

Political Connection, Bank Credits and Growth: Evidence from Turkey

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1. INTRODUCTION

GOVERNMENT-OWNED banks have kept their presence in the financial sectors of both developed and developing countries.¹ Their existence has been justified by their support of projects that are not financed by private banks. Levine (2006) argues that government-owned banks may promote growth by financing firms that are not able to access credit markets. These firms may be small, may not have enough collateral or may lack credit histories. Government-owned banks may also stimulate growth by promoting financial development and mitigating market failures in some countries (Gerschenkeron, 1962; Levy-Yeyati et al., 2004). Moreover, these banks promise to fund socially valuable projects that reduce poverty. Their positive impact on growth is known in the literature as the development view.

In contrast, cross-country studies have shown that there is a negative relationship between government ownership of banks and economic growth. For example, using data from 92 countries around the world, La Porta et al. (2002) show that countries with high government ownership of banks in the 1970s had lower economic growth, lower productivity growth and a financial system that developed more slowly. These findings support the ‘political view’ of government involvement in the banking sector. According to this view, government-owned banks exist not to channel funds to socially efficient and desirable projects but to satisfy the objectives of politicians, such as providing benefits to their supporters. Politicians get their return in the form of votes, political contributions or even bribes (Kornai, 1979; Shleifer and Vishny, 1994).

¹ For example, in the mid-1990s, the government controlled about one-fourth of the assets of the largest banks in industrialised countries, and about half of the assets of the banks in developing countries (Levy-Yeyati et al., 2004). Even though there were massive privatisation efforts, government banks still operate in some developed countries, such as Germany, France and Japan, and they have been preserving their involvement especially in countries with less-developed financial systems and less well-functioning institutional structure (Barth et al., 1999; La Porta et al., 2002).

The common characteristic of previous studies is that they measure the involvement of government-owned banks in the banking sector at the aggregate level. The hypothetical transmission mechanism for these banks is either provision of greater overall bank credit flows or improved financing of small and medium enterprises. However, this approach ignores that government-owned banks are also expected to help areas that are underdeveloped. As a result, aggregate-level analysis may underestimate the actual impact of government-owned banks in the domestic market. A recent study by Onder and Ozyildirim (2010) examines the impact of bank credits by government-owned and private banks on local growth in Turkey and present evidence that government-owned banks supported local growth only in the well-developed provinces.

In this study, we also analyse the lending behaviour of banks at the provincial level and contribute to the literature by testing whether government-owned banks are more inclined to favour provinces with stronger political clout. In other words, we try to understand whether the existence of government-owned banks in Turkey can be explained by the development or political view. Moreover, the economic significance of resources channelled by both government-owned and private banks is estimated to assess the importance of bank credits by ownership type on the economic growth rate of Turkish provinces.

The association between bank credits and growth of Turkish provinces² that have the political support of the governing party is examined using the panel data over the period 1992–2006. Turkey is an interesting country to examine this relationship. First, the banking sector constitutes a significant part of the financial sector in Turkey. As of 2006, about 88 per cent of total financial sector assets are composed of bank assets (CBRT, 2006). Second, despite the extensive privatisation efforts, government-owned banks have retained their prominent role in the banking sector. Three government-owned banks operate in Turkey and they control almost one-third of the assets of the banking sector in 2009. Third, even though the government has been designated some provinces as priority provinces for investment and has provided incentives to accelerate the development process in these provinces since the late 1960s, 50 out of 81 provinces have been classified as priority provinces. Fourth, there are several instances that government-owned banks have provided loans for political reasons. For example, in 2007, two government-owned banks gave a \$750 million loan to the new owner of Turkey's second largest media conglomerate, who is close to the prime minister. The credits from the government-owned banks were given three days before the payment deadline at a below-market

² In Turkey, provinces are functional regions and include territorial units such as municipalities and villages.

interest rate, after private banks both in Turkey and abroad had turned him down.³ Hence, the findings of this study on the role of government-owned banks on regional growth and the impact of politics in this relationship will have several policy implications not only for Turkey, but also for other developing countries where government-owned banks operate pervasively.

Our findings seem to be consistent with the political view. We find that in general, credits by government-owned banks have no significant association with the provincial growth. Nonetheless, their credits are positively and significantly correlated with per capita gross domestic product (GDP) growth rate in the less-developed and politically connected provinces, and also the developed and politically non-advocate provinces. Unlike government-owned bank credits, private bank credits are found to be positively and significantly correlated with the per capita income growth, regardless of the development level of the province or the advocacy of the local administration to the central government. Our results also suggest that public investments can be an alternative to spur income growth, especially in the less-developed provinces.

The organisation of the article is as follows: in Section 2, we present recent literature on the impact of government-owned banks on economic growth. The Turkish banking industry is explained in Section 3. Section 4 presents the empirical model and the data. The empirical results and robustness checks are summarised in Sections 5 and 6, respectively. The article is concluded in Section 7.

2. LITERATURE REVIEW

In the 1990s, government ownership of banks was pervasive across the globe (La Porta et al., 2002). In developing countries, compelling amounts of the largest banks' assets were controlled by the government (Levy-Yeyati et al., 2004). Government banks hold significant shares in the banking industry in Europe as well. Munchau (2006) notes that in France, about two-thirds of the banking system is owned by government; in Germany, that proportion increases to about 75 per cent; in Spain, the public sector is still a dominant player among savings banks (*cajas*).

Theoretical objections to government ownership of banks or market failure in banking have been defended by the existence of large positive externalities in favour of government bank ownership: poverty alleviation, financial development and special focus on companies and individuals who might not be

³ Birch (2008) reported that, 'The loan provided by government-owned banks was far from cheap; the 10-year financing with three years of non-payment was priced at the LIBOR plus 485 basis points'.

creditworthy. However, the empirical literature analysing the relationship between government-owned banks and growth generally supports the political view explanation: their prevalence is negatively correlated with economic growth and hinders financial development. For example, La Porta et al. (2002) using a panel of 92 countries report that government ownership⁴ is larger in countries with low levels of per capita income, underdeveloped financial systems and lower productivity growth. Moreover, government ownership of banks is found to reduce economic growth and financial development, controlling for initial per capita income and initial financial development.⁵ Berger et al. (2004) also find that as the market share of the government-owned banks increases, the GDP growth rate in developing countries declines significantly.⁶

In the cross-country analysis, poor performance of the government-owned banks is explained by the possible control of politicians on the management of these banks to pursue their private interests. There are few studies in the literature that examine the political motivations behind the lending behaviour of government-owned banks. Sapienza (2004) examines banks in Italy and finds that government-owned banks charge lower interest rates than privately owned banks. On average, the difference is about 44 basis points. She reports that government-owned banks favoured large firms in general and firms located in the distressed areas of southern Italy, where political patronage is more widespread. Moreover, she presents evidence that party affiliation of the chairperson of the government-owned bank has a positive impact on the interest rate discount given by the bank in the provinces where the associated party is stronger. Similar findings are reported in Japan. The results of a study by Imai (2009) show that the members of the ruling Liberal Democratic Party used government-owned bank loans for political purposes.

To our knowledge, there are three studies that examine the lending behaviour of government-owned banks in developing economies. Khwaja and Mian (2005) present evidence that government-owned banks in Pakistan provide loans to high-risk borrowers with political connections. They estimate that the cost of this lending behaviour is 0.3 to 1.9 per cent of the GDP every year. Cole (2009) reports that although government-owned banks provide 5 to 10 per cent more agricultural credits during election years in India, they were less likely to be repaid than in non-election years. Moreover, these extra credits

⁴ They measure government ownership of banks by using the share of government in the assets of the top 10 banks.

⁵ The major econometric problem in these cross-country studies is the endogeneity issue. La Porta et al. (2002) address this problem mainly by using the instrumental variables such as legal origins (Common law, French civil law, German civil law, Scandinavian civil law, and Socialist legal origin) or religious compositions of the populations (Protestants, Catholic, Muslim and others) in different countries.

⁶ The endogeneity problem in this study has been mitigated by using one-year lagged values of the exogenous variables.

were not found to affect agricultural output at the provincial level significantly. Onder and Ozyildirim (2010) analyse the impact of bank credit on provincial growth rates of per capita GDP in Turkey and find a paradoxical effect of government-owned bank credit on local growth: even though a positive association is observed in developed provinces, this relationship is negative or insignificant in less-developed provinces.

Overall, there is limited evidence in the literature that examines the relationship between economic growth and the lending activities of banks at the local level. Moreover, none of the previous studies examines the role of credits by government-owned banks on the growth rate of provinces that have political clout. In this study, we try to fill this gap in the literature by examining the relationship between bank credits and local growth especially in politically connected areas.

3. BANKING IN TURKEY

The banking sector constitutes a large part of the Turkish financial system. Although banks are involved in every aspect of financial activity in the country and have been responsible for the expansion of the financial system, the size of the banking sector is relatively small in Turkey compared to developed economies. In 2006, the ratio of bank assets to the nominal GDP was only 86.7 per cent.

The Turkish banking sector is comprised of deposit banks and investment and development banks. There were 46 banks operating in Turkey at the end of 2006 (Panel A, Table 1). Three of the domestic deposit banks were government owned and 14 of them were private. During the period between 1990 and 2006, the system expanded rapidly but ultimately underwent substantial consolidation, shrinking from 79 banks in 2000 to 46 in 2006. The number of government-owned banks decreased mainly because of privatisation efforts. The decline in the number of the private banks can be explained by the failure of 17 deposit banks during the major banking and liquidity crisis in the 1999–2001 period.

Over the last two decades, the market structure of the banking sector in Turkey has changed significantly. During the 1990–2000 period with easy entry restrictions, the average asset concentration of the largest five banks was 47 per cent. The failure of deposit banks and the significant mergers and acquisitions resulted in the increase in the concentration ratio of five largest banks to 63 per cent in 2006, suggesting moderately concentrated market structure. Moreover, while the largest bank in terms of asset size was a government-owned bank, Ziraat Bank, until 2002, the leader in the sector was a private bank, Is Bank, in 2006 (Banking Regulatory and Supervision Authority, BRSA, 2009).

In Turkey, banks operate through their branches distributed throughout the country, a system called branch banking. There are no local or regional banks.

TABLE 1
Banks and Branches in Turkey

	<i>Panel A – Total Number of</i>					
	<i>Banks</i>			<i>Branches</i>		
	<i>1990</i>	<i>2006</i>	<i>1990–2006</i>	<i>1990</i>	<i>2006</i>	<i>1990–2006</i>
Deposit Banks						
Government-Owned Banks	8	3	4.65	2,967	2,134	2,656
Private Banks	25	14	26.82	3,443	3,557	3,554
Foreign Banks ^a	23	15	16.65	113	1,066	219
Non-Deposit Banks						
Investment and Development Banks	10	13	13.47	17	44	22
All Banks	66	46	64.18	6,540	6,802	6,175
<i>Panel B – Shares of Branches (per cent) in</i>						
	<i>Istanbul</i>			<i>Three Big Provinces^b</i>		
	<i>1990</i>	<i>2006</i>	<i>1990–2006</i>	<i>1990</i>	<i>2006</i>	<i>1990–2006</i>
Deposit Banks						
Government-Owned Banks	11.8	15.2	12.6	26.2	31.7	28.0
Private Banks	26.7	33.9	33.6	44.3	52.6	51.3
Foreign Banks	47.8	45.3	50.3	76.1	62.2	72.7
Non-Deposit Banks						
Investment and Development Banks	47.1	38.6	55.8	76.5	65.9	85.5
All Banks	20.3	29.8	25.8	36.6	47.5	42.6
Number of All Branches	1,333	2,031	1,700	2,403	3,240	2,801

Notes:

^a In 2006, seven foreign banks were established and operating in Turkey, whereas 16 foreign banks, established abroad, were only allowed to operate through opening their branches in Turkey. Foreign banks increased their networks recently by purchasing several mid-sized private banks.

^b The three provinces are Istanbul, Ankara and Izmir.

Source: Turkish Banking Association.

All private banks have their headquarters in Istanbul (the financial capital), and all government-owned banks are headquartered in Ankara (the country's capital). With the consolidation of the banking system (particularly among mid-size private banks) and the downsizing of government-owned banks after the crisis in 2001, the number of bank branches declined from 7,837 in 2000 to 6,802 in 2006.

Neither the branches of government-owned banks nor those of private banks are distributed uniformly in Turkey. The effect of uneven development within Turkey manifested in the absolute dominance of bank branches in three provinces, Istanbul, Ankara and Izmir. These provinces collected 63 per cent of the deposits and received 67 per cent of the credits granted in 2006. As seen from

Panel B, Table 1, 47.5 per cent of all bank branches were located in these provinces in 2006. Istanbul had the highest share, with 30 per cent of all bank branches and 34 per cent of private bank branches in 2006. During the 1990–2006 period, on average, one-fourth of all bank branches were located in Istanbul. Moreover, this province holds more than 10 per cent of government-owned bank branches.

The investment and development banks have a small share in the banking sector (e.g. 3.16 per cent in 2006) and engage in services such as trading in goods, real estate or stock markets or to performing financial leasing activities. Foreign banks also hold a small portion of the system in Turkey compared to other developing economies. However, structural reforms and Turkey's EU accession prospect have attracted European and other foreign banks to invest in the Turkish banking system since 2005, and their share has increased significantly in recent years, i.e. from 5 per cent in 2004 to 12 per cent in 2006.

Table 2 shows some characteristics of the government-owned, private and foreign deposit banks operating in Turkey in 1990 and 2006. It is observed that the profitability of private banks is lower than the profitability of government-owned banks in 2006. The high return on assets ratio of government-owned banks indicates that these banks may be acting as profit seekers. Vakıfbank,

TABLE 2
Deposit Bank Characteristics According to Ownership Type

	<i>Government-Owned Banks</i>		<i>Private Banks</i>		<i>Foreign Banks</i>	
	<i>1990</i>	<i>2006</i>	<i>1990</i>	<i>2006</i>	<i>1990</i>	<i>2006</i>
Return on Total Assets (per cent)	1.81	2.60	2.85	1.75	3.27	2.46
Capital-to-Total Assets (per cent)	9.88	10.36	8.83	10.39	8.92	11.99
Non-Performing Loans-to-Total Loans (per cent)	1.70	0.16	0.52	0.44	0.65	0.28
Liquid Assets-to-Total Assets (per cent)	29.02	44.35	39.52	37.74	42.62	38.42
Loans-to-Total Assets (per cent)	45.79	32.83	42.85	48.08	47.59	56.29
Share in Total Assets (per cent)	45.21	29.57	42.32	54.78	3.42	12.24
Share in Total Loans (per cent)	45.13	21.58	39.53	58.56	3.54	15.30
Share in Total Deposits (per cent)	48.51	35.70	49.10	52.32	2.38	11.96
Assets per Branch (000TL)	26,585	66,711	21,443	74,153	29,942	55,339
Deposits per Branch (000TL)	15,584	51,970	13,594	45,695	11,420	34,907
Branches per Bank	370.88	716.33	137.72	255.86	8.86	71.47
Number of Personnel	80,825	39,223	68,145	73,220	3,012	25,794
Personnel per Branch	27.24	18.00	19.79	20.44	15.14	24.06

Note:

TL denotes Turkish lira. All monetary values are expressed in terms of their value in 2006.

Source: Turkish Banking Association.

one of the government-owned banks, can be considered a profit-seeking deposit bank since it has been publicly traded on the Istanbul Stock Exchange since 1987, although the government holds almost 75 per cent of its shares. Since the 2001 crisis, the other two government-owned banks have become much more efficient in expectation of privatisation. On the other hand, core earnings of both private and foreign banks have been slightly dampened because of the increased competition among these banks.

With Turkey's risky operating environment, the capitalisation ratio can be considered to be only adequate for the three different ownership types of banks in Turkey. They have held fewer non-performing loans in the 2000s, compared to the 1990s. The liquidity of the Turkish banking sector is still high, around 40 per cent, considering the removal of the short-term financing needs of government in 2001 (see Ozkan, 2005, for the 2000–01 crisis). As seen in Table 2, government-owned banks have more liquid assets than private and foreign banks. Overall, after the establishment of the autonomous BRSA in 2000, the financial performance of banks has improved remarkably (BRSA, 2009).

Since the early 1990s, private deposit banks have dominated the banking sector in Turkey. They held more than half of the assets of the banking sector (54.8 per cent) in 2006. Their share in the credit and deposit markets reached more than 50 per cent in 2006. In comparison, government-owned banks hold 35.7 per cent of bank deposits, and their involvement in the loan market has declined considerably since the 1990s. Foreign banks have increased their participation in the Turkish banking system since 2005 by purchasing some domestic banks and increasing the number of branches. Consequent to the horizontal mergers and maintenance of networks, their share in the deposit and the loan markets increased to 12 per cent and 15.3 per cent, respectively.

Unlike government-owned banks, both private and foreign banks have increased their capacity over time by increasing their personnel and number of branches. The significant loss of capacity in government-owned banks can be explained by restructuring/downsizing efforts by the government after the financial crisis in 2001. Because of the consolidation of some government-owned banks, the number of branches per bank has increased. Nevertheless, holding almost one-third of the total assets, government-owned banks have retained their significant presence in the banking sector.

4. EMPIRICAL MODEL AND DATA

a. Empirical Model

To examine the relationship between bank credits and local growth in the politically connected provinces, first the measure for political connection has to

be defined. In Turkey, municipalities are the local administrative units and are highly dependent on the central government for their income. They obtain their revenues from local resources such as municipal taxes, user charges and other revenues. About 75 per cent of local government revenues are obtained through transfers from the central government. In addition to these transfers, municipalities can receive loans from the central government or from private credit markets with a treasury reimbursement guarantee. It can be argued that if the local administrator of the province, its mayor,⁷ belongs to the ruling party, it may be easier to get credits from government-owned banks. In this study, we define political connection of a province with the political party affiliation of its mayor. If the mayor of a province is from the ruling party, this province is defined to be politically connected or an advocate province, whereas if the mayor does not belong to the political party of the government, it is called a non-advocate province.

The following fixed effects model is estimated to assess how the impact of government-owned and private bank credits on economic growth at the provincial level changes with the political advocacy of provinces in Turkey over the period 1992–2006:

$$\begin{aligned} GROWTH_{it} = & \alpha_0 + \sum_{i=1}^{80} \beta_i PROVINCE_i + \alpha_1 GOVERNMENT_{it} + \alpha_2 PRIVATE_{it} \\ & + \gamma_0 ADVOCATE_{it} + \gamma_1 ADVOCATE_{it} * GOVERNMENT_{it} \\ & + \gamma_2 ADVOCATE_{it} * PRIVATE_{it} + \Phi CONTROL_{it} + u_{it}, \end{aligned}$$

where $GROWTH_{it}$ is the growth rate in real GDP per capita in province i in year t . $PROVINCE_i$ is a vector of dummy variables representing 80 provinces in Turkey. $GOVERNMENT_{it}$ and $PRIVATE_{it}$ represent per capita credits provided by government-owned and private banks to province i in year t , respectively.⁸ The dummy variable, $ADVOCATE$, takes a value of 1 for the provinces where the mayor is affiliated with the ruling party and 0 otherwise. Since the local authorities in Turkey are not invested with fiscal powers, the political affiliation of the mayor to the ruling party (γ_0) is hypothesised to be significantly associated with the development level of provinces. $CONTROL$ represents the vector of control variables that might affect per capita GDP growth rate of a province. These variables include initial GDP per capita

⁷ The mayor is the chief executive and representative of the municipality. She/he is elected for a term of five years.

⁸ In the finance-growth literature, credit/GDP is used as a measure of financial development. However, in this study, our aim is to measure the impact of bank credit on growth rather than analysing the impact of financial development on growth. Therefore, we use per capita credits granted by government-owned banks or private banks at the province level.

(GDP_{-1}), public investments (*PUBLIC INVESTMENT*), urban population (*URBANISATION*), human capital in the province (*SCHOOLING*), functional distance of the province (*DISTANCE*) and current state of the domestic economy (*CRISIS*).

α_1 and α_2 are the coefficients on the government-owned and private bank credits, respectively. They represent the association between bank credits and local growth in the non-advocate provinces. γ_1 and γ_2 are the coefficients on the interaction variables between bank credits and advocate provinces. These coefficients indicate the changes in the association between government-owned or private bank credit and the growth rate of per capita GDP in advocate provinces. If the development view is correct, government-owned bank credits are expected to have a positive and significant association with the local development for non-advocate and advocate provinces. In other words, α_1 and $(\alpha_1 + \gamma_1)$ are expected to be positive. If the political view is correct, the coefficients on government-owned bank credits in all types of provinces are expected to be negative or insignificant, suggesting that the credits are provided for other reasons rather than financing growth-oriented projects. On the other hand, private bank credits are expected to have a positive relation with provincial growth in both non-advocate and advocate provinces, i.e. α_2 and $(\alpha_2 + \gamma_2)$ are hypothesised to be positive.

Public investments are measured by the real public investments per capita in a province. It is hypothesised that public investments have positive effect on per capita provincial GDP growth rate. Similarly, urban population and human capital are expected to be positively associated with the growth rate of provincial per capita GDP. The urbanisation rate is measured as the proportion of population that resides in the urban area of the province. Because primary and secondary education is compulsory in Turkey, the number of high school students per high school teacher is used as a measure of schooling or human capital. We use a dummy variable for crisis periods to incorporate the impact of general downturns of the domestic economy on provincial markets. It is expected that during crisis periods, the growth rate of provincial per capita GDPs is lower. Turkey experienced a short-duration liquidity crisis in 1994 and a long-duration financial crisis during 1999–2001. In 1994, the real GDP per capita declined by 4.7 per cent. During the banking and liquidity crises, the growth rate in real GDP per capita fluctuated. In 1999, it was –3.37 per cent, then it increased by 6.77 per cent in 2000 and declined by 5.67 per cent in 2001. The 1999–2001 crisis resulted in the failure or consolidation of one government-owned and 17 private banks. In the empirical model, the *CRISIS* dummy variable takes a value of 1 in 1994, 1999, 2000 and 2001, and 0 otherwise.

In a regionally segmented banking system, banks are expected to turn local funds into productive investment opportunities that will increase local

output. However, in a centrally concentrated banking system, as in Turkey, intermediation of local savings through local branches creates a pool of funds at headquarters, and regional loan demands can be satisfied from this pool without considering the regional deposit bases. In Turkey, all headquarters of the private banks are located in Istanbul (*Ist*) and all headquarters of the government-owned banks are located in Ankara (*Ank*). As the distance from headquarters increases, it may be more difficult to find financing through the banking system (Berger and Udell, 2002; Ozyildirim and Onder, 2007; Jimenez et al., 2009). However, banks may be physically closer to potential borrowers if they have branches in local markets. In the empirical model, it is hypothesised that it is not a province's physical distance from headquarters, but its functional distance from headquarters that may have relation with local growth. To compute functional distance (see Alessandrini et al., 2005), the physical distance from headquarters is adjusted with the number of branches in a province:

$$DISTANCE_{it} = \frac{[B_{Git}\ln(1 + km_{i,Ank})] + [B_{Pit}\ln(1 + km_{i,Ist})]}{B_{Git} + B_{Pit}},$$

where B_{Git} and B_{Pit} are the number of government-owned and private bank branches located in province i in year t , respectively. $km_{i,Ank}$ and $km_{i,Ist}$ are the distance in kilometres between the province i and Ankara, and between the province i and Istanbul, respectively.

Since 1968, as part of Turkey's planned development strategies, provinces have been grouped as priority and non-priority provinces depending on their development level. The list of priority provinces has been published annually in the programme of the Council of Ministers on the implementation, coordination and monitoring of the public investment programme. At the beginning, there were 23 provinces classified as priority development provinces. The number of priority provinces has been 50 since 1998. The government provides direct and indirect support for the development of these provinces to reduce the disparity among provinces.

To analyse whether government-owned and private bank credits affect the growth rates in the priority and non-priority provinces differently and whether this relationship changes with the political connection of these provinces, we estimate our model for these two groups of provinces separately. If government-owned banks provide credits to less-developed areas, then the coefficient of the *GOVERNMENT* is expected to be greater than the coefficient of the *PRIVATE*, especially in the less-developed provinces. Furthermore, it is expected that the economic significance of the effect of bank credits regardless of ownership type on the growth rate of provinces will not be significantly different in advocate and non-advocate provinces. However, if the political view

is valid, then the coefficient on interaction variable with *GOVERNMENT* is expected to be positive.

b. The Data

A panel dataset is constructed by employing annual data on provincial characteristics and credits provided by government-owned and private banks in the provinces for the period between 1992 and 2006. There were 67 provinces in Turkey at the beginning of the sample period. Fourteen new provinces were established from districts of existing provinces during the sample period. In the estimations, old provinces were excluded from the sample in the year when new provinces were formed because of the artificial decline in the GDP level of the old provinces in that year.

All data about banking activities are obtained from the Turkish Banking Association. The other variables are taken from the Turkish Statistics Institute and the Ministry of Finance. Table 3 shows the mean values of bank credits and provincial characteristics for the whole sample, priority, non-priority, advocate and non-advocate provinces. The definitions, the descriptive statistics of all variables and their correlation coefficients are presented in Appendix Table A1.

During the sample period, the average annual growth rate of real GDP in Turkish provinces is 3.64 per cent. Since population growth rate is still positive at a rate of 0.43 per cent, the annual growth rate in GDP per capita is slightly lower: 3.23 per cent. Although the growth rate in GDP is higher in non-priority provinces than priority provinces, because of the migration from priority to non-priority provinces, real per capita GDP growth rate is lower in the non-priority provinces. The annual population growth rate was -0.05 per cent in the priority provinces, whereas it was 1.21 per cent in the non-priority provinces. The notable difference between priority and non-priority provinces is observed in terms of real GDP levels and lending activities.

The growth rate of GDP per capita is higher in advocate provinces than in non-advocate provinces (4.05 per cent vs. 1.88 per cent). Although all types of bank credits per capita are higher in the advocate provinces, the total number of bank branches is higher in the non-advocate provinces.

Real per capita public investments vary significantly between priority and non-priority provinces. The population growth of non-priority provinces, mostly because of migration from priority regions, caused a growing amount of public investments in the non-priority regions as well. According to the migration statistics, around 70 per cent of the migrating population has been choosing destinations in the non-priority regions.

On average, more than half the population lives in the urban areas of the Turkish provinces. The average urbanisation rate is 54.8 per cent during the

TABLE 3
The Mean Values of Some Characteristics of Turkish Provinces in the Sample Period 1992–2006

	<i>Provinces</i>				
	<i>All</i>	<i>Priority</i>	<i>Non-Priority</i>	<i>Advocate</i>	<i>Non-Advocate</i>
Real Outputs					
Growth in real GDP (per cent)	3.64	3.36	4.08	4.31	2.56
Growth in real GDP per capita (per cent)	3.23	3.43	2.91	4.05	1.88
Real GDP (in million TL)	1,437	498	2,972	1,412	1,544
Real GDP per capita (TL)	1,434	1,060	2,044	1,484	1,362
Banking Variables (TL)					
Bank Credits per capita	585.85	318.08	1,024.79	627.18	564.97
Government-owned Bank Credits per capita	233.67	191.81	302.30	244.22	230.93
Private Bank Credits per capita	352.18	126.27	722.50	382.97	334.04
Other Variables					
Public Investments per capita (TL)	81.17	73.79	93.31	80.50	85.03
Urban Population Rate (per cent)	54.77	50.90	61.07	55.09	54.47
Schooling (number of students)	17.06	17.54	16.31	16.86	17.37
Population (in thousands)	798	476	1,320	772	901
Growth in Population (per cent)	0.43	−0.05	1.21	0.17	0.76
Mayor is Politically Affiliated ^a (per cent)	58.59	56.72	61.59	100	0
Distance	6.25	6.52	5.81	6.23	6.30
Number of Branches of All Banks	79.91	29.12	162.50	76.04	93.00
Number of Government-owned Bank Branches	34.03	18.35	59.51	32.72	38.68
Number of Private Bank Branches	43.20	10.53	96.24	40.29	51.72

Notes:

All monetary values are expressed in terms of their value in 2006, when the average exchange rate was US\$1 = 1.41TL.

^a The elected mayor is politically affiliated with the incumbent government.

Sources: Turkish Banking Association, Turkish Statistical Institute and Ministry of Finance.

sample period. The non-priority provinces have more urban population than priority provinces and are becoming more populated because of continuing migration. The number and quality of schools, hospitals, job opportunities, economic and social conditions might explain this mobility. A negative population growth rate in the priority regions (−0.05 per cent), with an average fertility rate of 3.32 per cent, indicates a significant amount of migrating population from priority provinces. On the other hand, the non-priority provinces had a growth rate of 1.21 per cent, despite a 2.11 per cent fertility rate. In terms of schooling, on average, high school teachers have more than one additional student in their classes in the priority provinces compared to the non-priority provinces.

During the sample period, the majority of provinces are advocate provinces. The percentage of advocate provinces among priority provinces is lower than the advocate provinces among non-priority provinces. The non-priority provinces are found to be closer to the banks' headquarters than the priority provinces. In addition to physical distance, the priority provinces are peripheral to the headquarters because they have fewer branches. The average number of branches in non-priority provinces is 162.5 but is only 29 in priority ones.

5. EMPIRICAL RESULTS

The results of the fixed effects model are presented in Table 4. It is found that credits provided by both government-owned and private banks are positively associated with per capita GDP growth rate in both advocate and non-advocate provinces.⁹ However, the significant association of these credits to the provincial growth rates changes according to the ownership types of banks. The credits provided by the government-owned banks are found to be significant in only advocate provinces, less-developed provinces that are politically connected and developed provinces that are not politically connected. On the other hand, private bank credits are found to be significantly associated with the growth rate in all provinces regardless of their development level or their advocacy to the ruling party.

These findings seem to support the political view rather than the development view. In the less-developed regions, as emphasised by Micco and Panizza (2006), local politicians may affect lending decisions of the government-owned banks in their provinces, and they may closely monitor the funded projects to ensure their re-elections. Since there is almost no incentive for loan officers of government-owned banks to reduce the moral hazard problem at the provincial level, local administrators may have played a role in lowering asymmetric information between lenders and borrowers in the poor regions. However, in our analysis, role of mayors on the government-owned bank lending did not turn into welfare improving in the developed/non-priority advocate provinces. Khwaja and Mian (2005) find that politically connected borrowers do not have real investments to make, and hence they have little incentive to borrow from private banks where the loan has to be repaid. For our findings, we may argue similarly such that local administrators in the developed advocate regions might

⁹ We also estimated this model without interaction variable with *ADVOCATE*. It is found that the association between provincial growth rate and the government-owned bank credit per capita is not found to be significant in neither all provinces nor in provinces classified as priority or non-priority. On the other hand, the coefficient on private bank credits is found to be significant in all provinces, priority and non-priority provinces. The results are not reported to save space. They are upon request from the authors.

TABLE 4
Empirical Results of Fixed Effects with Interaction Variables between Advocate and
Non-Advocate Provinces

	<i>All Provinces</i>	<i>Priority Provinces</i>	<i>Non-Priority Provinces</i>
<i>GOVERNMENT</i> (α_1)	0.0121 (0.0115)	0.0095 (0.0100)	0.0312* (0.0182)
<i>ADVOCATE * GOVERNMENT</i> (γ_1)	0.0179* (0.0091)	0.0311*** (0.0062)	-0.0193* (0.0109)
<i>PRIVATE</i> (α_2)	0.0200** (0.0078)	0.1035*** (0.0377)	0.0131** (0.0056)
<i>ADVOCATE * PRIVATE</i> (γ_2)	-0.0098* (0.0057)	-0.0434 (0.0388)	-0.0027 (0.0027)
<i>PUBLIC INVESTMENT</i>	0.1090*** (0.0375)	0.2036*** (0.0534)	0.0632 (0.0431)
<i>URBANISATION</i>	0.7463*** (0.0813)	0.5949*** (0.0922)	0.7744*** (0.1157)
<i>SCHOOLING</i>	0.0003 (0.0006)	0.0009 (0.0007)	-0.0015 (0.0012)
<i>DISTANCE</i>	0.0496 (0.0417)	0.3116*** (0.1051)	0.0334 (0.0301)
<i>CRISIS</i>	-0.0863*** (0.0038)	-0.0748*** (0.0054)	-0.0864*** (0.0057)
<i>ADVOCATE</i>	0.0097* (0.0059)	0.0115 (0.0073)	0.0092 (0.0061)
<i>GDP</i> ₋₁	-0.1965*** (0.0248)	-0.2477*** (0.0273)	-0.1910*** (0.0596)
<i>Intercept</i>	2.0563*** (0.3571)	0.9034 (0.6878)	2.2082*** (0.7918)
Adjusted R^2	0.4018	0.4098	0.4498
Number of Observations	1,120	680	440
Number of Provinces	80	49	30
Hypotheses			
$H_1: \alpha_1 + \gamma_1 = 0$	9.57***	8.83***	0.33
$H_2: \alpha_2 + \gamma_2 = 0$	5.87**	23.87***	5.04**
$H_3: \alpha_1 = \alpha_2$	0.28	5.40**	0.92
$H_4: \alpha_1 + \gamma_1 = \alpha_2 + \gamma_2$	3.70**	1.04	0.00

Notes:

The numbers in parentheses denote Newey–West heteroscedasticity and autocorrelation corrected standard errors. *, ** and *** show significance at the 10 per cent, 5 per cent and 1 per cent levels, respectively. The first two hypotheses (H_1 and H_2) test whether the coefficients on *GOVERNMENT* and *PRIVATE* in advocate provinces are significantly different from zero, respectively. H_3 and H_4 test the equality of coefficients on *GOVERNMENT* and *PRIVATE* in non-advocate and advocate provinces, respectively. The hypotheses are tested using the Wald test. χ^2 's are reported in the table with their significance.

have to help politically connected firms to borrow from government-owned banks for their economically undesirable projects providing evidence for political view in Turkey.

When the economic significance of credits by government-owned and private banks on local growth is considered, it is found that a 1 per cent increase in

per capita government-owned bank credits is associated with a 0.030 per cent increase in per capita GDP growth rate in advocate provinces, whereas a 1 per cent increase in per capita private owned bank credits is associated with a 0.020 per cent increase in non-advocate provinces and 0.010 per cent increase in advocate provinces.

The positive impact of private bank credits on local growth is noteworthy in less-developed priority provinces. For example, a 1 per cent increase in per capita private bank credits in non-advocate priority provinces is expected to increase the growth rate in these provinces from 1.924 per cent to 2.123 per cent.¹⁰ Similarly, the same increase in priority advocate provinces is expected to increase the growth rate of these provinces from 4.360 per cent to 4.622 per cent, whereas a similar increase in per capita government-owned bank credits is found to improve the growth rate to 4.537 per cent in advocate less-developed provinces. Although government-owned bank credits seem to help advocate less-developed provinces, their benefit is lower than that of the private bank credits.

When non-priority provinces are examined, it is found that the association between government-owned banks and provincial growth rate is significant in non-advocate provinces. The negative coefficient on the interaction variable between *ADVOCATE* and *GOVERNMENT* indicates that the association between government-owned bank credits and growth rate is lower in advocate provinces than in non-advocate provinces. A 1 per cent increase in government-owned bank credits is expected to increase the growth rate of non-advocate, developed provinces from 1.804 per cent to 1.860 per cent. On the other hand, the association between private bank credits and growth is not significantly different in the advocate and the non-advocate non-priority provinces. When we calculate the economic significance of private bank credits, it is found that a 1 per cent increase in private credits in non-priority provinces will change the growth rate from 3.582 per cent to 3.619 per cent in advocate provinces, and from 1.804 per cent to 1.828 per cent in non-advocate provinces.

The insignificant coefficient on the impact of government-owned bank credits can be explained by the behaviour of these banks in priority provinces. The government-owned banks may provide more credits in priority provinces that are in shortage of funding. Hence, the causality may not be from credits to local growth but from low local growth to government-owned bank credits, resulting in an insignificant coefficient on government-owned bank credits in all and priority provinces.¹¹

¹⁰ The mean per capita real GDP growth rate is 1.924 per cent in non-advocate priority provinces and 4.360 per cent in advocate priority provinces. Similarly, the mean growth rate is equal to 1.804 per cent and 3.582 per cent in non-priority, non-advocate and advocate provinces, respectively.

¹¹ We would like to thank the referee to bring this point to our attention.

The impacts of the control variables on local growth are as expected. Public investments and urbanisation are significantly and positively associated with growth rates in all provinces. In terms of economic significance, the impact of public investments on local growth is more than the impact of bank credits. Significant losses of growth in the per capita GDPs in Turkish provinces are observed in crisis years during 1992–2006.

Similar to the results from all provinces, urbanisation has a positive and significant relationship with the growth rate of per capita GDP both in the priority and non-priority provinces. It is found that the contribution of public investments is significant in the priority provinces, but not significant in the non-priority provinces. One explanation is that public investments in the developed non-priority provinces may be in health and education rather than infrastructure, and therefore their effect may not be observed immediately (see Rodriguez-Oreggia and Rodriguez-Pose, 2004, for similar findings in the developed regions of Mexico).

The high school student enrolment per teacher has no significant association with the growth of the per capita GDPs of the priority and non-priority provinces. In the priority provinces, increased geographical distance of a province from the banking-decision centres has a significant and positive relationship with the growth rate of per capita real GDP. Since the distance is measured as a functional distance and adjusted with the number of branches in a province, in the interpretation of the impact of the functional distance on the local economy, we use the hypothesis that functionally distant banks specialise in lending to more transparent borrowers, irrespective of the level of experience accumulated by the bank in the local market (see Jimenez et al., 2009). Depending on the physical distance of a province from the banks' headquarters, increasing the branching networks of banks, especially in the less-developed provinces, may indicate growing profitable and transparent opportunities for banks in these regions. This finding does not suggest causation from increasing bank concentration to local growth, but rather a positive relation between increasing networks of banks and the growth in the provincial per capita GDPs, especially in the less-developed provinces where both private and government-owned banks have small numbers of branches (see Table 3). If the mayor of the province belongs to the ruling party, that province has a higher growth rate than the other provinces.

6. ROBUSTNESS CHECKS

It can be argued that the coefficient on the credit variable in ordinary least squares (OLS) regressions can be biased because of several reasons such as measurement error, reverse causation and omitted variables. In the literature,

the alternative methods to OLS are offered. One of them is to identify an instrumental variable (IV) that will isolate part of the variation in the endogenous variable that is not associated with the biases. In the cross-country growth literature, legal, geographical or ethnic diversity are used as possible instruments. However, in our analysis, since cross-sections are regions of the same country, finding appropriate IVs is not an easy task (Durlauf et al., 2005). As a robustness check, we used the number of representatives in the Turkish National Assembly from each province as an IV variable¹² for the credits provided by the government-owned banks (*GOVERNMENT*) and estimate two-stage least squares regression. The estimated coefficients on bank-related variables are reported in Panel A, Table 5. It is found that the government-owned bank credit per capita is not significantly associated with the growth rate in the non-advocate Turkish provinces whether they are designated as priority or not. However, if all provinces or priority provinces have a mayor from the ruling political party (advocate provinces), the coefficients are found to increase significantly.

Considering the high correlation between credits provided by government-owned and private bank (see Appendix Table A1), multicollinearity may also cause biases in the estimated coefficients reported in Table 4. Therefore, we estimate our model with only *GOVERNMENT* or *PRIVATE* by controlling for other variables such as urbanisation, schooling, public investments, distance, initial GDP and crisis. As seen in Panel B, Table 5, government-owned bank credits do not have a significant coefficient in general, but they are positively associated with the per capita real GDP growth rate in advocate, less-developed and non-advocate, developed provinces. Furthermore, there is positive and significant association between private bank credits and the economic growth rate of Turkish provinces, regardless of the development level of a province. The association between private bank credits and provincial growth rate is not found to change significantly in advocate provinces.

As another robustness check, we estimate our model using dynamic GMM excluding the provincial fixed effects. The consistency of the dynamic GMM estimator depends on the validity of the instrument and the assumption that error term does not exhibit serial correlation. Our estimates indicate that the coefficients are not consistent because the results of Sargan tests for all provinces and for priority and non-priority provinces imply that the instrument is not valid. They indicate that our model is over-identified. Moreover, the error term exhibits serial correlation. Unlike our results with fixed effects, the

¹² Although *ADVOCATE* can be considered to be an alternative IV, the correlation between *ADVOCATE* and *GOVERNMENT* is found to be 0.0157 and the correlation coefficient between *ADVOCATE* and *GROWTH* is found to be 0.1423 (Table A1). Therefore, we did not use it as an IV for *GOVERNMENT*.

TABLE 5
Robustness Checks

	<i>All Provinces</i>	<i>Priority Provinces</i>	<i>Non-Priority Provinces</i>
<i>Panel A – IV Estimation</i>			
<i>GOVERNMENT</i>	–0.3403 (0.2778)	0.0238 (22.1138)	–0.1064 (0.3103)
<i>ADVOCATE * GOVERNMENT</i>	0.0268** (0.0106)	0.0342*** (0.0125)	0.0024 (0.0142)
<i>PRIVATE</i>	0.0321** (0.0135)	0.1094** (0.0454)	0.0189 (0.0117)
<i>ADVOCATE * PRIVATE</i>	–0.0115*** (0.0043)	–0.0499 (0.0315)	–0.0055 (0.0050)
Adjusted R^2	0.3949	0.4088	0.4465
<i>Panel B – Estimations without Controlling for Credit Granted by Other Ownership-Type Banks</i>			
<i>GOVERNMENT</i>	0.0143 (0.0135)	0.0105 (0.0122)	0.0407** (0.0194)
<i>ADVOCATE * GOVERNMENT</i>	0.0142 (0.0114)	0.0313*** (0.0080)	–0.0235** (0.0092)
Adjusted R^2	0.3970	0.3996	0.4461
<i>PRIVATE</i>	0.0190** (0.0075)	0.0837** (0.0356)	0.0163*** (0.0062)
<i>ADVOCATE * PRIVATE</i>	–0.0062 (0.0040)	–0.0177 (0.0355)	–0.0045 (0.0030)
Adjusted R^2	0.3964	0.4014	0.4490
<i>Panel C – Dynamic GMM Estimation</i>			
<i>GOVERNMENT</i>	0.0148*** (0.0040)	–0.0360*** (0.0137)	0.1050** (0.0479)
<i>ADVOCATE * GOVERNMENT</i>	0.1025*** (0.0095)	0.0645*** (0.0145)	0.0648 (0.0692)
<i>PRIVATE</i>	–0.0244*** (0.0048)	0.2854*** (0.0481)	–0.0007 (0.0158)
<i>ADVOCATE * PRIVATE</i>	0.0504*** (0.0059)	–0.1712*** (0.0420)	0.0184** (0.0081)
Sargan test: χ^2	76.7700	44.5200	23.7100
(p -value)	(<0.0001)	(<0.0001)	(<0.0001)
Serial Correlation Coefficient	0.9303	0.9584	0.9100
(p -value)	(<0.0001)	(<0.0001)	(<0.0001)

Notes:

The model is estimated but only the coefficients on government-owned and private bank credits are reported in this table. The standard errors are reported in parentheses under the coefficient estimates. *, ** and *** show significance at the 10 per cent, 5 per cent and 1 per cent levels, respectively. The estimates of all of the coefficients are available from the authors upon request. The Sargan test row indicates χ^2 and p -values in parentheses and tests the null hypothesis that the instruments used are not correlated with the residuals from the regression. The residual correlation coefficient tests the null hypothesis that the errors in the first-difference regression exhibit no second-order serial correlation.

coefficients on *GOVERNMENT* are found to be positive and significant in all provinces (Panel C, Table 5). Similar to our findings with fixed effects, they are found to be significant in less-developed and politically connected and non-advocate, developed provinces. Moreover, the coefficients on private bank credit per capita are found to be positive and significant in the priority provinces.

In sum, the robustness checks generally support the earlier findings. Government-owned banks' credits are found to be positively associated with the growth of the politically favoured less-developed provinces, and the developed but not politically connected provinces. On the other hand, private bank credits seem to benefit all and especially less-developed provinces.

7. CONCLUDING REMARKS

Government-owned banks are prevalent in developing countries as they are meant to fund socially desirable projects, alleviate poverty and focus on companies, individuals or areas that might not be considered creditworthy by private banks. Most of the existing empirical studies, however, do not support any of these roles of the government-owned banks. Rather, the studies are consistent with the 'political view' that government-owned banks direct scarce resources to promote private interests, in particular favouring politically desirable projects. In this study, we examine the role of credits provided by government-owned and private banks on per capita real GDP growth rate at the provincial level and investigate how this association changes in politically connected provinces.

This study's main finding is that credits from government-owned banks do not have a significant relationship with the local growth rate in Turkish provinces even though credits from private banks are positively associated with the real per capita GDPs of provinces, regardless of their development level or the political affiliation of their local administrators. Government-owned banks are found to benefit significantly only those provinces that are categorised as underdeveloped but politically closer to the incumbent government, and also those developed provinces that are not politically connected. These findings support the validity of the 'political view' in Turkey during 1992–2006. Interestingly, our results suggest that government can reduce the economic disparity among regions through public investments rather than credits provided by government-owned banks.

Our results suggest that government-owned banks do not achieve their apparent objectives of improving growth rates and reducing disparity among provinces. As it is difficult to completely de-politicise these banks in developing countries with relatively weak institutions, one alternative might be to privatise

these banks. Although there are evidences that former government-owned banks perform better in terms of profitability and efficiency after they have been privatised (see, for example, Clarke et al., 2005), the privatisation of government-owned banks may not immediately alleviate the existing market failures in the regional economies.

Another solution may be to replace government-owned banks with mutual banks or cooperative banks in the less-developed regions of Turkey. As shown by Iannotta et al. (2007), mutual banks in Europe have better loan quality and lower asset risk than both private and government-owned banks. Moreover, Gutierrez (2008) points out that in Italy, after recent merger activity, cooperative banks turned into cooperative groups and increased their presence in the provision of loans to certain market segments, particularly small and medium enterprises. However, cooperative banks may need to be innovative in local development finance while building profitable relationships with entrepreneurs and farmers in the less-developed regions.

The results of this study should be interpreted with caution like the other finance-growth studies that analyse the impact of financial services provided by government on growth. In addition to the endogeneity problem observed in the growth literature, government ownership of banks could be a policy choice to achieve some economic or political objectives of the incumbent governments (Rodrik, 2005).

APPENDIX

TABLE A1
Descriptive Statistics and Correlation Coefficients between Variables in All Provinces

	Mean	Standard Deviation	Correlation Coefficients							
			GROWTH	GOVERNMENT	PRIVATE	PUBLIC INVESTMENT	URBAN	SCHOOLING	DISTANCE	CRISIS
GROWTH	0.0323	0.0760	1.0000							
GOVERNMENT	0.2337	0.4129	0.0399							
PRIVATE	0.3522	0.7959	0.0424	0.3061						
PUBLIC	0.0812	0.1025	0.0374	0.2108	0.3223					
INVESTMENT										
URBAN	0.5477	0.1264	0.0064	0.2386	0.5436	0.2862				
SCHOOLING	17.0584	5.0730	0.0558	-0.0930	0.0336	-0.0395	0.1757			
DISTANCE	6.2488	0.8283	0.0038	-0.1937	-0.6441	-0.2646	-0.4278	0.2406		
CRISIS	0.2680	0.4431	-0.5465	0.0153	-0.0716	-0.0367	-0.0179	-0.0547	-0.0108	
ADVOCATE	0.5859	0.4928	0.1423	0.0157	0.0299	-0.0215	0.0244	-0.0492	-0.0460	-0.1370

Notes:

GROWTH is the growth rate in real GDP per capita; GOVERNMENT and PRIVATE represent real credits per capita provided by government-owned banks and private banks, respectively; PUBLIC INVESTMENT is real public investments per capita; URBAN is defined as the ratio of urban population to total population; SCHOOLING represents the number of high school students per high school teachers; DISTANCE is the distance to bank headquarters weighted by number of branches; CRISIS is a dummy variable, has a value of 1 for 1994, 1999, 2000, 2001; 0 otherwise; ADVOCATE is a dummy variable, has a value of 1 in provinces where the mayor is from the ruling political party.

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