricula of these VET organizations are decided centrally in Ankara instead of getting feedbacks from sectors and enterprises. Such a mechanism is not likely to solve either skills mismatch problem or the growing youth unemployment.

When policy makers decide without feed backs from field, they often aid the symptoms or non-existent problems and miss the real issue and its causes. Apparently, there is a misconception among Turkish VET policy makers that increasing average years of schooling helps to alleviate skills-mismatch problem, decreases unemployment and increases productivity. However, a quick look at the statistic will show that higher education graduates constitute the second largest unemployed group by education level in Turkey (TÜİK, 2020). More years in education does not increase employment chances of graduates. It is either skills acquired in higher education is not demanded as much as it is supplied, or employers cannot come to terms with higher education graduates to bring their skills aboard. Whatever the reason is, it is a lack of communication between formal education and sector.

Feedbacks from sector might show unexpected problems. In 2006, European Parliament and Council of the European Union recommended France to focus its VET efforts onto soft skills rather than technical skills. This recommendation was based on the labor market analysis of France, surprisingly uncovering that most of the disadvantaged groups in France were unemployed not because they lacked vocational skills, but because they lacked soft skills such as expressing themselves on job interviews, presentation skills, speaking native language, basic math and so on. This shift in focus of VET proved a huge success for France (Centre Inffo, 2016). As seen in the example of France, feed backs from sector or in depth analyses of local labor market might reveal missing skills or disadvantaged groups that would not be revealed otherwise.

Table 1: Related Literature Review

Author(s)	Scope/Data	Topic	Findings for Turkey
Galasi, 2008	Data on 25 countries, collected between 2004 and 2006	Estimation to educational mismatches across countries	-1.4% of workers are properly educated for their positions -27.9% of workers are under-educated for their positions -70.8% of workers are under-educated
Allen and Van der Velden, 2009	16 REFLEX countries between 1999 - 2005 and 5 HEGESCO countries between 20002 - 2008	Experiences of higher education graduates in labor market five years following graduation	- Higher education graduates search jobs for more than 6 months on average. - 10.8% of graduates are unemployed 5 years after graduation. - 30% of graduates are hired below their skill level.

OECD Employment Outlook 2011	OECD countries, South Africa and Switzerland	Employment dynamics across OECD countries for 2011 calendar year	- Over-qualification is 25.2% on average. 40% in Turkey (third highest across all countries). - Under-qualification is 22.2% on average. 2.8% in Turkey (lowest across all countries).
SETA, 2012	Interviews with 107 companies and surveys with 2018 companies in 2012	Analyzing needs, problems and current dynamics of Turkish labor market	- 37.1% of employees cannot find workers with vocational skills. - 23.6% of employers cannot find workers with vocational experience - 57.4% of employers think they will need professional and technical skills more in the following year -76.7% of employers say finding right worker is getting harder every year
Aşık, 2013 (TEPAV)	TURKSTAT 2011 Household Labor Force Survey	Estimation of under-employment in Turkish labor markets	- 29.9% of higher education graduates do not need higher education diploma for their job. - 8.8% of higher education graduates work as unqualified workforce. - 47% increase in under-employment between 2004 and 2011
Kurnaz, 2014	Data from TURKSTAT Household Labor Force Surveys between 1988 and 2014	Effect of higher education on employability	- Over-education rate among young higher education graduates rose from 38.3% to 54.0% from 2004 to 2014 - Graduates who suffer the most from over-education work in customer services and other service sectors.
Filiztekin, 2015	TURSTAT 1994 and 2002 Household Budget and Spending Surveys	Analyzing causes, consequences and extent of under and over-education in Turkey	-Over-educated portion of the population rose from 20.3 to 24.6% from 1994 to 2002 -Properly educated portion fell from 61.9 to 60.7% -Under-educated fell from 16.5 to14.7%
Aktaş, 2017	İŞKUR data for Eskişehir Province between 2009 and 2015	Relationship between unemployment characteristics and open positions	-Open positions require secondary education and lower -Most open positions are blue-collar jobs such as machine operator or technician

As seen in Table 1, our literature review suggests that the major problems in Turkish labor markets are over-education and over-qualification. Overall trend appears to be an incline on over-education and qualification. When we look for the literature on skills missing in the labor market, apart from SETA's report (2012), we could not find any researches. Even though SETA's report is not specifically on skills missing in Turkish labor markets, it suggests that skills that employers lack the most appear to be professional and technical skills.

We want to contribute to thThe aim of this paper is to analyze the feedbacks from enterprises that could potentially guide future VET policies and focus on trainings that could actually help both unemployed and employers. We think that focusing on policy recommendations derived from the feedbacks of enterprises can contribute to the existing literature on the skills mismatch problem in the labor market.

METHODOLOGY

This paper uses the data retrieved from Turkey's Productivity Development Map Project (Türkiye Verimlilik Gelişim Haritası Projesi), which is undertaken by the Directorate of Productivity in The Ministry of Industry and Technology of Turkey in 2016 (VGM, 2018).

Based on the arguments above, the paper makes extensive use of the surveys from 10,063 enterprises, which represent 218,193 enterprises registered in the Enterprise Information System of the Ministry of Science and Technology (Girişimci Bilgi Sistemi).

Sample size is adjusted to represent all small scale (1 – 19 employee) enterprises registered in Enterprise Information System at 95% significance level with a ±7.5% confidence interval and all large scale (20+ employees) enterprises at 80% significance level with a ±7.5% confidence interval.

In this paper, answers of participant enterprises will only be analyzed on scale-level segregation. Below is the table showing the sample used according to their scales.

Table 2: Sample According to Enterprise Industry

Small Scale (1 - 19 employees)	Large scale (20+ employees)	Total
6724	3339	10063

Source: Turkey Regional and Sectoral Productivity Development Maps Creation Project

Data Collection

Turkey's Productivity Development Map Project conducted a detailed 109 question survey for its data collection, covering broad areas from employee profile, capital structure, resource efficiency, technology and innovation, production network, and executive and organizational structure (VGM, 2018).

In this research paper, only three questions of the survey will be used. Questions used for this research are separated under two parts. Two questions in the first part are related to employers' opinions on skills their employees have. The question in the second part asks opinion of employers on current status of Turkish labor market.

In all three questions, participants indicate whether they agree or disagree with a statement which has a positive tone. If they disagree with the statement, they are asked to indicate the problems they are suffering from. In essence, questions could be separated into two, a binary question that leads to a secondary question if picked "disagree" option. These secondary following questions are "check-all-that-apply" or CATA type of questions.

Data Analysis

The Turkey's Productivity Development Map Project Report offers a ±7.5% confidence interval at 95% significance level for small scale (1 – 19 employee) enterprises and a ±7.5% confidence interval at 80% significance level for large scale (20+ employees) enterprises for the survey's capacity to represent 218,193 enterprises registered to Enterprise Information System (VGM, 2018). These confidence intervals are for the survey as a whole, including all 109 questions enterprises answered. Since this paper focuses onto a specific part of the survey instead of its whole, it is possible to narrow the confidence interval down at higher significance levels by analyzing questions picked for this work only.

The three questions picked for this research has two phases as stated before. In all three questions asked, enterprises either could pick "agree" to the statement or select all options that apply to their situation, known as "check-all-that-apply" or "CATA" type of questions.

To make the data easier to work on, each question will be presented under two sections that are "binary" and "CATA". "Binary" sections will separate enterprises that agree with the statement with positive tone and have no negative feedback. Enterprises which disagree with the statement in the "binary" section will be forwarded to "CATA" section and asked to elaborate reasons for their discontent.

As stated above, since this paper works with a smaller selection of 109 questions asked for the Turkey's Productivity Development Map Project, it is possible to narrow the confidence interval and increase significance level of three picked questions' strength to represent the sample. This paper tests "CATA" sections of questions to see if information acquired in "CATA" sections are statistically significantly different to each other and information they hold is meaningful. In essence, "CATA" sections are different treatments with binary outcomes. Each issue enterprises asked for are either picked or not picked. Cochran's Q test is the widely-accepted statistical method to test if two or more treatments (questions) with binary answers are statistically significantly different to each other and results are meaningful (Cochran, 2016). Therefore, Cochran's Q test is conducted for "CATA" sections of every question. In findings section, questions, their answers and results of Cochran's Q tests conducted are presented.

FINDINGS

In this part, questions asked in the survey and answers given to them by participants are presented in tables. In each table, first two columns show answers separated under small (1 – 19 employee) and large (20+ employees) scales. In the third column, combined answers of two different scales are presented. Answers are in percentage points. Interpretations are offered below every question.

After "CATA" sections of questions, their respective Cochran's Q test results are presented. All Cochran's Q tests resulted in p-values at "0.0000", indicating that answers to these questions are statistically significantly different than each other. This is not surprising considering the large sample size that is representative to the enterprise population (Ramsey & Ramsey, 2004).

Since all p-values for conducted Cochran's Q tests are "0.0000" without an exception and explanation offered in the last paragraph is valid for all "CATA" sections, it is not repeated below each test result. Reader might find respective test results presented in tables below each "CATA" section if she wishes to.

Part I – Skills of Employers

Question 1.Binary

Table 3 below shows participants Agree/Disagree answers to Question 1.Binary, which is the statement "We do not suffer any lack of knowledge, skills or experience in our white-collar employees."

Table 3: Answers of Participants to Question 1.Binary

	Small Scale (1 - 19 employees)	Large Scale (20+ employees)	Total

	Agree	Disagree	Agree	Disagree	Agree	Disagree
We do not suffer any lack of knowledge, skills or experience in our white-collar employees.	59,7%	40,3%	68,3%	31,7%	60,8%	39,2%

Source: Turkey Regional and Sectoral Productivity Development Maps Creation Project

According to the answers, 59,7% of small scale enterprises agree with the statement that they do not suffer any lack of knowledge, skills or experience in their white-collar employees while 40,3% of the enterprises disagree.

Large scale enterprises suffer less from the same problem compared to their small scale counterparts. 68,3% of large scale enterprises agree that they do not suffer from lack of knowledge, skills or experience in their white-collar workers while 31,7% of the enterprises disagree with this statement.

When enterprises from both scales are combined, 60,8% of enterprises agree with the statement while 39,2% disagree.

Question 1.CATA

In this section, participants who disagreed with the statement "We do not suffer any lack of knowledge, skills or experience in our white-collar employees," in Question 1.Binary are asked a following question to specify skills they lack in their white-collar workers. This is a "check-all-that-apply" (CATA) type of question. Only the most frequent two answers to the "**What are the major knowledge, skill or experience areas you lack in your white-collar employees?"** are shown below.

Table 4: Answers of Participants to Question 1.CATA

	Small Scale (1 - 19 employees)	Large Scale (20+ employees)	Total
1st Choice	Vocational and technical competence	Vocational and technical competence	Vocational and technical competence
1st Choice Rate	54,1%	52,9%	53,9%
2nd Choice	Fulfilling responsibilities	Foreign language knowledge	Fulfilling responsibilities
2nd Choice Rate	31,2%	6,5%	31,6%

Source: Turkey Regional and Sectoral Productivity Development Maps Creation Project

Table 5: Results of Cochran's Q Test for Answers Different Scales in Question 1.CATA

	Small Scale (1 - 19 employees)	Large Scale (20+ employees)	Total
Number of observations	2711	1058	3769

Cochran's chi2(10)	7886.336	2891.174	10685.21
Prob > chi2	0.0000	0.0000	0.0000

In small scale, 54,1% of enterprises lack vocational and technical competence in their white-collar employees while 31,2% state their employees suffer from fulfilling responsibilities.

52,9% of large scale enterprises suffer from lack of vocational and technical competence in their white-collar employees similar to small scale enterprises. Unlike small scale enterprises, the second most stated problem in large scale enterprises is foreign language knowledge with 6,5% of enterprises.

When percentages of small and large scale enterprises are combined, the most frequently stated two problems are vocational and technical competence for 53,9% of enterprises and fulfilling responsibilities for 31,6% of enterprises.

Question 2.Binary

Table 6 below shows participants Agree/Disagree answers to Question 2.Binary, which is the statement "We do not suffer any lack of knowledge, skills or experience in our blue-collar employees."

Table 6: Answers of Participants to Question 2.Binary

	Small Scale (1 - 19 employees)		Large Scale (20+ employees)		Total	
	Agree	Disagree	Agree	Disagree	Agree	Disagree
We do not suffer any lack of knowledge, skills or experience in our blue-collar employees.	56,1%	43,9%	57,3%	42,7%	56,3%	43,7%

Source: Turkey Regional and Sectoral Productivity Development Maps Creation Project

According to the answers of the enterprises, on small scale, 56,1% of the enterprises state that they do not suffer any lack of knowledge, skills or experience in their blue-collar employees while 43,9% do.

Large scale enterprises suffer about the same from lack of knowledge, skills or experience in their blue-collar workers compared to their small scale counterparts. 57,3% of large scale enterprises agree that they do not suffer from lack of knowledge, skills or experience in their blue-collar workers while 42,7% of the enterprises disagree with this statement.

When these percentages are combined, 56,3% of enterprises agree with the statement while 43,7% disagree and state that they suffer from lack of knowledge, skills or experience in their blue-collar workers, both small and large scales combined.

Question 2.CATA

In this section, participants who disagreed with the statement "We do not suffer any lack of knowledge, skills or experience in our blue-collar employees," in Question 2.Binary are asked a following question to specify skills they lack in their white-collar workers. This is a "check-all-that-apply" type of question. Only the most frequent two answers to the question of "what are the major knowledge, skill or experience areas you lack in your blue-collar employees?"

are shown below in Table 7. All answers are shown in percentage points

Table 7: Answers of Participants to Question 2.CATA

	Small Scale (1 - 19 employees)	Large Scale (20+ employees)	Total
1st Choice	Vocational and technical competence	Vocational and technical competence	Vocational and technical competence
1st Choice Rate	65,0%	68,3%	65,5%
2nd Choice	Fulfilling responsibilities	Fulfilling responsibilities	Fulfilling responsibilities
2nd Choice Rate	36,7%	38,8%	37,0%

Source: Turkey Regional and Sectoral Productivity Development Maps Creation Project

Table 8: Results of Cochran's Q Test for Answers Different Scales in Question 2.CATA

	Small Scale (1 - 19 employees)	Large Scale (20+ employees)	Total
Number of observations	2953	1426	4379
Cochran's chi2(10)	8149.455	4056.269	12164.04
Prob > chi2	0.0000	0.0000	0.0000

According to the answers of enterprises that lack skills, knowledge or experience in their blue-collar workers, 65,0% of small scale enterprises lack vocational and technical competence while 36,7% state they suffer from fulfilling responsibilities in their blue-collar workers.

Large scale enterprises suffer from the same problems with about the same percentages. According to the survey, 68,3% of large scale enterprises suffer from vocational and technical competence in their blue-collar employees while 38,8% state they suffer from fulfilling responsibilities.

When percentages of small and large scale enterprises are combined, two most frequently stated problems are observed as vocational and technical competence for 65,5% of enterprises and fulfilling responsibilities for 37,0% of enterprises.

Part II – Skills in Labor Market

Question 3.Binary

Table 9 below shows participants Agree/Disagree answers to Question 3.Binary, which is the statement "We do not have difficulties in finding employees with skills we look for," separated under Small and Large scales in first two columns. In the third column, combined answers of two different scales are presented. Answers are in percentage points.

Table 9: Answers of Participants to Question 3.Binary

	Small Scale (1 - 19 employees)		Large Scale (20+ employees)		Total	
	Agree	Disagree	Agree	Disagree	Agree	Disagree
We do not have difficulties in finding employees with skills we look for.	47,4%	52,6%	46,3%	53,7%	47,3%	52,7%

Source: Turkey Regional and Sectoral Productivity Development Maps Creation Project

According to the answers of the enterprises, on small scale, 47,4% of the enterprises state that they do not have difficulties in finding employees with skills they look for while 52,6% do have difficulties and disagree with the statement.

46,3% of large scale enterprises agree that they do not have difficulties in finding employees with skills they look for while 53,7% percent of the enterprises disagree with this statement. This means, similar to their small scale counterparts, more than half of the large scale enterprises suffer from being unable to find employees with skills they need to fill positions.

When these percentages are combined, 47,3% of enterprises agree with the statement while 52,7% disagree and state that they have difficulties in finding employees with skills they look for. Slightly more than half of all the enterprises cannot find employees with skills they are looking for.

Question 3.CATA

In this section, participants who disagreed with the statement "We do not have difficulties in finding employees with skills we look for," in Question 3.Binary are asked a following question to specify skills the positions they find hardest to fill. This is a "check-all-that-apply" type of question. Only the most frequent two answers are shown below in Table 10. All answers are shown in percentage points.

Table 10 : Answers of Participants to Question 3.CATA

	Small Scale (1 - 19 employees)	Large Scale (20+ employees)	Total
1st Choice	Worker with vocational training	Worker with vocational training	Worker with vocational training
1st Choice Rate	70,2%	76,1%	71,0%
2nd Choice	Unqualified worker	Unqualified worker	Unqualified worker

2nd Choice Rate	40,8%	40,3%	40,7%

Source: Turkey Regional and Sectoral Productivity Development Maps Creation Project

Table 11: Results of Cochran's Q Test for Answers Different Scales in Question 3.CATA

	Small Scale (1 - 19 employees)	Large Scale (20+ employees)	Total
Number of observations	3535	1794	5329
Cochran's chi2(10)	19535.47	10589.63	30056.76
Prob > chi2	0.0000	0.0000	0.0000

According to the answers of enterprises have difficulties in finding employees with skills they look for, 70,2% of small scale enterprises expressed difficulties in finding workers with vocational training while it is difficult for 40,8% of enterprises to find unqualified workers.

Large scale enterprises suffer from the same problems with their small scale counterparts. According to the survey, 76,1% of large scale enterprises cannot find workers with vocational training while 40,3% of enterprises express difficulties in finding unqualified workers.

When percentages of small and large scale enterprises are combined, the most difficult employees to find in the labor market are workers with vocational training with 71,0% and unqualified worker with 40,7%. In both scale groups, enterprises express difficulties in finding qualified and unqualified workers.

DISCUSSION, POLICY RECOMMENDATIONS AND CONCLUSION

More often than not, when there is an unemployment problem in a country, two usual suspects are either under-qualified labor force or limited number of open positions. The structural problems in Turkish labor market does not seem to justify these two factors, however. According to the statistics from TURKSTAT, in 2017, the second largest unemployed education group has been higher education graduates, while graduates of vocational or technical high schools have the lowest unemployment figures (TÜİK, 2020). These findings are supported by an OECD study in 2011 as well. Among 28 OECD countries, Turkey suffers the least from under-qualification while it is the third most affected country from over-qualification (OECD, 2019). The problem of Turkish labor market is not under-qualification, it is over-qualification. There are overwhelmingly more applicants than there are open positions which require high qualification. At the same time, there is a limited number of applicants to fill positions that require low qualification. Although the increasing technological intensity of jobs over time may alleviate the problem, the absence of communication between employers and VET policy deciders is likely to persist.

Our first suggestion to policy makers is to improve communication channels and feedback mechanisms between enterprises, the demand side for the labor force and the education

institutions, supply side of the labor force. This study emphasizes the importance of a feedback mechanism derived from enterprises by focusing on questions such as “What skills should unemployed acquire so employers will offer them jobs?”

Using the survey results obtained from the Productivity Development Map Project by the Ministry of Industry and Technology, it is found that while more than half of the employers are satisfied with the skills their employees, 39, 2% express that their white-collar employees lack some essential skills for the position they occupy. This number is 43, 7% for blue-collar workers. These are not small percentages by any means. 40% of employees missing essential skills are enough to have a negative impact on productivity, production capacity and unit costs. When asked to elaborate on skills their employee’s lack, employers state deficiencies in vocational and technical skills across all scales.

In the second part, the survey results show that employers face difficulty also in filling positions for unqualified jobs and jobs that require basic vocational training. Both small and large scale enterprises report that they cannot find qualified or unqualified blue-collar employees as much as they would demand in Turkish labor markets, which implies a supply side problem on the Turkish labor markets.

What explains the 10 percent difference between the satisfaction ratios of employers’ answers between the first part and the second? The first part asks about employers’ satisfaction for the skills of their employees that *are hired and already working for them*. Second part on the other hand, asks for their *perception on the labor market and about the positions they could not fill*. The inference is that employers do not hire and fill all their open positions as they cannot find skills they need in the labor market. Instead, they hire enough to operate, but less than they ideally desire. Employers in Turkey “under-recruit,” and employees they hire are the better ones they can find in the labor market. This increases their overall satisfaction with their employees, while they point out severe lack of specific skills in the labor market.

Answers of enterprises to all three questions suggest lack of vocational and professional skills in Turkish labor markets. This situation affects both blue and white-collar, while the case with blue-collar workers seems to be more severe as enterprises state they cannot find qualified and unqualified workers in the labor market. OECD calculates around 6% increase in labor productivity in Turkey with better practices against skills-mismatch (McGowan & Andrews, 2017). This means there are substantial gains waiting to be collected in Turkish economy. As pointed out in this study, VET policies focusing specifically on professional and vocational skills can help enterprises to find labor force they are searching for to improve efficiency and productivity. Accurate VET policies also might increase job security of workers at risk (CEDEFOP, 2015).

Now we know which skills VET should add to the labor market. But whom should we train? It is unlikely that about 1 million unemployed university graduates will be interested in participating in VETs and start working as a qualified worker operating professional machinery.

Fortunately, there is one bigger unemployed group than higher education graduates in Turkey. The biggest unemployed population by education level in Turkey are those who does not have a high school diploma (TÜİK, 2020). These people might be a primary source for participating

in vocational training and rejoining the labor market. Mobilizing them would not only decrease unemployment in Turkey but it also meets the needs of enterprises which are desperately in search of both qualified and unqualified workers. Therefore, our second suggestion to policy makers is to use VET as a tool to increase employability of this group by training them on skills needed by employers.

As a final note, according to TURKSTAT's report on unemployment according to education levels, the lowest number of unemployment in Turkey is seen among graduates of vocational and technical high schools, exactly the group enterprises expressed their need for in the survey used for this research. These people got their vocational and technical education as part of their formal education. VET does not need to be a second chance for unemployed. Instead of supplying more higher education graduates to Turkish labor market for which there is insufficient demand, channeling youth into these vocational and technical high schools will both decrease youth unemployment and alleviate the problem of skills mismatch problem on the supply side of the labor market. Our third and las suggestion to policy makers is to promote vocational high school education among youth instead of higher education.

With better communication between enterprises and both extracurricular and formal vocational education institutions, there are big gains to collect. With this paper, we hope to help this communication and show a direction to Turkey's future VET efforts.

Limitations and Future Research

While working for this research, we encountered our first limitation during the literature review. While there are previous researches and reports pointing the over-qualification and over-education problem in Turkish labor markets, as far as we are aware, this is the first study on specific skills missing in the Turkish labor market. Thus, we discussed our findings only according to our data and not in light of previous literature.

Another limitation of this paper is that like every market, labor market has demand and supply sides. While this research offers a comprehensive perspective of the demand side of the labor market, the employers, it does not offer the perspective of the supply side, the employees. Without an in-depth analysis of the skills supplied to the labor market, we cannot decide if labor market lacks the skills employers point out, or if this is simply a distribution problem due to lack of labor fluidity in the market.

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