

**IMPACT OF ENTREPRENEURSHIP ON EMPLOYMENT: AN ECONOMETRIC
INVESTIGATION FOR TÜRKİYE***

**GİRİŞİMCİLİĞİN İSTİHDAMA ETKİSİ: TÜRKİYE İÇİN EKONOMETRİK BİR
ARAŞTIRMA**

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Abstract

As in the past, one of the main problems faced by economic administrators and political decision-makers is increasing employment and struggling with unemployment. Türkiye is a country that has had to deal with the high unemployment rates seen in almost every period since the 1960s. Especially after the 1980s, unemployment which started to increase due to globalization and technological progress reached high levels in the 1990s regarding global measures.

Besides financial and monetary policies, there are various social tools that governments can use for this purpose. Subsidies for the private sector, assistance to self-employed people, investment incentives, and facilities can be regarded in this framework. It can, therefore, be expected that these policies to support entrepreneurial activities will contribute positively, both indirectly and indirectly, through employment and growth.

In this study, reflections of the increase in entrepreneurship on employment and unemployment are empirically investigated for the case of Türkiye. According to the empirical findings obtained from the analysis carried out using modern time series analysis tools, while the increase in entrepreneurial activities in Türkiye has a positive effect on employment in the long run, it does not have the expected effect on unemployment. This seemingly contradictory result can be partly explained by the weakness of entrepreneurial skills and partly by unsuccessful and inadequate investment analyses.

Keywords: Entrepreneurship, employment, unemployment, time series analysis, Türkiye.

JEL Codes: C22, E24, L26.

Öz

Geçmişte olduğu gibi bugün de ekonomi yönetimlerinin ve politik karar alıcıların karşı karşıya bulunduğu temel sorunlardan biri istihdamın artırılması ve işsizlikle mücadeledir. Türkiye, 1960'lardan beri hemen her dönemde

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görülen yüksek işsizlik oranlarıyla mücadele etmek zorunda kalan bir ülkedir. Özellikle 1980'lerden sonra, küreselleşme ve teknolojik ilerleme nedeniyle artmaya başlayan işsizlik, 1990'larda küresel ölçülere göre yüksek sayılan düzeylere ulaşmıştır.

Maliye ve para politikalarının yanı sıra, bu amaçla hükümetlerin kullanabilecekleri çeşitli sosyal araçlar da mevcuttur. Özel sektöre yönelik sübvansiyonlar, kendi işini kuranlara yardım, yatırım teşvikleri ve kolaylıkları bu çerçevede değerlendirilebilir. Dolayısıyla, girişimcilik faaliyetlerini desteklemeye yönelik bu politikaların istihdama hem doğrudan hem de büyüme artışı yoluyla dolaylı yoldan olumlu katkıda bulunması beklenebilir.

Bu çalışmada, girişimcilik artışının istihdam ve işsizliğe yansımaları Türkiye örneğinde ampirik olarak araştırılmaktadır. Modern zaman serileri analizi araçları kullanılarak yürütülen analizden elde edilen ampirik bulgulara göre, Türkiye'de girişimcilik faaliyetlerindeki artış uzun dönemde istihdam üzerinde olumlu yönde etkili olurken işsizlik üzerinde ise beklenen etkiyi yaratmamaktadır. Çelişkili gibi görünen bu sonuç, kısmen girişimcilik becerilerinin zayıflığıyla, kısmen de başarısız ve yetersiz yatırım analizleriyle açıklanabilir.

Anahtar Kelimeler: Girişimcilik, istihdam, işsizlik, zaman serileri analizi, Türkiye.

JEL Kodları: C22, E24, L26.

INTRODUCTION

The phenomenon of globalization, which has gained momentum since the second half of the 20th century, has shown its effect not only in the goods and services markets but also in the labour and capital markets. This change, experienced with globalization, has pushed the economic administrations facing the problem of unemployment to develop various policies that reduce unemployment and encourage employment. Policies to increase and promote entrepreneurship can also be mentioned in this context.

Recognizing the capacity of small businesses to create employment and innovation has led to the collapse of the understanding that small and medium-sized enterprises (SMEs) are of secondary importance in the economy as they enter the 21st century, and entrepreneurship has become the focus of attention again (Cieřlik, 2017; 123). The expectation that the increase in the level of entrepreneurship has an impact on both growth and employment thanks to the increase in production capacity and knowledge makes entrepreneurship a strategic tool.

Based on the expectation as mentioned above, this study aims to empirically investigate the relationship between entrepreneurship and employment in the case of Türkiye. In Türkiye, where the entrepreneurial spirit is strong, unemployment has always existed as a severe economic risk factor. Technological development, on the one hand, and the contraction in traditional labour-intensive sectors, on the other hand, causes unemployment to turn into a permanent problem in Türkiye, as in many countries. After the frequent economic and political crises, sufficient improvement in employment could not be achieved, and unemployment rose to levels considered high on the global scale. Various active and passive employment policies have been followed by governments to combat

unemployment and increase employment. Especially in recent years, supporting and encouraging entrepreneurial activities has become a foremost government policy. In this respect, empirically demonstrating that entrepreneurship has enhancing effect on employment will support expectations and policies in this direction.

1. ENTREPRENEURSHIP – EMPLOYMENT RELATIONSHIP: THEORY AND EMPIRICAL LITERATURE

There is a two-way interaction between entrepreneurship and employment. New ventures positively contribute to employment on a cumulative basis, although they often employ few staff. On the other hand, since the increase in unemployment reduces the opportunity cost of entrepreneurship, it allows unemployed people to start their businesses (necessity entrepreneurship) (Faria et al., 2008). The entry of new companies into the market will also increase competition. Increasing competition, especially when fuelled by the emergence of new ideas and methods, will allow the emergence of branches of production based on original applications or niches. This will result in diversity in production and new employment areas (Amorós et al., 2016).

There are also claims that the contribution of newly established small firms to employment is exaggerated. Haltiwanger et al. (2013) point out that small firms make a significant contribution to employment, based on the situation they observed in the US economy, due to the fact that most of these firms are new, but after the first few years, a significant part of these firms either ceased their operations or reduced the number of their employees. Shane (2008) also claims that the contribution of new small enterprises to employment is not as significant as it is thought. Based on the research he and other authors have done, he states that the volume of new employment provided by newly established firms in the USA in the first year is around 6%. In the following years, most such companies reduce their employment volume.

On the other hand, unemployment caused by cyclical fluctuations can be expected to impact entrepreneurial decisions. Due to the deterioration in the economy, unemployed individuals tend to establish their businesses, which may lead to the employment of both themselves and a small number of other people. Frisch et al. (2013), in the study they conducted for Germany with the data for the period 1996 – 2010, found that unemployment contributes positively to self-employment (starting one's own business). Still, this effect manifests itself when the unemployment level falls below the long-term trend.

The relationship between entrepreneurship and unemployment/employment has attracted the attention of researchers for a long time. Following the pioneering work of Oxenfeldt (1943), Birch (1979), Blau (1987), Evans and Jovanovic (1989), Evans and Leighton (1990), Blanchflower and Meyer (1994), Robson (1996), Pfeifer and Reize (2000a, 2000b) and Audretsch et al. (2001) reached the first findings on the subject. In the following years, the entrepreneurship-employment relationship

has been discussed with its different dimensions and has been the subject of an increasing number of research. However, results from empirical studies differ on the contribution of entrepreneurship to employment and job creation. Abell et al. (1995), Robson (1998), and Parker and Robson (2004) did not find a significant relationship between entrepreneurship and unemployment in their analyses for different countries. Amoros et al. (2016) found no evidence of a significant relationship between unemployment and necessity- and opportunity-based entrepreneurship in their econometric analysis in the context of a group of Latin American countries. On the other hand, Robson (1996) found evidence in his research on England that the increase in the unemployment rate weakens entrepreneurship.

Youth unemployment between the ages of 16 and 29 deserves special attention with its causes and consequences. International statistics reveal that youth unemployment is at high levels all over the world. Youth unemployment emerges as a more serious problem, especially in countries with a high youth population. Entrepreneurship level offers a solution to reduce youth unemployment when paid employment opportunities remain very low compared to the number of unemployed. The relationship between youth unemployment and entrepreneurship has been investigated in few studies in the literature. Asogwa and Dim (2016) statistically tested four different hypotheses on the relationship between entrepreneurship and unemployment in their study based on survey data and concluded that entrepreneurship has a significant effect on reducing youth unemployment in Nigeria in general. Guha and al-Mamun (2017) investigated the issue with multivariate regression analysis based on microdata in the example of Bangladesh, one of the countries with the highest poverty and population in the world, and found that subjective and environmental factors significantly affect youth entrepreneurship and thus, employment.

Cowling and Bygrave (2003) investigated the relationship between entrepreneurship indicators compiled from GEM data and employment in a sample of 29 countries and concluded that the rate of necessity entrepreneurship is low in countries with high unemployment, but this rate increases in the following periods, and the high youth unemployment further strengthens this decline. Among the other findings of the study, the high level of social welfare weakens this relationship, and the ease of entry to the market increases compulsory entrepreneurship.

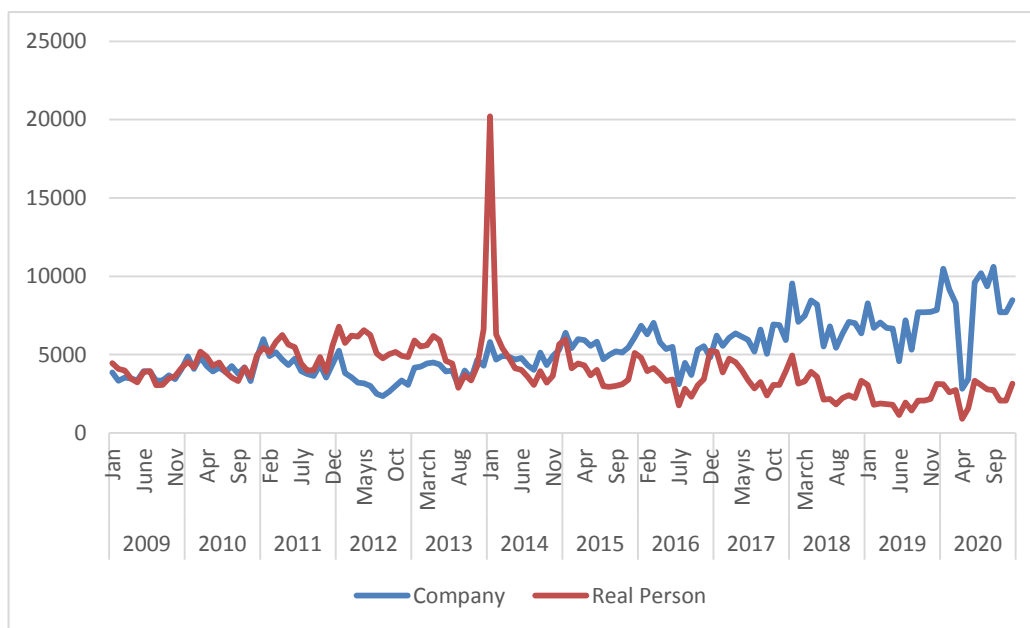
Fritsch (2008) and Fritsch and Schroter (2011) argue that the new job creation potential of newly established firms differs from region to region. Both the opportunities offered to entrepreneurs and the high entrepreneurial spirit cause entrepreneurial activities to be more intense in some regions. Aubry et al. (2015) concluded that there is a significant relationship between unemployment and new firm establishments in both the short and long run in the analysis performed at the regional level in the example of France. Cole (2015), in his spatial regression analysis conducted in the context of 326 cities from the mid-Atlantic region of the USA, concludes that high unemployment levels affect entrepreneurship positively, while the increase in entrepreneurship level has a reducing effect on unemployment.

Empirical studies on the macroeconomic effects of entrepreneurship in Türkiye generally focus on the entrepreneurship-growth relationship (see Karagöz, 2016; Ağır and Kara, 2017; Pehlivanoğlu and Narman, 2019). On the other hand, it cannot be said that the effect of entrepreneurship on employment and unemployment has been empirically investigated in depth. In one of the few studies, Özerkek and Doğruel (2015) investigated the mutual relationship between self-employment and unemployment using the data from the period 1970 – 2013 by employing a vector error correction model (VECM) and concluded that there is a reverse effect from the entrepreneurial level to unemployment, as expected. It is understood that there is no significant relationship between unemployment and entrepreneurship. In a similar study, Apaydın (2018) also used the ratio of the self-employed population to the total workforce as an indicator of entrepreneurship and examined the interaction between entrepreneurship and unemployment with the ARDL model approach. The findings obtained in the study are in parallel with Özerkek and Doğruel (2015).

2. EMPIRICAL ANALYSIS

2.1. Data, Model and Method

In the analysis in which the effect of entrepreneurship on employment was investigated in the case of Türkiye, monthly data for the period of January 2009 – December 2019 were used. The Covid-19 pandemic, which started to affect the world swiftly at the end of 2019, was also effective in Türkiye starting from March 2020, when the first cases were seen, and the economic and commercial life was largely interrupted in 2020 due to the full lock-down that lasted for months. Hence, the data for the period after 2019 were not included in the sample. The monthly number of people employed is used for the employment variable (EMP). Unlike Özerkek and Doğruel (2015) and Apaydın (2018), who use the ratio of self-employed to the total workforce as an indicator of the level of entrepreneurship (EST), the number of newly established firms is preferred. Because the indicator of self-employment includes unpaid family workers, which can reach a significant amount in the total employment figure, it would not be appropriate to consider unpaid family workers, who are intensively in the agricultural sector and frequently classified as hidden jobless, as entrepreneurs. On the other hand, the number of liquidated firms (LQD) is also included as a control variable in the analysis. Contrary to the newly established firms, the number of liquidated companies can be expected to have a contractionary effect on employment. Information on the number of newly established and liquidated firms was obtained from the monthly bulletins of the Union of Chambers and Commodity Exchanges of Türkiye (TOBB), and employment rate data were obtained from TurkStat. In order to better model the relationship between the variables, the series were deseasonalised with the TRAMO-SEATS method.

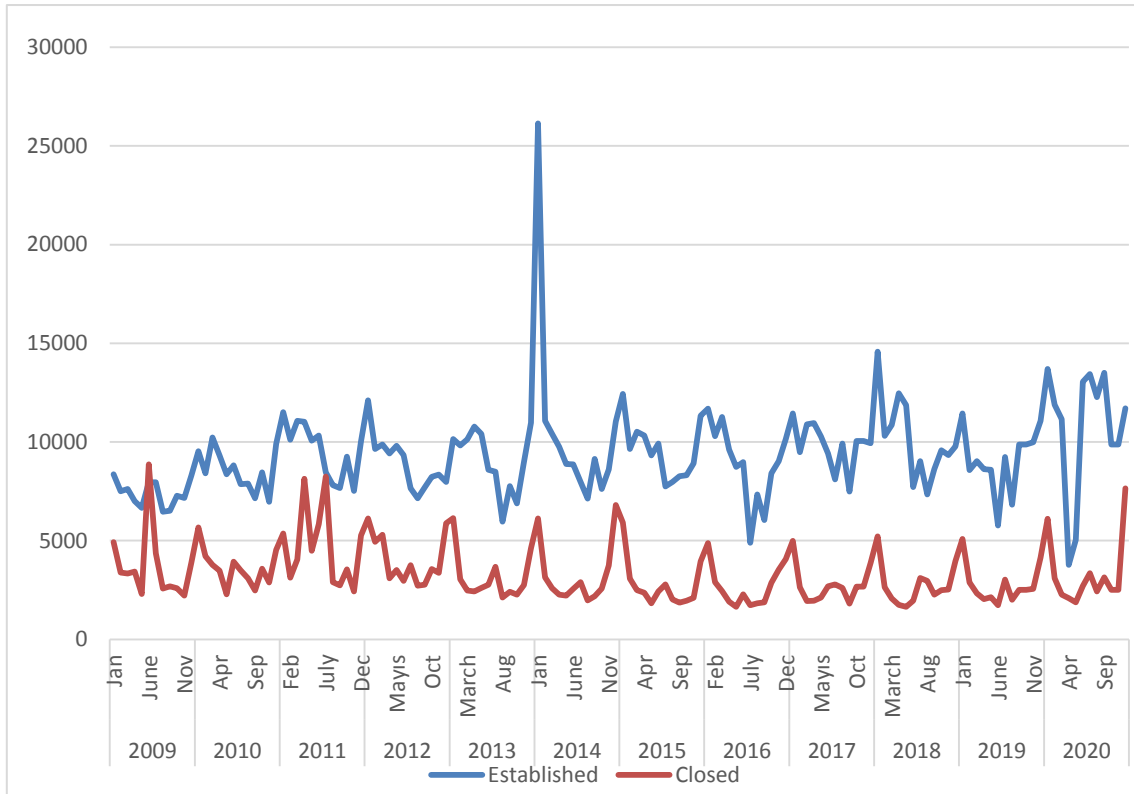
Figure 1. Number of Newly Established Firms by Sort in the Sample Period.

Source: Drawn by the author based upon TOBB data.

In the study, the level of entrepreneurship was measured by the number of newly established firms. The data disclosed by TOBB includes established and liquidated trading companies (joint stock, limited liability, shared limited partnership, limited partnership, and collective companies and cooperatives) and commercial enterprises owned by real persons. Since entrepreneurship is often associated with the formation of new business ventures or self-employed individuals (Minniti, 2007: ix), the number of newly established firms can be considered an appropriate indicator. In addition, this indicator is widely used in the empirical literature (for example, Audretsch and Keilbach, 2004; Vazquez-Rozas et al., 2010; Yanya et al., 2011; Cole, 2015; Karagöz, 2016). Although there are indicators of GEM data as another alternative tool, the (monthly) frequency level of other variables does not match the annual GEM data. Conversion of the monthly frequency series to annual will cause a loss of information. In addition, the fact that GEM data is based on survey results instead of real (numerical) measurements creates another weakness.

Although OLS estimators are the best-unbiased estimators in linear regression models, outliers in the series could affect estimator performance (Gad and Qura, 2016). As can be seen in Figure 1, a very high value is observed in the number of companies established as of January 2014. In order not to adversely affect the estimates, the extreme value in the series has been replaced by the average of the previous and following months.

Figure 2. The Number of Newly Established and Liquidated Firms Throughout the Sample Period.



Source: Drawn by the author based upon TOBB data.

In terms of the variables defined above, the functional form of the relationship under investigation is as follows:

$$LEMP_t = \alpha_0 + \alpha_1 LEST_t + \alpha_2 LLQD_t + \varepsilon_t$$

$$\alpha_1 > 0 \quad , \quad \alpha_2 < 0$$

However, depending on the number of companies opened and closed, it is possible that the change in the employment level is not only simultaneous but also shows a delayed structure for institutional and legal reasons. Therefore, the following unconstrained error correction equation in ARDL (AutoRegressive Distributed Lags) form is estimated in order to model the possible dynamic relationship between variables:

$$\Delta LEMP_t = \mu + \sum_{s=1}^p \beta_s \Delta LEMP_{t-s} + \sum_{s=0}^p \gamma_s \Delta LEST_{t-s} + \sum_{s=0}^p \delta_s \Delta LLQD_{t-s} + \varphi_1 LEMP_{t-1}$$

$$+ \varphi_2 LEST_{t-1} + \varphi_3 LLQD_{t-1} + u_t$$

In order to investigate the existence of a significant long-term relationship between the variables, the validity of the null hypothesis of form $H_0: \varphi_1 = \varphi_2 = \varphi_3 = 0$ against the alternative hypothesis of form $H_1: \varphi_1 \neq \varphi_2 \neq \varphi_3 \neq 0$ is tested with the F-test. The F-test here is not in a standard structure, and there are two different limit values depending on whether all variables are I(0)

or I(1). If the calculated test statistic is greater than the valid limit value if all the variables are I(1), the null hypothesis is rejected and, it is concluded that the variables are cointegrated. Then, the following ARDL (m, n, r) model is estimated to obtain the long-run relationship between the variables:

$$LEMP_t = \zeta + \sum_{s=1}^m \theta_s LEMP_{t-s} + \sum_{s=0}^n \pi_s LEST_{t-s} + \sum_{s=0}^r \lambda_s LLQD_{t-s} + v_t$$

In order to obtain information about the short-run behaviour of the relationship in the case of cointegration, the following error correction model can be estimated:

$$\Delta LEMP_t = \xi + \sum_{s=1}^n \tau_s \Delta LEMP_{t-s} + \sum_{s=0}^n \psi_s \Delta LEST_{t-s} + \sum_{s=0}^n \rho_s \Delta LLQD_{t-s} + \eta ECM_{t-1} + \omega_t$$

Here, τ , ψ and ρ are the coefficients that relate the short-run behavior to the long-run equilibrium, and η denotes the speed of adjustment.

3.2. Findings

Empirical analysis consists of four steps. In the first step, the stationarity properties of the variables were investigated with the traditional Augmented Dickey-Fuller (ADF) and Kwiatkowski – Phillips – Schmidt – Shin (KPSS) unit-root tests (see Table 1). According to both test results, all three variables show different stationarity characteristics for different specifications in terms of level values. On the other hand, the first differences of all three variables are stationary. Therefore, it can be said that the series have different integration degrees. Hence, in the second step of the analysis, the ARDL bounds test method developed by Pesaran et al. (2001), which allows to incorporate of series that have mixed integration order in the cointegration vector, was used.

Table 1. Results of ADF and KPSS Unit-Root Tests.

	ADF				KPSS			
	I	Decision	I + T	Decision	I	Decision	I + T	Decision
<i>LEMP</i>	-3,7962 (0,0038)	I(0)	-0,7724 (0,9647)		1,3696		0,2954	
<i>LEST</i>	-2,9378 (0,0438)	I(0)	-2,6992 (0,2388)		0,6183		0,1254	I(0)
<i>LLQD</i>	-3,5824 (0,0074)	I(0)	-6,7611 (< 0,01)	I(0)	1,0876		0,1428	I(0)
$\Delta LEMP$	-9,6628 (< 0,01)		-10,6410 (< 0,01)	I(1)	0,7296	I(1)	0,0445	I(1)
$\Delta LEST$	-12,6989 (< 0,01)		-12,7825 (< 0,01)	I(1)	0,1311	I(1)	0,0816	
$\Delta LLQD$	-8,5883 (< 0,01)		-8,5531 (< 0,01)		0,1814	I(1)	0,1642	

Notes: *i.* *I* and *T* denote the specifications with “intercept only” and “intercept and trend term” respectively. *ii.* The exact significance levels (p-values) are given in parentheses. *iii.* The “decision” states whether the non-stationarity hypothesis can be rejected at 5% significance level. If the hypothesis is rejected for level values the series is *I*(0), if it is rejected barely for difference values, it is *I*(1). *iv.* In the KPSS test, the critical values for the 1%, 5%, and 10% significance levels for specification *I* are 0.739, 0.463 and 0.347 respectively, and as for specification *I + T* are 0.216, 0.146 and 0.119 respectively.

According to the results given in Table 2, it is concluded that there is a cointegration relationship between the variables at the 1% significance level. Accordingly, there is a statistically significant long-term linear relationship between the level values of the variables, and a regression equation to be established will give realistic information about the relationship between the variables.

Table 2. Result of the ARDL Bounds Test.

<i>Test statistics</i>	<i>Value</i>	<i>k</i>
F-value	15.7807	2
<i>Bounds values</i>		
<i>Significance Level</i>	<i>I</i> (0)	<i>I</i> (1)
% 10	2.718	3.453
% 5	3.235	4.053
% 1	4.358	5.393

Among the alternative model specifications that allow up to 4 lags, it was determined that the most appropriate model specification according to the Akaike information criterion was the ARDL (1, 0, 0) model. The coefficient estimates of the model are given in Table 3 below. The hypotheses that the error terms in the estimated model have constant variance and no autocorrelation cannot be rejected. In addition, according to Ramsey's RESET test, there is no specification error in the model.

Table 3. Estimates of the Selected ARDL (1,0,0) Model.

<i>Variable</i>	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-statistics</i>	<i>p-value</i>
<i>Intercept</i>	0.1184	0.0607	1.9510	0.0533
<i>LEMP</i> (-1)	0.9737	0.0067	145.1401	< 0,01
<i>LEST</i>	0.0181	0.0072	2.4928	0.0140
<i>LLQD</i>	- 0.0018	0.0022	- 0.7961	0.4275
<i>R</i> ²	0.9981	AIC	- 7.8877	
\bar{R}^2	0.9980	SBC	- 7.7999	
F-statistics	21756.92	H-Q	- 7.8521	
p-value	< 0.01	D-W statistics	1.8764	
χ^2_{BG}	1.2124	χ^2_{BPG}	3.8033	
p-value	0.5454	p-value	0.2835	
RESET – F	0.0085	CUSUM	Stable	
p-value	0.9265	CUSUM_Squares	Stable	

Notes: *i.* χ^2_{BG} is the Breusch-Godfrey autocorrelation test χ^2 -statistic. *ii.* χ^2_{BPG} is the Breusch-Pagan-Godfrey homoskedasticity test χ^2 -statistic. *iii.* Parameter stability reflects the results of the CUSUM and CUSUM-Squares tests.

The estimation of the long-term relationship between the variables is given in Table 4. Accordingly, as expected, there is a positive relationship between entrepreneurship and employment in the long run. A 1% increase in the level of entrepreneurship increases employment by 0.69%. The effect of the number of closing companies on employment is negative, as expected. However, the estimation results indicate that there is no statistically significant relationship at the 5% level between both variables.

Table 4. Estimate of the Long-term Relationship.

Variable	Coefficient	Std. Error	t-statistics	p-value
<i>Intercept</i>	4.5055	1.9407	2.3215	0.0219
<i>LEST</i>	0.6889	0.1966	3.5037	0.0006
<i>LLQD</i>	-0.0685	0.0759	-0.9023	0.3686

The coefficient estimates of the error correction model (ECM) format, which reflects the short-run relationship of the accepted model, are given below (Table 5). According to the findings, the level of entrepreneurship and the number of closed firms do not have a simultaneous or delayed effect on employment in the short run. The error correction term's (ECM) coefficient, which is negative and significant at the 5% level, shows that the deviations from the long-run equilibrium are temporary, and the deviation is compensated by about 3% in the next period. Accordingly, it can be said that the adjustment speed is quite slow.

Table 5. Estimate of the Error Correction Model.

Variable	Coefficient	Std. Error	t-statistics	p-value
<i>ECM (-1)</i>	-0.0263	0.0033	-8.0383	< 0.01
R^2	0.1426	AIC	-7.9336	
\bar{R}^2	0.1426	SBC	-7.9116	
D-W statistics	1.8764	H-Q	-7.9246	

FMOLS and DOLS estimates of the long-run (cointegration) relationships between the variables are given in Table 6. The results obtained from both methods show that the level of entrepreneurship and the number of liquidated firms have a significant effect on the employment level, while the sign of the effect is positive and negative, respectively.

Table 6. FMOLS and DOLS Estimates (Dependent Variable: *LEMP*)

Variable	<i>FMOLS</i>		<i>DOLS</i>	
	Coefficient	p-value	Coefficient	p-value
<i>Intercept</i>	4.9874	< 0.01	5.4342	< 0.01
<i>LEST</i>	0.8204	< 0.01	0.7713	< 0.01
<i>LLQD</i>	-0.2888	< 0.01	-0.2887	< 0.01
R^2	0.6419		0.8044	

In the study, basically, the hypothesis that the increase in entrepreneurial activities would increase employment by creating new employment areas is tested, but it can be expected that the increase in unemployment would especially motivate necessity entrepreneurship (Faria et al., 2008). The trace of this mutual relationship can be found with causality analysis. For this purpose, Granger causality analysis was implemented, of which results are not reported here, but no significant causal relationship has been found.

4. ROBUSTNESS CHECKING

The effect of entrepreneurship on the labour market can be investigated in terms of unemployment as well. When the number of unemployed is taken as the dependent variable as an indicator of unemployment, the F-statistic for the bounds test for cointegration was found to be 3.7560. This value indicates the existence of a significant long-term relationship between unemployment, entrepreneurship, and the number of firms liquidated at the 10% significance level. The coefficients of the long- and short-run relationships are given in Tables 7 and 8 below.

Table 7. Estimate of the Long-Term Relationship.

Variable	Coefficient	Std. Error	t-statistics	p-value
<i>Intercept</i>	22.2152	9.7281	2.2836	0.0242
<i>LEST</i>	- 0.1554	0.9027	- 0.1721	0.8636
<i>LLQD</i>	- 1.5824	0.5045	- 3.1364	0.0022

Error correction model estimates show that there is no significant relationship between unemployment and entrepreneurship in the short run (Table 8). However, the error correction mechanism works, and the short-term deviations from the equilibrium relationship are eliminated, albeit slowly.

Table 8. Estimate of the Short-term Relationship for Selected ARDL(4,0,3) Model.

Variable	Coefficient	Std. Error	t-statistics	p-value
$\Delta LUNEMP(-1)$	0.4179	0.0851	4.9097	< 0.0001
$\Delta LUNEMP(-2)$	- 0.0347	0.0921	- 0.3768	0.7070
$\Delta LUNEMP(-3)$	- 0.1464	0.0830	- 1,7645	0.0802
$\Delta LLQD$	- 0.0014	0.0119	- 0,1176	0.9065
$\Delta LLQD(-1)$	0.0246	0.0145	1.6925	0.0932
$\Delta LLQD(-2)$	0.0367	0.0124	2.9454	0.0039
<i>ECM (-1)</i>	- 0.0332	0.0084	- 3.9302	0.0001
R^2	0.3300	AIC	- 4.6571	
\bar{R}^2	0.2968	SBC	- 4.5011	
D-W statistics	1.8955	H - Q	- 4.5937	

FMOLS and DOLS estimates for unemployment are shown in Table 9. According to the findings obtained by both methods, there is a negative but statistically insignificant relationship between the level of entrepreneurship and unemployment in the long run. This finding, which seems to conflict with the employment effect, needs further investigation. On the other hand, surprisingly, the number of closing companies seems to have a reducing effect on unemployment.

Table 9. FMOLS and DOLS Estimates (Dependent Variable: *LUNEMP*)

Variable	<i>FMOLS</i>		<i>DOLS</i>	
	Coefficient	p-value	Coefficient	p-value
<i>Intercept</i>	16.2928	< 0.0001	17.4038	< 0.0001
<i>LEST</i>	- 0.3007	0.4438	- 0.4245	0.3016
<i>LLQD</i>	- 0.6890	< 0.0001	- 0.6869	< 0.0001
R^2		0.1937		0.4234

5. CONCLUSION

The phenomenon of entrepreneurship has been attracting more and more attention both theoretically and empirically in recent years. Entrepreneurship, which is related to many issues from growth to efficiency, employment to innovation, is one of the important items on the agenda of governments. Today, most economic administrations make various regulations to pave the way for domestic and foreign entrepreneurs and take measures to encourage entrepreneurship. Türkiye is no exception in this regard.

In this study, the effect of entrepreneurship on employment and unemployment was investigated via econometric tools. According to the ARDL model estimates, there is a positive relationship between the level of entrepreneurship and employment in the long run. As the entrepreneurship represented by the number of companies launched increases, the number of employed people also increases. FMOLS and DOLS estimate also support this finding. On the other hand, estimates obtained from the ARDL model revealed that there is an inverse relationship between entrepreneurship and unemployment in the long run. Accordingly, as the level of entrepreneurship, represented by the number of companies opened, increases, unemployment gradually decreases. However, long-run analysis and FMOLS/DOLS estimations indicate that there is no statistically significant relationship between entrepreneurship and unemployment. This seemingly contradictory result can be explained partly by the weakness of entrepreneurial skills and partly by unsuccessfully and inadequately fulfilled investment analyses. This situation limits the possibility of entrepreneurship to some extent to be a convenient tool in the fight against unemployment.

It is seen that the number of closed firms has a negative effect on both employment and unemployment. It can be said that both results do not agree with a priori expectations. The first of

these findings can be explained by the fact that the statistics reflect the official termination dates of the companies, and the employment of the employees, usually gradually or collectively, in the months before this date. The unemployment-reducing effect can be attributed, on the one hand, to the withdrawal of the unemployed employees of the terminated companies from the labour market and to the compulsory entrepreneurship phenomenon on the other.

Considering the results of the analysis as a whole, it can be said that facilitating and encouraging entrepreneurship in Türkiye can be used as an effective policy tool in promoting employment, along with some other benefits. At this point, it can be said that the continuation of the support and incentives given by the government to individual and collective entrepreneurs, as well as informing the entrepreneurs according to the changing market conditions and new business models, may play an important role.

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