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The Nexus Between the Democratic Transition and the Structural Transformation

Demokrasiye Geçiş ve Ekonomide Yapısal Dönüşüm Arasındaki İlişki

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ABSTRACT

There are several theoretical and empirical papers on the structural transformation but there is not a study relating structural transformation with the political regime switch in the country. This paper aims to fill the gap in relevant literature by empirically examining the linkage between the political regime switch and the structure of the economy. The main purpose of this paper is to explore the impact of the political regime switch on the share of the agricultural value added in the GDP. Due to endogeneity issues, Difference GMM methodology is used to test the hypothesis that the democratization leads to the structural transformation of the economy by using data for 43 countries over the period from 1970-2016. The estimation results confirm that the share of agricultural value in total value added is higher when the country is ruled by an autocratic system rather than a democratic system. Moreover, the estimation results indicate that per capita GDP, arable land, and trade openness have a negative significant, whereas financial development, fertility, and population have a positive significant impact on the value added share of agriculture.

Keywords: Structural transformation, democratic transition, engels' law, median voter theorem, difference GMM

ÖZ

İlgili literatürde ekonominin yapısal dönüşümü üzerine birçok teorik ve uygulamalı çalışma bulunmasına rağmen, politik sistem değişikliğiyle ekonominin yapısal dönüşümünü beraber inceleyen çalışma bulunmamaktadır. Bu çalışma ilgili literatürde bulunan bu boşluğu doldurmayı ve politik rejim değişimleri ve ekonomideki yapısal dönüşüm arasındaki ilişkiyi ekonometrik olarak incelemeyi amaçlamaktadır. Bu çalışmanın amacı politik sistem dönüşümünün, otokratik politik sistemden demokratik politik sisteme geçişin, tarım sektörünün gayrisafi yurtiçi hasıladaki payı üzerine etkisini incelemektir. Otokratik politik sistemden, demokratik politik sisteme geçişin ekonomide yapısal dönüşüme neden olacağı hipotezini içsellik sorunlarından dolayı tercih

ettiğimiz Fark GMM ekonometrik metodolojisi kullanılarak test ettik. Çalışmada kullanılan gözlemler 43 ülke ve 1970-2016 yılları arası için geçerlidir. Uygulama sonuçları tarım sektörünün gayrisafi yurtiçi hasıladaki payının, ülkeler otokratik politik sistemden demokratik politik sisteme geçiş sağlamalarıyla azalacağını göstermektedir. Uygulama sonuçları ilgili katsayı büyüklüğünün tüm modeller dikkate alındığında -0.590 ve -1.172 arasında değiştiğini göstermektedir. Buna ilaveten, uygulama sonuçları kişi başı gayrisafi yurtiçi hasıla, ekilebilir alan büyüklüğü ve ekonominin dış ticarete açıklığındaki değişimlerin tarım sektörünün gayrisafi yurtiçi hasıladaki payı üzerine etkisinin negatif anlamlı olduğunu, bir diğer taraftan finansal kalkınma, doğurganlık ve nüfustaki değişimlerin ise etkisinin pozitif anlamlı olduğunu göstermektedir.

Anahtar Kelimeler: Yapısal dönüşüm, demokratik geçiş, engel kanunu, ortanca seçmen teorisi, fark GMM

1. Introduction

According to the International Labor Organization Database, the share of agricultural employment in the world total employment was 42% in 1991, and 29% in 2017. According to WDI (2018), the world agricultural share of value added as GDP was 8% in 1995, and 4% in 2017[1]. The data also indicates the presence of a monotonic decrease in the share of agricultural employment as total employment through the years. Therefore, the agricultural sector is losing its significance in terms of generating income and employment.

The literature on the declining role of the agricultural sector in general economy is centered around the argument that the rising income of nations would lead to the structural transformation of the economy. Clark (1940), Kuznets (1966) and Syrquin (1975) argue that the share of labor employed in the agriculture sector as total employment and agricultural output in total output decline with the income per capita. Therefore, depending on the share of agriculture in the economy, the stage of economic development in a country might be inferred from this view. Moreover, Herrendorf et al (2014) infer that employment and value added shares of the manufacturing sector increase at initial stages of development, but decrease at latter stages of development. Industrialization at the initial stage of economic development where the transition from agriculture occurred was the main driver of economic activity. However, deindustrialization has taken place after a certain period in the world where the services sector has increased its share in employment and GDP.

Arguments for industrialization and agricultural transition are based on supply and demand side explanations. Kongsamut et al. (2001) and Gollin et al. (2002) argued that structural transformation arises mainly due to the difference between the incomes elasticities of goods produced in different sectors. According to this view, the non-homotheticity of preferences lead to a variation in the marginal rate of substitution between goods produced in different sectors as the economy grows, leading to a variation in growth rates between sectors. Ngai & Pissarides (2007) argue that employment and value added shares from the manufacturing sector decreases due to decreases in relative prices induced by variation in TFP growth rates across sectors. On the other hand, there are also other arguments based on human capital and physical capital deepening. Acemoglu & Guerrieri (2008) focus on capital intensities in explaining sectoral, non-balanced growth. They argue that capital intensive sectors will grow more as the capital becomes more abundant in the overall economy.

Although there are several explanations based on economic arguments, the literature lacks the empirical evaluation of the transition from an agriculture-based economy following a political regime switch. In the 19th century, many countries underwent a transition to a democratic system. Most of the countries that experienced a democratic transition also experienced an increase in GDP, industrialization, and capitalism. Therefore, the co-movement of regime switches and structural transformation of the economy needs to be explored empirically.

The Democratic transition and industrialization are transformations that occur in politic and economic spheres of society. We argue that a political regime switch, from autocracy to democracy, has generated an economic environment compatible with it, so that a democratic transition leads to a transformation of market structure, incentive structures, and in the allocation of resources resulting in a structural transformation. Therefore, whether the political regime transition induces a change in economic structure is the main question this paper seeks to answer.

A Democratic transition affects power relations, social relations as well as resource allocations across production units which in turn affects the structure of the economy. Murtin & Waczi-

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1   This pattern of change in agrultural labor also called as Kuznet facts.

arg (2011, p.1) state, "The democratic transition partly overlaps with other socioeconomic trends, chiefly the demographic transition, and the process of industrialization and modernization with which it is associated".

Acemoglu and Robinson (2001, 2006) and Acemoglu et al. (2008) claim that in a democratic system; the uncertainty over future economic relations are resolved and the commitment on the distribution of income prevents the wide opening between poor and rich, which, prevents social unrest. In this sense, it can be argued that the resolution of the uncertainty over the future political state of the world decreases the discount rate of future cash flows for investment projects, and increases the number of feasible long run investment projects leading to long run economic growth. Since the present value of future cash flows increases, long run investment projects such as the increase in new technology and human capital, which requires a long run liquidity commitment and generates positive economic externalities would be undertaken (Romer,1990; Levine, 1991). Therefore, a decrease in the riskiness of the investment increases the technology investments (including high cost infrastructure investment) that would result in capital deepening leading to the structural transformation (Acemoglu & Guerrieri, 2008).

In Acemoglu & Robinson (2001, 2006) and Acemoglu et al. (2008) regime transition is the equilibrium phenomenon, which also indicates commitments to future redistribution. A Democratic transition enables taxation of assets in favor of lower income classes thanks to the median voter's tax preferences. Furthermore, in early studies on democracy and income distribution, Lenski (1966), Boix (1998), Chan (1997) argued that poor segments would demand more redistribution through democratic channels. Therefore; the theoretical median voter's tax preferences and related redistribution in the democratic regime (Meltzer & Richard, 1981) along with demand side explanations using Engel's law by Kongsamut et al. (2001), Gollin et al. (2002, 2007) could be linked to explain the impact of a regime switch on economic transformation.

Additionally, a political regime switch might increase trade activities that induce structural transformation. There are studies (Milner & Kubota, 2005; Aidt & Gassebner, 2010) arguing that trade barriers are used as a strategy for building political support. Trade induces superior technologies (Acemoglu, 2003), aggregate industry productivity growth (Melitz & Ottaviano, 2008), and wage increases which might reduce the size of rent extracted in an autocratic regime (Cervellati et al., 2018). Trade can induce structural transformation (Teignier, 2009; Betts et al. 2017). Therefore, a political regime change can induce structural transformation by increasing trade.

This paper seeks to explore the impact of a democratic transition on structural transformation of the economy. To this end, we use a difference GMM approach, which deals with reverse causality and dynamic specification issues to identify the impact of a democratic transition on the value added share of agriculture. The analysis covers 43 countries for the period from 1970-2016.

This paper is organized in three sections. The first section explores the impact of a democratic transition on structural transformation through an increase in capital deepening. The second section explores the impact of a democratic transition on the structural transformation through redistribution. The third section provides empirical evidenceand the last section presents a discussion and concluding remarks.

2. Democratic Transition and Structural Transformation: Theoretical Background

The theoretical background we provide in this section rests on the supply and demand side explanations. Supply side explanation is based on the decline in risks of expropriation by government or contract disputes following a regime switch from autocracy to democracy which induces

technological innovation and capital deepening. Moreover, trade might be increased after a political regime switch that might induce structural transformation. Demand side explanation is based on the Median Voter theorem and Engels' law which emphasize the impact of redistribution on sectoral production through variation in demand for goods produced in different sectors.

Incomplete information and uncertainty over a future political institution, risks of expropriation by government or contract disputes in the presence of a weak legal framework would lead to a low level of investments. Streb (2001) argues that both arbitrariness and instability of political institutions leads to incomplete information economic agents have about the state of the economy, whıch would negatively affect economic outcomes. Democracy compared to autocracy provides constitutional boundaries on government policies and lower the arbitrariness of policymaking. According to Acemoglu and Robinson (2001, 2006), a democratic system provides the commitment of the elite to future redistribution, which would lead to social peace and decrease in risks of expropriation of future income streams by government, or simply a decrease in political risks. Therefore, in democracies investors would know what particular political environment they would face in the future and whether they would capture retuns to their investments without facing conflict.

Following a democratic transition, checks and balances such as rules of law and divisions of power are established. Olson (2000) argues that a democratic system ensures the protection of property and contract rights therefore; it decreases the uncertainty in a sense which would increase long term investments. In other words, a decline in risk level in the general economy would induce a decline in the cost of capital, which in turn would decrease the discount rate and increase the present value of cash flows, increase the number of long run investment projects, and long run economic growth.

On the other hand, investment in technology and human capital generates positive externalities for all economic units in the general economy (Romer,1990; Levine, 1991). Therefore, the resolution of political uncertainty would lead to capital deepening (Acemoglu and Guerrieri, 2008) through a decrease in the cost of capital and increase in the technological advancement that would lead to a structural transformation.

Buera and Kaboski (2012) argue that the sectoral allocation of resources is mainly determined by the size of firms and the poverty level in the country. Therefore, it can be argued that short-term, small-scale investment projects undertaken by economic agents due to unstable political institutions would lead to underdevelopment of the manufacturing sector.

Political elites might avoid opening trade since rent extraction mechanisms on the traditional sector, agriculture, and the modern sector might fail to produce rents in the open economy. Therefore, opening up trade or expansion of trade following democratization might induce industrialization through the expansion of trade in agricultural goods (Teignier, 2009; Betts et al., 2017).

On the other hand, following a democratic transition, the whole society, depending on the extension of suffrage decides on resource allocation including redistribution through taxes and transfers. In autocracy or elite-led oligarchies, a small group of elites decide on resource allocation where they can divert resources away from the rest of society toward themselves. An electoral democracy under a majority-voting rule ensures anequal distribution of resources. Aidt et al. (2006) reports that a franchise results in an increase in public goods provided by the government in Western Europe over the period from 1830-1939.

The study of Meltzer & Richard (1981) shows that following the establishment of a franchise, implementation of policies improving the welfare of the poor against the rich became feasible. Their median voter theorem argues that the tax policy that is determined by the median voter

ensures the reallocation of economic wealth. The reallocation of wealth varies with the income inequality in the country (Alesina & Rodrik, 1994).

On the other hand, Kongsamut et al. (2001) argue that sectoral reallocation of resources arises mainly due to a variation in the income elasticity of goods produced in different sectors along the development path of an economy. According to this view, the marginal rate of substitution between goods produced in different sectors changes as the economy grows due to non-homotheticity of preferences leading to a different rate of sectoral growth. Laitner (2000) argues that following an increase in GDP, Engels' law ensures that the production share of agriculture declines against industry.

Engel's law infers that people are less willing to buy primary goods, but are more willing to buy industrial goods if their income level rises. Engel's law states that the share of food expenditure in the budget falls as income rises. Houthakker (1987) reports that the falling budget share for food with rising incomes has become one of the most robust empirical findings in economics.

Alesina & Rodrik (1994) argue that distributed income through taxation depends on the income level and capital endowment of the median voter. They argue that the redistributed income would decrease with income equality. However, in a political system where the elite decides the tax rate and redistribution, the income distribution would be skewed right. A regime switch to democracy would then lead to a high redistribution of income towards low income people.

Therefore, it can be argued that redistribution after a regime switch would generate income to be spent for the purchase of industrial goods. Murphy et al. (1989) argue that any improvement in the wealth level of the poor against the rich through redistribution would increase the demand for industrial goods and decrease the demand for backstop produced luxuries (domestic and imported luxuries). Moreover, as low income people have a higher propensity to consume, and due to Engels' law, the total demand for industrial goods would increase and the demand for agricultural goods would decrease, which would result in industrialization. Additionally, in the case of income transfer from rich to poor, the consumption of industrial goods rises, which increases the relative price of industrial goods leading to a labor movement from agriculture to industry[2]. Murphy et al. (1989) argue that unequal societies would be stuck with an agricultural economy due to the lack of demand for industrial goods where elites are served by labor-intensive back-stop sector or imports. Therefore, it can be argued that a high redistribution induced by a democratic transition would provide sufficient demand and enable market enlargement for industrial goods and the movement of labor from agriculture to industry.

3. Data

In this section of the paper, we describe the data set that was employed for the empirical model, which resulted in evidence that the democratic transition leads to the structural transformation of the economy. The analysis covers 43 countries for the period from 1970-2016. Thirteen countries are low-income, thirteen countries are lower-middle income, fourteen countries are upper-middle income, and three countries are high-income economies. Only countries that had transition experience were included in the analysis. (See Appendix for the list of countries that were analyzed.). We took four-year averages for the period from 1970-2013 and three-year averages for the period from 2014-2016 except for the variable democ. The variable democ takes the 1 of 1, if it takes the value 1 for the years averaged.

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2   Herrendorf et al. (2014) reports that the relative prices of agricultural sector to non-agricultural sector has decreased since World War II.
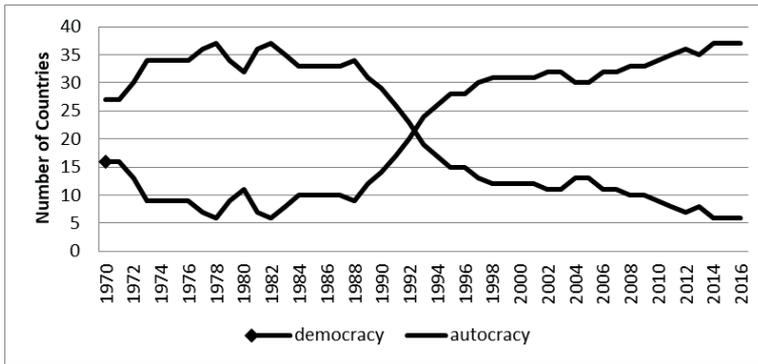
Figure 1: Number of Countries Ruled by Democracy /Autocracy.

Figure 1 displays the number of countries in the sample ruled by democracy and autocracy over the period from 1970-2016. The number of autocracies decreases whereas the number of democracies increases dramatically throughout the period. Almost 80 % of autocracies in the sample transformed into democracies during the period, which implies that we have sufficient variation for transition in political regimes to produce significant econometric implications.
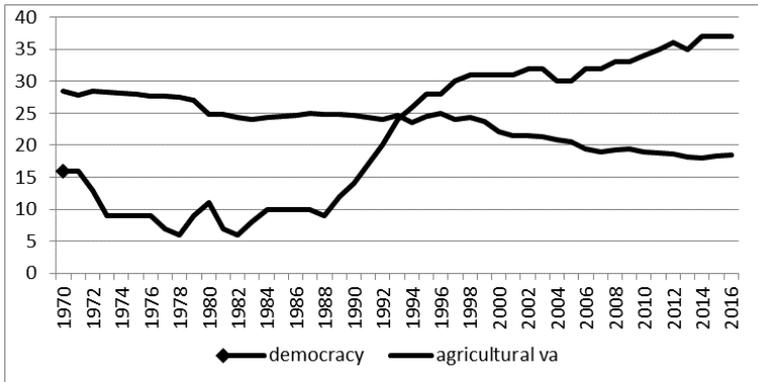

Figure 2: Comparison of Agricultural Value Added as a Share of GDP and Democracy.

Notes: y-axis represents number of countries ruled by democracy and agricultural value added (as % of GDP)

Inspecting Figure 2, we see that the agricultural value added decreases as the number of countries in the sample ruled by democracy increases. Therefore, the average value of the agricultural value added and regime switches are highly correlated and that needs to be explored through causality analysis entailing the inclusion of the confounding variables.
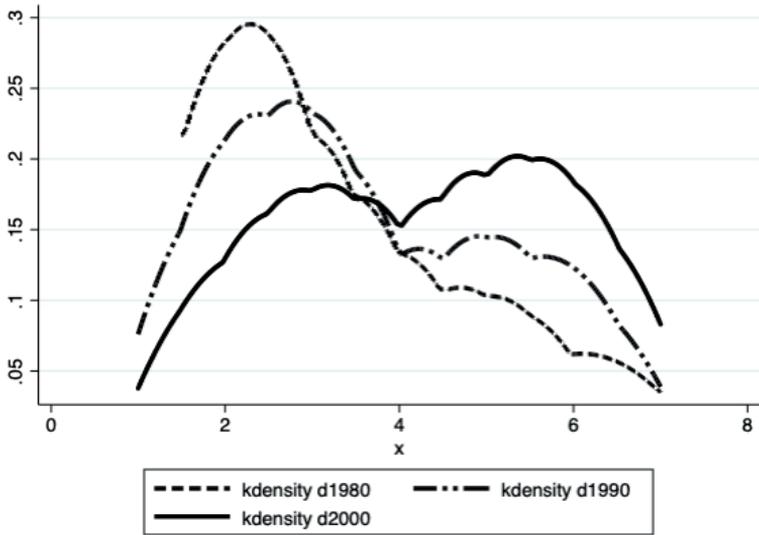
Figure 3: Kernel Density Distributions for Democracy Indices of 1980s, 1990s, 2000s.

The Kernel graphs in Figure 3 represent the democracy index for countries in the sample for 1980, 1990 and 2000. The democracy index is the average of two indices as political rights and civil liberties from FRH (2018). The indices are subtracted from 8 in order that the higher values represent a higher level of democracy. In other words, this index in some way measures the quality of democracy in that country. The shape of the kernel distribution changes from a unimodal to bimodal distribution indicating that democracies get mature and qualified over time. The density of mature democracies increase while the density of immature democracies decrease over time. In the 1980s, democracies lacked political rights and civil liberties which changed dramatically over time in the way that democracies provided more political rights and civil liberties for citizens.

Table 1 below presents the source of the data and how it was compiled. The World Bank Indicators, and Polity (2018) are used mainly for empirical estimation.

Table 1: Data Sources

Variable	Description	Source
agric	Agriculture, value added (% of GDP)	WDI (2018)
democ	Dummy Variable=1 if democracy, =0 for autocracy	Polity (2018)
lngdppc	(natural log.) GDP per capita*100/(100+Inflation)	
	GDP per capita (current US$)	WDI (2018)
	Inflation, GDP deflator (annual %)	WDI (2018)
lnpop	(natural log.) Population ages 15-64, total	WDI (2018)
depen	Age dependency ratio (% of working-age population)	WDI (2018)
arable	Arable land (% of land area)	WDI (2018)
lncap	(natural log.) Electric power consumption (kWh per capita)	WDI (2018)
fert	Adolescent fertility rate (births per 1,000 women ages 15-19)	WDI (2018)
educ	School enrollment, secondary (% gross)	WDI (2018)
infra	Fixed telephone subscriptions (per 100 people)	WDI (2018)
trop	Trade (% of GDP)	WDI (2018)
findev	Domestic credit to private sector (% of GDP)	WDI (2018)
Fdi	Foreign direct investment, net inflows (% of GDP)	WDI (2018)

Table 2 displays descriptive statistics on all variables used in the empirical analysis. The value added share of the agricultural sector and GDP per capita shows significant variation indicating the significant movement over the period, which indicates large variation for these variables.

Table 2: Descriptive Statistics

Variable	Obs	Mean	Std. Dev	Min	Max
agric	516	23.350	15.915	1.147	76.859
democ	516	0.563	0.496	0	1
lngdppc	516	6.703	1.363	2.330	10.982
lnpop	516	15.471	1.478	12.093	18.556
depen	516	80.044	17.372	36.447	112.930
arable	516	13.908	14.620	0.188	71.994
lncap	336	6.225	1.365	1.832	9.288
fert	516	9.878	4.828	0.159	21.503
educ	516	46.294	28.704	1.302	133.078
infra	516	5.890	10.742	0	69.596
trop	504	68.251	37.592	5.345	227.868
findev	456	28.134	27.926	0.192	186.496
fdi	504	2.349	4.823	-22.494	48.292

4. Empirical Model

In this section of the paper, we describe the empirical model to decide whether the evidence indicates that the democratic transition leads to the structural transformation of the economy. The general model to be estimated with Difference GMM is as below;

(1) $y_{it} = \alpha\, y_{i,t-1} + X'_{it}\beta + \varepsilon_{it}$
(2) $\varepsilon_{it} = \mu_i + v_{it}$
(3) $E(\mu_i) = E(v_{it}) = E(\mu_i v_{it}) = 0$

The disturbance term ε_{it} has two orthogonal components as the fixed effects, u_i and idiosyncratic shocks, v_{it}.

The Difference GMM transforms data to remove the fixed effects. The first difference transformation only has a weakness in unbalanced panels (Roodman, 2006).

(4) $\Delta y_{it} = (\alpha\text{-}1)\, \Delta y_{i,t-1} + \Delta X'_{it}\beta + \Delta v_{it}$
(5) $E[\Delta w_{it}\mu_i] = 0$

Although the fixed effects are göne, the lagged dependent variable is still endogenous, because $y_{i,t}$ in $\Delta y_{i,t-1}$ correlates with v_{it-1} in Δv_{it} (Roodman, 2006). Validity depends on the assumption that the v_{it} is not serially correlated. But, if the vit is serially correlated of order 1 then, for instance, $y_{i,t-2}$ is endogenous to the $v_{i,t-1}$ in the error term in differences, $\Delta\varepsilon_{it} = v_{it} - v_{i,t-1}$, making it a potentially invalid instrument. The researcher would need to restrict the instrument set starting with a third lag or longer. If the researcher finds a second order correlation, he or she would need to start with even longer lags. (Roodman, 2006).

A Difference GMM approach is preferred in the analysis since it tackles the endogeneity issue due to lag of dependent variable and reverse causality running from dependent variable to independent variables. It also tackles the multicollinearity issue and heteroscedasticity problem.

Reduced From Equation for Model 1;

(1.1) $AGRIC_{it} = \alpha\, AGRIC_{i,t-1} + \beta_1\, STRUCTURAL_{it} + \varepsilon_{it}$

(1.2) $\varepsilon_{it} = \mu_i + v_{it}$

(1.3) $E(\mu_i) = E(v_{it}) = E(\mu_i v_{it}) = 0$

(1.4) $\Delta AGRIC_{it} = \delta\, \Delta AGRIC_{i,t-1} + \phi\, \Delta STRUCTURAL_{it} + \Delta v_{it}$

(1.5) $E[\Delta w_{it}\mu_i] = 0$

Reduced From Equation for Model 2-8;

(1.1) $AGRIC_{it} = \alpha\, AGRIC_{i,t-1} + \beta_1\, STRUCTURAL_{it} + \beta_2\, POLICY_{it} + \varepsilon_{it}$

(1.2) $\varepsilon_{it} = \mu_i + v_{it}$

(1.3) $E(\mu_i) = E(v_{it}) = E(\mu_i v_{it}) = 0$

(1.4) $\Delta AGRICit = \delta\, AGRIC_{i,t-1} + \phi\, \Delta STRUCTURAL_{it} + \lambda\, \Delta POLICY_{it} + \Delta v_{it}$

(1.5) $E[\Delta w_{it}\mu_i] = 0$

$AGRIC_{it}$ represents value added agriculture for country i in year t. $AGRIC_{i,t-1}$ represents value added agriculture for country i in year t-1. $STRUCTURAL_{it}$ represents structural variables including democratic transition, income per capita, population, age dependency ratio, and arable land. $POLICY_{it}$ represents policy variables including capital stock, fertility rate, educational attainment, infrastructure, trade openness, financial development, and FDI inflows for country i in year t.

Model 1 is established to test the relationship between structural variables and agricultural value added. For Models 2-8, policy variables are included in regressions separately controlled with all structural variables. Although the subject of the paper and the economic analysis is very different, the division between structural and policy variables is taken from Dabla-Norris et al. (2013).

5. Estimation Results

Table 3: Difference GMM Estimation Results

Dependent Variable: agric

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
l.agric	0.616**	0.737**	0.394**	0.655***	0.629***	0.593***	0.646***	0.538**
	(0.247)	(0.289)	(0.163)	(0.059)	(0.091)	(0.103)	(0.099)	(0.259)
democ	-12.439***	-6.484***	-8.791***	-2.867***	-4.398***	-9.657***	-4.607***	-10.538**
	(4.266)	(2.291)	(3.054)	(0.993)	(1.321)	(3.404)	(1.629)	(4.288)
lngdppc	-4.478**	-2.729*	-3.156***	-1.332**	-1.757***	-3.179**	-2.928***	-4.647***
	(1.690)	(1.375)	(1.042)	(0.541)	(0.593)	(1.343)	(0.849)	(1.204)
lnpop	48.109***	45.393***	37.291**	5.904*	9.356**	31.311**	13.892**	45.220**
	(17.420)	(15.528)	(17.254)	(3.037)	(4.300)	(11.973)	(5.681)	(16.987)
depen	0.997**	1.255**	0.642*	0.157*	0.175*	0.479*	0.259**	0.951**
	(0.437)	(0.537)	(0.326)	(0.083)	(0.095)	(0.282)	(0.125)	(0.435)
arable	-2.170**	-1.586*	-1.117*	-0.599**	-0.626*	-1.689***	-0.649**	-2.190**
	(0.857)	(0.849)	(0.612)	(0.261)	(0.346)	(0.617)	(0.280)	(0.967)
lncap		1.782						
		(4.946)						
fert			1.776*					
			(0.999)					
educ				0.003				
				(0.039)				
infra					-0.036			

							(0.076)	
trop						-.121***		
						(0.034)		
findev							0.044**	
							(0.021)	
fdi								-0.081
								(0.364)
Prob>F	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Countries	43	28	43	43	43	42	38	42
Instruments	16	23	25	26	26	20	21	19
Sargan	0.634	0.984	0.820	0.399	0.744	0.600	0.315	0.756
AR(2)	0.353	0.600	0.720	0.337	0.413	0.508	0.209	0.535

Source: Authors' Own Calculations

Notes: The values in parenthesis are robust standard errors. ***, ** and * denote significance levels at % 1, % 5 and % 10 respectively. AR(2) is test for second-order serial correlation in the second-differenced residuals, under the null of no serial correlation. Hansen test of over-identification is under the null that all instruments are valid. All the independent variables are treated endogenously except lnpop, arable, fertility, findev and fdi. Second and deeper lags are instrumented according to AR (2) test of serial correlation.

According to Table 3, the lag of agricultural value added has a positive, significant effect on the current agricultural value added. The magnitude of the coefficient is between 0.394 and 0.737. Even if there is a convergence it is very slow, since these countries do not belong to the same club, they are randomly selected according to the fact that they had a transition from autocracy to democracy or vice versa. The coefficients for the lag of agricultural value added should be interpreted as the current level of agricultural value added, which heavily depends on its past values.

According to estimation results, the democratic transition has a negative significant effect on the value added share of agriculture where the magnitude of the coefficient is between -2.867 and -12.439. The presence of a statistically significant negative impact of a democratic transition on the value added share of agriculture in all models, indicating the robustness of the result, shows that democracies experience a decrease in the value added share of agriculture following the transition.

The GDP per capita (income per capita) has a negative significant impact on the agricultural value added. This confirms the predictions of theories about the declining role of agriculture in the growing economy. As argued by Kongsamut et al. (2001) and Gollin et al (2002), the share of agriculture in employment and output declines as the economy grows.

There is an insignificant relationship between the physical capital and agricultural value added. This result contradicts the predictions of Acemoglu and Guerrieri (2008) in that the increase in capital labor ratio and capital accumulation increases the output of the capital intensive sectors leading to a lower share of the agricultural value added. However, in the presence of appreciation of (internal/external) terms of trade in favor of agriculture and rise in labor productivity thanks to mechanization in agriculture or migration from rural to urban areas, the agricultural value added might not vary much despite capital deepening in the industry leading to insignificant estimates.

There is a positive significant relationship between the financial development variable and the agricultural value added. The result would imply that the productivity increase due to a rise in a technological capacity increase was financed through the loan market. There is a positive significant relationship between population and the agricultural value added, which does not comply with the findings of Leukhina & Turnovsky (2016) and Ho (2015) who argue that there is a major role of population growth in the structural transformation of the British economy.

Trade openness has a negative significant effect on the agricultural value added. This result complies with the results provided by studies in the structural transformation literature arguing that international trade has a negative significant effect on the share of agricultural value added (Teignier, 2009; Betts et al., 2017; Uy et al., 2013).

There is a negative significant relationship between arable land and agricultural value added.

The size of arable land would indicate the importance of agriculture in the general economy in the country. However, after controlling the population and GDP, it can be claimed that countries with a bigger size of arable land would have an economy based more on agriculture, which would employ most of the labor in the country. However, as these countries experienced structural transformation, they had a higher decline in agricultural value added compared to countries with lower arable land.

The following variables; educational attainment, infrastructure, and FDI inflows had no significant effect on the agricultural value added.

6. Discussion and Conclusion

Gollin et al. (2002) argue that there is wide per capita income disparity between early and late industrialized countries. Therefore, according to Gollin et al. (2002) late industrialization explains most of the income differences between countries. There are demand and supply based explanations of industrialization in a country. The demand side explanations are based on Engles' law whereas supply side explanations are based on a variation in capital shares between sectors, a variation in TFP between sectors, and opening to trade. The study contributes to the literature by empirically exploring the impact of democratization on the reallocation of resources towards industry from agriculture.

The demands for democracy do not arise only because people are aiming for broader political rights but also aiming for higher income through redistribution. According to the Median Voter Theorem, the median voter receiving income levels lower than mean income in society sets the positive tax rate enabling the redistribution. Therefore, following a democratic transition there would be a redistribution of income from top income earners to low income earners, which leads to a reallocation of demand across sectors due to Engels' law. According to Engels' law, agricultural goods are demanded less and industrial goods are demanded more as income rises. On the other hand, top income earners consume a significant amount of backstop produced luxury goods (or imports) because industrial goods are inferior goods for them. The reallocation of income enables the increase in demand for industrial goods and a decrease in demand for backstop produced luxury goods. In other words, the reallocation of income towards the poor enables an enlargement of the market for industrial goods. Therefore, democracy leads to industrialization.

Moreover, Olson (2000) argues that conditions of long lasting property and contract rights and the rules of law exist only for securely democratic societies. The elite-led, single ruler autocracies have a different set of rules as each dictator rules according to his own set of rules, which are mostly ad hoc and arbitrary resulting in an uncertain economic and political environment. For example; one autocrat might protect property and contract rights whereas the other one might confiscate properties, which negatively impacts long run investment projects. Additionally, in an unstable political environment where a regime switch occurs frequently, investors would not feel safe investing in long-term projectsor large-scale projects that are mostly investments in technology and human capital resulting in an economic underdevelopment and agriculture based economy. Capital deepening occurs if the uncertainty is resolved leading to a structural transformation as it is argued by Acemoglu and Guerrieri (2008).

Moreover, elites might avoid opening the economy to trade since rents might decrease. Therefore, democratization might lead to expansion of trade (Milner and Kubota, 2005; Aidt and Gassebner, 2010) and trade expansion might induce a structural transformation (Teignier, 2009; Betts et al., 2017)

The estimation results indicate that a democratic transition has a significant, negatıve impact on the value added share of agriculture, where the magnitude of the coefficient is between -0.590 and -1.172. The presence of a statistically significant negative impact of democratic transition on the value added share of agriculture in all models, indicating the robustness of the result, shows that democracies experience a decrease in the value added share of agriculture following a transition. This study contributes significantly to the literature by providing cross-country evidence that a political regime switch from autocracy to democracy explains industrialization.

Additionally, the estimation results indicate that per capita GDP, arable land, and trade openness have a negative significant impact, whereas financial development, fertility, and population have positive significant impacts on the value added share of agriculture. Eventhough results do not support the explanation for structural transformation based on capital deepening, it supports the explanation based on trade expansion.

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APPENDIX

List of Countries Analyzed

Algeria	Ghana	Nepal
Argentina	Guinea-Bissau	Pakistan
Bangladesh	Guyana	Panama
Benin	Honduras	Philippines
Bolivia	Iran, Islamic Rep.	Sierra Leone
Burkina Faso	Iraq	Suriname
Burundi	Kenya	Swaziland
Central African Republic	Korea, Rep.	Thailand
Chile	Lesotho	Tunisia
Congo, Dem. Rep.	Liberia	Turkey
Congo, Rep.	Madagascar	Venezuela, RB
Denmark	Malawi	Zambia
Dominican Republic	Mali	Zimbabwe
Ecuador	Mauritania	
Fiji	Mexico	