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SCHOOL TO WORK TRANSITION AND MACROECONOMIC CONDITIONS IN THE TURKISH ECONOMY[1]

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Abstract

In emerging market economies, young people feel like little boats in the ocean, due to the low and uncertain macroeconomic context. In the present study, we examine the school-to-work transition in Turkey over the period 2014-2017 by using a monthly dataset. As most emerging market economies, the Turkish one faces a set of different macroeconomic conditions which make it a very hard task for many young graduates to find a job . We use panel logit models which allow studying the determinants of the probability of school-to-work transition completion with a time variant model. We look at such macroeconomic factors as GDP growth, industrial production index, real sector confidence index, real exchange rate and interest rate. In addition, we use some classifications for estimating the wage model for the new graduates and estimate by panel logit models the probability for young graduates of getting a white-collar job. Besides, the estimates are repeated for boom and bust periods, and in credit expansion periods.

Keywords: School to work transition, Macroeconomic conditions, Developing economy, Turkish economy

JEL Codes: J64, O57

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Introduction

The school to work transition has an essential importance for increasing the employment rate as well as developing the human capital of young people. Moreover, in developing countries, the youth unemployment rate is still an important challenge for sustainable development and economic performance or growth, considering the large share of the youth over the total population (Manacorda et al. 2017). The school-to-work transition depends on a mix of factors, such as the labor market institutions, namely the degree of employment protection legislation and the tax wedge, the type of educational policies, and of political institutions and macroeconomic conditions, especially the degree to which aggregate demand is increasing enough to foster job creation (see, for more in depth overviews, Ryan, 2001; Raffe, 2008; Pastore, 2015; and 2018).

We focus on an important developing economy: Turkey. The main aim of this research is assessing the impact of macroeconomic conditions on the school-to-work transition in the Turkish economy. The sample covers the 2014-2017 period since the real exchange rate, inflation, and interest rate are high, while the economic growth rate is lower than that in the previous periods.

The empirical analysis is based on a longitudinal dataset which covers more than 1000 individuals who have at least 12 months of observation. The dataset contains observation covering more than 24 months for some individuals, and it is, therefore, very useful to cover the sample period. Moreover, there are no data sets able to cover such a long period of time of the school-to-work transition period in other MENA countries. The minimum age for individuals in the dataset is 16, the maximum is 39., and the mean age is 22.

The dataset has got a monthly basis, which allows us studying the short transitions from school to work better then has been done previously in the literature. Monthly data may be very useful to our research aims. As Manacorda et al. (2017) show, the average time necessary to find a first job for a new graduate ranges from 3.4 months in the Asia-Pacific areas to 24.5 months in the MENA countries. Therefore, monthly data give a new and more realistic insight on the school-to-work transition in a developing economy.

The present study provides manifold additions to the current literature. First, we use a dataset which provides time-variant monthly information on the transition of young graduates. Such datasets are rarely used in the current literature, especially for developing economies. Second, we use time-varying difference-in-difference fixed effects panel OLS model to examine the dynamics of the boom periods on the school-to-work transition periods for a young person in a developing economy. Third, we use monthly average real wages for each young graduate who complete his/her transition to a job. Fourth, we use Weibull hazard model to examine the effect of boom periods on the exit to a job of the school-to-work transition. Last, but not least, we try to assess the effect of a number of macroeconomic variables, such as monthly industrial production, real sector confidence, interest rates, real effective exchange rate, and the credit expansion periods, on the school-to-work transition.

The policies that can reduce the school-to-work transition completion time are very important. Generally speaking, previous studies often point to the role of active labor market policies (ALMP). Pastore (2019) underlines that ALMP should be fine-tuned to the needs of the weakest groups, and training programs need to be evaluated to reduce the STWT time. Another policy is the youth guarantee program. ALMP, especially if on-the-job, are particularly important for young graduates of secondary high school and university as they have insufficient work-related competences and experiences. The main aim of the European Youth Guarantee program is to provide training programs on a large scale for all jobless individuals under tha age of 30.. The underlying welfare state model is that typical of Scandinavian countries where the STWT is also sequential and therefore young people have little work experience when they complete their educational path. In the case of Turkey, such policies are underdeveloped and should certainly further reinforced.

However, microeconomic policies of the type mentioned above are less important in a macroeconomic perspective like the one chosen in this paper than aggregate demand management, such as expansionary fiscal and monetary policy. Our study emphasizes especially this type of macroeconomic policies. Reducing the interest rate and therefore also the tendency to a financialization of the real economy would be an important policy tools. Also the EU is understanding the importance of expansionary macroeconomic policy as proven by the recent establishment of the Recovery fund or Next Generation Fund (NGF). In addition, to reduce the share of youth unemployment and the duration of the STWT, it is not only important to have a more generous policy of demand management, but also to invest in innovation and new production processes with the help of the state to favor the development of new economic sectors and new jobs (see Mazzucato, 2018). Our paper has the specific aim to focus the attention of policy making on demand side issues of the STWT in an emerging market economy like Turkey. In emerging market economies, macroeconomic forces are particularly hard to face for individual young people and their families. The structure of this paper is as follows. Next section provides the macroeconomic outlook of the Turkish economy during the period covered by the available data. Section three summarizes the literature and the place of the present study in the extant literature; it also develops the hypotheses to be tested in the empirical analysis. Section four discusses methodology and data used in our analysis. Section five contains the main findings, while the last section includes conclusions and a more in-depth discussion of policy implications.

Macroeconomic outlook of the Turkish economy

In this section of the present study, we present a short macroeconomic outlook of the Turkish economy. Table 1 and 2 summarizes the main macroeconomic indicators in the period 2010-2017. The Turkish economy has a current account deficit problem, and the share of current account deficit as a share of GDP is around 8% and 4.5%. In addition, the economic growth rate is in the range between 3% and 11%.

The Turkish economy has experienced an impressive period in terms of economic and social development performance from in the post-2001 financial crisis period. The 2001 financial crisis can be counted as a massive external shock on the Turkish economy. The post-2001 financial crisis period lead to increased employment and incomes and Turkey is therefore join the upper-middle-income countries club (see the World Bank, 2020). However, in the post-2008 financial crisis period, in the past few years, the Turkish economy faced with the growing economic vulnerabilities, and uncertainties. Therefore, such vulnerabilities and uncertainties may undermine those achievements. Under this context, researching the link between macroeconomic conditions and STWT for the young people is a must for an important upper-middle-income country (the Turkish economy is also defined as an emerging market). The macroeconomic and occupation based statistics for the period of 2010-2017 are given in Table 1 and Table 2. Table 1 and Table 2 gives some insights on the macroeconomic instabilities in the Turkish economy in the period which the present study covers. The econometric analysis in the present paper is therefore to focus on the real sector based expectations, which are very important factors for the labor demand, and macroeconomic conditions in this period.

Table 1. Macroeconomic Indicators in the Turkish economy, 2010-2017

Series Name	Current account balance (% of GDP)	Foreign direct investment, net inflows (% of GDP)	Foreign direct investment, net outflows (% of GDP)	GDP growth (annual %)	GDP per capita (constant 2010 US$)	General government final consumption expenditure (annual % growth)	Gross capital formation (% of GDP)	Gross domestic savings (% of GDP)	Population growth (annual %)	Industry (including construction), value added (annual % growth)	GNI per capita growth (annual %)	Gross capital formation (annual % growth)
2010	-5.78053	1.178777	0.191993	8.487372	10672.39	1.741222	26.97276	21.97116	1.400093	11.85912	7.354876	24.79498
2011	-8.93692	1.943728	0.284677	11.1135	11678.13	1.076967	31.26869	23.13057	1.532401	19.13054	9.417295	16.33281
2012	-5.48753	1.572572	0.469804	4.78994	12039.3	6.808193	28.30415	23.39357	1.632958	4.764901	3.210745	-4.2406
2013	-5.87621	1.426814	0.382504	8.491309	12842.16	8.037364	29.77321	23.9674	1.694203	10.32574	6.502965	16.7307
2014	-4.15849	1.42766	0.754668	5.166691	13277.76	3.130736	29.03338	25.14794	1.701972	5.450682	3.4218	3.613251
2015	-3.1768	2.240413	0.592698	6.085887	13853.1	3.911777	28.36202	25.75402	1.666052	5.016341	4.070669	6.239933
2016	-3.10852	1.612672	0.363311	3.183832	14062.73	9.516329	28.22664	25.34116	1.632251	4.550311	1.567331	3.684273
2017	-4.7596	1.301666	0.316767	7.470867	14874.78	5.015084	30.99347	26.48275	1.591059	9.166278	5.54681	10.48934

Source: World Bank, WDI, 2020

Table 2. Education and Occupation Related Macroeconomic Indicators, 2010-2017

Year	Educational attainment, at least completed primary, population 25+ years, male (%) (cumulative)	Educational attainment, at least completed primary, population 25+ years, total (%) (cumulative)	Employment in industry (% of total employment) (modeled ILO estimate)	Employment in agriculture (% of total employment) (modeled ILO estimate)	Employment in services (% of total employment) (modeled ILO estimate)	Employment to population ratio, 15+, total (%) (modeled ILO estimate)	Government expenditure per student, primary (% of GDP per capita)	Government expenditure per student, secondary (% of GDP per capita)	Government expenditure per student, tertiary (% of GDP per capita)
2010	92.59924	85.19231	26.222	23.704	50.073	42.614			
2011	93.49234	86.46679	26.462	24.159	49.38	44.493			
2012	93.76224	86.95696	26.027	23.556	50.417	44.754	13.27685	11.75159	42.71303
2013	93.96634	87.2977	26.391	22.924	50.685	45.296	13.20414	11.77253	41.19523
2014	94.33711	87.8281	27.857	21.085	51.058	45.159	14.60988	11.23364	38.48285
2015	94.68357	88.27713	27.226	20.406	52.368	45.753	14.38743	11.56828	32.269
2016	95.11924	88.9477	26.776	19.501	53.723	46.118	12.99947	13.5129	35.28416
2017	95.48125	89.50145	26.538	19.384	54.078	46.852			

Source: World Bank, WDI, 2020

Literature Review and Hypothesis Development

In this short literature review, we organize the discussion by presening the literature on advanced economies, first, and on developing and MENA economies in particular, later.

a) advanced economies

Schooling has a special place in the current economics literature. As Becker (1964) puts it, schooling and formal training may enhance the productive capacity of individuals by increasing their human capital. Spence (1973) underlines that innate abilities are rewarded with the help of formal training or education. In Spence's view education is only a signal of skill and does not bring any increase in the productivity of individuals. The most skilled individuals graduate to signal their skills to prospective employers. They are more productive than average because of their innate ability, rather than of their schooling. This is the so-called signaling hypothesis.

The school-to-work transition is a complex process, as Pastore (2015; 2018) underlines. It basically defines the move from completed education to a job. Such process is affected by several institutional and macroeconomic features. The organization of the education process according to the dual (education together with work related competences) or sequential (work related training after education) principle, the degree of employment protection legislation and the degree and type of labour market flexibility, but above all the macroeconomic context, including a stable and sizeable growth rate, are all conditions able to affect the school-to-work transition.
This last feature is particularly important from the point of view of this research which aims to contribute to our understanding of the role of the macroeconomic context in making the transition smoother. Chowdry et al. (2012) show by means of the Arellano and Bond dynamic panel estimator that financial crises especially affect young people. As Pastore (2015a; 2018) highlights. the youth labor market is the most sensitive to the business cycle due to the so-called LIFO (last-in-first-out) Principle. In other words, firms prefer to fire young people rather than adults for at least two main reasons. First of all, young people incorporate less job specific human capital and, therefore, firing them affects less firm's productivity; second, they often do not have a family and therefore the social cost of firing decisions will be perceived as lower. Kahn (2010) finds that graduating from college in a bad economy has a long-run, negative impact on wages and on occupational attainment and generates a slight increases in both educational attainment and job tenure for those who graduate during a recession in the US economy.

Another dimension of the current literature on the school-to-work transition is "the youth experience gap", which is emphasized by Pastore (2015a, b), Pastore and Giuliani (2015) and Pastore et al. (2020). These authors emphasize that there is the productivity of adult workers is greater than that of young workers because the latter miss work related competences which cannot be acquired in the classroom, but need to be developed on-the-job through general and job specific work experience. The youth experience gap is discussed also in Bell and Blanchflower (2011) in terms of 'experience trap': employers do not hire new graduates since they seek to have experienced employees, and therefore, new graduates can never develop job specific skills. In addition, O'Higgins (1997) argues that young employees have less company specific skills than the older employees.

In the current literature, there has been a number of papers that examine the school-to-work transition in developed countries (see Allmendinger, 1989; Ashton et al.,1993; Brauns et al., 1995; Furlong and Hammer, 1995; Pastore, 2015b; Pastore and Giuliani (2015; Hannan et al., 1995; Berloffa et al., 2019; Rodriguez-Modroño, 2019; Ghirelli et al., 2019; Cappellini et al., 2019; Brunetti and Colsini, 2019; Speckesser et al., 2019; Pastore and Zimmermann, 2019; Demel et al., 2019; Selwaness and Roushdy, 2019; Liwiński, 2019).

b) developing economies and Mena countries

In emerging market economies, young people feel like a little boat in the ocean. Nillsson (2019:745) underlines that "…youth in developing countries face a different set of challenges from youth in developed countries. Severe financial constraints may prevent individuals from creating small-scale businesses, or limit the size and profitability of those created; ethnic or gender discrimination can hinder underprivileged youth in the labor market; and informal decision structures such as the household may assign specific roles to youth, preventing them from pursuing their aspirations". In addition, ILO (2013) argues that young individuals are at particular risk of unemployment Therefore, policy aimed at improving the chances of young individuals in the labor market have an essential importance for economic development.

In developing countries, there are specific micro and macro-economic factors that may have an influence on the school-to-work transition. On the micro side, gender inequality (see Galiani & Hopenhayn, 2003 for Argentina, Calves et al. 2013 or Burkina Faso in the empirical literature), educational quality (see Matsumoto & Elder, 2010; Kong & Jiang, 2011 in the empirical literature), the role of social networks (see Jackson, 2011; Montgomery, 1991). On the macroeconomic side, the institutional setting, labor market policies, income distribution play an important role for the school-to-work transition process. Gender inequality makes the STWT process harder to women, while social networks, educational quality, a good institutional environment, labor market policies in favour of young people, and a more equal income distribution smoothen the STWT process.

All in all, in the current literature, there is a significant gap for the school-to-work transition in developing countries and in the MENA area in particular, namely the lack of studies on the macroeconomic aspects, which, as noted above, are the most important. Macroeconomic imbalances, such as financial crisis, and the Arab Uprising are researched by Assad and Barsoum (2007), and Population Council (2010) for Egypt. The economic stagnation following the Arab uprising has strongly limited the entry level job opportunities for young people in Egypt (Amer, 2015; Assaad and Krafft, 2015a; Heyne and Gebel, 2016; Selwaness and Roushdy, 2019). All in all, the current literature shows that macroeconomic imbalances have a significant effect on the school-to-work transition in the MENA countries (see also Manacorda et al., 2017), however, there is a clear paucity of studies on this issue. We try to fill a significant gap in the current literature on the relationship between business cycle and school to work transition.

We expect that the school-to-work transition in developing countries is very sensitive to macroeconomic variables. There is a tendency to generate different school-to-work transition regimes, as Pastore (2015), among others emphasize. However, despite the apparent importance of macroeconomic variables, generally speaking, the previous literature has focused only on the role of local unemployment as a measure of local labour market conditions, but nobody has tried to study the correlation between youth duration of the STWT and other possible macroeconomic factors. This paper widens the analysis to consider also the possible role of other macroeconomic variables.

Hypothesis Development

In the present study, we examine the effect of macroeconomic conditions on the duration of the school-to-work transition in the period of 2014-2017 by using monthly data for the Turkish economy. Young individuals are at particular risk of unemployment in developing countries. Macroeconomic conditions, especially imbalances are occasionally seen in developing countries, but may have significant effects on the school-to-work transition process in the Turkish economy. We focus on the financial side by using real exchange rate, inflation, and real exchange rate, while the industrial production index and the real sector confidence index are used as real sector related

variable. All the variables shape the labor demand for young people, and therefore the good macroeconomic conditions which may shorten the STWT period.

As Akyüz (2008) indicates that sharp swing in macroeconomic indicators generate uncertainty for an economy, and therefore, the labor demand, as well as the school-to-work transition are negatively affected from such imbalances. In the current literature, the important work of Dixit and Pindyck (1994) underline that for firms' investment and employment decisions under uncertainty are important phenomena. The incomplete financial liberalization is a source for macroeconomic uncertainty that comes from the financial markets.

In turn, lengthy transitions can be a heavy burden in terms of social costs for the young people involved and their families, and also a loss of human capital accumulation in the long-run. The consequences for the growth rate in the long run may be sizeable.

Thus, we expect that macroeconomic conditions have an essential importance for the regimes with greater macroeconomic imbalances. In particular, we identified the following hypotheses to be tested. Please, note that the first number in the subscript indicates the numbering of hypotheses H_i, whereas the second subscript identifies the H1 and its null hypothesis:

H_{11}: Macroeconomic variables can have an important and significant effect on the school-to-work transition.

H_{10}: Macroeconomic variables are irrelevant

Macroeconomic conditions are to shape the labor demand of the real sector. Therefore, the school-to-work transition is expected to be longer when macroeconomic conditions are weaker.

H_{21}: The industrial production index shortens the STWT.

H_{20}: The industrial production index does not shorten the STWT.

Industrial production is linked to aggregate demand. Industrial production represents the output of the industry and therefore the greater the output of industry the higher the labor demand. The industrial production index, which is =100 in January 2015, is a good proxy for the aggregate demand on a monthly basis.

H_{31}: The real sector confidence index shortens the STWT.

H_{30}: The real sector confidence index does not affect the duration of the STWT.

The real sector confidence index shows the confidence level of entrepreneurs in the real sector in the Turkish economy. An increase in the real sector confidence index anticipates an increase in the labor demand and, therefore, the STWT period shortens. The index is =100 in January 2008.

H_{41}: The real exchange rate shortens the STWT.

H_{41}: The real exchange rate does not affect the duration of the STWT. The real exchange rate measures the international competitiveness of a country. When the real exchange rate appreciates, the same quantity of domestic goods can be traded for more foreign goods. The effect of real exchange rate on STWT therefore is expected to be positive.

H_{51}: The interest rate has a negative effect on the duration of the STWT.

H_{50}: the interest rate has no effect on the duration of the STWT.

Interest rate dampens the cost of capital and therefore, firms may become reluctant to do investment and/or R&D expenditures, and therefore the effect of interest rates on the STWT is expected to be negative. In other words, it is expected that the higher the interest rate the lower the STWT process.

Data and Methodology

Methodology

In the present study, we employ panel random effects logit model for testing the main hypothesis. The simple model for the probabilities can be defined as

$$\pi(x_{i,t}) = p(y_{i,t} = 1 \mid x_{i,t}) \tag{2}$$

The probabilities are mainly modeled as a binary variable, and the estimation is based on a link function. The link function for the logit model is defined as in Equation 3:

$$\log \frac{\pi(x_{i,t})}{1-\pi(x_{i,t})} = x_{i,t}\beta' \tag{3}$$

The panel logit model is an extended model of a standard logit model for a longitudinal dimension. Panel random effect logit model fits via maximum likelihood the random effects model, and can be defined as in Equation 4

for i=1, …..,n panels, where t=1….n_i, v_i: are i.i.d.

$$\Pr(Stw_{i,t} \neq 0 \mid x_{i,t}) = P(x_{i,t}\beta + \nu_i) \tag{4}$$

where Stw denotes an individual who completes the school-to-work transition process. X denotes the covariates in the econometric model. The covariates are defined in the following section (Dataset section).

Dataset

In the present study, we use the household income survey which was done by the Turkish Statistical Institute (henceforth, TurkStats) for the period of 2014-2017. The dataset is a micro-level survey and has individual and household level dimensions. The essential feature of the survey is that it has a monthly indicator for each individual recording to whether the respondent is unemployed, student, or entrepreneur. Based on this information, we generate a panel dataset which consists of monthly labor market conditions for each individual in the sample. Therefore, the panel dataset has approximately 48 months observations for 1032 individuals. The panel dataset is an unbalanced one. The time span of the dataset does not cover all the individuals since they find a job at some point in the time span.

The total individual-time number of observations is 14124. An individual has at least 12 months observations in the survey. Therefore, we may state that the survey used in this paper is an extensively rich and unique one to examine the school-to-work transition in a developing economy. Then, we use a unique variable which is a time-variant dependent variable for examining the main hypothesis of the present study. We use the probability of ever finding employment for each jobless individual. Such variable is computed on a monthly basis.

In other words, the variable which consists of each individual who was a student in t-i period, and employed at t. Then, we use the main model which we define as follows:

$$\Pr(stw \mid others)_{i,t} = \beta_0 + \beta_i X_{i,t} + \beta_j Xm_{i,t} + \varepsilon_{i,t} \tag{5}$$

where Stw is a binary variable equal to 1 if the duration of the school-to-work transition is completed for a young people at time t, and 0 otherwise. X denotes the control variables at an individual level which may have an effect on the school-to-work transition, Xm denotes the vector

of macroeconomic variables which are the main variables of interest in the present study. ε denotes the error-term of the regression. i, and t superscripts denote the individual and time –level observations, respectively. we use education levels, and gender as control variables at an individual level. In addition, we use real effective exchange rate (Rex), industrial production index (IP), real sector confidence index (RSCI), and interest rate (i) as macroeconomic variables.[2][3] Thanks to the monthly data, we use such variables to examine the dynamics of the Turkish economy in the given period. The macroeconomic variables are defined on a monthly basis. This is an important novelty of our approach[4]. As far as we know, the above macroeconomic variables have never been used to examine the link between macroeconomic conditions and the school-to-work transition before the present study.

Estimation Results

The estimation results for logit models are depicted in Table 3. Please note that the reported figures represent odds ratios and, hence, any value smaller than one represents a reduction, while any value greater than one represents an increase in the job finding rate in relation to the given regressor. The obtained findings from the random effects logit model (under model 1) show that the probability of women to complete their school-to-work transition is relatively lower than that of men[5]. A completed education level has significant and increasing effect on the probability of completion of the school-to-work transition. The individuals who have attained vocational education or higher education, e.g. high secondary school graduates or university graduates, have the biggest probability to complete their STWT compared to the other graduates.[6].

As far as the macro variables are concerned, results fulfil our theoretical expectations. The industrial production index (IP) has positive effect on the probability to complete successfully the school-to-work transition. The real effective exchange rate and the interest rate have negative effect on the probability of completing successfully into a job the school-to-work transition for each individual (since its odd rate is lower than 1). However, the effect is statistically insignificant. In addition, the effect of real sector confidence index on the probability of the school-to-work transition is positive but statistically insignificant, also.

For robustness check, we also estimate the population averaged panel logit model, which is also suggested by Szmagard et al. (2013). The population averaged logit model (the model 2 in Table 3) gives very similar results to those obtained in model (1), which we obtain from the random effects logit model. Therefore, the robustness check shows that the model selection does not alter the results.

2 I also use unemployment rate as a robustness check. The findings show that there is no effect of unemployment on the school-to-work transition process of an individual in the Turkish economy. Thanks to Dr. Olena Nizalova for signing this point.

[3] We do not use the local unemployment rate since the dataset that we use do not have information on the city of residence of individuals. In addition, Kahn (2010) finds that there is no effect of local unemployment level on the wages of graduates.

[4] The regional dummies are used to test the regional differences for the school-to-work transition. However, regional information for the households is not available for the dataset.

5 Such statistics in Table 1 are odds rates.

[6] A brief summary of the Turkish eductaion system is given in Appendix.

Table 3. Estimation Results

	(1) $Stw_{i,t}$: Random effects logit model	(2) $Stw_{i,t}$: Population averaged logit model
$Women_{,t}$	0.962 (-0.48)	0.935 (-1.11)
High school $graduate_{i,t}$	1.206**** (1.78)	1.157 (1.81)
Vocational high school $graduate_{i,t}$	1.646*** (4.78)	1.469*** (4.78)
Vocational school of higher education graduate and $more_{i,t}$	1.726*** (5.95)	1.672*** (7.31)
IP_t	1.014** (3.14)	1.012** (3.04)
$RSCI_t$	1.004 (0.43)	1.002 (0.30)
i_t	0.956 (-1.62)	0.964 (-1.56)
Rex_t	0.997 (-0.31)	0.997 (-0.49)
Monthly dummy variables	Yes	Yes
N	14124	14124
Wald Test, p val.	0.00	0.00
n	1032 Average T=13.7	1032 13.7

Note: t statistics in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, ****p<0.10. The statistics are odds rates.

Additional Findings

Credit expansion periods

In this section, we focus on the link between credit expansion periods and the school-to-work transition probability for each individual in the sample. The credit expansion periods are mostly defined as rapid credit expansion periods, which have the potential to generate macroeconomic

fragilities in the economy (see Grabel, 1995; Orhangazi, 2014). A rapid credit expansion, in fact, may trigger speculative activities and may slowdown the real investment process. Therefore, quite paradoxically, rather than increasing, labor demand decreases due to this slowdown of the real investment process.

Thus, we examine the correlation between rapid credit expansion periods and the probability of job finding of young people . We define rapid credit expansion periods (*Crexp*) as periods when the standard deviation over the 12 months is greater than its average.

Table 4. Effect of rapid credit expansion periods

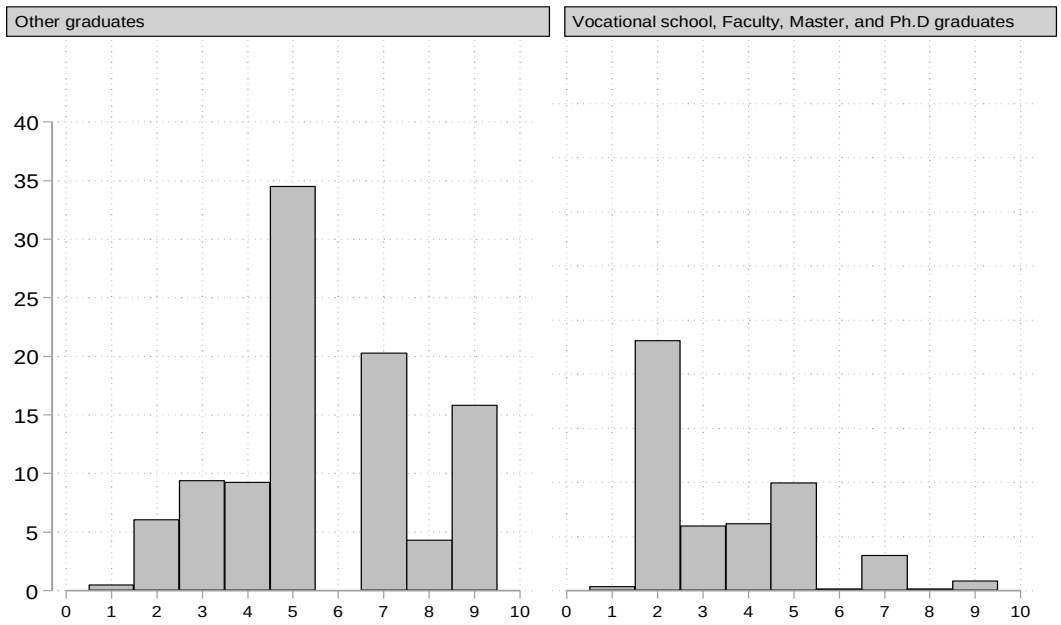
	(3) $Stw_{i,t}$
$Female_{i,t}$	0.965 (-0.45)
$High\ school\ graduate_{i,t}$	1.204 (1.77)
$Vocational\ high\ school\ graduate_{i,t}$	1.631*** (4.69)
$Vocational\ school\ of\ higher\ education\ graduate\ and\ more_{i,t}$	1.717*** (5.89)
IP_t	1.012** (3.07)
$RSCI_t$	1.001 (0.08)
$Crexp_t$	0.892 (-1.75)****
Rex_t	0.999 (-0.13)
Monthly dummy variables	Yes
N	14124
Wald Test, p val.	0.00
	N=1032 T=13.7

Note: t statistics in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, ****p<0.10. The statistics are odds rates.

The estimates show that the effect of credit expansion periods on the probability of school-to-work transition is negative and statistically significant at a %10 statistical significance level. The odds ratio of the credit expansion periods show that it lowers the probability of completing successfully the school-to-work transition for each individual in the sample. Such effect may come with the financialization hypothesis, as indicated with Epstein (2005), the financial activities of a firm or household may crowd out real investment. Such credit expansion periods may decrease labor demand for new graduates for high school, vocational school, and university.

School-to-Work Transition to White collar, Blue collar or agricultural occupations

As a next step, we breakdown the main regression model among white collar, blue collar and agricultural occupations. We define such occupations by using ISCO 98 Classifications. We depict the ISCO occupational categories for each individual who completed his/her school-to-work transition as university graduates or high secondary school graduates. University graduates mainly get a first job as a professional white-collar workers, while the other graduates get their first job as service workers, shop keepers, and market sales workers.



Note: The ISCO 1998 classifications are used. Therefore, X axis shows the ISCO classifications:

1: Managers, 2: Professionals, 3: Technicians, and associate professionals, 4: Clerks, 5: Service workers, and shop, and market sales, 6: Skilled agricultural and fishery workers, 7: Crafts and related trade workers, 8: Plant and machine operators and assemblers, 9: Elementary occupations.

Figure 1. Occupation Classification of the Young Individuals who complete their transition from school to work

Wage Differentials to the School-to-Work Transition

In addition to the main model estimations, we also concentrate on the link between wages and macroeconomic conditions for new graduates who get an occupation. In the dataset, wages are reported on a yearly basis. Then, we estimate monthly wage estimates by using a three-step methodology. First, we use the duration from the school to work for each individual at which the individual gets a first job. Second, we divide yearly wage to the estimated duration which is monthly

basis. Third, we divide such monthly wage to the monthly inflation which we reindex as =100 in 2014. Then, we estimate the main equation, which is defined in Eq 1, for wages. We use fixed effects panel OLS estimation. Since the female dummy is omitted in such type regressions, we estimate the equation for the whole sample, first, and, then, for male and female individuals separately. The findings show that industrial production has a significant effect on wages for all individuals and female workers who complete their school-to-work transition process, while this effect is not statistically significant for male workers. Real sector confidence index, real exchange rate, and interest rate have no effect on wages of individuals who complete their school-to-work transition process. The effect of vocational high school graduation on wages is greater than that of other high school of graduates and also than the university graduate peers.

Table 5. Wage determinants

	(4) Log(realwage)$_{i,t}$	(5) Log(realwage)$_{i,t}$ Female	(6) Log(realwage)$_{i,t}$ Male
$RSCI_t$	0.00484	0.00614	0.00138
	(1.47)	(1.61)	(0.22)
IP_t	0.00420	0.00539	0.00129
	(1.78)****	(1.84)****	(0.35)
Rex_t	0.00451	0.00562	0.00165
	(1.74)*****	(1.90)****	(0.32)
i_t	0.00679	0.00985	0.000217
	(0.87)	(0.89)	(0.04)
High school graduate$_{i,t}$	0.523*	0.309	0.727***
	(1.98)	(0.91)	(30.64)
Vocational high school graduate$_{i,t}$	1.985***	-	2.532***
	(4.97)		(26.73)
Vocational school of higher education graduate and more$_{i,t}$	1.464***	0.749*	2.531***
	(3.37)	(2.06)	(15.27)
β_0	4.008***	4.072***	4.574**
	(5.02)	(4.49)	(2.97)
Monthly time dummies	Yes	Yes	Yes
N	5736	3996	1740
R2 within, p val.	0.22	0.07	0.67
F stat., p val.	0.00	0.00	0.00
	n=441	n=305	n=136

	Average T=13	Average T=13.1	Average T=12.8

Note: t statistics in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, ****p<0.10

The effect of macroeconomic boom-bust cycles

To study the effect of macroeconomic expansion on the wage that an individual gets in her first job we use a panel dynamic Difference-in-Difference regression model. following the work by Dettmann et al. (2019). In this model, we take into account the fact that each individual gets a first job in a different time, and then, we employ a dynamic Difference-in-Difference panel model. This model has not been used in the context of studies relative to the STWT. However, it is well fitted to our aims considering that every individual gets a first job in a different time.

The Difference-in-Difference methodology is a very popular method for evaluation analysis (see Abadie, 2005; Imbens and Wooldridge, 2009) and it is well known that one of its fundamental assumptions is that unobservable individual characteristics which are able to possibly influence the outcome variable are invariant over time (Dettmann et al., 2019). Therefore, panel dynamic Difference-in-Difference method is very useful for the case of STWT. As far as we know, this is the first study that examines STWT by using this method. We use the dynamic transition from school to a job in each person in the dataset and we interact such variable with the boom periods. Table 4 shows the estimation results.

Table 6. The Estimation Results of the Fixed effects dynamic difference-in-difference model

	(7) $Log(realwage)_{i,t}$
$Boom_t$	0.0619* (2.01)
$Stw_{i,t}$	0.0387* (2.47)
$Boom_{i,t}$ X $Stw_{i,t}$	0.00518 (0.34)
Monthly dummy variables	Yes
β_0	6.091*** (7574.33)
N	5736
R^2, *within*	0.02
F stat., p val.	0.00
	n=441, average T=13

Note: t statistics in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, ****p<0.10

Boom periods [Boom] have positive effects on the wage of an individual [wage] who gets the first job after graduation. There is also a positive effect on wages. The main variable of interest, which is the interaction with a dynamic transition from school-to-work and boom periods [Boom x Stw], has positive effects on wages, however, the coefficient is statistically insignificant with a %5 statistical significance level.

The Failure to complete the Transition from School-to-Work

Lastly, we estimate a model for the failure to complete the transition from school-to-work for each individual. The model is a time varying hazard model, which is parametrized as a Weibull distribution. For estimation of the Weibull model, we pick every individual who is not student and employed at time t, but student at t-i where i denotes the duration for each individual who get a job, which is called "failure" in the Weibull model. The Weibull model is preferred to other models since the Weibull distribution is unique in that it is the only one that is simultaneously both proportional and accelerated so that both relative event rates and relative extension in survival time (see Zhang, 2016) Then, we estimate the expansion period of the economy at which monthly industrial production is more than its average. we define the expansionary period as equal to 1, otherwise 0. we estimate the duration of the school-to-work transition as follows. If an individual is student at t, and then s/he finds a job at t+n, then we subtract n from t to determine the school-to-work transition duration.

Table 7. Weibull Regression Model Results

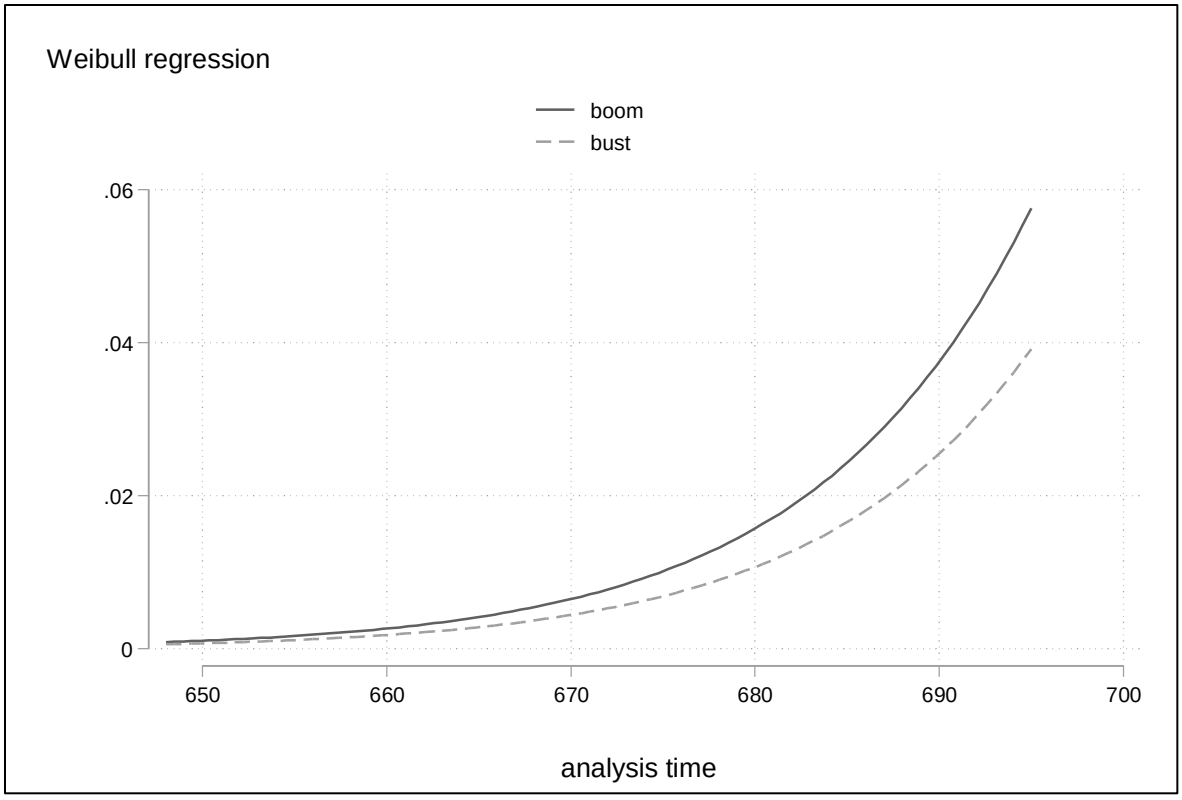
	(8) find a job right after graduation $_{i,t}$
$Female_{i,t}$	
	1.020
	(0.34)
Vocational school of higher education graduate and more$_{i,t}$	0.88+
	(-1.81)
Vocational high school graduate$_{i,t}$	0.888
	(-1.34)
High school graduate$_{i,t}$	1.06
	(0.69)
$Boom_t$	3.59***
	(16.19)
$Age_{i,t}$	0.96
	(-0.86)
ln_p	
β_0	3.81***
	(125.13)

N	7544
Wald χ^2, *p val.*	0.00

Note: t statistics in parentheses. + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Exponential coefficients are reported.

Table 7 shows the estimation results of the Weibull model for the failure to find a job after graduation from school. The Weibull model shows that university graduates find it harder than the other graduates to get a job after graduation. In addition, the hazard rate of female graduates is statistically insignificant, as the age variable, vocational high school, and high school graduates. Lastly, the expansion period increases the hazard rate to get a job right after graduation in the current term. Such an effect is increasing with time, which shows that the optimistic expectations have positive effects on the school-to-work transition in boom periods.

The coefficients of university graduates, and boom periods are statistically significant at a %10, and %5 statistical significance level, respectively. we supply the Weibull curve for the expansion and bust periods for the failure of the transition from school to work in Figure 2. As expected, the curve is higher for boom periods.



Source: The author by using TurkStat's database (2019)

Figure 2. The failure to the school-to-work transition during the boom and bust periods in the Turkish economy

Discussion

In the present study, we examine the link between school-to-work transition and macroeconomic indicators by using a novel dataset covering the period 2014-2017 on a monthly basis.

First, we estimate the random effect panel logit model of the probability to complete the school-to-work transition. The findings show that the effect of macroeconomic conditions on the probability of completion of the school to work for each individual is statistically significant. In this important emerging economy, the macroeconomic conditions cannot be neglected if one wants to understand the hardship that young people experience in that difficult period of their life which is the school-to-work transition for them.

Second, we use the panel fixed effects dynamic difference-in-difference model to examine the effect of macroeconomic conditions on the real wages of those young people who find a job in any given period and in particular on those who enter the labor market in boom and in bust periods. The estimation results show that macroeconomic conditions have an important effect on entry wages. The findings show that industrial production, and real exchange rate appreciation have a positive effect (by %0.4) on wages. Industrial production also has a positive effect on the school-to-work transition (the odds rate is more than 1, which means that there is an increasing effect of industrial production on the probability to complete successfully the school-to-work transition). In addition to these findings, the boom periods generate an illusionist sphere for the school-to-work transition, the effect is also having an increasing path. The credit expansion periods increase the duration of the school-to-work transition since it can trigger the speculative activities, as Grabel (1995) underlines (the odds rate is around 0.88 of the credit expansion periods).

Furthermore, by using the Weibull and panel OLS models, we examine the effect of boom and bust periods on the school-to-work transition. The estimation results show that the boom periods in the Turkish economy have a positive effect on wages, and have a negative effect on the failure to complete the school-to-work transition.

We also find that credit expansion periods have a negative effect on the school-to-work transition, which validates the financialization hypothesis. Moreover, most of the young employees who find their first job after the completion of their school-to-work transition process is employed in a white-collar jobs for university graduates, and blue-collar service-related jobs for the other school graduates. Gender inequality is present both in the school-to-work transition, and the wages across young graduates who completed their school-to-work transition process. Such results validate the main theoretical hypotheses of the present study.

Conclusion

In the present study, we examine the link between school-to-work transition and macroeconomic indicators by using a novel dataset and a novel methodology for the period of 2014-2017 on a monthly basis. In the current literature, mostly, because of data constraints, only annual data is used (see the literature review section of this paper). The type of data at hand allow us to use, among others, time-varying difference-in-difference fixed effects panel OLS model, which, to our knowledge, has never been used in the previous relevant literature, to examine the dynamics of boom and bust periods on the school-to-work transition. The empirical analysis is also applied to average real entry wages. Moreover, we use the Weibull hazard model to examine the effect of boom and bust periods on the failure to a job of the school-to-work transition.

The effect of macroeconomic conditions on the probability of completion of the school to work transition is significant and important in the Turkish economy. In addition, the estimation results for real wages across the young employees who completed their school-to-work transition show that macroeconomic conditions have a significant effect on wages. Furthermore, the estimation results show that the boom periods in the Turkish economy have a positive effect on wages, and have a negative effect on the failure of the school-to-work transition.

As to policy suggestions, demand side policies are advised to reduce the STWT duration since our findings clearly show that demand side based macroeconomic conditions play an important role for the STWT duration.

The main limitation of the present study is that the school-to-work transition and macroeconomic linkages cannot be generalized since the present study concentrates on one country only. In addition, the data covers only 3 years. Future research may use cross-country datasets to examine the school-to-work transition issue for a longer period of time. However, such data are still not available.

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Appendix A1.

Table A1. Variable Description

	Variable Description
$Female_{i,t}$	If an individual sex is female 1, 0 otherwise.
$High\ school\ graduate_{i,t}$	If an individual is high school graduate, 1, 0 otherwise.
$Vocational\ high\ school\ graduate_{i,t}$	If an individual is vocational high school graduate, 1, 0 otherwise.
$Vocational\ school\ of\ higher\ education\ graduate\ and\ more_{i,t}$	If an individual is a vocational school of higher education graduate or more, 1, 0 otherwise.
IP_t	Industrial production index, 2005=100. Source: TCMB EVDS (2020)
$RSCI_t$	Real sector confidence index. Source: TCMB EVDS (2020).
$Crexp_t$	Credit expansion period. The author's estimation. See text for the estimation of the credit expansion periods.
Rex_t	Real exchange rate. (2003=100), Source: TCMB EVDS (2020)

Appendix A2. Robustness Check

Table A2. The results of the model with unemployment rate

	(2)
	stw
$Age_{i,t}$	1.071***
	(4.50)
High school graduatei,t	0.917
	(-0.71)
Vocational high school $graduate_{i,t}$	1.369**
	(2.83)
Vocational school of higher education graduate and morei,t	1.108
	(0.77)
IP_t	1.013**
	(3.01)
Rex_t	0.996
	(-0.50)
$RSCI_t$	1.035
	(0.43)

$unemp_t$	1.079
	(0.52)
$Female_{i,t}$	0.953
	(-0.62)
i_t	0.952
	(-1.74)
N	14124
Wald Chi-Square p val.	0.00

Note: Exponentiated coefficients; *t* statistics in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix A3. Educational Qualifications in Turkey

In Turkey, since 2012, compulsory education lasts 12 years. It has three stages, which are primary education, elementary education and secondary education. Primary education, the compulsory education for each individual, involves the education of children of which age is between 6 and 10. It lasts 4 year. The elementary education involves the education for children of which age is between 10 and 14, and lasts 4 years. The secondary education lasts 4 year, and for education of children of which age is between 14 and 17, and is also compulsory. The higher education is not compulsory for all of the citizens. The higher education consists of post-secondary vocational school, faculty, graduate school, 4-year school. The post-secondary vocational school lasts 4 semesters and aims at training students in specific professions (equivalent to the associate degree in the US), the faculty/college/conservatory lasts at least 4 years and equivalent to the bachelor's degree, and graduate school aims at research and applications (MA, MSc, and PhD degrees). 4-year school aims at the specific profession-based education and lasts four years.

Source:http://www.studyinturkey.gov.tr/StudyinTurkey/ShowDetail?rID=Ec/rgHEN8Zg=&&cId=PE4Nr0mMoY4=, Accessed on 23th September 2020.