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Islamic Banking in Turkey (1990-2000)

Boon or Bane for the Turkish Financial Sector?

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ABSTRACT

This paper aims to analyze the dual banking system in Turkey and investigate the relative efficiency position of Islamic banks for the last decade. Empirical studies on Islamic banking are not only rare and limited, but also lack rigorous methodologies. Our earlier results in El-Gamal and Inanoglu (2002) indicated that while the share of Islamic banks in Turkey is less than three percent, and their 15 years' experience compared poorly to conventional banks' 150 years experience, Islamic banks are no less efficient than their conventional counterparts. Indeed, we found Islamic banks to be more efficient when controlling for size of operations. Those results were obtained based on a Turkish banking panel dataset, thus controlling for macroeconomic and other factors affecting the performance of all banks. The current study looks more closely at the relative performance of the four main Turkish Islamic banks during the decade 1990-2000.

I. INTRODUCTION

The majority of financial flows in Turkey take place through the banking sector, which accounts for about 75% of the assets of the total financial sector assets in Turkey c.f. the BRSA *Report* (2001: 1). The average total loans to total assets ratio for the Turkish conventional banking sector is less than 40% (compared to above 60% for the U.S.) for the last decade. An unofficial but commonly quoted statistic estimates $15 billion is kept by households in the form of cash and gold, as hedges against Turkey's high inflation levels.[i]

The negative real return on bank deposits in Turkey may have contributed to this poor level of financial intermediation. However, it is also possible that generating deposits through the conventional banking system exacerbates this problem in Muslim countries. It has been suggested that the development of "interest-free" or "Islamic" banking may contribute to solving this problem. On the other hand, it is possible that Islamic banks, in addition to mobilizing previously hoarded funds, may draw funds from the conventional sector. Thus, an efficiency comparison of an Islamically-oriented banking system with the conventional system in a society should be examined, in order to determine whether the net effect of Islamic banking is positive or negative.

Islamic banks were allowed by government decree to operate in Turkey, starting in 1983 under the name of "Special Finance Houses" (SFHs). The two stated reasons for allowing their operations were: (i) to facilitate the inflow of funds from Gulf countries, and (ii) to mobilize the hoarded savings of observing Muslims. The early entrants were Al-Baraka Turk and Faisal Finance House, both established in 1984. Kuveyt-Turk Finance House was established in 1988, bringing the number of SFHs to three, till 1991. The year 1991 is considered the starting year for a new era in Islamic banking in Turkey. Anadolu Finance House, the first SFH with 100% domestic capital, was established in that year, followed by Ihlas Finance House in 1995 and by Asya Finance House in 1996, all domestically owned. These three domestic SFHs not only increased the competition but also led the older SFHs to change the legal status of these institutions.

Special Finance Houses were subject to a government decree under the Interest-free Banking Decree No. 83/7506 and were regulated and supervised by the Under-Secretariat of the Treasury and Central Bank of Turkey. In addition to its ambiguity, the decree gave conventional banks unfair competitive advantages over SFHs. In large part due to the introduction of domestic SFHs, existing Special Finance Houses became subject to the new Banking Act No: 4389 and 4491, effective 19 December 1999, which improved their competitive position.

The competitive disadvantage of SFHs became less pronounced with the revision of the banking law on 21 May 2001. Two main changes were the establishment of "Special Finance Houses Association" and the introduction of "Deposit Insurance Fund for SFHs" which guarantees the deposits at the SFHs in a manner similar to deposits at conventional banks. This fund was to be directly managed by the Special Finance Houses Association, whereas the

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conventional deposit insurance fund is managed by the state. This allowed SFHs to give more security to their depositors, while keeping their operations ostensibly interest-free.

In this regard, the efficiency of Islamic banks relative to their conventional counterparts in Turkey is expected to have improved after the year 2001. In a 2002 study, we studied the efficiencies of the four SFHs (Al-Baraka Turkish Finance House, Anadolu Finance House, Faisal Finance House[ii] and Kuveyt-Turk Finance House) that were in operation throughout the previous decade, relative to those of forty-nine conventional banks in operation (managing 93% of the total assets of conventional banking during the decade). Ihlas Finance House,[iii] which was founded in 1995, and Asya Finance House, which was founded in 1996, were excluded from the dataset since these banks were not in operation for more than half of the decade. In this paper, we shall review some of the major results in El-Gamal and Inanoglu (2002), and put them within the context of efficiency of Islamic banks.

II. Previous Empirical Studies of Islamic Banks

Empirical studies of Islamic banks have mostly relied on descriptive statistics, and theoretical analyses, rather than rigorous statistical estimation methodologies. For instance, Aggarwal and Yousef (2000) surveyed the financial instruments used by Islamic banks, and found that most of their instruments mimicked conventional banking debt-based financing. That is in contrast to the historical theory of Islamic banking, which portrayed the focus of the latter to be on equity-based financing and profit-sharing arrangements. In this regard, Al-Deehani, Abdelkarim, and Murinde (1999) proposed a model in which, under certain assumptions, an increase in investment accounts financing would enable Islamic banks to increase both their market values and their shareholders' rates of return at no extra financial risk to the bank. Their empirical analysis of the annual accounts of twelve Islamic banks supported their theoretical predictions of increased Islamic banks' market values without a change in their cost of capital. More recently, Iqbal (2001) reviewed the performance of various groups of Islamic and conventional banks within various countries, using trend and ratio analyses. His sample consisted of twelve Islamic banks with a "control group" of twelve conventional banks from ten different countries, over the period 1990-98. Similarly, Samad (1999) compared the performance of one Malaysian Islamic bank to seven Malaysian conventional banks over the period 1992-1996 using financial ratios. Bashir (1999) performed a similar risk and profitability examination of two Sudanese banks.

Thus, the extant efficiency analyses of Islamic banking have been limited to the examination of simple financial ratios. In this regard, El-Gamal and Inanoglu (2002) provides the first rigorous efficiency analysis of Islamic banks within a conventional banking industry. That study utilized a fully parametric stochastic frontier analysis in order to utilize the likelihood-based EC-estimator of El-Gamal and Grether (1995) for modeling unknown heterogeneity. The issue of separating heterogeneity effects from efficiency has been a concern in many studies of U.S. and European banking. (See, for example, the recent studies by Brown and Glennon (2000), Elysiani and Rezvanian (2002) for U.S. banking and Altunbas et al. (2001) for German banking.)

El-Gamal and Inanoglu (2002) first examined heterogeneity in the industry and then studied the relative efficiencies in the sector. Surprisingly, no evidence was found to suggest heterogeneity between Islamic banks and their conventional counterparts. However, the authors rejected the hypothesis that all banks had the same cost frontier. In other words, there is compelling evidence that not all banks used the same technology. Using the data-driven Estimation-Classification method, significant differences in banking technology were found between small and large banks, and between foreign (mostly small) and domestic banks. The efficiency results of El-Gamal and Inanoglu (2002) will be summarized in section four, below.

III. Turkish Banking at a Glance

The dataset[iv] includes four SFHs and forty-nine conventional banks, of which thirteen are foreign banks or branches of foreign banks, twenty-three are domestically owned, four are state-owned, and nine are failed private banks that were transferred to Savings Deposits Insurance Fund (SDIF) during the period 1997-2000.[v] As of December 2000, the six SFHs (including Ihlas Finance and Asya Finance House) accounted for 2.2% of total assets of the Turkish banking sector. Among the SFHs, Al-Baraka Turkish Finance House is the largest (795 thousand real U.S. dollars) whereas Faisal Finance House is the smallest (181 thousand real U.S. dollars) in asset size in year 2000. Figure 1 shows the asset growth of SFHs for the last decade while Figure 2 shows comparisons of average asset sizes of SFHs with different owner type conventional banks for the year 2000.

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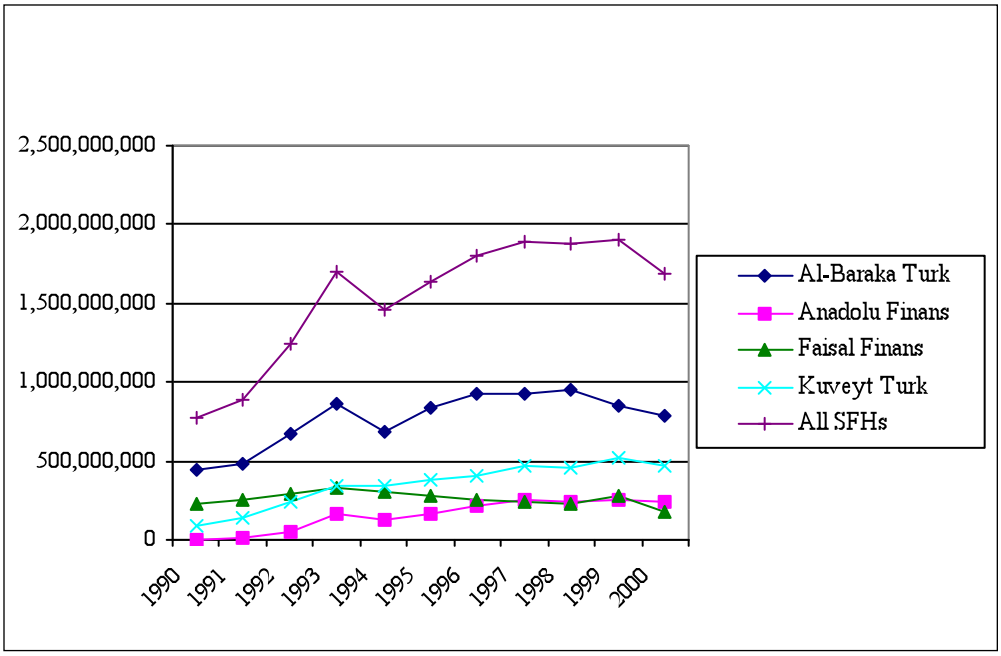
FIGURE 1: TOTAL ASSET GROWTH OF SFHS (1990-2000)



'All SFHs' excludes Ihlas Finance House and Asya Finance House

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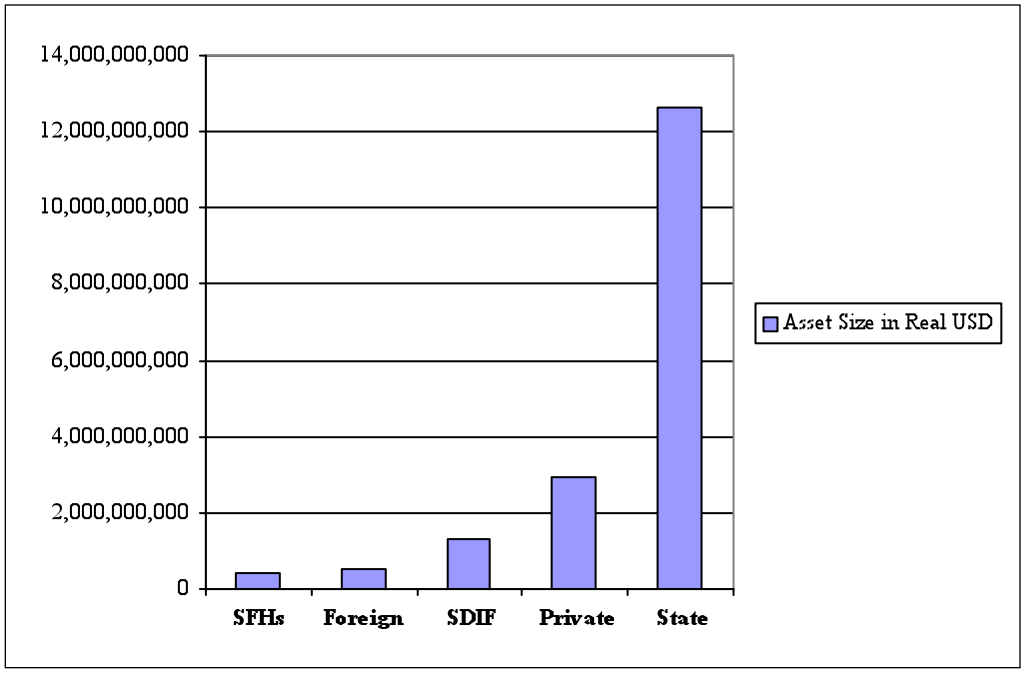
FIGURE 2: AVERAGE ASSET SIZE OF BANKS IN 2000



The share of SFHs in total assets, and the average sizes of SFHs more generally, were very small compared to conventional banks. But the small shares and sizes are mostly due to SFHs being new, as well as their small numbers of branches. In this regard, it is worthwhile noting that Turkish banking is heavily branch-based. In addition, SFHs were officially limited to opening ten new branches each year, at most.[vi] Even though SFHs' shares in total assets has been low, their impact on financing real transactions was disproportionate to their assets, since their total loans to total assets ratio reached 76%, compared with 33% for their conventional counterparts, in 2000.

On the other hand, the maturity structure of deposits[vii] at SFHs is similar to that at conventional banks, concentrating mainly on short-term funds mobilization. Figure 3 shows the maturity structure of participation accounts. This structure, in turn, gives SFHs a disadvantage in terms of profitability, due to the longer-term nature of their higher-yield assets. In contrast, conventional banks were able to invest in high-yield (due to astronomical inflation rates) short-term government papers or *repos*, which SFHs were unable to hold as assets.

SFHs' deposit share was 2.7% in the banking system in year 2000. Taking into account that the target of SFHs is to reach at least 15% (approximately $15 billion) of all deposits in the country, SFHs have not been very successful in attaining this goal. On the other hand, SFH deposits increased significantly after the mid-90s, with the entrance of Ihlas Finance House and Asya Finance House, both of which pursued aggressive branching throughout the country.[viii] Fig. 4 shows the deposit growth of SFHs for years 1990-2000, excluding Ihlas Finance House and Asya Finance Houses' deposit shares.

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FIGURE 3: MATURITY OF DEPOSITS AT SFHS IN 2000

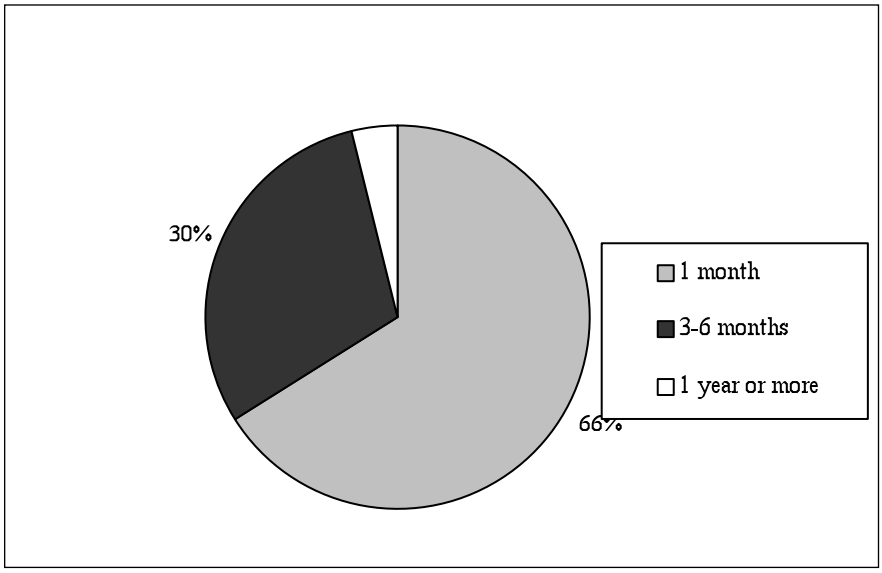

FIGURE 4: TOTAL DEPOSIT GROWTH OF SFHS (1990-2000)

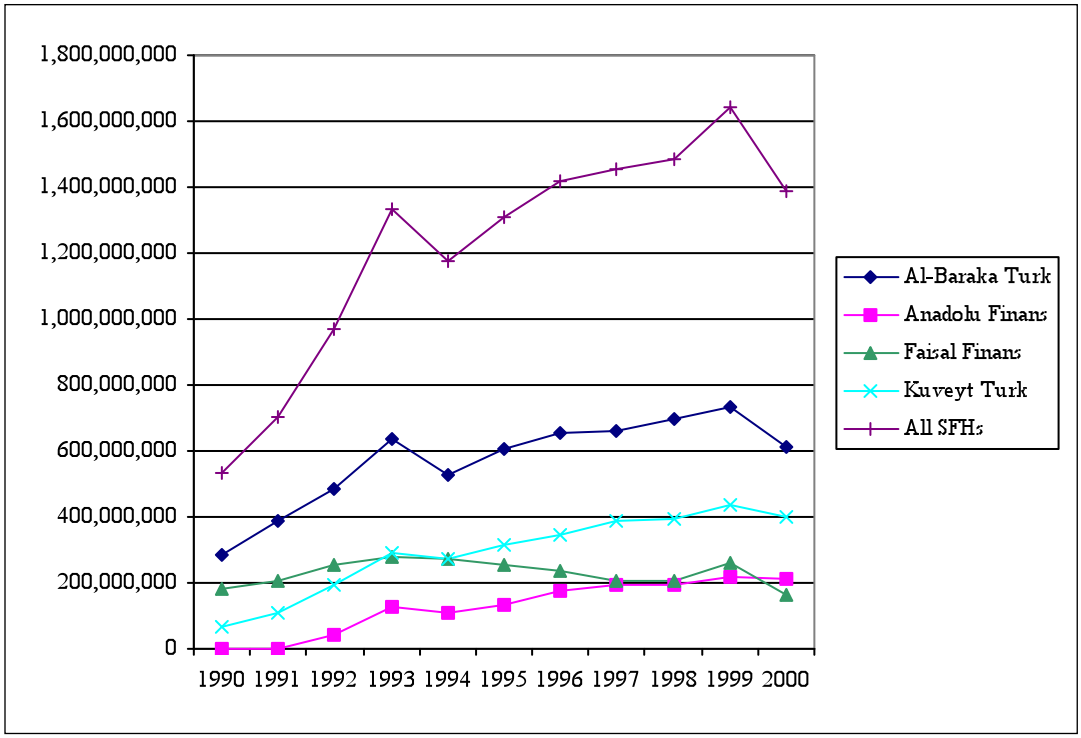

Table 1 provides a summary of some other comparative indicators for the relative sizes of operation of SFHs and their conventional counterparts in Turkey at the end of the past decade.

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TABLE 1: TURKISH BANKING AT A GLANCE

	1990	2000
Conventional Banks		
Number of Banks	66	79
Number of Branches	6,560	7,837
Number of Employees	154,089	170,401
Shares in Sector		
Total Assets	$ 58.1 billion	$ 155.2 billion
Total Deposits	$ 32.6 billion	$ 101.9 billion
Total Loans	$ 27.3 billion	$50.9 billion
Special Finance Houses		
Number of SFHs	3	6*
Number of Branches	21	143*
Number of Employees	640	2998*
Shares in Sector		
Total Assets	$ 663 million	$ 3.374 billion*
Total Deposits	$ 459 million	$ 2.774 billion*
Total Loans	$ 458 million	$ 2.570 billion*

** Including Ihlas Finance and Asya Finance House which are not studied in this paper*
Source: BRSA 2000 and authors' own calculations for SFHs 1990 values

IV. STUDY OF EFFICIENCY ANALYSIS

El-Gamal and Hulusi (2002) conducted a stochastic frontier analysis (SFA) of Turkish banking for the decade 1990-2000. SFA comprises estimation of a best-practice frontier, and comparison of the individual firms with that frontier. We assumed in that study that each bank attempted to maximize output (loans) for any given level of inputs. In other words, profit maximization of the banks was modeled as cost minimization for any given level of output, and the production technology of banks can be represented by a dual cost function. The estimated cost function represents the minimum expenditure needed to produce a given output with given input prices. Bank inefficiency is then measured by the difference between each bank's realized costs of production, and the theoretical minimum at the estimated frontier. Although conventional banks are multi-product firms, we were concerned in that study with a single output: loans. We focused on this one output since the SFHs in our sample issued virtually no securities during our sample period. Moreover, SFHs did not distinguish between short- and long-term loans, and thus we considered aggregated loans as the single output of the banks in our sample.

The cost frontier was obtained by estimating a cost function with a composite error term:

$$\ln C_{it} = \ln C(y_{it}, P_{it}, q_{it}, r_{it}; B) + u_{it} + v_{it}, \qquad \ldots (1)$$

where: C_{it} is the observed cost of bank i in period t, y_{it} is its output,
P_{it} is a vector of input prices
q_{it} is a quality index
r_{it} is a risk index
B is a vector of parameters
v_{it} is an i.i.d. $N(0,\sigma_v^2)$ error term
u_{it} is an i.i.d. $|N(0,\sigma_u^2)|$ (inefficiency) error term

We measured total cost as the sum of weighted interest expense and employee and fixed assets expenses. We followed the recommendation of Mester (1996) by weighting interest expense with the ratio of loans/total earning assets, to account properly for interest expenses if the only output is loans. The prices of inputs were approximated by dividing the related input expenses by the input levels. In our case, the price of labor P_1 was

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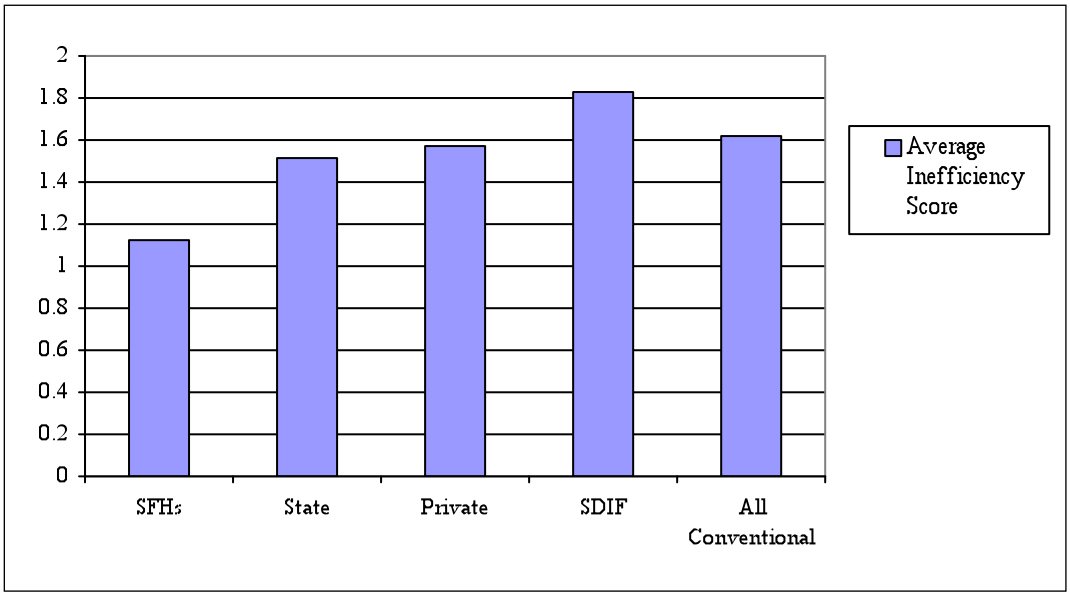
calculated as total employee expenses divided by total number of employees; the price of borrowed capital P_2 was calculated as weighted interest expense divided by total borrowed funds; and the price of physical capital P_3 was calculated as fixed asset expenses (depreciation and amortization) divided by total fixed assets. Utilizing the El-Gamal and Grether (1995) estimation classification procedure and a translog cost function specification, we obtained an endogenous (data-driven) classification of Turkish banks into two groups. The data-driven classification was mainly along the small and foreign (all but two of which were in Group 2) vs. domestic (Group 1) dimension. Group 1 consisted of forty institutions, four of which are the SFHs in our sample.

Surprisingly, the SFHs claimed the top ranks among the 40 institutions in Group 1, mainly due to their relatively low ratios of non-performing loans. The average inefficiency score (smaller is better) for SFHs was 1.13, which is the smallest in the sector, compared to a high of 1.82 for SDIF banks. Fig. 5[ix] illustrates the average inefficiency scores for different types of banks in the estimated Group 1. Table 2 shows the rankings of the SFHs in Group 1.

TABLE 2: RANKING OF SFHS

	Asset Size	Inefficiency Score	Rank
Faisal	181,852,962	1.1036	1
Al-Baraka	790,351,206	1.1068	2
Kuveyt-Turk	472,856,200	1.1442	6
Anadolu	242,328,134	1.1454	8

FIGURE 5: AVERAGE INEFFICIENCY SCORES



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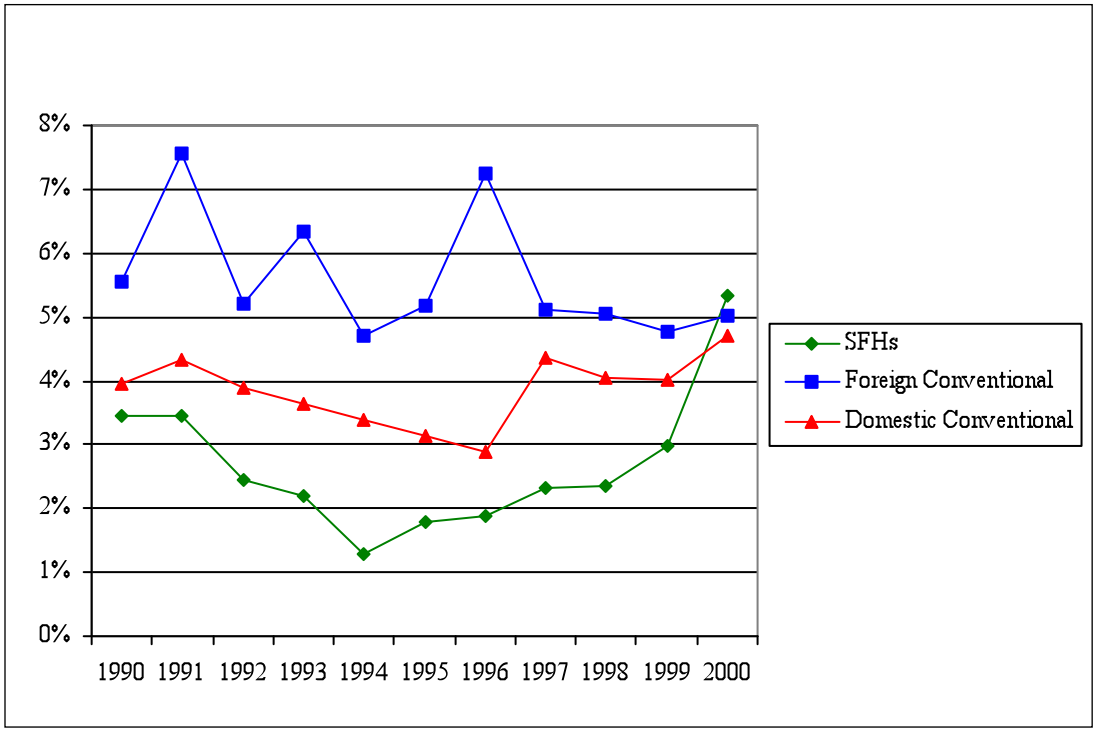
V. Explaining SFH Rankings with Financial Ratios

To explain the high rankings of SFHs within their group of banks, and how all non-foreign banks compared to the latter, which were classified to a different group, we provide some intuitive analysis based on familiar financial ratios.

The soundness of a bank should first be investigated in terms of its capital adequacy ratio. We used the leverage ratio (which does not weight the assets for default risk) as a proxy for capital adequacy to compare SFHs with conventional banks. The leverage ratio is calculated by dividing equity capital by total assets. Figure 6 shows the trends of leverage ratios. SFHs seem to have been less capitalized than both domestic and foreign conventional banks, even though SFHs increased their equity capital once they were made subject to the banking law. The reason for the later increase in equity capital for domestic conventional banks can be explained by failed banks (SDIF) restructuring program and their receipt of significant capital injections after being taken-over by the state.

Figure 6: Equity Capital/Total Assets



After checking the soundness of a bank, asset quality is the second concern. A standard measure for asset quality is the loans-to-assets ratios, analyzed in Figure 7. This ratio was significantly different across bank-types, ranging from an average high of 70% for SFHs to an average low of 30% for foreign conventional banks, which reached a minimum of 18% in 2000. This reluctance of conventional banks to make loans is explained by the relative profitability of borrowing abroad and investing the funds in high-interest-paying government bonds. This trend will become even more apparent when we analyze liquidity ratios.

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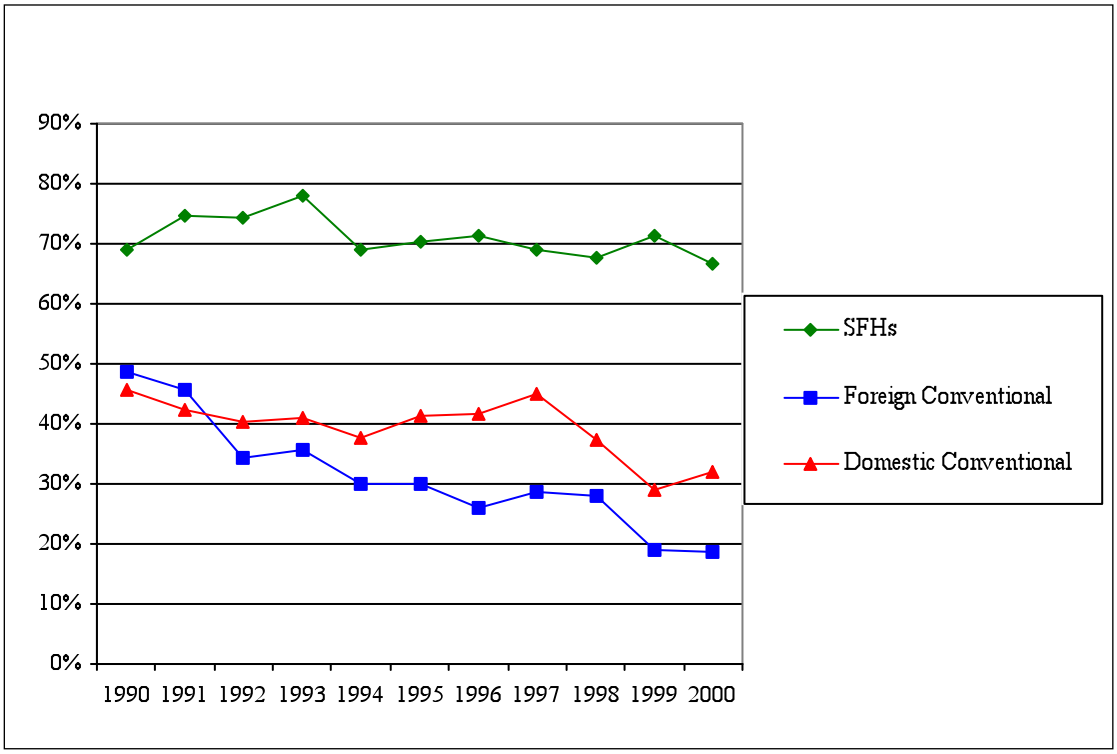
FIGURE 7: TOTAL LOANS/TOTAL ASSETS



Having investigated the loans-to-assets ratio, we now turn to loan quality by investigating the ratio of non-performing loans to total loans (NPL/TL). We can see in Figure 8 that the average ratio of NPL/TL increased steeply for all banks toward the end of our sample period. This increase is particularly marked for domestic conventional banks. The latter included SDIF banks, for which the ratio of non-performing loans reached a staggering 77% by 1999. On the other hand, this sharp increase may be attributed in part to the adoption of the best accounting practices after those banks were taken over by the state, thus recognizing many previously hidden non-performing loans.

Following the 1994 financial crisis, foreign banks showed the highest non-performing loans ratio in the sector, which drove them in later years to reduce their exposure to borrower-credit risk, as shown in Figure 7. Their success in achieving the lowest non-performing loans ratio in later years may thus be attributed to this reluctance to extend loans after that date. In contrast, SFHs seemed to continue to extend loans, resulting in an upward trend in their non-performing loans ratio following the 1994 crisis. Thus while other banks reduced their extension of credit in fear of default, SFHs were unable to mimic them and invest mainly in government treasury bonds, and hence continued to extend credit despite the tough financial environment.

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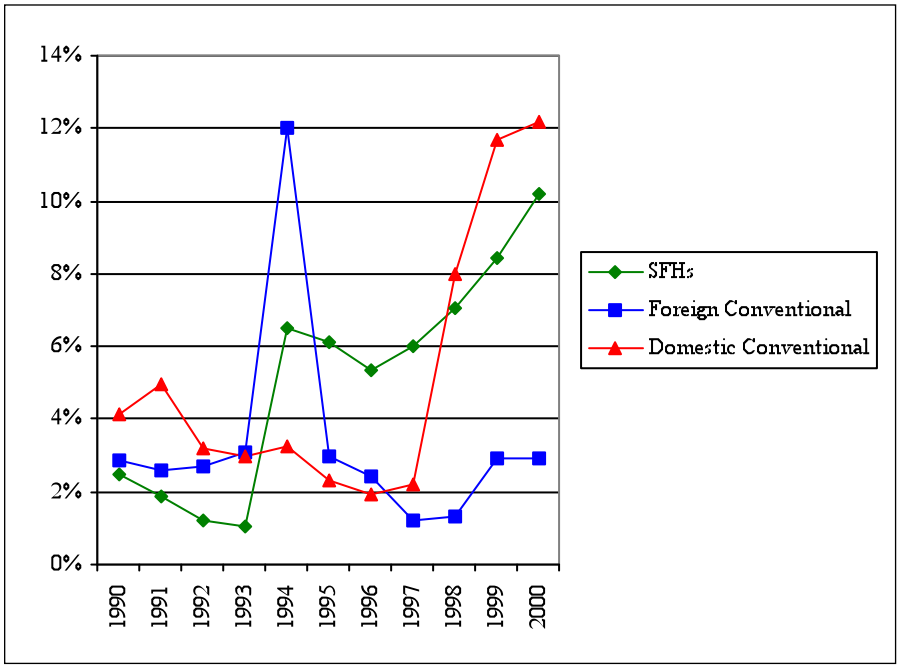
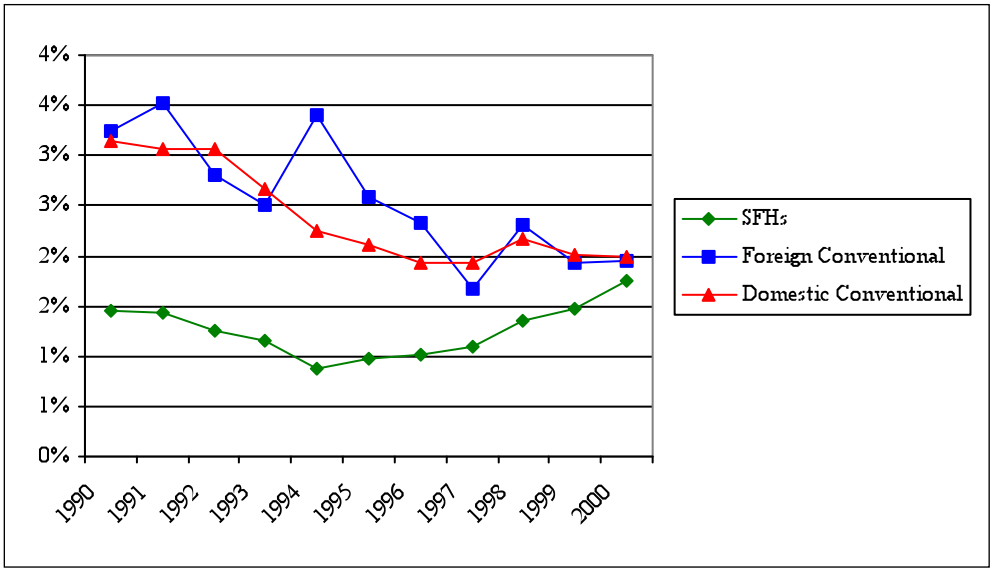
FIGURE 8: NON-PERFORMING LOANS/TOTAL LOANS



To study management-efficiency, we consider the ratio of employee expenses to total assets. This ratio seems to have declined for conventional banks, and to have slightly increased for SFHs, leading to convergence between the two groups around 2000. The secular decline for conventional banks reflects the overall decline in bank-employment over the studied period. On the other hand, the increase in SFH employment expenses reflects the increase in branching from the mid-1990s. The earliest SFHs (Al-Baraka Turk, Faisal Finance and Kuveyt-Turk Finance House) were originally capitalized by Gulf-country owners who resisted opening many branches. However, as the domestically-owned Ihlas Finance House and Asya Finance House entered the Islamic finance market, and pursued aggressive branching strategies in 1995 and 1996, respectively, the older SFHs responded accordingly.

FIGURE 9: EMPLOYEE EXPENSES/TOTAL ASSETS



Turkish banks' bad loans and maturity mismatch losses are illustrated clearly by their earnings performance, as shown in Figure 10. Both the ROE (return on Equity) and the ROA (Return on Assets) profitability

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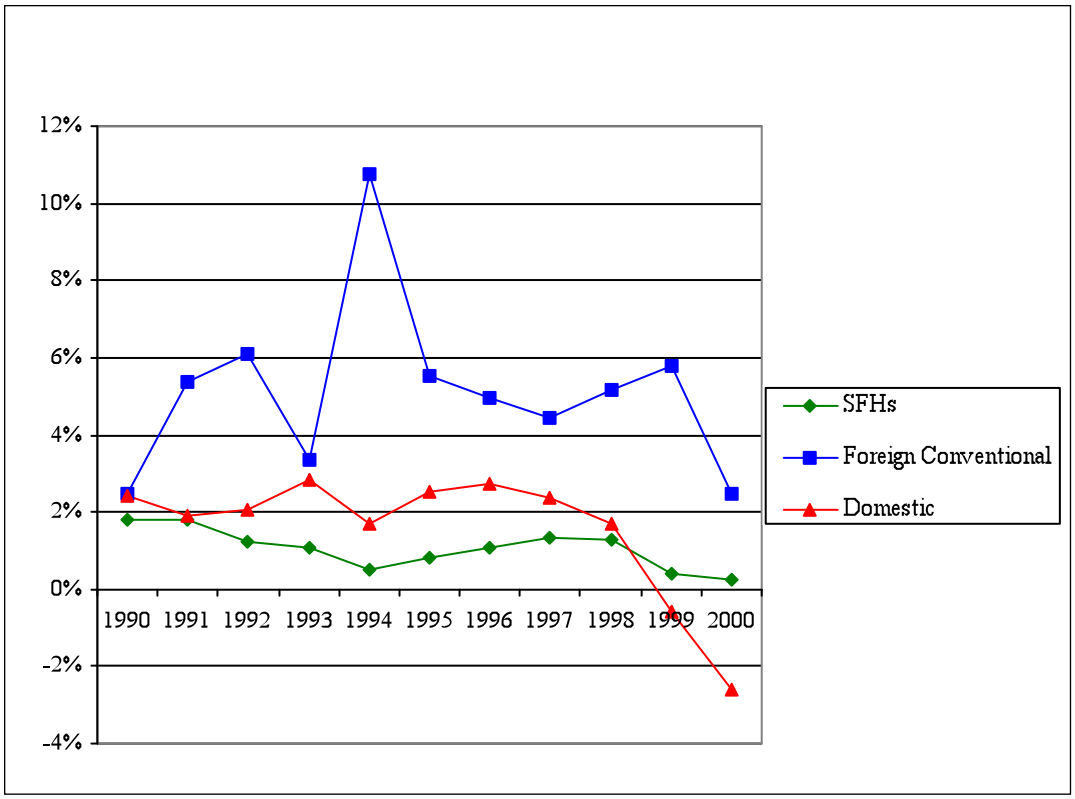
ratios are very low. SDIF banks' consistent losses make the average return for domestic conventional banks negative, while foreign conventional banks and SFHs managed to sustain profitability, with foreign banks being the most profitable in the sector.

FIGURE 10: NET INCOME/TOTAL ASSETS



The relatively poor performance of SFHs relative to foreign banks may be explained by their lack of liquidity. Liquid assets are defined as vault-cash, cash at the Central Bank and other banks, securities, and reserve requirement. SFHs had the lowest levels of liquidity mainly due to their inability to invest in government.[x] In contrast, foreign conventional banks maintained the most liquid assets since they refrained from extending loans and mainly utilized funds, transferred from abroad, to buy high yielding government papers. Although domestic conventional banks tried to replicate the foreign banks' strategies, they were not as successful as their foreign counterparts, due to poorer access to foreign funds. Most of the liquid assets held by the SFHs in our sample consisted of the obligatory 10% cash holdings stipulated in their banking law.

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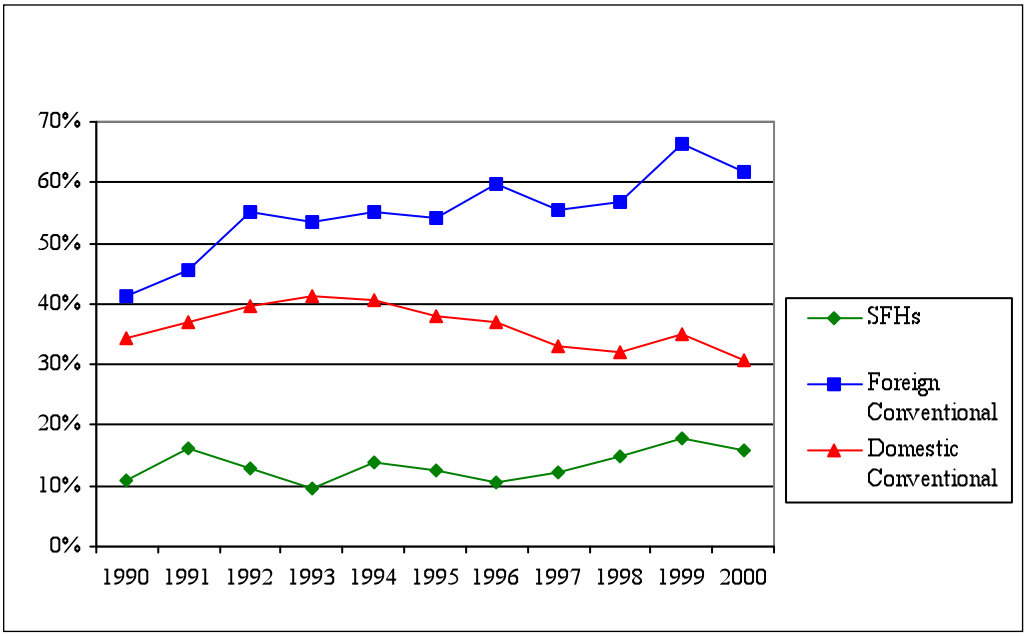
FIGURE 11: LIQUID ASSETS/TOTAL ASSETS



VI. CONCLUSION

In this paper, we analyzed the dual banking system in Turkey and investigated the relative efficiency position of Islamic banks (labeled as "Special Finance Houses" in Turkey) for the 1990-2000 period. We compared the efficiencies of 49 conventional banks with 4 special finance houses (SFHs), as estimated in the Stochastic Frontier Analysis of El-Gamal and Inanoglu (2002). Our results indicate that while SFHs were a relatively new participant in the Turkish banking sector, comprising only three percent of the sector in the past decade, they seemed relatively efficient using the conventional banking technology. The SFHs' relative efficiency was best explained by their emphasis on Islamic asset-based financing, which led to lower non-performing loans ratios.

It is worth indicating that SFHs reached such high efficiency levels despite the limitations imposed by their banking law (e.g., branching restriction provisions), as well as self-imposed restrictions (e.g., inability to hold government bonds). This suggests that Islamic banks did not have a negative effect on the financial sector, even if they drew funds away from conventional banks. To the extent that they also helped to mobilize funds that are otherwise hoarded outside the formal financial sector, they may play a valuable role in the economies of countries with large Muslim populations.

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[i] Average annual inflation rate was 77% during 1990-2000.

[ii] Faisal Finance House was sold to Ulker, a domestic entrepreneur, and named Family Finance House on May 11, 2001.

[iii] Ihlas Finance House was liquidated by Banking Regulation Supervision Agency (BRSA) on February 10, 2001 because of transferring funds to the companies of the affiliated group.

[iv] Data originally expressed in nominal Turkish Liras. The data were deflated using the Turkish Consumer Price Index (CPI). Then, all variables were converted to U.S. dollars using the real exchange rate (base year 1995, which is the base year of both Turkish and U.S. CPIs).

[v] In 2001 nine more private banks failed and were transferred to the SDIF, making the total number of failed banks to eighteen. However, since our study covers the period until the end of 2000, we consider only nine of them as SDIF banks. SDIF was run by the Turkish Central Bank during 1983-2000, and later transferred to the Banking Regulation Supervision Agency (BRSA) on 31 August 2000.

[vi] After February 28, 1997 (also known as "February 28 post-modern coup"), political pressure prevented SFHs even from opening the ten new branches permitted for the years 1997-1999. On 28 February 1997 the army dictated a list of eighteen anti-Islamist measures in a National Security Council meeting, which caused the Welfare Party and the True Path Party coalition to relinquish power. SFHs suffered in this political environment, and resumed opening new branches only in 2000.

[vii] 7% of deposits took the form of demand deposits, while 93% of deposits were in participation accounts.

[viii] The number of branches increased from 80 in 1996 to 143 (which is a 79% increase) in 2000.

[ix] Figure 5 does not include the average inefficiency score for foreign-owned banks since foreign banks were classified as under Group 2 which use different production technology.

[x] Recent introductions of so-called Islamic bonds in the form of *ijara şukuk* and *salam şukuk* in Malaysia and Bahrain suggest that Islamic banks in other countries may soon have access to bond-like securities that would allow them to mimic the asset-composition of conventional banks.

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