

Industry Analysis

Turkish Banking

Dark Before Dawn

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It is crisis time again in Turkey. On February 22, the government floated the lira, which resulted in 25% devaluation of the currency, effectively ended the 14-month IMF-sponsored stabilisation programme and sent the economy into a tailspin. Further, politicians do not seem to be agreeing on what measures need to be taken. Add it all up and it is easy to see why some expect a banking sector meltdown. However, we think there are reasons to be optimistic.

The sector looks massively undervalued. In our view, the market is discounting a more bearish outlook for banks than can be justified by the impact of the crisis. True, banks will take a hit on their currency positions with the collapse of the lira. However, on our estimates, banks need to lose more than 50% of their equity to justify current valuations.

Consolidation is likely. Although larger private banks should weather the storm well, we expect many smaller players to disappear. We see a significant reduction in banking capacity as weak players exit the industry and state banks are restructured.

Profitability is on the mend. The extent to which unfair competition has destroyed bank profitability is one of the least appreciated aspects of the Turkish banking sector, in our view. Unfair competition from state banks and insolvent institutions has driven deposit spreads to zero and eroded the industry's ability to charge fees and commissions. We see consolidation as a catalyst that could reverse this trend and restore bank profitability, helping banks to mend their balance sheets rapidly.

Picking survivors. Experience has shown that picking the survivors after a banking crisis usually pays off. However, determining those survivors is not easy. In this report, we look at the structure of bank profitability and funding to determine which banks are at risk and which stand to benefit the most if the operating environment improves. Two names stand out.

Our top picks are Akbank and Yapi Kredi Bank. We see Akbank (BUY) as a safe play on the consolidation of the banking industry. **Yapi Kredi Bank** (YKB) (BUY) offers investors an opportunity to acquire a strong franchise at historically low valuations. We also see significant upside potential in the near term in **Garantibank** (BUY) but its limited presence in the lira market is a concern. We believe **Isbank** has the best banking franchise in Turkey but current valuations already reflect this, hence, our Market Performer rating.

Table 1: Turkish Banks Valuation Summary ¹

Banks	Recom	Price ² (TL)	GDR Price ² (\$)	Fair Value (\$)	Upside/ Downside (%)	Market Cap (\$mm)	Price/Book Value			P/E		
							Current ²	2000E	2001E	1999	2000E	2001E
Akbank	BUY	3,550	0.72	1.01	40	1,811	1.0	1.1	1.0	20.0	6.5	8.3
Garantibank	BUY	3,200	3.15	6.02	91	849	1.0	0.5	0.6	3.8	3.5	4.0
Isbank	MP	10,100	1.00	1.05	5	5,759	2.6	1.9	1.8	18.6	17.0	18.8
Yapi Kredi Bank	BUY	2,900	2.92	5.56	90	1,484	0.7	0.6	0.6	8.3	4.6	7.4

Source: J.P. Morgan estimates.

1. Based on our estimate of 2000 IAS results except Garantibank, which is based on actual results.

2. Priced as at March 26, 2001.

TABLE OF CONTENTS

Executive Summary	3
Summary of Recommendations	7
Valuation	8
Understanding the Structure of Bank Profitability.....	15
Is There a Life for Turkish Banks After All?.....	21
Extracting Value From Turkish Banks: A Dynamic Model.....	27
Origins of the Crisis: Bad Luck or Bad Policy?.....	32
Structural Problems Diminish Bank Franchise Values	34
Turkish Banking System Faces a Chronic Capital Shortfall	36
Growing Dependence on Foreign Funding	39
New Frontiers in Banking: Structured Products	40
International Perspective: Why Turkey Is Different	42
Managing the Crisis: Still Work in Progress.....	44
Estimating the Cost: an International Perspective.....	51
The Size of the Problem: Putting the Pieces Together.....	55
How the Four Major Turkish Banks Stack Up.....	62
What Happens Next?	66
Akbank.....	70
Investment Thesis	71
Turkiye Is Bankasi	77
Investment Thesis	78
T. Garanti Bankasi	85
Investment Thesis	86
Yapi Kredi Bank.....	92
Investment Thesis	93

EXECUTIVE SUMMARY

In AD 33 a serious banking crisis erupted in the Roman Empire. To remedy the situation, the Emperor Tiberius offered an interest-free loan amounting to 100,000,000 sesterces from his personal fortune. The majority of institutions recovered. Fides, that is confidence, returned and the situation was resolved.

There is a natural tendency to think that banking crises are rare events. However, banking crises have been fairly common since ancient times. Financial systems from the United States to Japan and from Mexico to Korea have experienced severe banking crises. Other sectors can go bankrupt but that will not always prompt a government rescue. But banking systems are different. There is no country without one. Therefore, government support generally exists and picking the survivors usually pays off handsomely.

Banks Trade Substantially Below Their Franchise Value

Valuing banks after a crisis is, however, not easy. In periods of turmoil, it is difficult to distinguish quality earnings from accrued ones, good banking assets from bad ones, and solid book values from inflated ones. When accounting is as severely distorted as in Turkey and earnings are wiped out by large currency losses, traditional valuation techniques, such as price/book values, become almost meaningless. To help us determine the true value of these banks, we have developed an approach based on franchise value, which deliberately ignores book values and reported earnings. Our approach is based on the notion that the value of a bank should reflect the present value of cash flow that can be generated from its deposit base. This analysis yields some interesting conclusions.

1. Banks, in general, have unimpressive franchise values, as high operating expenses and low fee income are huge drags on overall value. This reinforces our negative view on current profitability of Turkish banks.
2. Despite their low franchise values, all bank shares, except Isbank, are trading significantly below their fair values.

The Market Is too Bearish on the Size of Bank Losses

In our view, the market is discounting an 'Armageddon' scenario for Turkish banks with near-total destruction of their equity. Undoubtedly, many banks will suffer substantial losses due to large currency and maturity mismatches. But we expect some of the larger banks to weather the storm well. Even under the worst assumptions, we estimate the size of these losses relative to equity at 22% for YKB, 26% for Isbank and 46% for Garantibank. Book values need to decline by as much as 50% from our already conservative estimates to justify current multiples. This scenario is too pessimistic and beyond what can be justified by the impact of the crisis, in our view.

Origins of the Crisis: Bad Luck or Bad Policy?

Investors wanting to bet on banks after a financial crisis should be aware of the causes of the crisis and whether these causes have been addressed. Otherwise, the problem may continue to impair the theoretical franchise value that can be realised. We believe the seeds of the crisis that broke in Turkey in November 2000 were sown over many years. Apart from poor banking practices and deficiencies in supervision, which are common themes in all crises, in our view the following three factors significantly contributed to the crisis.

1. Unfair competition from state banks and the reluctance of the authorities to let non-viable banks fail hampered the development of a commercially-oriented banking system and **destroyed bank profitability and bank franchise values.**
2. The capital deficiency of many banks implied little risk of further loss and significant upside gains to bank stockholders. With little or no capital at stake, many banks made risky investments. Through a tradition of forbearance and the destruction of bank profitability, the government has encouraged this.
3. Liquidity risk from the rapid build-up in short-term foreign debt — much of it poorly disclosed — further increased fragility and made banks vulnerable to any shocks to their cash flow, opening the door to a self-fulfilling prophecy.

Crisis Is Likely to Prompt Rapid Consolidation and Boost Profitability

The unfolding crisis is likely to have far-reaching implications for the banking industry, some of which are positive for the four major Turkish banks.

Consolidation is no longer avoidable. The crisis has brought dislocations, caused by the Savings Deposit Insurance Fund (SDIF) and state banks, to the forefront of the national agenda and is likely to prompt a strong policy response, far more comprehensive than anything seen in the past. At minimum, in our view, this should speed up the liquidation of SDIF banks and may ultimately lead to the liquidation of Halkbank, the second-largest state bank.

Sizeable reduction in bank capacity is likely. The Turkish banking industry has seen a rapid increase in banking capacity in recent years, with a 28% expansion in the number of branches since 1994. More than 40% of this expansion is attributable to banks that are now insolvent. Therefore, shutting down SDIF banks alone could bring about a 13% reduction in banking capacity. A more dramatic move to liquidate Halkbank could reduce banking capacity by 33%, on our estimates.

Restoring profitability. One of the most unappreciated aspects of the Turkish banking story is the extent to which the unfair competition from unsound banks has destroyed bank profitability. With increased competition, the spread on Turkish lira deposit stock declined to zero whereas the aggregate level of fee income dropped to 0.7% of assets at the end of September 2000 from 1.1% in 1994. Given the extent of the damage caused by the competition, the positive impact of consolidation on bank profitability should not be underestimated, in our view.

Consolidation Has Significant Valuation Implications

We believe that consolidation has significant valuation implications for Turkish banks, which are not currently reflected in their share prices. After looking at the banks status quo we have attempted to assess how much each bank may be worth in a more favourable operating environment. Our aim is to show the impact of the possible closure of the SDIF banks and the liquidation of Halkbank on bank equity values. Our analysis suggests that even building a mild consolidation scenario would add 20-30% to bank equity values. **However, market share gains rather than a significant improvement in profitability drive much of this additional value.** We believe a sustained rebound in profitability would make valuations even more attractive.

Cost of Crisis Is Likely to Be Massive

We expect the cost of cleaning up the banking system to be massive. The existence of a blanket guarantee and an accommodative approach that allows weak banks to remain in the system are likely to add significantly to the cost of the crisis. We estimate the additional fiscal outlays to the government at close to \$19 billion, bringing the total cost of restructuring to close to \$40 billion or 20% of GDP. However, care needs to be exercised when interpreting these numbers.

- The cost of restructuring reflects many problems, which have been accumulating for some time. Some of these problems, such as the accumulated losses of state banks, did not develop overnight and have been a considerable burden on the public finances since 1994. The crisis is simply a dénouement, the point at which the problem is revealed to the public. Therefore, it would be a mistake to treat these problems as an additional burden on public finances.
- Most estimates of the potential cost of bank restructuring, including ours, are based on the need to improve the system's capital adequacy. Although a BIS ratio of 8% is widely accepted as the minimal level of solvency, the Turkish banking system has not operated with a solvency ratio near 8% in the past five years. Thus, if the banking system can initially achieve a solvency ratio of 3-4%, this is a bigger cushion than it has had in the past three years.
- Although less newsworthy, operational restructuring is, in fact, a more important determinant of a successful bank restructuring than attending to stock problems, particularly in Turkey where the system is currently operating with negative spreads. Once profitability is restored, the system can quickly repair its balance sheet.

Why Buy Now?

We have looked at the post-crisis performance of Brazil, South Korea and Mexico to draw parallels with the Turkish experience. In all three countries, bank stocks showed significant positive real equity returns from their lows following the devaluation of their currency. However, performance varied considerably worldwide. In countries where the resolution programme was comprehensive, banks exceeded their pre-crisis levels quickly. In other countries, following an initial bounce, bank stocks generally lagged the market. Hence, a comprehensive resolution programme is a critical ingredient for the long-term recovery of the sector.

How Turkey Differs From Other Crises

In every crisis, there is a natural tendency to make comparisons with the experience of other countries. In our opinion, Turkey has three advantages that did not exist in the Asian and some of the Latin American crises.

Lower leverage in Turkish economy. The debt/equity ratios of listed companies were around 400% in Korea, 150-200% in Indonesia, Malaysia and the Philippines, and 83% in Mexico. In contrast, the debt/equity ratio of publicly-traded companies in Turkey at the end of September 2000 was only 40% in inflation-adjusted terms.

No lending boom. Excessive credit creation is a common theme in all countries. For example, in Mexico aggregate credit expanded by 89% in real terms in 1991-94. In comparison, the growth in bank lending in Turkey has been more subdued. Even in 2000, at the height of the lending boom, total domestic debt stock expanded by only 25%. Furthermore, in several Asian countries the risks which the rapid expansion in lending posed were further exacerbated by the nature of the lending, which heavily financed speculative real estate investments. This was not the case in Turkey.

Pockets of strength. In any crisis, it is critical that there is at least one 'good' bank in which the public has confidence and which can be used as the recipient of liabilities. In many crises, particularly in Asia, options were limited. In contrast, in Turkey a small segment of the banking sector is still functional and can serve as the foundation of the reconstruction of the banking system.

Risks

A Re-Think of the Resolution Programme Is Necessary

The main factor preventing us from taking a more bullish stance on Turkish banks is the gradualist resolution strategy adopted by the government so far. This approach is mainly the result of the authorities' apparent failure to recognise the magnitude of the banks' losses. As a result, the implementation of the restructuring programme has proceeded slowly, often on a piece-meal basis and usually with limited impact. The experience of other crises suggests that bank stocks tend to lag the market when the resolution effort is gradual and the policy response appears disconcerted. Therefore, in our view, if the government continues with its current policies to resolve the crisis this would significantly reduce the attractiveness of Turkish banks.

A Weak Political Structure Is a Key Concern

We have stressed heavy government intervention in the banking sector and regulatory errors as the main sources of weakness in the Turkish banking sector. But, in our view, the role of politics in Turkey goes beyond technical errors in regulation and policy design. The problem is structural. Although the appointment of Mr. Kemal Dervis as the minister of state with emergency powers can be seen as a renewed sign of the government's commitment to stabilise the Turkish economy, we do not believe this objective can be achieved until the government sorts out the political structural weaknesses.

Table 2: Turkish Banks Valuation Summary ¹

Banks	Recom	Price ²	GDR Price ²	Fair Value	Upside/ Downside (%)	Market Cap (\$mm)	Price/Book Value			P/E		
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Source: J.P. Morgan estimates.

1. Based on our estimate of 2000 IAS results except Garantibank, which is based on actual results.

2. Priced as at March 26, 2001.

SUMMARY OF RECOMMENDATIONS

We Rate Akbank a BUY With a Fair Value of \$1.01 per GDR

We see Akbank as a safe play on the consolidation of the Turkish banking industry. A solid balance sheet offers protection against Turkish macro volatility while high spreads on deposits make any market share gains valuable for the bank. Furthermore, as a 'pure' banking play, it provides the highest exposure to the Turkish banking sector and stands to gain substantially from the sector consolidation. The shares are trading 28% below our fair value, offering investors significant upside potential should our expected consolidation scenario play out. Any opportunist acquisition by Akbank could unlock additional value for shareholders, which is not currently reflected in our target price.

We Rate Isbank a Market Performer With a Fair Value of \$1.05 per GDR

Although we believe Isbank has one of the best banking franchises in Turkey, we are cautious on it in the near term. We believe that the market is fully discounting all the good news and may be overlooking some of the risks. Unquestionably, the bank offers investors protection in a volatile environment because of its limited currency position and solid funding base. However, there are also risks. We are particularly concerned with the bank's large interest rate exposure, the performance of its lending book and growing capital demands of its fledgling telecoms venture, which could be a drag on earnings in the near term.

We Rate Garantibank a BUY With a Fair Value of \$6.02 per GDR

We believe Garantibank offers significant upside potential in the near term as the shares are trading substantially below their fair value. In our view, the market is discounting a more bearish outlook than can be justified by the impact of the crisis. The bank needs to lose more than 75% of its equity to justify current valuations, in our view. However, looking beyond the anticipated rebound in the share price, the bank faces some strategic challenges, which could reduce its attractiveness. It has a limited presence in the lucrative lira market and is heavily dependent on foreign currency spreads, which are typically at risk from the foreign competition. We view the stock mainly as a value play until the bank secures a more stable funding platform to finance its growth.

We Rate Yapi Kredi Bank a BUY With a Fair Value of \$5.56 per GDR

YKB shares offer an attractive combination of value and growth. The shares are trading substantially below their fair value and at a deep discount to Isbank and Akbank. Even this can be partly explained by YKB's lower returns from its banking business and a weaker presence in the lira market. Nevertheless, we still consider this discount unjustifiably large.

VALUATION

We use two principal methods to value Turkish banks. First, we perform a sum-of-the-parts valuation, using franchise value calculations (banking business) and trading multiples (non-banking assets) to value components. This approach is especially useful in understanding the contribution of each business to overall value. We then look at the price/book ratios based on historical comparisons.

Traditionally, the warranted equity value is the most widely used technique for valuing banking stocks. The Warranted Equity Model (WEV) is derived from the dividend discount model, which values equity as a discounted stream of dividends. This theoretically produces a valuation, which reflects banks' profitability sustainable in the long term. Despite this conceptual simplicity, there are several reasons why the warranted equity model will not work in Turkey.

Why WEV Will Not Work in Turkey

The Crisis Distorts Earnings and Book Values

The current crisis has brought havoc to the Turkish financial system resulting in substantial erosion of bank equity. As earnings are wiped out and the quality of bank capital is under greater scrutiny than ever before, investors must seek an alternative to the conventional warranted equity models for valuing bank stocks.

Deficiency of the Accounting

Even before the crisis, the reported book values and earnings of Turkish banks were unreliable, in our view, due to the limitation of the accounting standards. In Turkish banking, we find it difficult to distinguish quality earnings from accrued ones, good banking assets from bad ones, and solid book values from inflated ones. Furthermore, banks have flexibility to inflate reported earnings by improperly accruing interest and lowering provisions. The growing use of off-balance sheet instruments, such as forwards and swaps, further reduces the transparency of Turkish banks. As a result, neither bank equity nor returns generated on this equity can be measured accurately.

Conglomerate Structure Is Another Challenge

The conglomerate nature of many Turkish banks is another limitation for the WEV. As a large percentage of banks' equity is invested outside their core banking business, care needs to be exercised in distinguishing banking returns from profits generated by other businesses to avoid reaching misleading conclusions.

Adjusting WEV

The simplest adjustment we can make to salvage the WEV is to focus on the capital and returns associated with the banking business. As noted above, Turkish banks invest a large chunk of their capital outside their core banking business, usually in industrial and real estate assets, that contribute little to their operating performance. By stripping out the capital employed outside the banking business, we can get a better sense of the returns generated by the core banking business and, hence, its value.

To calculate the capital employed in the core business, we subtracted all equity and real estate investments from banks' inflation-adjusted equity. To prevent double counting, we also eliminated all income from these investments, such as dividends and gains on asset sales. The details of this analysis are provided in Table 3.

Table 3: Value of Banking Business Based on Our Warranted Equity Model ¹

(\$ million)

	Akbank	Garantibank ²	Isbank	YKB
Avg. shareholder equity	1,618	1,472	2,851	2,405
Less:				
Average premises and equipment	(243)	(942)	(1,181)	(1,324)
Average investment in affiliates	(128)	(134)	(957)	(630)
Average banking equity	1,247	396	714	452
Banking income	238	176	208	70
RoAE (%)	17%	16%	12%	13%
RoA banking equity (%)	19%	44%	29%	16%
Long-term growth rate (%)	12.0%	12.0%	12.0%	12.0%
Sovereign risk free rate (%)	13.21%	13.21%	13.211%	13.21%
Equity risk premium (%)	5.00%	5.00%	5.00%	5.00%
Beta	0.890	0.957	0.956	1.052
Implied cost of equity (%)	17.66%	18.00%	17.99%	18.47%
Implied price/book value	1.2	5.4	2.9	0.5
Value of banking business	1,557	2,146	2,042	245

Source: Datastream, J.P. Morgan estimates.

1. Based on IAS 2000 estimated results except for Garantibank, which is based on actual results.

2. Consolidated.

Valuing a bank's equity by directly discounting the cash flows to equity holders is, in our view, the most straightforward valuation technique. But, in addition to its theoretical limitations, the main drawback of the WEV is the difficulty of obtaining reliable measures of book values and earnings in Turkey, particularly in the aftermath of the collapse of the exchange rate regime on February 22. Furthermore, discounting equity cash, if it can be accurately forecast, provides less information on the sources of future value creation and is less useful for identifying future value creation opportunities. Nonetheless, the WEV gives us a broad idea about the value of the banking business for each company.

Sum-of-the-Parts Analysis: A Component Approach

To remedy some of the shortcomings of the WEV, we have developed an alternative model, which we refer to as the component value. Our approach is simply based on the notion that the value of a bank's equity is equal to the sum of the present value of the various cash flow streams that ultimately add up to the cash flow to the equity holders.

This approach has three important advantages over the WEV model. First, it deliberately ignores book values and earnings, which are distorted by the crisis. Second, valuing components of the business, instead of just the equity, helps us to identify and understand the contribution of each business to the equity value. Third, it helps us to pinpoint key leverage areas for potential value creation and to determine their future value under a restructuring initiative.

Deposit Franchise Is the Key Driver of Banks' Value

The value of a bank's franchise is derived primarily from its deposit base. A strong deposit base is a vital determinant of future profitability as this is, in essence, what allows banks to retain high margins. A cheap funding base will enable banks to generate above-average profits in good times but, more importantly, to absorb losses in bad times. In Brazil, for example, thanks to very high margins, the stronger banks were able to implement charge-off programmes, eliminating 15% of their loans in 18 months. We believe that the value of the deposit franchise should reflect the present value of the cash flows which can be generated by lending or investing at a spread, less the cost of managing and maintaining the deposit network, and net of tax liabilities. This can be summarised by the following formula:

$$\text{Deposit franchise cash flow} = \text{Deposit base} \times \text{interest spread} - \text{costs} - \text{tax}$$

Deposits, however, are not the only source of cheap funding. Foreign financing, such as syndicated loans and eurobonds, can also be a reliable source of funding, although not all types of foreign funding can be considered stable. Therefore, we have been careful to exclude all types of short-term, volatile funding, such as interbank deposits, from our calculation of the franchise value. The fees and commissions banks charge for their banking services are equally valuable and we consider them an essential part of banking revenues.

Trading Revenues

Normally, we would not consider trading revenues as banking income, but the trouble in Turkey is that the definition of trading income is too broad to be of any use. Gains on all securities sold before maturity as well as profits from repo transactions are booked as trading income. Considering the high interest rate environment and discount nature of most debt instruments, some trading gains clearly need to be considered as interest income. Furthermore, the obscure accounting entry of "other income" contains a diverse range of items ranging from provision reversals to rent income, some of which are clearly banking revenues. For these reasons, we have decided to include trading revenues in our estimation of franchise value, but assigning a weight of only 75%.

Methodology

To calculate the present value of cash flows generated by a banking franchise, we have plugged the cash earnings figure into a simple dividend discount model.

$$\text{PV of deposit cash flows} = \text{Operating cash flows}/(r - g)$$

Where

r = investors' required rate of return
g = terminal growth rate of deposit base

To estimate 'r', we have chosen the sovereign bond yield plus an equity premium of 5%. For 'g' we have chosen the CAGR of deposits in the Turkish banking system in the past 10 years.

- Core liabilities include all customer deposits and cheap foreign financing, such as syndicated loans, but exclude all interbank deposits and repo financing.
- Our calculation of interest spreads is not an estimate. They are actual implied spreads based on 2000 Turkish statutory accounts. For Garantibank, we have used consolidated accounts due to its substantial financial holdings.
- We have adjusted lira margins to eliminate the effect of inflation. Furthermore, due to the dual currency nature of the banking business, we have calculated interest spreads on Turkish lira and foreign currency liabilities separately. This allows us to track the source of the value creation more easily.
- Our spread analysis assumes that all liabilities are invested in assets of the same currency denomination. As such, it discards the returns generated by the currency mismatches mainly because we do not see this as a sustainable business in the long term — as the recent crisis demonstrated.

Our estimate of bank franchise values is provided in Table 4.

Table 4: Component Franchise Value

(\$ million, as at December 31, 2000)

	Akbank	Garantibank	Isbank	YKB
FC core liability stock	5,226	7,053	5,003	5,046
Less: reserve requirements	(425)	(395)	(522)	(410)
Spread on FC liabilities (%)	5.0%	3.5%	4.0%	3.6%
Gross spread	240	234	178	166
TL core liability stock	1,774	1,022	2,176	1,440
Less: reserve requirements	(59)	(51)	(102)	(63)
Spread on TL liabilities (%)	18%	13%	16%	15%
Gross spread	310	126	334	204
Fee business	67	144	186	211
Operating expenses	(437)	(804)	(762)	(514)
Trading & other income	95	518	364	75
Tax rate (%)	33%	33%	33%	33%
Franchise Value				
Foreign currency	1,960	1,987	1,453	1,354
Local currency	2,529	1,026	2,727	1,667
Fee business	547	1,176	1,517	1,725
Operating expenses	(3,566)	(6,560)	(6,220)	(4,197)
Core franchise value	1,470	(2,371)	(523)	549
Trading & other income	584	3,170	2,230	460
Total franchise value	2,054	799	1,707	1,009
Required rate of return (%)	18.2%	18.2%	18.2%	18.2%
Growth rate (%)	10.0%	10.0%	10.0%	10.0%

Source: Company data, J.P. Morgan estimates.

Determining Conglomerate Value

Finally, to determine the conglomerate value we relied on trading values wherever available. When trading values were not available, we attempted to value unlisted assets based on other listed comparable companies. Akbank does not have a significant equity portfolio. For Garantibank we have used consolidated accounts, which capture a significant percentage of its equity investments. The only two banks that require a detailed conglomerate valuation are, therefore, Isbank and YKB. The details of our estimate of their conglomerate values are provided in the relevant company sections.

Table 5: Sum-of-the-Parts Valuation

(\$ billion, as at December 31, 2000)

	Akbank	Garantibank	Isbank	YKB
Core franchise value	1.5	(2.4)	(0.5)	0.5
Trading & other income	0.6	3.1	2.2	0.5
Total banking business	2.1	0.8	1.7	1.0
Conglomerate value	NA	NA	3.0	1.2
Total equity value	2.1	0.8	4.8	2.2
Stock market value	1.8	0.8	5.8	1.5
Value gap	(0.2)	0.0	1.0	(0.7)
As a % of stock market value	-13%	6%	17%	-50%

Source: J.P. Morgan estimates.

Putting the Pieces Together

Table 5 provides a comparison of the sum-of-the parts valuations of the four major Turkish banks. All banks, except Isbank, are trading at a discount to their estimated equity value. The discount is particularly large in the cases of Akbank and YKB. The comparison reveals several other interesting points.

- All four banks have unimpressive core franchise values mainly due to high operating costs, mediocre levels of fee income and small banking volumes. This reinforces our negative view on the profitability of the banking business in Turkey.
- Garantibank and Isbank have negative core franchise values, as operating costs are a drag on overall value. Both banks compensate for the loss of value in their core business with their profitable, but less transparent, trading activity. The extent to which the profitability of this activity is reflected in valuations will largely depend on investors' perception of the quality of these revenues.
- Isbank and Akbank have the two most profitable Turkish lira franchises, which represent a significant percentage of their sum-of-the-parts value.
- Both Isbank and YKB are quasi-holding companies as more than 50% of their sum-of-the-parts value is attributable to their conglomerate value. Yet, the market values the two companies differently, assigning a large premium for Isbank and a deep discount for YKB. This leads us to question whether this discrepancy is a reflection of investors' perception of the willingness of each company to release value to shareholders.

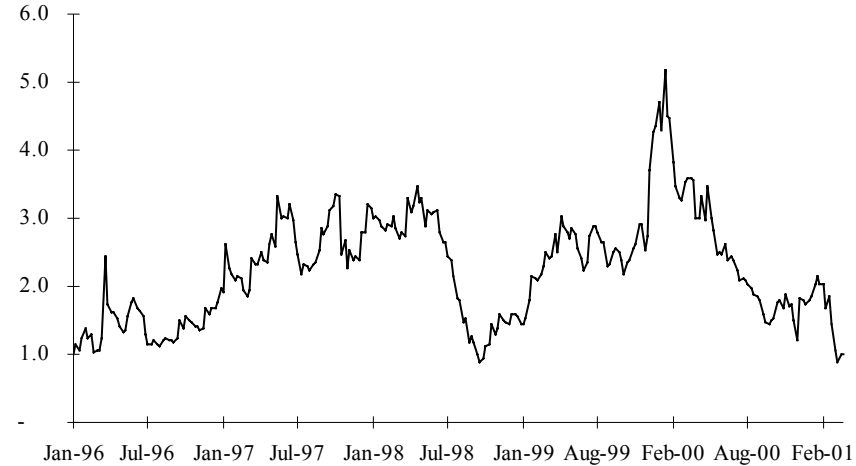
Ratio Analysis

Although reported book values are not reliable in Turkey, there is still no escaping the conventional price/book ratio analysis. In this section we look at the historical price/book ratios of the four major banks to help us determine their rating. Although we find them of limited use, they nevertheless provide a historical perspective on bank valuations. Our price/book values are based on our estimate of *post-crisis* inflation-adjusted book values. A detailed analysis of these estimates is provided in the section *How the Four Major Turkish Banks Stack Up* on page 62.

Turkish Bank Stocks Look Cheap Based on Historical Valuations

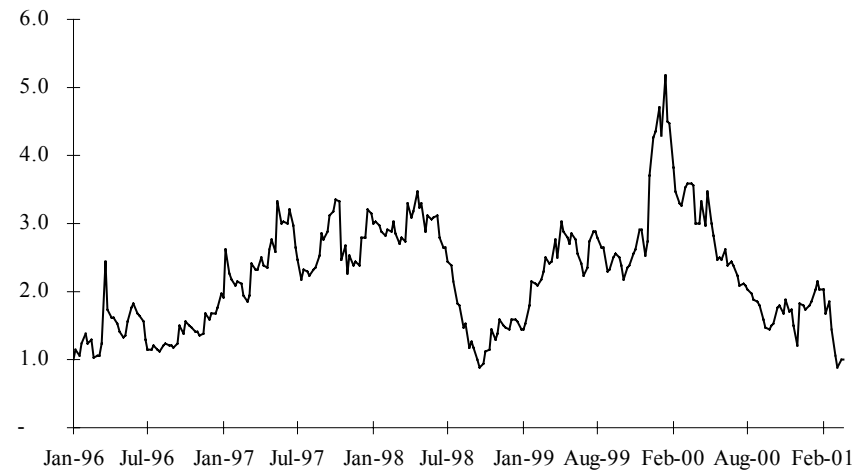
Even after accounting for our aggressive assumptions of banks' equity losses in the wake of the crisis, all banks, apart from Isbank, appear cheap, at least from a historical standpoint. Akbank, Garantibank and YKB are trading near their historical lows based on our projected 2001 book values which, in some cases, are 50% lower than their pre-crisis levels. This suggests the market is discounting an even more pessimistic view of bank losses and expects further deterioration in book values. The corollary is, of course, a powerful shift in sentiment towards bank shares when the market realises that concerns over bank losses may have been overdone.

Chart 1: Price/Book Value Trends for Akbank



Source: Datastream, J.P. Morgan estimates.

Chart 2: Price/Book Value Trends for Garantibank



Source: Datastream, J.P. Morgan estimates.

Chart 3: Price/Book Ratio Trends for Isbank



Source: Company data, J.P. Morgan estimates.

Chart 4: Price/Book Ratio Trends for Yapi Kredi Bank



Source: Datastream, J.P. Morgan estimates.

We have attempted to estimate the size of the losses the banks need to incur before they become expensive based on historical comparisons. Our fair value multiple is based on the average price/book ratio of bank shares in the past four years. (See Table 6 for the results of our analysis.) In our view, Akbank needs to lose more than half its equity while Garantibank and YKB need to lose 49% and 46% of their book value, respectively, from already depleted levels before they become expensive, at least on a historical basis.

Table 6: Implied Equity Losses at Current Valuations

(\$ billion)

Bank	Average PBR (x)		Implied Equity Value	Additional Loss of Equity	Total Loss of Equity from Pre-Crisis
	1997-Present	Current Market Value			
Akbank	2.5	1.81	0.74	60%	58%
Garantibank	1.9	0.85	0.45	49%	72%
Isbank	2.4	5.76	2.36	-6%	21%
YKB	1.4	1.48	1.08	46%	58%

Source: Datastream, J.P. Morgan estimates.

UNDERSTANDING THE STRUCTURE OF BANK PROFITABILITY

In this section, we take a closer look at the profitability of each bank by breaking down its margins and revenue streams. This enables us to identify what determines bank profitability and which bank would have the most sustainable revenue stream if the operating environment changed. Admittedly, Turkish banks are among the most difficult companies to value and analyse largely because of their limited financial disclosure. Therefore, this analysis is bound to contain inaccuracies but this is not significant enough to detract from its value, in our view.

Margin Breakdown

The business mix of Turkish banks at the interest income line can be broadly divided into three categories: spread on Turkish lira deposits; spread on foreign currency liabilities; and income generated on currency mismatch or running an open position. Implicit in this classification is the assumption that banks do not earn a profit on the stock of their short-term, Turkish lira, non-deposit liabilities. This is a reasonable assumption considering the very high cost of short-term lira funding. In Table 7 we have split the margins of the four major Turkish banks into three separate components to determine how each bank generates earnings and which bank is at risk from margin erosion if the operating environment changes.

Before turning to the analysis of Table 7, we define two new concepts, which we refer to in the rest of this section.

1. *Core interest income* = Interest income excluding revenues from unmatched foreign currency liabilities.
2. *Core banking income* = Core interest income plus fee income.

Table 7: Margin and Earnings Breakdown of the Four Major Turkish Banks ¹

(\$ million, as at December 31, 2000)

	Akbank	Garantibank	Isbank	YKB
FC core liability stock	2,324	3,957	3,078	3,296
Spread on FC liabilities (%)	5.0%	3.5%	4.0%	3.6%
Net interest income on FC liabilities	116	139	122	118
TL liability stock	1,774	1,022	2,176	1,440
Spread on TL liabilities (%)	24%	17%	21%	20%
Net interest income on TL liabilities	425	176	465	283
FC liability stock invested in TL assets	2,172	1,511	1,132	974
Spread on FC liabilities (%)	36%	37%	32%	39%
FX losses	354	170	97	110
Net interest income on FC liabilities	424	387	266	268
Return on capital net of operating assets	162	28	(11)	11
Others	33	170	(21)	(34)
Net interest income after FX losses	1,161	901	822	647
Net fees	67	144	186	211
Core banking income	1,228	1,045	1,008	858
Net trading & others	95	518	364	75
Total banking revenues	1,324	1,563	1,372	933
Operating expenses	(437)	(804)	(762)	(514)
Provisions for non-performing loans	(76)	(121)	(187)	(120)
Net banking revenues	811	637	423	299
Non-operating income	12	(108)	129	266
Income before tax	823	530	553	565
Margin Analysis				
Interest income on FC liabilities/NII (%)	10%	15%	15%	18%
Interest income on TL liabilities/NII (%)	37%	20%	57%	44%
Return on free capital/NII (%)	14%	3%	-1%	2%
Core interest income/NII (%)	61%	38%	70%	64%
Interest income on unmatched FC liabilities/NII (%)	37%	43%	32%	41%
Operating expenses/core interest income (%)	62%	234%	132%	125%
Core interest income + fees/total bank revenues (%)	46%	29%	56%	66%

Source: J.P. Morgan estimates.

1. NII stands for net interest income.

Isbank Has the Most Defendable Margin Mix

Isbank has the most stable interest margin with 70% of its net interest income attributable to core interest revenues. It has the highest share of TL business in its margin mix of any bank and a relatively small dependency on the currency arbitrage revenues. Its main weakness is its high operating costs, which gobble up nearly all its core banking revenues.

Akbank Enjoys a Good Mix but a Low Level of Fee Income

Akbank is also well positioned with core interest revenues representing 61% of its margin mix. However, it is more dependent on the currency arbitrage business than Isbank. Its main strength appears to be its efficient operating structure as it is the only major bank that can comfortably cover its operating expenses with its core banking revenues. Its main weakness is the relatively small size of its fee business.

Yapi Kredi Bank Is the Most Susceptible Bank to Foreign Competition

YKB appears to have the best business mix with core banking revenues representing 66% of its total, the highest in the group. However, this appears to be more a function of the strength of its fee business than the superior quality of its margin mix. Its main weakness seems to be its relatively high dependency on foreign currency business, which is always the most susceptible business to foreign competition.

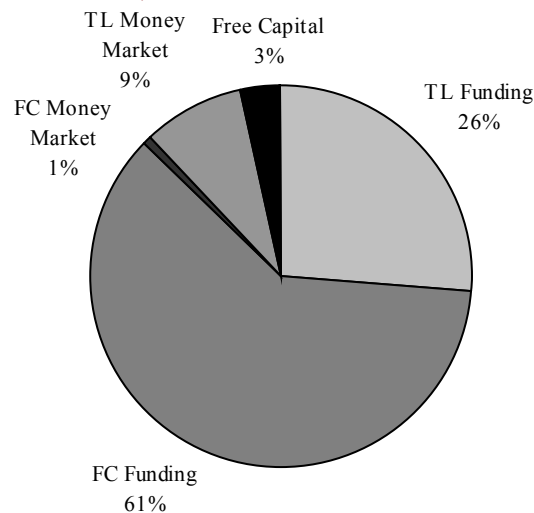
Garantibank is the Most Exposed due to Its Weaker Lira Franchise

Garantibank appears the most vulnerable in terms of the composition of its margin mix as the Turkish lira business represents only 20% of its total net interest income. Furthermore, it seems to have unsustainably high operating costs relative to its core banking revenues.

Funding Mix Is Key to Profitability

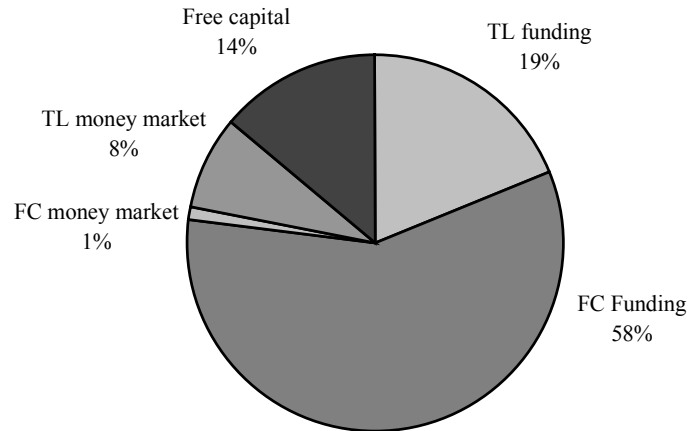
The Turkish banking industry is generally heavily dependent on foreign currency funding and the average maturity of deposits in the system is short term. Despite these similarities, there are, however, sharp differences in the way banks fund themselves, which to a large extent shape their business model and determine their profitability. Chart 5 to Chart 8 show a comparison of the funding mix of the four major banks and reveal some startling differences.

Chart 5: Funding Mix of Isbank, 2000



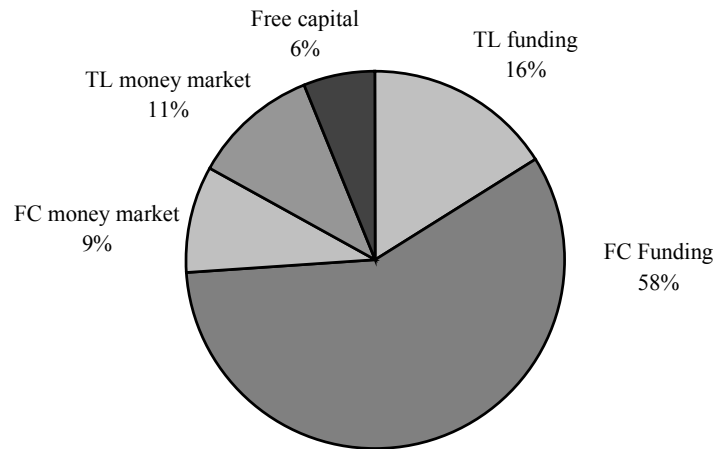
Source: Company data, J.P. Morgan estimates.

Chart 6: Funding Mix of Akbank, 2000



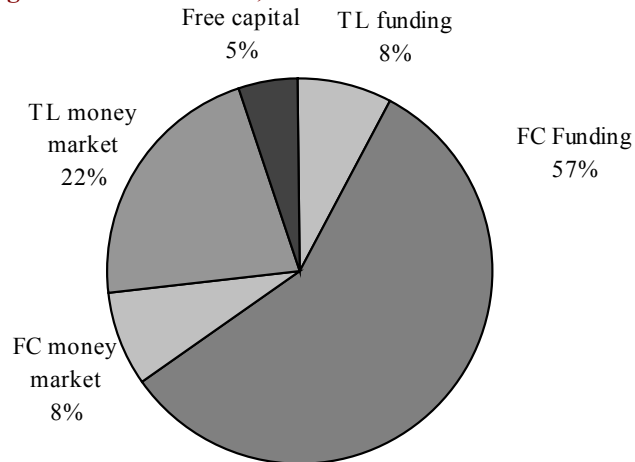
Source: Company data, J.P. Morgan estimates.

Chart 7: Funding Mix of Yapi Kredi Bank, 2000



Source: Company data, J.P. Morgan estimates.

Chart 8: Funding Mix of Garantibank, 2000



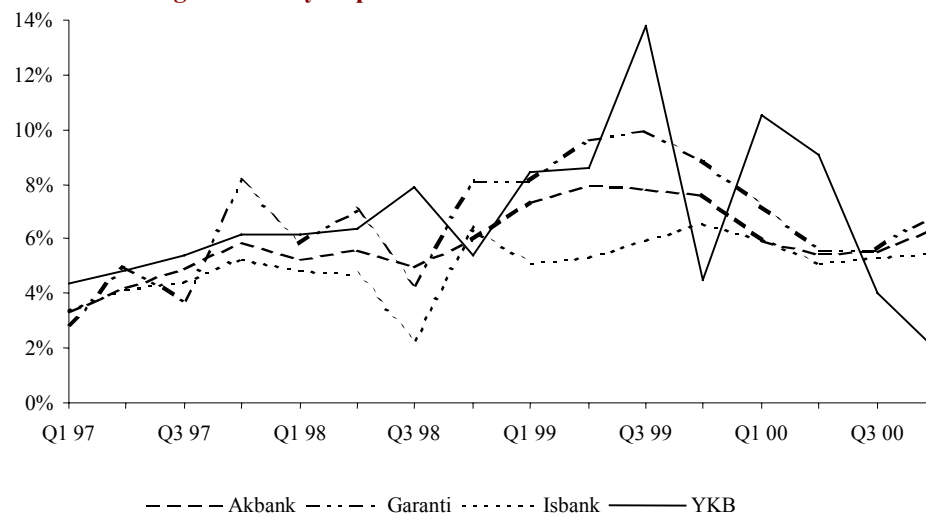
Source: Company data, J.P. Morgan estimates.

- **Isbank's** funding mix has the largest share of Turkish lira deposits. Only a small fraction of its funding comes from expensive money market funds, which gives it significant stability in its funding.
- **Akbank** has a similar profile but has a smaller Turkish lira deposit base. However, it has the largest amount of free capital in the system, which reduces its dependency on deposits.
- **Yapi Kredi Bank** is more dependent on money market funding and enjoys lower levels of Turkish lira deposits than either Isbank or Akbank. This is surprising given its clearing bank status and extensive branch network.
- **Garantibank** has the smallest amount of high-margin Turkish lira customer deposits (almost one-third the level of Isbank) and a large dependency on short-term funding, which partly explains the volatility of its margins.

Cost of Collecting Deposits

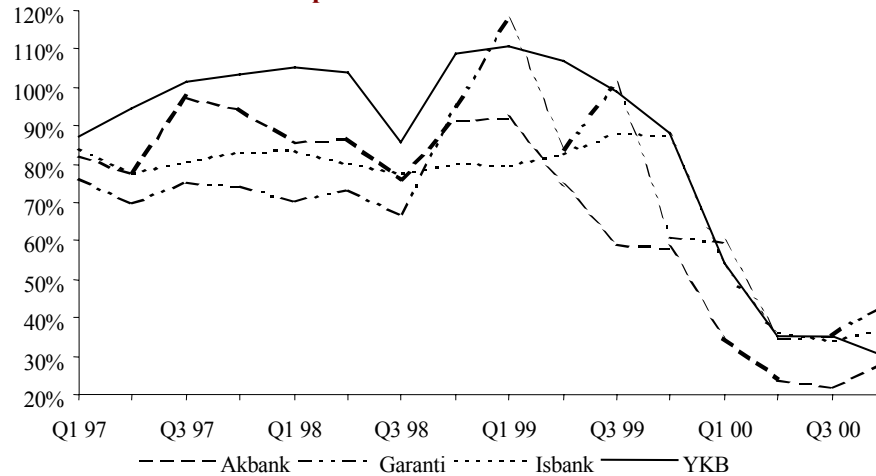
The cost of collecting foreign currency and Turkish lira deposits is one of the main drivers of bank margins. Isbank, for example, may have the largest proportion of Turkish lira deposits but this in itself would not create any value if it achieved this purely based on price. Below we have plotted the implied cost of collecting savings and foreign exchange deposits for each bank since 1997. Interestingly, there is substantial variation among banks in the interest rates they pay for deposits.

Chart 9: Foreign Currency Deposit Rates



Source: Company data, J.P. Morgan estimates.

Chart 10: Turkish Lira Deposit Rates



Source: Company data, J.P. Morgan estimates.

Isbank and Akbank consistently pay the lowest deposit rates for both lira and foreign exchange deposits. In our view, this is key to their higher spreads versus YKB and Garantibank.

Isbank appears to be more successful than Akbank in collecting cheap foreign currency deposits whereas Akbank is more dominant in the lira market. Akbank's success in collecting lira deposits is, perhaps, attributable to its large free capital base, which enables it to be more selective in its acquisition of lira deposits. This explains why Akbank is capable of generating higher margins in the lira segment than Isbank. Isbank's lower spread in the foreign currency segment is surprising, in our view, given its lower cost of raising foreign currency deposits. However, this anomaly may be explained by the higher cost of foreign borrowing at Isbank relative to Akbank.

Higher Deposit Costs at YKB and Garantibank Reduce Spreads

The main cause of lower spreads at both YKB and Garantibank is, clearly, the higher cost of collecting deposits. YKB, however, achieves a respectable margin in the lira market despite its higher deposit costs, which may be explained by the deficiency of data. However, we suspect that its credit card business, which typically enjoys high margins, is a greater factor here. However, without more detailed information on the asset side, this is impossible to prove.

But Deposit Costs Are on the Decline at YKB

It is, however, worth noting the recent sharp decline in YKB's funding costs, which we believe directly relates to the bank's decision to sell some of its Turkcell shares in the recent IPO. We have repeatedly argued that one of the bank's main structural weaknesses is its low level of free capital, which forced it to be aggressive in the deposit market to support its risk assets. The improvement in YKB's funding costs suggests that bank restructuring can indeed have a dramatic impact on banks' profitability.

Spread Analysis

Some would argue that spread analysis is of limited use as it assumes a continuation of current trends when, in fact, banks are unrolling new strategies to redesign their business models. In our opinion, banks' asset and funding structure pose a severe limitation to the extent to which they can dramatically change their business models in the short term. For example, it would be impossible for Akbank to shift all its liquidity to lending, just as it would be difficult for Isbank to monetise all its investments in industrial companies and deploy them to its banking business. Restructuring a bank's balance sheet is like changing the course of a freight tanker. It is exciting but it takes time and effort.

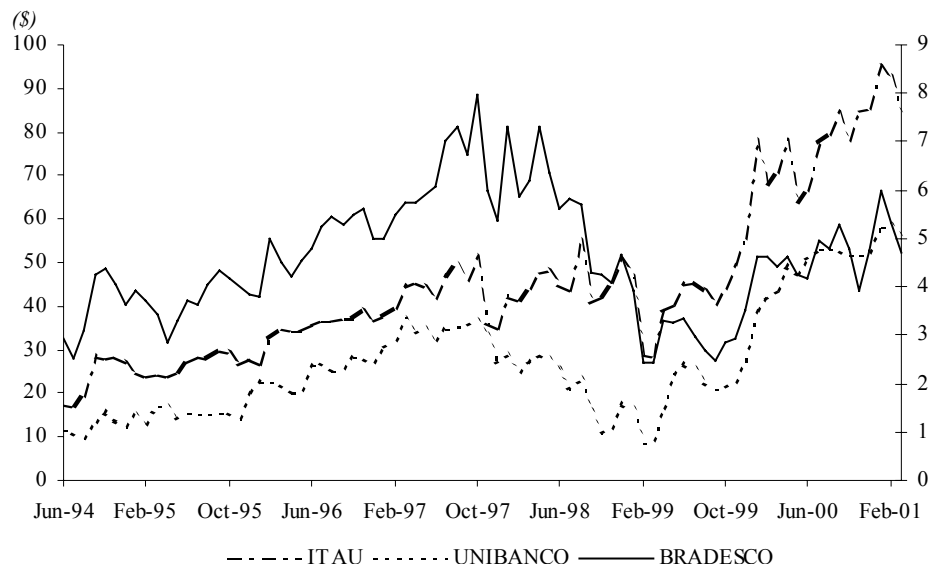
IS THERE A LIFE FOR TURKISH BANKS AFTER ALL?

We think there is, and a fairly bright one too. The bearish case for Turkish banks is mainly based on the argument that margins and earnings would drop sharply as Turkish banks lose their inflation profits arising from float income and high-risk premium on government debt as the country stabilises. In this section, we test this hypothesis by first looking at the experience of Brazil — it recently underwent a dramatic stabilisation — in the hope of drawing parallels with the Turkish experience. We then turn our attention back to the Turkish banks to determine whether they could follow a similar path.

Brazilian Banks Prosper Under the Real Plan

The performance of Brazilian bank stocks has been nothing short of spectacular since the implementation of the real plan in mid-1994. Bank stocks fell sharply during the initial phase of the stabilisation programme on fears of lower profitability due to the loss of float income, but they quickly recovered and exceeded their pre-real plan highs. Since the introduction of the plan the Brazilian banks index has nearly tripled, although performances of individual stocks has varied considerably. During the same period, Banco Itau has gained 409% in value in US dollar terms while the appreciation of Unibanco has been a more modest 356%. Rising bank returns and improved macroeconomic prospects appear to be the major catalysts behind the sharp appreciation in bank shares.

Chart 11: Performance of Brazilian Stocks



Source: Datastream, J.P. Morgan estimates.

Note: Itau's and Unibanco's prices are on the RHS; Bradesco's is on the LHS.

Higher Profitability Drives Shareholder Returns

By almost any measure, the profitability of major Brazilian banks increased sharply following the implementation of the real plan. The improvement in banks' profitability is all the more remarkable considering the collapse in interest margins and the loss of float income, worth an estimated 4% of GDP due to the drastic decline in inflation.

Table 8: Key Profitability Measures of Selected Brazilian Banks

(\$ million unless otherwise noted)

		1995	1996	1997	1998	1999	2000
Itau	Net income	353	570	646	727	1,035	944
	ROA (%)	1.6%	2.1%	1.8%	1.8%	3.7%	3.0%
	ROE (%)	10.6%	16.5%	17.9%	19.9%	35.4%	29.3%
Bradesco	Net income	555	794	712	837	612	892
	ROA (%)	1.9%	2.3%	1.6%	1.6%	1.5%	2.0%
	ROE (%)	11.6%	16.0%	14.4%	17.0%	16.9%	23.4%
Unibanco	Net income	159	274	386	375	327	379
	ROA (%)	0.9%	1.2%	1.6%	1.5%	1.7%	1.7%
	ROE (%)	9.9%	13.8%	18.0%	16.4%	17.1%	15.6%

Source: J.P. Morgan estimates.

Below, we analyse the earnings dynamics of the three major Brazilian banks by breaking down their returns to determine their source and sustainability. We use this analysis to help us determine whether Turkish banks could follow a similar path as their Brazilian counterparts.

Table 9: Profitability Analysis of Three Major Brazilian Banks

(% as at year end)

	Banco Bradesco		Banco Itau		Unibanco	
	1994	1999	1994	1999	1994	1999
A. AEA/total assets (%)	85.4%	82.1%	81.4%	85.4%	88.3%	86.4%
B. Post prov. net interest margin (%)	11.6%	8.8%	8.0%	8.9%	6.3%	8.5%
C. Non-interest inc/AEAs(%)	5.6%	2.8%	5.7%	8.3%	3.3%	6.1%
D. Expenses/core post prov rev (%)	65.3%	86.7%	78.6%	71.1%	84.1%	78.9%
E. RoAA (A x (B+C) x (1-D)) (%)	5.1%	1.3%	2.4%	4.2%	1.3%	2.7%
F. Leverage (x)	6.2	11.4	7.1	9.6	9.7	9.8
G. Pre-tax ROE (G x E) (%)	32%	14%	17%	40%	13%	26%
H. Growth in total assets (%)		144%		112%		53%

Source: J.P. Morgan.

Profitability Led by Higher Fee Income

In our view, the improved profitability of Brazilian banks is mainly driven by the rapid increase in their fee and commission income. Apart from Banco Bradesco, all Brazilian banks have sharply increased the level of their fee business in the past five years. Table 9, however, does not accurately capture the full extent of the banks' ability to generate higher fees, as our analysis of the three private banks does not account for the events of 1994, a year in which Brazilian banks made significant inroads in charging for their banking services. Table 10 shows the growth in banking fees for the Brazilian banking system as a whole since the inception of the real plan.

Table 10: Evolution of Banking Fees in Brazil

(%)

	Dec-93	Jun-94	Dec-94	Dec-95	Dec-96	Dec-97	Dec-98
As a % of admin outlays	6.1%	6.0%	13.3%	18.3%	20.5%	23.9%	27.0%
As a % of operating income	0.4%	2.4%	2.9%	3.9%	5.9%	5.2%	6.3%

Source: Banco Do Brasil.

Stabilisation Side-Effects: Financial Deepening

Increased financial intermediation is probably one of the most well documented consequences of disinflation. Almost all countries that have recently implemented exchange rate stabilisation programmes have seen a pronounced improvement in financial deepening as disinflation has been achieved. Brazil is no exception. Broad money supply rose from 22.4% of GNP in 1993 to 27.1% in 1997. The rapid expansion in the total volume of banking services business also appears to have supported profitability, offsetting the contraction in margins. Another interesting consequence of the stabilisation was the public's willingness to keep idle balances in the financial system. With stabilisation, money did not burn holes in peoples' pockets and customers were not worried about leaving idle balances in current accounts at a zero interest rate. Current account balances at Bradesco, for example, jumped from 8.3% of total deposits in June 1994 to 17.9% in December 1995.

Consolidation Has Been a Key Catalyst

The consolidation of the banking industry and increased presence of international players have also been key factors in contributing to the higher profitability of Brazilian banks. The share of the four largest private banks in total banking assets increased to 28.3% in 2000 from 12.2% in 1994. Similarly, foreign banks now control more than 30% of Brazil's banking assets, up from 7% in 1994. In our view, the presence of rational, strong and profit-minded players has been instrumental in limiting competition and allowing banks to charge higher fees for their services.

Turkish Banks: A Brazil in the Making?

Having reviewed the experience of Brazilian banks, we shift our attention back to the Turkish banking sector. As noted earlier, the Turkish banking system as a whole does not generate an adequate return on capital. However, a segment of the industry, which mainly comprises four large, well-capitalised private banks, *is* capable of generating decent returns. We now explore the earnings structure of these banks to determine whether they can match the superior performance of their Brazilian counterparts.

Table 11: Earnings Breakdown of the Four Major Turkish Banks, 2000

(%, year-end December 31, 2000)

	Akbank	Garantibank	Isbank	YKB
A. AEA/total assets (%)	78.9%	72.2%	69.8%	66.3%
B. Post prov net interest margin (%)	15.5%	9.2%	10.0%	8.6%
C. Non-interest inc/AEAs (%)	3.4%	7.4%	8.0%	6.9%
D Total revenues/core post rev (%)	97.0%	88.9%	98.0%	108.0%
E. Expenses/core post prov rev (%)	29.2%	38.8%	44.2%	39.7%
F. Pre-tax net inc/core post prov rev (%)	67.8%	50.1%	53.7%	68.2%
G. RoAA before tax (Ax (B+C) x (F)) (%)	10.1%	6.0%	6.8%	7.0%
H. Leverage (AEA/avg equity) (x)	8.1	7.9	3.9	4.6
I. Pre-tax ROE (G x E) (%)	82%	48%	26%	32%

Source: Company reports.

What Drives Earnings at Turkish Banks?

There are several differences in the way Turkish and Brazilian banks make money. First, with the exception of Akbank, all Turkish banks have significantly smaller levels of interest-earning assets than their Brazilian counterparts (Table 11). This is a structural problem within the Turkish banking industry and directly relates to the banks' decision to deploy their capital to investments in affiliated companies rather than their core banking business. Second, although Turkish banks enjoy higher margins, they show low levels of fee income, particularly when a sizeable portion of their non-interest income can be attributable to trading gains, which should normally be considered part of the net interest margin. Finally, Turkish banks appear to have a lower leverage than their Brazilian counterparts. This is, again, more a function of their smaller interest-earning asset bases than excessive levels of capitalisation.

The good news is that the earnings profile illustrated in Table 11 allows considerable room for improvement even if margins continue to come under pressure. In our view, banks could easily offset the projected decline in margins by charging their customers higher fees and deploying more capital in their banking business. The growth in banking services should also help. In the following section, we look at each in turn. However, before we discuss the impact of these issues on bank profitability, we revisit the much-discussed problem of the collapse in margins.

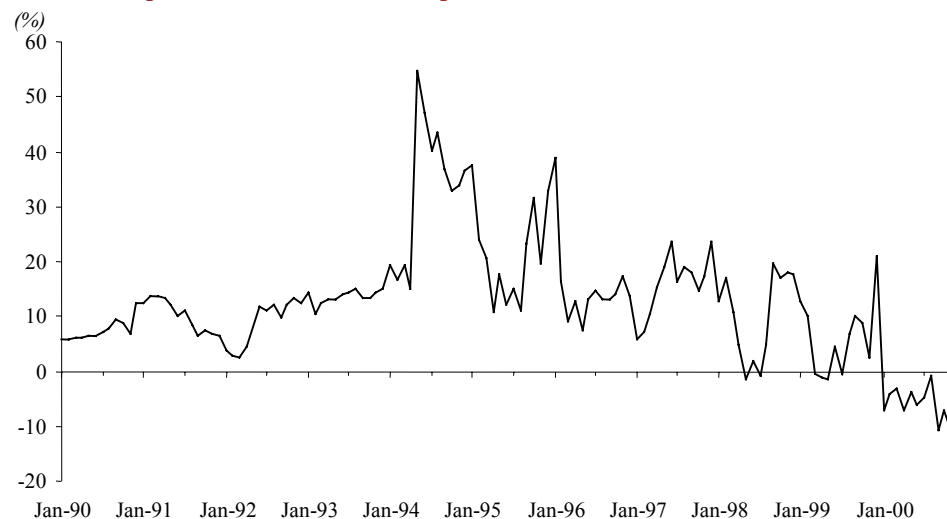
Vulnerability of Interest Margins

At first glance, margins in the Turkish banking system are remarkably high. In fact, net interest margins of Turkish banks are twice as high as those in comparable OECD countries. This can be attributed to inflation profits. The main argument that Turkish banks would lose if inflation stabilised is primarily based on the notion that with lower inflation the risk premium on the T-bill would fall and banks would lose their gains from float revenues. We estimate the combined losses from these at 1.7% of GDP. In other words, the margins are likely to be halved as disinflation is achieved, *ceteris paribus*. However, this analysis has concentrated on the asset side of the balance sheet and overlooks the dramatic increase in the funding cost of Turkish banks in the past five years. To understand the impact of lower inflation on margins properly, we need to consider the liability side as well.

How Unfair Competition Destroyed Margins

To demonstrate the increase in the cost of collecting deposits, we have plotted the three-month Turkish lira deposit rates against a benchmark rate — in this case the auction rate for treasury bills. Although this type of analysis is invariably imprecise, it clearly demonstrates the rising trend in deposit costs. As illustrated in Chart 12, the spread on Turkish lira deposits has been steadily declining since 1994 and turned negative in 2000, although this may be viewed as a short-term anomaly due to the sharp fall in T-bill rates at the beginning of the year. As deposits constitute the bulk of Turkish banks' funding, the contribution of rising deposit costs to the destruction of banks' profitability has been substantial.

Chart 12: Spread on Turkish Lira Deposits



Source: J.P. Morgan estimates.

Invasion of the Deposit Snatchers

The unfair competition from state banks and the rapid capacity build-up by weak banks, in particular, have been the main factors behind the rising deposit costs, in our view. Table 12 details the evolution of branch capacity in the Turkish banking system. The number of commercial bank branches rose 28% to 7,745 in 2000 from 6,066 in 1994 and the growth in the branch network of weak banks — all SDIF banks are defined as weak — has been even more impressive at 137%. In other words, more than 40% of the increase in branch capacity is attributable to the weakest segment in the system. This ratio would have been much higher had we included those weak banks still in the system.

Table 12: Evolution of Branch Distribution Network

(Number of branches)

	1994	1999	2000	1994-99	1994-2000
All banks	6,066	7,609	7,745	25%	28%
SDIF banks	370	817	877	121%	137%

Source: TBA.

The rate at which the excess branch capacity will be rolled back through either consolidation or bank closures should largely determine the future direction of spreads on the deposit stock. However, it is inconceivable that the spread across the entire Turkish lira deposit stock will remain zero, particularly if the industry begins to consolidate.

Fee Income: the Only Way Is up

Unfortunately, higher deposit rates are not the only consequence of the competition in the industry. When the weak banks set out to expand their branch capacity, the level of fee income in the industry fell sharply. In 1994, net fee income represented 1% of total commercial bank assets. Five years later, it fell to less than 0.7% of average assets. A return to the 1994 fee income levels alone would increase pre-tax earnings by \$400 million, on our estimates. A more optimistic assumption is that the size of the fee business will increase to Brazilian levels, adding \$5.0 billion to bank earnings and more than offsetting the impact of even the most bearish outlook on margins. However, charging customers for banking services is likely to remain a formidable challenge while weak banks continue to offer services for free just to retain much-needed client deposits to support their fragile balance sheets.

Table 13: Market Share of SDIF and State Banks in Credit Cards, December 2000

(%)

SDIF	Vakif	Ziraat	Emlak	Halk	Total
13.8%	9.0%	5.5%	2.8%	1.8%	32.9%

Source: Akbank.

Currently SDIF banks (excluding Iktisat and Ulusal Bank) and state-owned banks have a combined market share of 33% in the credit card market. We expect the four large banks to gain market share from these banks rapidly, as they are closed, further enhancing their capacity to charge fees and commissions.

Consolidation: What It Means for Margins

The resolution plan unveiled in November 2000 for the 11 insolvent banks (13 including the latest additions of Iktisat and Ulusal Bank), which calls for the closure of at least four, is likely to create the first wave of consolidation. (A detailed discussion of the resolution programme is provided in the section Managing the Crisis: Still Work in Progress, page 44.) Although the plan can hardly be considered aggressive it nonetheless brings about an estimated 5% reduction in banking capacity and its positive impact on deposit spreads should not, therefore, be underestimated.

The Crisis Has Heightened the Need for a More Dramatic Response

However, we think the authorities are now likely to follow a more aggressive plan than earlier planned in the wake of the devaluation of the lira on February 22. The crisis has clearly brought dislocations caused by the SDIF and state-owned banks to the forefront of the national agenda and is likely to prompt at minimum a speedier liquidation of insolvent banks. According to press reports, the government is even considering liquidating Halkbank, in our view long overdue but, nevertheless, revolutionary by historical standards. Below we provide the market share of SDIF banks and Halkbank in each deposit segment and show how much other banks stand to gain if the Turkish authorities decide to shut them down.

Table 14: Deposit Market Share of SDIF Banks and Halkbank

Banks	Market Share in Deposits		Expected % Increase in Deposits of Other Banks ¹	
	TL	FC	TL	FC
SDIF	13.2%	19.5%	15.2%	24.3%
Halkbank	20.5%	3.0%	25.7%	3.1%
Total	33.7%	22.5%	40.9%	27.4%

Source: Turkish Banks' Association.

1. Expected increase in deposit base of other banks if SDIF/Halkbank are closed.

The Impact on Margins and Bank Values

An improvement of 100 basis points on the Turkish lira deposit stock would improve commercial bank earnings by \$500 million, on our estimates. An increase of 500 basis points could nearly offset the full impact of margin stabilisation and restore the industry's profitability. This could also have substantial value implications for banks (see the discussion in the next section). **Therefore, given the extent of unfair competition for deposits and its impact on banks' profitability, we believe the much-discussed imminent collapse in bank margins is overstated.**

EXTRACTING VALUE FROM TURKISH BANKS: A DYNAMIC MODEL

One of the main shortcomings of our previous valuation exercise is that it is mainly a static model, which tends to work well in stable operating environments. Unfortunately, static models fail when the operating environment is expected to undergo dramatic changes, as is the case with Turkey. After looking at bank values 'as is', we tried to assess how much each bank would be worth in a more favourable operating environment and under more aggressive plans and strategies.

Determining Potential Value

The first step in such an exercise is to identify key value drivers and estimate their impact on bank values. We have identified two sets of value drivers. The first relates to the operating environment and mainly reflects the impact of our expectation of rapid consolidation in the industry. The second represents firm-specific strategic initiatives, which vary by bank. We estimate the impact of each value driver on bank values using our component model. We then attach a probability to each event to reflect their likely occurrence to derive an expected potential value.

Key Operating Value Drivers

We have identified five value drivers related to the operating environment based mainly on our consolidation theme.

- **The closure of all SDIF banks.** Their current market share in deposits and fee business will be divided equally between all remaining banks in the system. We attach a probability of 65% to this event.
- **Liquidation of Halkbank.** Similar to the SDIF banks, Halkbank's market share of Halkbank would be divided equally between other banks in the system. We assign this a probability of 15% given the obvious difficulties involved in closing a state bank.
- **Entry of foreign competition.** We assume two major international players will enter the Turkish market, driving down asset spreads on foreign exchange liabilities by 100 basis points. We attach to this a probability of 75%. As Citibank already has one foot in the door and others are eyeing the market, this does not seem an unreasonable assumption.
- **Higher fee income.** As a result of consolidation, we expect system-wide fee income will increase from 0.70% to 1.0% of average assets. This is also a reasonable expectation as it would take the system back to only its 1994 levels. We give this a probability of 55%.
- **Higher Turkish lira deposit spreads.** Finally, we project deposit spreads will increase by 200 basis points as competition from weaker players falls. We assign this a probability of 60%. This does not appear overly optimistic either as we estimate the current spread on the entire Turkish lira deposit stock at zero.

Assigning probabilities to each driver is clearly an arbitrary exercise. Chart 13 summarises the impact of these drivers on the value of each bank. The most incremental value is created at Isbank in absolute terms, but YKB and Akbank are the real winners in relative terms. It is not difficult to understand why.

- Because of their higher spread, Isbank and Akbank are most sensitive to gains in market share. However, as a large percentage of Isbank's equity value comes from the conglomerate business, its impact on the overall value is much less than Akbank's.

- YKB, on the other hand, is most sensitive to changes in fee income levels.
- Garantibank is the most sensitive bank to the entry of foreign competition as a result of its large foreign currency business.

Chart 13: Impact of Changes in Operating Drivers on Bank Equity Values¹



Source: J.P. Morgan estimates.

1. Expected changes reflecting probability of each event.

Strategic Responses: Who Can Go the Distance?

In addition to these operating issues, which are largely outside the control of banks, a number of bank-specific strategic initiatives can be implemented to generate incremental value. Below, we attempt to identify these initiatives and their likely impact on bank valuations.

Akbank: Leverage to Acquire, Not to Lend

Akbank already enjoys a strong banking business. It is well capitalised, has some of the highest margins in the business and runs a relatively tight ship in terms of operating expenses. Hence, there appears to be limited scope for further improvement. Except one.

Three years ago, Akbank embarked on a strategy of leveraging its balance sheet by borrowing in foreign currency and lending at a spread. The business logic for this was powerful. The higher the leverage, the higher the return on equity and hence the bank's value. The problem was, of course, that lending in foreign currency is a low-margin, low value-added business, which is susceptible to competition from foreign banks.

Akbank's equity value, on the other hand, is much more sensitive to market share growth, particularly in the lucrative lira segment. Because of its superior lira margins, each dollar of new lira business would generate much larger cash flow than foreign currency lending. Consequently, we consider that the bank should use its balance sheet to acquire new lira franchises rather than to facilitate more foreign currency lending. Given the execution risks inherent in acquisition strategies, it is difficult to assess the potential value that can be generated from this initiative. We therefore assume its impact is zero.

Garantibank: the Business Needs a Revamp

In our view, Garantibank needs to contemplate several strategic initiatives that could ultimately create substantial value for its shareholders. Its main strategic challenge is that most of its business is concentrated in the low-margin foreign exchange segment. To make matters worse, Ottoman Bank, its wholly-owned subsidiary, appears to be running a similar model, effectively competing with Garantibank for the same business. The bank is sensitive to foreign currency margins, which are likely to come under greater pressure as foreign competition rises. We believe the most effective solution for the bank is to divest Ottoman Bank and acquire a stronger lira franchise, such as Vakifbank. However, selling a bank in a crisis environment is not easy. We attach no potential value to this initiative because of the large execution risk.

Reduce Expenses

There are, however, other initiatives, which could be implemented more easily. The bank has a relatively bloated operating structure, which offers huge potential for cost cutting. A 10% decrease in operating overheads would increase the bank's potential value by \$855 million. We attach to this initiative a relatively high probability of 60%, as we believe that management is capable of delivering it.

Deploy More Capital to Core Banking Business

The third initiative for Garantibank is to deploy more capital to its banking business to improve returns. It would reduce its dependency on short-term money market funding and lower its funding costs. This would also have the added advantage of alleviating investors' concerns over the need for a capital increase. The bank appears to have a relatively large real estate portfolio, which could be easily monetised in an asset sale and lease-back transaction. Again, it is difficult to pinpoint exactly how much the monetisation of real assets would lower deposit costs. We assumed a modest 5% decline across the entire deposit stock.

The impact of these strategic initiatives on Garantibank's equity value is greater than the operational drivers. This suggests that the bank is more a restructuring story than a play on the consolidation of the sector. This is good news for the bank as it can release more value to shareholders without necessarily relying on the changes in the operating environment.

Isbank: Improving Efficiency Is the Main Strategic Driver

We believe Isbank can create substantial incremental value in operating efficiency, particularly in view of its poor efficiency. With operating expenses representing 7% of total assets, the bank should have ample room to reduce overheads. But cutting costs by 10% in a bank largely owned by its own employees is not easy. We would, therefore, assign this initiative a probability of 10%.

Improve Transparency

Isbank could also create value by increasing its financial disclosure. Based on our margin analysis, Isbank is one of the most profitable bank franchises in Turkey. However, it books a significant amount of its revenues below the interest income line as trading and other banking income, which significantly reduces its visibility. In our view, investors would appreciate the strength of its franchise more if it revealed the details of these relatively opaque items.

Similar to Garantibank, Isbank has a rich portfolio of real estate assets. However, deploying more capital to the banking business would achieve little, in our view, as the bank has a strong deposit base and already pays some of the lowest deposit rates in the business.

Yapi Kredi Bank: Erasing Conglomerate Discount

As noted above, we believe YKB and Isbank should be considered quasi-holding companies as a substantial part of their equity value comes from non-bank businesses. Yet, the market appears to be valuing the two companies very differently, assigning a deep discount to YKB and a large premium to Isbank. Clearly, Isbank is enjoying a conglomerate premium, while YKB is penalised with a hefty discount when, in fact, its business mix is geared towards more attractive, high-growth industries.

In our opinion, the discount assigned to YKB reflects investors' view that minority shareholders may not fully capture the value created in other businesses. Although we believe this scepticism is unjustified, the sale of its 50% stake in SuperonLine to Fintur in 2000 for \$70 million appears to have reinforced this view. Although we consider this a fair price for SuperonLine shares, some investors were disappointed.

Therefore, the main value kicker for the bank should be the elimination of the conglomerate discount embedded in its share price. The easiest way for it to achieve this objective, in our view, is to distribute its 1.2% direct stake in Turkcell as a stock dividend. This would send a strong message to the investment community that it is committed to aggressive pursuit of shareholder value creation. Even a 50% reduction in the conglomerate discount would unleash an incremental value of \$450 million. However, there are some tax complications with this scenario, which make it less likely.

Table 15: Summary of Strategic Initiatives

(\$ million)

Bank	Strategic Initiative	Impact on Bank Value	Probability (%)
Akbank	Use balance sheet strength for acquisition and not to lend	-	0
Garantibank	Sell Ottoman Bank to acquire a stronger lira franchise	-	-
	Cut operating costs by 10%	855	60%
	Release more capital into banking business	235	40%
Isbank	Cut operating costs by 10%	810	10%
	Improve transparency	180	20%
YKB	Erase conglomerate discount	450	10%

Source: J.P. Morgan estimates.

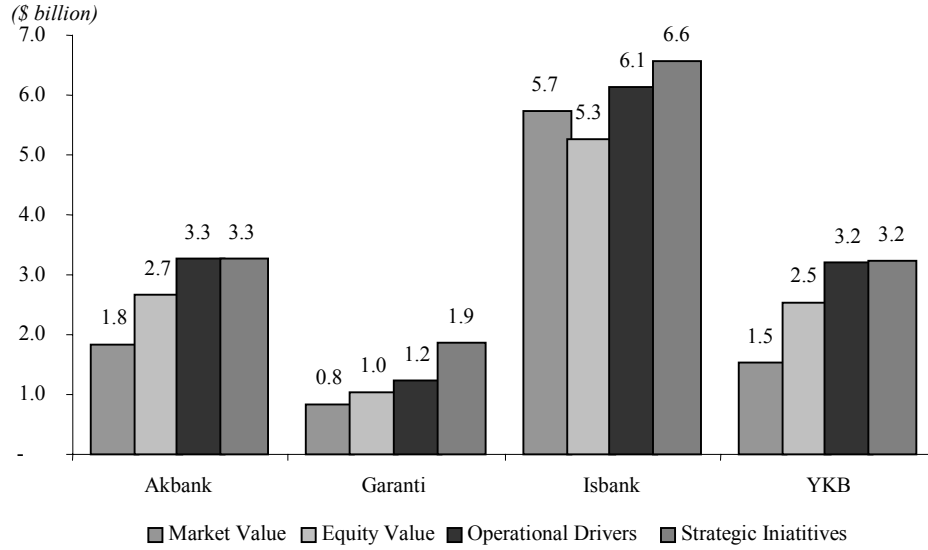
Conclusion

Chart 14 illustrates the anticipated impact of the changes in the operating environment and the firm-specific strategic initiatives on the overall value of each bank.

- The consolidation of the banking industry has significant value implications for Turkish banks which, in our view, are not reflected in their share prices. Even incorporating a mild consolidation scenario increases bank equity values by at least 25%. Akbank, Garantibank and YKB appear substantially undervalued relative to their expected potential value.
- The most significant driver for bank equity values is the potential market shares gains from the closure of SDIF and state banks. These two forces combined could easily double bank equity values, if realised.
- Akbank and YKB are the most sensitive stocks to changes in operational values making them ideal plays on the expected consolidation of the industry.
- On the other hand, strategic value initiatives appear bigger drivers for Garantibank and Isbank, which make them attractive investments if management can deliver on them.

- On balance, operational value drivers appear a bigger force than strategic initiatives in terms of incremental value creation. This may reflect our inability to identify all strategic drivers or to model them correctly. Nonetheless, the improvement in the operating environment is likely to be the main driver of bank performance in the near term.

Chart 14: Expected Potential Value



Source: J.P. Morgan estimates.

ORIGINS OF THE CRISIS: BAD LUCK OR BAD POLICY?

Bank Crises Are a Common Occurrence in Emerging Countries

There is a natural inclination to think that financial crises are rare events. Yet banking crises have become increasingly common, particularly in emerging markets. Over 1980-1996 at least two-thirds of IMF member countries experienced significant financial sector problems.¹ Moreover, there were significantly more banking crises in the 1980s and 1990s than in the 1970s. The most severe industrial country's banking crisis was that of Spain (1977–1985), where estimated losses reached almost 17% of GDP. Next came Finland (1991–93) at 8% of GDP, Sweden (1991) at 6% and Norway (1987–89) at 4%; the US saving and loan crisis (1984–1991) cost about 3% of GDP. In the developing world, we can easily identify more than 12 episodes in which losses or resolution costs equalled or exceeded 10% of GDP. These include the recent cases of Venezuela (18%), Bulgaria (14%), Mexico (12–15%) and Hungary (10%); in several cases, such as Argentina and Chile, losses were at least 25% of GDP. While such estimates are generally imprecise, the greater severity of banking crises in developing countries is a common finding of several different studies.

Table 16: Selected Episodes of Systemic Banking Crises

Country	Scope of Crisis	Estimated Total Losses/Costs
Argentina 1980-82	More than 70 institutions were liquidated or subject to central bank intervention accounting for 16% of assets of commercial banks and 35% of assets of finance companies.	55.3% of GDP.
Brazil 1994-96	By end-1997, the Central Bank had intervened in or put under Temporary Special Administration Regime supervision 43 financial institutions.	Overall fiscal cost estimated at 10% of GDP.
Hungary 1991-95	H2 1993: eight banks that accounted for 25% of assets in the financial system were insolvent.	Overall resolution cost is 10% of GDP.
Israel 1977-1983	Virtually all the banking sector affected, representing 60% of stock market. Stock exchange closed for 18 days.	30% of GDP in 1983.
Mexico 1995-ongoing	Of 34 commercial banks, nine required intervention and 11 participated in the recapitalisation programme.	20% of GDP.
South Korea 1997-ongoing	By March 1999, two out of 26 commercial banks, which accounted for 11.8% of total banking assets, were nationalised; five banks, accounting for 7.8% of total banking assets, closed. Seven banks, accounting for 38% of banking assets, were placed under special supervision.	Fiscal costs of crisis estimated to have reached 26.5% in 1999.
Sweden 1991-94	Nordbanken and Gota Bank, accounting for 21.6% of banking system assets, became insolvent. The government intervened in Sparbanken Foresta, which accounted for 24% of total banking assets.	Cost of recapitalisation at 4% of GDP.
Thailand 1997-ongoing	Up to March 1999, the Bank of Thailand intervened in 70 finance companies, which together accounted for 12.8% of the financial system's assets. It also intervened in six banks that together had a market share of 12.3%.	Fiscal costs at 32.8% of GDP by mid-1999.
Venezuela 1994-ongoing	Insolvent banks accounted for 30% of the financial system's deposits. In 1994, the authorities intervened in 13 out of 47 banks, which held 50% of deposits, and five more banks in 1995.	Estimated losses at more than 20% of GDP.

Source: World Bank.

Identifying the causes of the unfolding banking crisis in Turkey is important because they are likely to affect the design of the resolution process. Cross-country comparisons suggest that the causes of the Turkish crisis are not systematically different from those underlying financial crises elsewhere, at least in theory. Poor banking practices — inadequate capital, poor assessment of credit risks, lending to connected enterprises or insiders and excessive maturity or currency mismatches — are some of the common themes for any country experiencing problems in the financial sector.

¹ Caprio and Klingebiel, Episodes of Systemic and Borderline Financial Crises (1996).

In Turkey, regulation and supervision had serious deficiencies. Large maturity and currency mismatches as well as insider abuse in several insolvent banks indicate deficiencies in the system. In addition, financial sector regulators and supervisors lacked autonomy, making them susceptible to political and industry pressure. Basic accounting, auditing and disclosure practices were also significantly below international best practice. A tradition of forbearance instead of firm corrective action, together with a blanket deposit guarantee, encouraged excessive risk taking, increased moral hazards and weakened market discipline, in our view.

There is debate in Turkey over whether the crisis was 'home-grown' and caused by weak fundamentals, or the 'herd instinct' of lenders as suggested by the government. The collapse of Demirbank generally marks the start of the current crisis. However, although dramatic, an event such as this rarely represents either the beginning or the end of the process. Clearly, the underlying insolvency has been evolving over time and the collapse is merely the point at which the insolvency is revealed to the public. Therefore, the debate over whether it was fundamentals or panic that brought down the Turkish banking system should not be confused with the question of whether underlying policy weakness in the banking sector contributed. Apart from the bad banking practices and poor supervision, the following three factors significantly contributed to the crisis, in our view:

- the weak capital base;
- heavy reliance on foreign borrowing, some of which was not properly accounted; and
- the destruction of bank franchise values as a result of heavy government intervention and unfair competition.

STRUCTURAL PROBLEMS DIMINISH BANK FRANCHISE VALUES

Although there is a common perception that Turkish banks are among the most profitable in the world, the reality is quite different. The superior profitability of Turkish banks can largely be traced to the lack of inflation accounting and the liberal use of the accrual method. We believe the Turkish banks were vulnerable before the implementation of the stabilisation programme, as earnings, with the effect of inflation stripped out, were not sufficient to provide a positive return on equity.

Superior Profitability of Turkish Banks Is More a Myth Than Reality

Table 17 shows our adjustments to commercial banks' profitability in the first nine months of 1999. We deliberately avoided using the full-year 1999 or any interim 2000 results, as the recognition of large losses at insolvent institutions taken over by the authorities would have distorted the results. This analysis shows that, when adjusted for effects of inflation and the accrual method, the system actually lost money. This is without making any assumptions about asset quality or inadequate level of provisioning in the system.

Table 17: Real Profitability of Turkish Commercial Banks

(\$ million, as at September 30, 1999)

Pre-tax profits	3,727
Less: the effect of straight-line accrual method	(1,300)
Taxes	(971)
Net income before adjustments for monetary losses	1,526
Net monetary position	6,085
Less: monetary loss	(2,434)
Net loss	(908)

Source: J.P. Morgan estimates.

We believe the Turkish banking industry suffers from two important structural weaknesses, which make Turkey one of the most challenging banking environments globally: unfair competition for deposits by state-owned and unsound banks; and high fragmentation, which raises the cost of acquiring new clients and maintaining existing ones.

Heavy Government Intervention Significantly Distorts Competition

A large state-owned banking sector can distort competition in the banking industry both in the extension of loans and the collection of deposits. Most state-owned banks in Turkey were established to allocate credit to particular sectors of the economy. All too often, however, the creditworthiness of the borrowers does not receive sufficient weight in the credit decision, with the result that loans by state banks can become a vehicle for extending government assistance to ailing industries or worse to corrupt managers. Moreover, as state banks are shielded from competition and protected from closure on constitutional grounds, they have no incentives to innovate or control costs. Table 18 provides the share of state-owned banks in major emerging countries. With the exception of China, India, Poland and Brazil and the crisis-laden Indonesia, Turkey has the largest state-owned banking sector worldwide.

Table 18: Structure of the Banking Industry, as at end 1998

(%)

	Concentration in the Banking Industry	Bank Claims on Government	Share of State- Owned Banks	Share of Foreign Banks
China	70%	2%	99%	0%
India	42%	32%	82%	8%
Indonesia	NA	3%	85%	NA
Korea	50%	3%	28%	6%
Malaysia	40%	7%	7%	20%
Philippines	60%	23%	0%	0%
Thailand	62%	0%	29%	13%
Argentina	38%	32%	30%	30%
Brazil	52%	57%	47%	14%
Chile	47%	2%	13%	32%
Colombia	53%	20%	19%	31%
Mexico	68%	4%	NA	18%
Peru	67%	6%	3%	22%
Venezuela	56%	11%	NA	NA
Czech Republic	66%	14%	19%	25%
Hungary	57%	42%	NA	NA
Poland	43%	37%	46%	17%
Russia	42%	59%	36%	14%
Israel	87%	25%	NA	NA
South Africa	81%	4%	2%	5%
Turkey¹	43%	NA	45%	3%

Source: BIS.

1. At the end of 1999.

But government involvement in the banking sector extends beyond the operation of state-owned banks. Even privately-owned banks are required to hold government bonds at below-market interest rates and suffer under high reserve requirements or taxes. The government also directs them to borrow in foreign currencies and assume the currency risk, thus forcing them to become quasi-fiscal agents. During the November crisis, the government asked the four major banks to contribute \$250 million each to finance the treasury — and they duly lent the government the money. Even where directed credit is not a problem, other forms of arbitrary quasi-taxation (such as windfall gains) can often undermine banks' financial autonomy.

The trouble in Turkey is that not only do state-owned banks still retain a significant share of banking assets they are also strapped for cash. The World Bank estimates the stock of unpaid duty losses at about \$20 billion in 1999. To put the size of this problem in perspective, the stock of debt accumulated by state-owned banks is close to half the government's cash debt. Given the lack of transparency in the way these banks performed their quasi-fiscal duties, it is impossible to determine how much of these losses is due to bad credit control and how much to unpaid duty losses. Nonetheless, it is inconceivable that private banks can flourish in an environment where state banks run huge operational losses which are being funded in the deposit market with little or no regard for costs.

High Market Fragmentation Diminishes Returns

Turkey appears to have one of the most fragmented emerging banking markets with a bank concentration ratio of 43%; only Malaysia, Poland, Russia, India and Argentina have lower figures than Turkey (Table 18). We define banking concentration as the ratio of assets of the five largest banks to the assets of the total banking sector. Several studies have examined the impact of market concentration on bank profitability and concluded that it is significant and positive. An analyst buzzword in almost every industry is 'consolidation'. Frankly, we would like to be an exception, but we do not see any other solution given the extent of fragmentation in the industry.

TURKISH BANKING SYSTEM FACES A CHRONIC CAPITAL SHORTFALL

The industrial countries rely mainly on supervised capital adequacy to check the health of their banking systems. The centrepiece of the Basel approach is the requirement that each bank should maintain minimum capital in relation to its risks. Notwithstanding this conceptual simplicity, there are shortcomings to the supervised capital adequacy paradigm, some relating to the question of capital and others to the limitations of administrative supervision. But the main problem is that neither bank capital nor the risks it supports can be measured accurately. Part of the problem is that what you see is not necessarily what you get, given the limitation of Turkish accounting standards. Better accounting standards can help but each refinement of accounting practice typically leads to demands for more information, which is not readily available.

The most important accounting difficulty is measuring capital. Accounting capital is essentially the residual value after subtracting all liabilities from total assets. But determining the real value of assets is often much harder than it appears, even for assets such as marketable securities, which typically enjoy an active secondary market. To improve the transparency of Turkish banks' securities portfolios the authorities recently introduced measures requiring banks to mark to market their bond portfolios. Unfortunately, "intent-to-hold until maturity" and "illiquidity" clauses have rendered these portfolios nearly obsolete. The emergence of structured products can easily conceal huge liabilities and overstate bank capital (see the section on structured products on page 40). Inadequate provisioning for non-performing loans and evergreening (concealing a non-performing loan simply by making a new loan to cover the repayment) can easily blur what appears to be sound banking practice.

The Quality of Bank Capital in Turkey Is Very Poor

Even if the problem of measuring capital were solved, we would still be left with issues of risk and quality. According to data provided by the Turkish Banks Association, excluding the SDIF banks, which are deeply insolvent, the Turkish banking system's capital adequacy ratio was 9.9% at the end of September. Normally, this is an adequate level of solvency for banking systems but Turkey suffers from two major problems, which significantly reduce the quality of its banking capital.

First, the capital in the system is buried in either real estate or investments in affiliated companies, which provide little liquidity in a crisis. In fact, we would argue that, excluding five large private banks in Turkey, there is no capital in the system once investments in illiquid assets are deducted. The aggregate reported capital in the Turkish commercial banking system was \$8.7 billion at the end of September. The funds invested in affiliate companies were \$13.0 billion, greater than the level of capital in the system. In other words, in addition to investing their entire capital in affiliate companies, Turkish banks are borrowing money from the public to fund their group activities elsewhere.

Second, the distribution of capital in the system is a significant problem. While foreign banks and large private sector banks appear to have excess capital, state-owned banks and most of the smaller banks are undercapitalised (Table 19).

Table 19: Capital Adequacy of Turkish Commercial Banks

(\$ million unless otherwise noted — as of September 30, 2000)

	Shareholders		Equity/Total Assets	Free Cap/Total Assets ¹
	Funds	Fixed Assets		
All commercial banks	8,664	16,947	5.6%	-5.3%
Commercial banks excluding SDIF banks	14,780	16,127	9.9%	-0.9%
Private banks	12,115	12,973	14.2%	-1.0%
State banks	1,768	2,344	3.2%	-1.0%
SDIF banks	(6,116)	820	-102.8%	-116.6%
Foreign banks	897	809	10.0%	1.0%

Source: TBA.

1. Shareholders' funds minus fixed assets.

An alternative way of reducing quality of capital or increasing risk for shareholders is to borrow the capital from other banks (maybe their own bank). The chain of events that started with the financial difficulties of BTR, the Romanian subsidiary of Bayindirbank, shows how pyramid ownership and borrowing schemes can cause the system-wide share of capital to fall while preserving the measured capitalisation of each bank. Another way of reducing the quality of capital is to provide the capital of the bank as a loan to related companies, which effectively reduces the owners' economic stake in the bank to zero. Of course, Turkey is not unique as an example of borrowed capital. There are several other well-documented cases, Chile (early 1980s) and Mexico (1994), which illustrate why a paradigm of supervised capital provides less protection than it appears to.

The accounting method is another problem in Turkey. Because of accrual accounting and lack of adequate loan loss provisioning, the measures of bank earnings are systematically overstated. By adding overstated earnings to capital, banks are reporting equally inflated levels of capital. On the eve of their banking difficulties, Yasarbank and Egebank, which were subsequently taken over by the authorities, reported non-performing loan ratios of less than 2%.

Many factors have contributed to the weak capitalisation levels of Turkish banks. One of the main problems, however, is the lack of inflation accounting on taxation of bank profits that discourages the retention of capital in the banking system. In a similar vein, the Turkish government's decision to tax banks on their windfall gains has precipitated the crisis, in our opinion. We have previously argued that the net gain to the banking system from lower T-bill rates was closer to \$1 billion despite government claims of \$6-7 billion. By taxing banks on their so-called windfall gains, the government has practically sucked out the precious little capital remaining in the system.

Weak Capitalisation Levels Encourage Risk Taking

A system of crisis prevention can be expected to operate well only if the main actors face the proper incentives to discourage excessive risk taking and to take corrective action at an early stage. Bank owners are more likely to appoint good managers and ensure their agents do not put the bank's solvency in danger when their own funds are at risk. Bank capital, therefore, serves two functions: it provides a cushion against unusual losses and it promotes better governance. Prudent behaviour will be encouraged if those who benefit from risk taking absorb most of the costs when that risk taking goes awry; that is, if shareholders are the first to lose their money. In a parallel vein, the franchise value of the bank (i.e. the profitability of a banking licence) is relevant because owners who are enjoying a handsome rate of return from normal banking operations should be less tempted to put that return in jeopardy by engaging in high-risk activities.

Unfortunately, none of these incentives is currently present in Turkey. The capital deficiency of many banks in the banking system played a significant contributory role because their low capital levels implied little risk of further loss and significant upside gains to bank stockholders. With little or no capital at stake, many banks made risky investments and, through explicit guarantees and the destruction of bank franchise values, the government encouraged this.

GROWING DEPENDENCE ON FOREIGN FUNDING

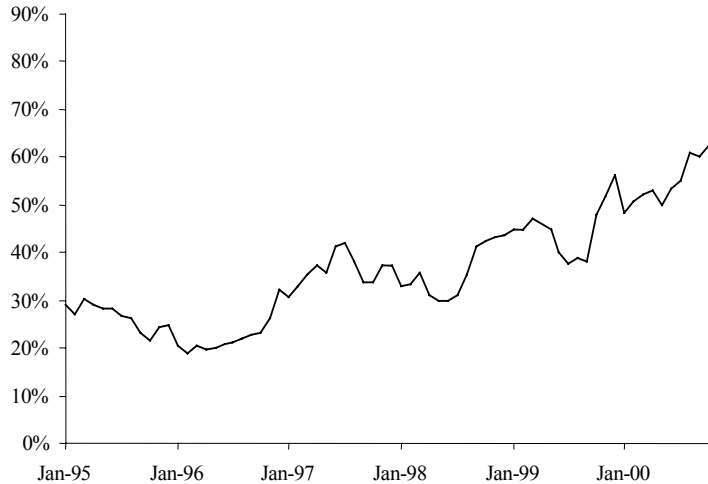
One of the main macroeconomic vulnerabilities at the outset of the crisis was the banking system's growing dependency on foreign financing. The volume of foreign borrowing by Turkish banks rose rapidly following the inception of the IMF-sponsored stabilisation programme, reaching 23% of domestic credit stock at the end of November 2000 from 14% at the end of September 1999 (from national data which include credit to public sector). Much of this debt is short term and therefore requires frequent rollover, leaving the system vulnerable to confidence swings by overseas lenders. Although the ratio of foreign debt to domestic credit is lower than the peak in some of the Asian economies, it is quite large by historical standards. In fact, the only other time in history the banking system was so heavily dependent on foreign financing was in December 1993, shortly before the disastrous devaluation of 1994. Furthermore, the foreign borrowing statistics fail to capture adequately much of the foreign funding, which funds government securities packaged in various structured products. To make matters worse, the growth of bank debt outpaced growth in usable foreign exchange reserves during most of 2000, making the system increasingly susceptible to deterioration in market sentiment and large capital outflows.

Chart 15: Domestic Credit as a Percentage of Foreign Borrowing



Source: Central Bank of Turkey.

Chart 16: Bank Foreign Borrowing as a Percentage of Central Bank International Reserves



Source: Central Bank of Turkey.

NEW FRONTIERS IN BANKING: STRUCTURED PRODUCTS

Structured products have gained acceptance in recent years as staple tools in Turkish treasurers' arsenal. Their popularity is mainly due to their elaborate financial engineering designed to leverage banks' foreign exchange and government paper exposure. In this section, we attempt to show what these products are and how they work. Although there are various schemes in the market, we concentrate on the most common structures.

How Liabilities Can Appear as Assets

Assume that Bank A wants to increase its exposure to Turkish government bonds. In fact, Bank A is so confident of the direction of interest rates and the stability of the currency that it is looking for an innovative way to leverage its exposure further by borrowing in foreign currency. Investment Bank Z proposes the following arrangement. In exchange for collateral of \$250 million, Investment Bank Z provides Bank A with an additional \$750 million to be used to purchase additional government paper. There are, however, two complications. First, the additional purchase of \$750 million would increase the leverage ratio of Bank A. Perhaps, more importantly, the trade would push the open currency position of Bank A over the limit imposed by restrictions. To get around this regulatory problem, Investment Bank Z proposes the following structure.

A special purpose vehicle (SPV) is created with the \$250 million collateral from Bank A providing the equity (usually in the form of subordinated debt). The SPV then issues a bond for \$750 million, which is purchased by Investment Bank Z. The proceeds from the bond sale as well as the equity of the SPV are invested in Turkish government paper. The balance sheet of the SPV would read as follows.

Table 20: Summary Balance Sheet of a Generic SPV

Assets	\$mm	Liabilities	\$mm
Turkish G-Paper	1,000	Bond	750
		Equity	250

Source: J.P. Morgan estimates.

Bank A, on the other hand, only reports the equity of the SPV on its books, usually as a foreign currency-denominated bond. The structure therefore allows Bank A to gain considerable leverage to both interest rates and the currency without showing a trace of the corresponding increase in risk.

Total Return Swaps

This is a variation on the previous scheme. The main difference is that there is no SPV and the transaction is generally booked off-balance sheet, usually as an interest rate swap. The structure works as follows.

Bank A provides Investment Bank Z with \$250 million of Turkish government paper to be used as collateral. Investment Bank Z buys an additional \$750 million of government paper on behalf of Bank A and guarantees to pay Bank A the total Turkish lira return on the entire government bond position. Bank A, in return, agrees to pay Investment Bank Z the carrying cost of \$750 million plus a small fee on maturity. As the transaction is structured as an interest rate swap, Bank A's government paper and currency exposure are significantly understated on its balance sheet.

Needless to say, the use of structured products creates severe information asymmetries, perhaps shading into concealment. The severity of the liquidity crunch surrounding the financial difficulties of Demirbank surprised many unsuspecting investors who were unaware of the wide-scale use of structured products. Clearly, the vast amount of leverage provided by these instruments (usually undetected by investors) contributed significantly to the magnitude of the liquidity shock. The high leverage offered by these products made banks vulnerable to any shock to their cash flow and opened the door to a liquidity crisis.

INTERNATIONAL PERSPECTIVE: WHY TURKEY IS DIFFERENT

The banking crisis in Turkey poses many similarities to some of the well-known banking crises in other emerging countries, particularly Asia (1997), Mexico (1995) and Argentina (1994). Poor supervision, bad banking practices and government intervention to varying degrees were the primary causes of bank insolvency in these countries. There are also some sharp differences, which make the Turkish financial crisis an interesting case study. We identify five.

Corporate Leverage Is Lower in Turkey

One of the main characteristics of financial crises in other developing countries, particularly in South East Asia, is the excessive amount of leverage in the corporate sector, a factor that significantly deepened the banking crisis. The debt/equity ratios of listed companies were around 400% in Korea, 150-200% in Indonesia, Malaysia and the Philippines, and 83% in Mexico. In contrast, the debt/equity ratio of publicly-traded companies at the end of September was only 78% in Turkey. However, this number exaggerates the amount of leverage in the system as liabilities are reflected at their current value while equity is represented at cost due to the lack of inflation accounting. We estimate the real debt/equity ratio of the system at 40% when equity of the system is adjusted for the effects of inflation.

No Lending Boom

A second major difference lies in the growth rate of bank lending in the period before the crises. As shown in Table 21, the financial sector problems in nearly all the crisis countries were preceded by a period of rapid credit expansion. Over 1990-96, bank lending grew at 24% per annum in Thailand, 20% per annum in Indonesia, 18% in Malaysia and 17% in Korea. From the end of 1994 to December 1996, bank credit expanded by 34% in Korea. In Mexico, in the three years (1991-94) before the crisis, aggregate gross loans increased by 89.2% in real terms, equivalent to an annual real growth rate of 23.7%. This is at least eight times higher than the growth rate of real GDP during the same period. In comparison, growth in bank lending during the three-year period preceding the Turkish crisis was much slower. Even in 2000, during the height of the lending boom, total domestic debt stock expanded by only 25%.

Table 21: Credit Growth in Selected Countries

(%)

Country	Annual Growth of Loans,	Net Domestic Credit/GDP	
	1990-96	1990	1996
Indonesia	20	45	55
Korea	17	68	79
Malaysia	18	80	136
Philippines	33	26	72
Thailand	24	84	130

Source: Worldbank.

Role of Non-Bank Financial Companies Is Insignificant in Turkey

Another difference is the growing importance of non-bank financial institutions (NBFIs) in the financial systems of other crisis countries. NBFIs have become increasingly important (relative to commercial banks) as they are better suited to the easier licensing requirements (Thailand) and less stringent regulations, including lower capital requirements (Korea and the Philippines) than those applied to commercial banks. In most countries, the growing NBFIs held riskier assets and more volatile financing than commercial banks, which made them increasingly vulnerable to a decline in asset quality and a change in investor and depositor sentiment. This trend was particularly striking in Korea where commercial banks' market share of total deposits fell from 71% in 1980 to 30% at the end of 1996 to the benefit of investment trust companies and other NBFIs. Merchant banks in Korea and finance companies in Thailand were the first institutions to face liquidity shortfalls and many became insolvent. In sharp contrast, the market share of NBFIs is only 6.7% in Turkey.

Legal Framework Was Stronger in Turkey

Deficiencies in the legal and judicial framework have been a major obstacle to the restructuring process in several crisis countries. Key issues include the initial lack of proper exit policies for banks and the lack of legal protection for officials — still a problem in the Philippines and Thailand. In many crisis countries, the autonomy of the supervisory authority has been strengthened only after considerable delays. For example, Korea lacked a unified system of supervision and regulation at the outset of its financial crisis. Commercial banks were under the direct authority of the Monetary Board and the Office of Banking Supervision and NBFIs were under the authority of Ministry of Finance (MOF). This lack of unified supervision, together with the weak supervision performed by MOF on NBFIs, created the conditions for regulatory arbitrage and the development of risky practices. The full unification of supervisors under the Financial Supervisory Service, with concomitant and extensive management and structural changes, took place only as of January 1999, two years after the outbreak of the crisis. In Turkey, however, the legal powers of the supervisors were stronger thanks to the Banking Act of 1999, which established an independent supervisory body with overriding legal powers.

But Turkey Is in a Weaker Fiscal Position

The fiscal position in all crisis countries was generally stronger than in Turkey, particularly Indonesia, Korea and Thailand which had relatively sound fiscal positions at the onset of the crisis. Even Mexico, which traditionally suffered from large fiscal imbalances, reported a public sector surplus of 1% in 1993. In contrast, the estimated fiscal deficit of Turkey's public sector as a whole was a staggering 20% at the end of 1999, according to the World Bank. Turkey's poor fiscal situation is likely to constrain the public sector's capacity to absorb the cost of restructuring the financial sector.

MANAGING THE CRISIS: STILL WORK IN PROGRESS

The resolution of a banking crisis broadly pursues the following objectives: to

- contain the systematic risks;
- identify the magnitude and the causes of the crisis;
- restore the solvency and profitability of the system;
- establish a sound framework for the development of the industry;
- manage and dispose of the impaired assets.

In this section we attempt to analyse the management of the crisis in Turkey in each of the above five stages and provide comparisons with other emerging market banking crises, with particular emphasis on Mexico and Korea.

Our focus on Korea and Mexico is due partly to the fact they are the two largest emerging markets that have recently experienced financial sector problems, but they also present two contrasting approaches to crisis resolution. While Korea adopted a comprehensive resolution approach, Mexico's management of its crisis has been mired in controversy. A chronology of the developments in the Turkish banking crisis is provided in Table 25.

Authorities Were Successful in Containing Systematic Risk

Guarantee Preserves the Viability of the System but at a Huge Cost

To stabilise banks' funding and prevent bank runs, Turkey reacted to the crisis in a similar way to many other crisis countries by reaffirming the deposit guarantee and later extending this guarantee to nearly all creditors of financial institutions. Notwithstanding its cost, the time-tested deposit guarantee in Turkey prevented the situation from developing into a full-blown systemic crisis. However, as no attempts were made to cap deposit rates at a specific premium to mitigate the moral hazard effects of the deposit insurance, the guarantee resulted in a regressive wealth distribution effect because taxpayers' funds were also used to protect large depositors. Guaranteed returns tempted depositors to put their money in high-return, high-risk banks and allowed depositors to seek out the weakest financial institutions, which offered the highest interest rates. This further aggravated the weakness of the overall financial system and magnified the cost of potential restructuring efforts.

A Restrictive Use of Liquidity Support

Initially, in nearly all crises a large segment of the banking industry requires immediate liquidity support to meet short-term liabilities. In Indonesia, for example, authorities provided massive liquidity support to the banking system of 17% of GDP to stem the 1997 crisis, which, in effect, served to fuel capital flight and, thus, the continuing depreciation of the currency. The Turkish authorities avoided the same costly mistake and did not provide excessive liquidity support to the market.

Establishment of a Crisis Management Unit

The establishment of a central unit with wide powers granted by the Banking Act of 1999 helped Turkey to eliminate legal and administrative obstacles in the resolution process. This was an issue in some Asian countries where the judicial and legislative framework was underdeveloped. The fact that supervisors lacked some of the required legal powers added significantly to the cost of crisis in these countries.

In the narrow context of maintaining public confidence in the banking system, the initial reaction of the authorities was successful with not one bank run. However, not only was the banking system in Turkey facing a liquidity crisis but some institutions were clearly enduring deep insolvency. So, while the above measures provided temporary relief to the banks, they did not solve the main causes of their problems.

A More Realistic Framework Is Needed to Determine Bank Losses

Failure to determine the magnitude and causes of the problems realistically prevents authorities from adopting a comprehensive programme. A gradualist approach usually provides relief in the short term but leads to more problems later. Therefore, a key step in any resolution plan is to identify and deal with non-viable institutions separately from weak but viable institutions.

The Banking Act of 1999 gave the supervisory authority wide-ranging powers to intervene. But the Banking Auditing and Regulation Board (BRSA) has not publicly announced any specific criteria or standard procedures for determining the viability of a banking institution. As a result, decisions to intervene in banks have been largely discretionary and usually decided on a case-by-case basis. The Turkish approach contrasts sharply with that of Korea (see Table 22) where decision making was based on explicit criteria, which were applied to all banks. Further, in Turkey only the BRSA determined banks' viability while Korea based its decisions on the results of a diagnostic review by an independent committee. Finally, decisions on the viability of banks were made at once in Korea but at different intervals in Turkey. Overall, in contrast to Korea, the process in Turkey has been less transparent, bearing a resemblance to policies adopted by Mexico.

Table 22: Criteria for Identifying Viable and Non-Viable Banks

Key Variable	Korea	Mexico	Turkey
Who decides?	FSC with opinion of independent committee formed by representatives of the private sector	CNBV alone	BSRA alone
How does it decide?	Same principles for all banking institutions	On a case by case basis	On a case by case basis
Main criteria used to determine the viability of banking institution	Compliance with 8% capital requirement Feasibility of rehabilitation plan. Independent diagnostic review	CNBV's own assessment on the capability of banks' shareholders to inject new capital into their own institutions	BSRA's own assessment regarding a bank's solvency or evidence of fraudulent activity
When does it decide?	Immediate decision for all banks	Decisions have occurred at different times in the past five years	Decisions have occurred at different times in the past 13 months

Source: World Bank.

Restoring the Solvency of the System: an Unfinished Business

The next step in resolving a banking crisis is to establish mechanisms for speeding up the exit of non-viable institutions and strengthening the weak but viable institutions. Here the progress in Turkey has been patchy.

Interventions in Non-Viable Institutions

'Open bank resolution' has been Turkey's main strategy in dealing with insolvent banks. In 15 months, the government has intervened in a total of 10 banks in five separate rounds. In all cases, the equity of the existing shareholders was fully written down resulting in the banks becoming wholly owned by the government. Although interventions were generally executed smoothly, with the immediate removal of senior managers, there were some problems.

First, the market anticipated several of the interventions. This gave the owners and managers a chance to transfer assets from the banks in anticipation of the interventions. Second, the resolution process suffered as a result of political interference. The market was aware that some banks known to be insolvent were kept open due to political pressures. Furthermore, the lack of uniformity of treatment and transparency diminished the credibility of the government's actions. A small Turkish bank was rescued by being allowed to shift most of its bond portfolio to its bigger sister bank at above-market prices before its sister bank fell under the control of the SDIF. This effectively resulted in its back-door recapitalisation.

Reliance on Open Bank Resolution Increased the Cost of the Crisis

In our view, the biggest policy failure of the Turkish authorities, however, is their heavy reliance on 'open bank' resolutions. Open bank resolution is not necessarily simpler to carry out or cheaper than bank closures. Closing insolvent or nearly insolvent financial institutions is often more cost effective than seeking some form of open bank resolution for the following reasons.

First, it gives the markets a positive sign that there is a break from the past practice of extensive forbearance. Bank closures, if carried out effectively and on uniform principles and provided the cut-off point is explained and accepted by the public, can have a positive impact on sentiment in assuring the public that the government has a coherent strategy for tackling the banking crisis. The Turkish government's failure to come up with a comprehensive resolution package for ailing banks has significantly reduced the credibility of the stabilisation programme and contributed to the loss of confidence by international investors.

Second, bank closures would bring about a much-needed reduction in banking sector capacity, so improving the viability of the remaining banks.

Third, bank closures would allow the government to stem accumulating losses and rapidly growing liquidity support for insolvent banks. Most banks in which the government has intervened continue to offer high deposit rates to finance their losses. The resultant negative interest margin is likely to add significantly to the ultimate costs of resolution. We expect the devaluation on February 22 to have pushed many weak banks into insolvency. The inability to resolve the existing insolvent banks effectively under administration has seriously limited their options in dealing with future bank failures.

Table 23: Recapitalisation of Banks with Public Resources

	Mexico	Korea	Turkey
Institution that injects capital	FOBAPROA	Korea Deposit Insurance Corp. (KDIC)	Savings Deposit Insurance Fund
Amount allocated for recapitalisation	Variable. Increased as required	\$26.6 billion	Variable. Increased as required
Public resources used for bank recapitalisation	\$61.5 billion	\$22 billion	\$6.1 billion excluding state-owned banks
Target attempted with recapitalisation	Help restore capital but without a concrete target	Increase CAR to 10%	Increase CAR to 8%
Principles for recapitalisation of insolvent institutions	Write-down the equity of existing shareholders Remove managers responsible for losses Sell the government's equity to a foreign investor	Write-down the equity of existing shareholders. Remove managers responsible for losses	Write-down the equity of existing shareholders Remove managers responsible for losses
Principles for recapitalisation of insolvent institutions	Recapitalisation decided on a case by case basis. Once the FOBAPROA covered the capital shortfall the bank was sold	Banks participating in: Business transfer (P&A) New banks resulting from the merger of two weak but viable institutions	No public plans to commit public resources
Eligible banks to participate in the sale of non-performing loans	All banks in which the government has not intervened. Banks' shareholders had to commit to inject one dollar in fresh capital for every two dollars non-performing loans bought	Banks acquiring weak banks under (P&A) operations. New banks resulting from the merger of two weak but viable institutions	Unclear. Likely to be limited to intervened banks
Assets disposed as a % of total assets transferred		4.7%	Not applicable

Source: World Bank.

Recapitalising Weak but Solvent Institutions Remains an Issue

Once non-viable banks are separated from viable ones, the next step in a typical restructuring plan is to devise strategies to rehabilitate those institutions deemed viable. Unfortunately, the rehabilitation of weak but viable institutions appears to be the weakest area in the Turkish resolution process.

A typical IMF recipe for rehabilitation of weak institutions involves the establishment of a timetable for banks to meet capital adequacy requirements. The Turkish government has pledged to the IMF that banks with capital adequacy ratios below minimum required levels would have to present strict rehabilitation programmes for strengthening their capital positions. But, perhaps for fear of destabilising the fragile banking system, the BRSA has not so far publicly announced any plans to deal with the rehabilitation of weak institutions. However, privately, bankers acknowledge that the government is seeking a private-sector-based resolution requesting rehabilitation plans from existing shareholders on a case-by-case approach. Again, the process lacks credibility as there is little public information on how many banks were asked to submit recapitalisation plans, and how much time they have been given to strengthen their capital position.

Fully restoring the soundness of the banking system remains one of the most important tasks to be completed by the government. Speaking to bankers in Istanbul, we get the sense that the main policy adopted for strengthening the capital adequacy of the system is to allow banks to recapitalise from earnings by overlooking controls on currency positions. Needless to say, retreating from the reform process in the face of the crisis rather than strengthening regulations and market discipline was a risky strategy, which left the system vulnerable to further shocks.

Disposing of Failed Banks

On December 18, 2000, the BRSA outlined its resolution strategy for the eight banks under its control, which stipulated an aggressive timetable for the disposal of these banks by the end of May 2001. As part of this plan, on January 26, 2001 the BRSA announced its decision on which banks will be offered for sale. Of the eight banks available for sale, only four attracted interest (see Table 24).

Table 24: Potential Bidders for SDIF Banks

Bank Express	Esbank	Turk Ticaret Bank	Interbank	Egebank	Yurtbank	Yasarbank	Sumerbank
Koc Holding	Koc Holding	Disbank	Korfezbank	No bid	No bid	No bid	No bid
Korfezbank	Korfezbank	Zorlu Holding	Standard Bank				
Finansbank	Disbank						
Standard Bank	Finansbank						
Tekfen Holding							
Kazkommertsbank							

Source: TBA.

The lack of interest from any large global banking groups is disappointing as it could be construed as a lack of confidence in the prospects of the Turkish banking industry internationally. But the significance of this should not be exaggerated as the Argentinean banking system, long praised for its high regulatory and supervisory standards, did not see any significant increase in foreign capital until 1997 and 1998, years after the successful overhaul of its banking industry.

The good news is that the authorities have decided to shut down the four banks that did not attract any interest as well as Kapital Bank — deemed unsellable — and merge them with Sumerbank. To reduce costs, the authorities are currently closing down 205 of the 305 branches and laying off 6,200 of the bank's 8,200 employees. They have also said that they

plan to adopt a similar approach for Bank Express, Esbank, Turk Ticaret Bank and Interbank if negotiations with interested parties fail to produce a quick disposal. Although this is a less than ideal strategy, it does mark the beginning of consolidation in Turkey and brings about a much-needed reduction in banking capacity.

International experience suggests that selling failed institutions is a long and arduous process. Following the 1997 Asian crisis governments have had limited success in selling such assets with only four banks that were subject to intervention sold so far. While foreign banks played a larger role in investing in corporate assets, most notably in Korea, entry to the financial sector has been limited with just four banks sold so far. Considering the structural difficulties and controversies surrounding Turkish privatisations and the lack of natural buyers of Turkish banking assets (eg, Spaniards in Latin America), we remain sceptical that these assets can be disposed of quickly. Sooner or later, we believe the government needs to face the facts and shut down a large number of the SDIF banks.

A More Comprehensive Resolution Approach Is Needed

In some areas, Turkey has made substantial progress in resolving its banking crisis, but she lags in others. On the positive side, systematic risks were rapidly controlled, investors' confidence in the banking system has been broadly restored, a resolution strategy for failed institutions has been identified, and the restructuring of the state banks has finally started. Despite these achievements, the resolution of the crisis has been gradual with slow progress in almost all phases. The gradualist approach adopted has been mainly the result of the authorities' inability or reluctance to recognise the magnitude of banks' losses. As a consequence, the implementation of the restructuring programme has proceeded slowly often on a piece-meal basis and usually with limited impact.

More Transparency Is Needed

We believe a significant weakness in the management of the crisis is the lack of a transparent framework to deal with weak institutions. In most cases, banks have been allowed to stay in the market until the BRSA finds evidence of fraudulent activity or insolvency. Furthermore, the BRSA's determination of the viability of institutions has been largely discretionary rather than based on an explicit criteria. Although the resolution measures adopted by the authorities are likely to provide temporary relief to the banking sector, we believe they have failed to address the main causes of the banks' problems and restore the soundness and profitability of banking institutions. However, we note that as the crisis is not completely resolved, it might be premature to make a conclusive judgement on the effectiveness of the strategies implemented by the authorities.

Resolution Strategy Can Affect Share Performance

The resolution strategy in Turkey resembles the gradualist approach adopted by the Mexicans where there was considerable scope for discretion in the decision-making process. Korea relied on a more aggressive programme with a once-and-for-all solution. The different strategies adopted by Korea and Mexico appear to have had a major influence in determining the post-crisis performance of banking stocks. In Korea, bank stocks quickly recovered to their relative pre-crisis levels as the rapid recognition of the magnitude of the banking sector problems strengthened the authorities' credibility. On the other hand, in Mexico it took banking stocks three years to reach their pre-crisis levels.

Table 25: Important Milestones of the Turkish Crisis

Date	Event
June 1999	The government passed a new banking act in 1999, establishing an independent banking regulating and auditing institution. Certain amendments were made to this act to strengthen key regulations and increase the independence of the Banking Auditing and Regulation Board (BRSA). Following this amendment, the BRSA became fully autonomous by removing the involvement of the government from all decisions in the area of supervision, other than the appointment of the members of the board. The decisions to license and de-license banks, and to approve provisioning regulations also rested with the board. With the new amendments, the Savings Deposit Insurance Fund (SDIF) was given authority and responsibility to restructure a problem bank to facilitate its sale in full or in part or to liquidate the remainder based on existing laws. The fund is no longer permitted to lend or otherwise provide liquidity support to banks other than those under its full control.
December 1999	The government announced the takeover of five insolvent banks (Egebank, Yasarbank, Yurtbank, Esbank and Interbank) by the SDIF.
August 2000	After months of delay, the BRSA legally took on all responsibilities granted to it by the Banking Act and became fully operational. Banking supervision departments at the Treasury and the Central Bank were closed and their staff transferred to the new agency, including staff of the SDIF, which had become a legal entity administered by the BRSA.
August 2000	An Asset Management Unit (AMU) in charge of recovering the value of the assets of the banks taken over by the SDIF was set up. AMU was originally expected to be operational by end-June 2000, with the aim of completing the transfer of bad assets by August 15, 2000. The BRSA is yet to disclose to the public the procedures that it has adopted for the operation of the AMU.
October 2000	The licence of a branch of a foreign bank with one office in Turkey was revoked in September and the branch was liquidated. Two more insolvent banks (Kapital Bank and Eibank) were taken over by the SDIF on October 27 joining the eight banks already under SDIF control.
November 5, 2000	Strict criteria were adopted in a new regulation issued by the BRSA for ownership of banks, paving the way for the selection of potential investors in the banks owned by the SDIF.
November 16, 2000	BRSA announced its strategy to deal with the resolution of the eight banks under its control in the three months after the August 15 deadline laid out in the May 9 letter of intent.
November 17, 2000	The SDIF borrowed from the Treasury the government securities in foreign currency and Turkish lira needed to recapitalise fully the banks owned by the SDIF. For this purpose, a \$6.1 billion loan was concluded on November 17, 2000 with a two-year grace period and repayment over the subsequent 10 years.
December 6, 2000	The government announced a temporary full guarantee of depositors, reversing an earlier decision to phase out gradually the deposit guarantee and extended guarantee to all other creditors (except deposits by owners, deposits in connection with criminal activities, subordinated debt and shareholder equity). The guarantee covers all domestic deposit-taking banks and will be administered by the SDIF, according to the Banking Act.
December 7, 2000	The 10 banks under SDIF control were recapitalised to at least 8% of risk-weighted assets through the transfer of government securities on December 7. Their losses were written off against their capital. To ensure the SDIF will be able to resolve (liquidate, or recapitalise and sell) intervened banks in the least costly manner, without any disruption to depositors and other creditors, the SDIF has the authority to borrow resources from the Treasury as needed.
December 15, 2000	In accordance with the resolution process announced earlier, the SDIF received 14 expression of interest letters by the December 15 deadline.
December 2000	Parliament passed a new law allowing commercialisation and eventual privatisation of state-owned banks. The law envisages a restructuring and privatisation period of three years for these banks and also authorises the Council of Ministers to prolong this period by up to one-and-a-half years. Under the law, the state may not assign duties to any of the three banks before physically providing the necessary funds.
January 26, 2000	BRSA announced the number of potential bidders for the four banks under the control of SDIF. The four banks that did not attract any interest, plus Kapital Bank which is deemed unsellable, will be merged with Sumerbank.
February 10, 2000	BRSA announced that it had received interests from three domestic and two international parties to acquire Demirbank.
February 18, 2001	BRSA completed the merger of five banks under its control with Sumerbank in accordance with the deadline announced earlier.
February 21, 2001	Two state banks defaulted to other Turkish banks, prompting a liquidity shortage and near-collapse of the payment system.
February 22, 2001	The Turkish government decided to float the lira, resulting in an immediate 25% depreciation of the currency. Heads of the Treasury and the Central Bank resigned in the aftermath.
February 25, 2001	Ulusal Bank was taken over by the SDIF as it failed to meet its obligations.
March 15, 2001	Iktisat Bank became the 13th bank in which the authorities intervene.
April 24, 2001	The deadline to submit firm bids to acquire any four SDIF banks offered for sale earlier in December.

ESTIMATING THE COST: AN INTERNATIONAL PERSPECTIVE

A cross-country comparison of major banking crises suggests the cost of cleaning up the Turkish crisis is likely to be about 12% of GDP as the Turkish authorities have adopted two of the three most costly resolution techniques; supervisory forbearance and unlimited deposit guarantee. The limited use of liquidity support and the relatively small size of the banking system have luckily prevented the crisis escalating into one of the costliest in the emerging world.

In the next two sections, we attempt to calculate the cost of restructuring the Turkish banking system. This is one of the more challenging issues, partly because the crisis is continuing and the final cost may not be known for some time. There are costs in both the private and public sectors to cover losses and contribute new capital. The government's costs for the restructuring arise from paying out guaranteed bank liabilities, assisting banks in meeting capital adequacy requirements and purchasing non-performing loans. For the purposes of this study, we limit our focus to fiscal outlays by the government.

First, we attempt to quantify the fiscal outlays to resolve the crisis based on the experience of other countries. Although imprecise, this method should give us an idea of the likely costs the government will incur, as there is a link between the size of the crisis costs and the alternative resolution policies adopted by the authorities. Second, we attempt to take a full analysis of the Turkish banking system based on the financial information available.

The Cost of Bank Restructuring Is Generally High

The cost of cleaning up banking crises appears to have been determined by two factors; the size of the financial system and the crisis resolution policy adopted by the authorities. The cost of restructuring the financial sector is generally high and largely falls on the public sector. In our sample of 25 countries, governments spent on average 11% of GDP cleaning up their financial systems. However, few countries had an average crisis experience. Although most of the economies considered had output losses of substantially less than 10% of their GDP from a crisis, a few experienced output losses of more than 20% and some crises have led to much larger outlays. For example, the Argentinean and Chilean governments spent 40-55% of GDP in the early 1980s crises. A significant part of the costs from the recent South East Asian crisis, projected at 20-55% of GDP, are expected to fall ultimately on the budget.

Size Does Matter

The impact of a banking crisis on the real economy and the cost of cleaning it up depend, to an extent, on the size of the financial system. The credit/GDP ratios in Table 26 suggest the impact of the crisis is likely to be less in Turkey than elsewhere. In several South East Asian countries the risks that the rapid expansion in lending posed were further exacerbated by the nature of the lending, which heavily financed real estate investments. The smaller size of Turkey's financial system and slower rate of credit growth, together with the lack of an Asian-style speculative real estate bubble, suggests the magnitude of the bailout in Turkey should be more modest.

Table 26: Resolution Strategy

			Bank Credit GDP Avg, 1990-97	Fiscal Costs	Liquidity Support	Explicit Guarantee	Forbearance A	Forbearance B	Repeated Recaps	Public AMC	Debt Relief
1	Indonesia	1997-ongoing	46%	50.0%	Yes	Yes	No	Yes	Yes	Yes	No
2	Thailand	1997-ongoing	78%	32.8%	Yes	Yes	No	Yes	No	No	No
3	South Korea	1997-ongoing	53%	26.5%	Yes	Yes	Yes	No	Yes	Yes	No
4	Cote d'Ivoire	1988-1991	NA	25.0%	Yes	No	Yes	Yes	No	Yes	No
5	Venezuela	1994-97	NA	22.0%	Yes	No	No	Yes	No	No	No
6	Japan	1992-ongoing	117%	20.0%	Yes	Yes	No	Yes	Yes	No	No
7	Mexico	1994-ongoing	22%	19.3%	Yes	Yes	No	Yes	Yes	Yes	Yes
8	Malaysia	1997-ongoing	75%	16.4%	Yes	Yes	No	Yes	Yes	Yes	No
9	Philippines	1983-87	28%	13.2%	Yes	No	Yes	Yes	No	Yes	Yes
10	Brazil	1994	34%	13.2%	No	No	Yes	No	No	No	Yes
11	Bulgaria	1996-97	45%	13.0%	Yes	No	Yes	Yes	No	No	No
12	Ecuador	1996-ongoing	17%	13.0%	No	No	Yes	Yes	No	No	Yes
13	Finland	1991-94	77%	11.0%	Yes	Yes	No	Yes	No	Yes	No
14	Hungary	1991-95	NA	10.0%	No	No	No	No	Yes	No	No
15	Senegal	1988-1991	NA	9.6%	Yes	No	No	Yes	No	Yes	Yes
16	Norway	1987-1993	57%	8.0%	Yes	Yes	No	Yes	No	No	No
17	Paraguay	1995-ongoing	16%	5.1%	Yes	Yes	No	Yes	No	No	No
18	Sri Lanka	1989-1993	21%	5.0%	No	Yes	No	Yes	Yes	Yes	No
19	Colombia	1982-87	16%	5.0%	Yes	No	No	No	No	No	No
20	Sweden	1991-94	46%	4.0%	No	Yes	No	No	No	Yes	No
21	Indonesia	1992-94	46%	3.8%	Yes	No	No	Yes	No	No	No
22	Thailand	1983-87	78%	2.0%	No	No	No	Yes	No	No	No
23	Australia	1989-1992	70%	1.9%	No	No	No	Yes	No	No	No
24	Turkey	1994	NA	1.1%	No	Yes	No	No	No	No	No
25	New Zealand	1987-1990	78%	1.0%	Yes	No	No	No	No	No	No
26	France	1994-95	89%	0.7%	No	No	No	Yes	No	Yes	No
27	Argentina	1995	16%	0.5%	No	No	No	No	No	No	No
28	Philippines	1998-ongoing	28%	0.5%	No	No	No	No	No	No	No

Source: World Bank.

Note: Forbearance A: banks that are generally known to be insolvent are allowed to remain open.

Forbearance B: banks known to be severely undercapitalised are allowed to remain open under existing management for an extended period.

AMC: Asset Management Company.

But a Bad Resolution Strategy Can Be Far More Damaging

The size of the financial system, however, is not the only determinant in the cost of banking bailouts. Intervention and resolution tools that governments adopt during a crisis often significantly influence the cost of the crisis. Our review of 28 banking crises in 25 different countries during 1983-2000 suggests that an unlimited deposit guarantee, open-ended liquidity support, regulatory forbearance, debtor bailouts and repeated recapitalisations boost costs significantly. Table 26 summarises the cost of the crisis and the resolution techniques adopted in each country.

Supervisory Forbearance, Liquidity Support and Deposit Guarantee — Most Common

Supervisory forbearance is the most widely used resolution technique in our sample. On a conceptual level, one can distinguish between three degrees of forbearance. In the most accommodating form, banks that are generally known to be insolvent are allowed to remain open (Forbearance A). An intermediate degree of forbearance is to allow banks known to be severely undercapitalised to remain open under existing management for an extended period (Forbearance B). A less accommodating forbearance policy can be characterised either by temporary relaxation of other regulations, in particular loan classification and loan loss provisioning requirements, by turning a blind eye to violations of laws, standards and regulations either by individual banks or the entire banking system. Here, we focus on the first two.

Liquidity support is the second most popular technique. For the purposes of this report, we consider a country has adopted liquidity support as a resolution technique if its government extended liquidity support for more than 12 months and the overall support is greater than total banking capital. Other resolution techniques adopted by the authorities include repeated recapitalisation, centralised asset management companies and a public debt-relief programme across the board.

But They Increase the Cost of Crises Significantly

Table 26 shows that countries that did not have unlimited deposit guarantees, open-ended liquidity support, repeated recapitalisations, debtor bailouts or regulatory forbearance typically incurred fiscal costs of only about 1% of GDP. On the other hand, countries that adopted a lax policy and resorted to many of the above policies incurred fiscal costs in excess of 20% of their GDP. Therefore, we can conclude that, of the different policies, liquidity support, unlimited depositor guarantee and, above all, forbearance are the costliest. Countries that avoided these policies reduced the cost of their crises considerably.

Governments often use liquidity support to delay crisis recognition and to avoid intervening in *de facto* already failed institutions. Open-ended liquidity support is doomed to fail, in our view, because managerial and shareholder incentives suddenly shift for a financial institution when it becomes insolvent.

Similarly, guarantees reduce creditors' incentives to monitor financial institutions, so providing ready funds to managers and shareholders to be used in 'gambling to resurrect' their insolvent banks. Initially, the guarantee is mainly a confidence booster, but by giving a blanket guarantee the government acquires a sizable contingent liability against assets of uncertain value, which most often will be insufficient to pay for the contingent liability that the government will be called to honour. Extensive guarantees also limit a government's manoeuvrability in terms of allocating losses in future so it could end up carrying most of the costs on the budget.

In an ideal world of accurate supervision and frequent monitoring, banks that cannot comply with prudent rules will be subject to prompt intervention and the fiscal costs will be low, mostly confined to instances of unusually severe shocks. The realised fiscal costs in such circumstances will reflect bad luck more than bad policy. In reality, in most countries, failed banks have been allowed to operate with low or negative equity for extended periods. The delay in starting the resolution process is one of the biggest contributors to fiscal costs. When an insolvent bank is eventually targeted the cost of bailout, therefore, depends not only on the size of the shocks it has encountered, but on how long it has been allowed to function with low or negative levels of capital and on the risk that the bank was assuming.

Turkey's More Accommodative Approach Is Likely to Increase Costs

Unfortunately, Turkey appears to have adopted a relatively accommodative resolution approach with a comprehensive deposit guarantee system and is allowing weak banks to remain in the system. The good news is the fact the government stopped providing unconditional liquidity support to banks and appears to be mopping up the excess liquidity in the market, which is likely to lower the cost of the crisis.

Table 27 lists the average fiscal cost of cleaning up a crisis, according to the number of resolution techniques used per crisis. Countries using no resolution techniques incurred average costs of just 0.3% of GDP. The average cost was 16.5% of GDP when open-ended liquidity support, regulatory forbearance and explicit deposit insurance were used as part of the resolution process. Although the results are not statistically significant, our findings hint that the fiscal cost of Turkey's crisis is likely to be about 12.3% of GDP as a result of its relatively accommodative resolution approach (using two of the three most expensive resolution techniques).

Table 27: Fiscal Cost of Crisis Resolution

	No of Tools Used			
	None	One	Two	Three
Number of crisis episodes	2	9	6	11
Average fiscal cost as a % of GDP	0.3%	5.2%	12.3%	16.5%

Source: J.P. Morgan estimates.

THE SIZE OF THE PROBLEM: PUTTING THE PIECES TOGETHER

There are three major sources of vulnerability for Turkish banks. First is the interest rate exposure as the system had a large maturity mismatch going into the crisis. Second is the system's large unhedged foreign currency exposure, which is likely to result in losses as a result of the devaluation of the lira. Finally, there is the expected deterioration in the quality of loans, particularly consumer loans. Below we attempt to quantify the losses for each of these sources.

Hit 1: Losses Due to Maturity Mismatch

Since the introduction of the IMF-sponsored stabilisation programme at the end of 1999, banks have shifted their asset mix in favour of longer-tenor, fixed-rate assets while many of their liabilities have remained short-term. This has resulted in large maturity mismatches in banks' balance sheets. Table 28 indicates that while 67% of banks' funding was short-term, with a maturity of less than three months, a disproportionately large percentage of these funds was invested in assets with longer maturities.

We have come across several studies estimating the potential losses in the system arising from this maturity mismatch. Most of these estimates are based on some type of marked to market analysis, which does not accurately reflect the real losses of the system, in our view. A common mistake analysts make in estimating the potential effect of higher interest rates on bank profitability is to mark to market only the asset side of the balance sheet without making any adjustments to the liability side. We argue that this significantly overstates the value of liabilities and exaggerates potential losses when interest rates increase sharply.

Table 28: Maturity Profile of Turkish Banks — June 1999

	Less Than 30 Days	1-3 Months	3-12 Months	1-5 Years	More than 5 Years
Interest-earning assets	27%	15%	33%	24%	2%
Interest-bearing liabilities	41%	26%	21%	10%	1%

Source: Turkish Banks Association.

Understanding the Funding Structure Is Essential to Estimating Losses

Another limitation of mark-to-market methods is that they are helpful only in measuring relative losses of the system against a reference interest rate. As such, they accurately reflect the actual losses banks suffer only to the extent that banks' cost of funding mirrors the changes in the benchmark rate. For example, higher bond rates produce large mark-to-market losses on banks' balance sheets but these losses may not necessarily transform into actual losses if banks' cost of funding does not change in the duration of its bond portfolio. Actual losses in the system, therefore, largely depend on the extent to which Turkish banks have to fund their balance sheets at higher rates. Consequently, understanding the funding structure of the system is essential to estimate the potential size of the problem accurately.

Table 29 summarises the asset mix and funding structure of privately-owned and SDIF banks. We have excluded the state-owned banks from our analysis as the additional capital injection they may require pales in comparison to their stock of duty losses. Foreign banks are not our focus either, largely because the burden of recapitalising them, if required, is unlikely to be shouldered by the government. Moreover, private and SDIF banks represent a more immediate concern for us due to their limited capacity to raise fresh capital.

Table 29: Asset Mix and Funding Structure of Private and SDIF Banks

(\$ million, as at December 31, 2000)

Risk-Sensitive Assets		Rate-Sensitive Liabilities	
Turkish lira		Turkish lira	
Funds sold	6,269	Repo + interbank	9,152
Securities	2,459	Time deposits	14,531
Loans exc. consumer loans	11,369		23,683
	20,096		
Foreign Exchange		Foreign Exchange	
Funds sold	9,706	Repo + interbank	1,221
		Time deposits	34,175
			35,396
Fixed-Rate Assets		Fixed-Rate Liabilities	
Turkish lira		Turkish lira	
Consumer loans	5,532	Borrowings	657
Securities inc. repos	18,965	Demand deposits	3,403
	24,497		4,060
Foreign Exchange		Foreign Exchange	
Securities inc. repos	7,146	Borrowings	11,594
Loans	13,843	Demand deposits	5,448
	20,989		17,041

Source: TBA.

We have divided banks' assets and liabilities into two groups based on their sensitivity to changes in interest rates: rate-sensitive and fixed-rate instruments. Interest rates earned and paid on rate-sensitive instruments change with market interest rates. We considered all assets and liabilities with an average duration of less than 90 days to be rate sensitive, which included all interbank placements and borrowings, all Turkish lira loans excluding consumer loans, time deposits, repo funding and a small percentage of floating rate government debt instruments. The remaining assets are considered fixed assets, that is a change in interest rates does not affect associated cash flows right away.

Net Interest Rate Exposure of the System Was \$29 Billion at the Outset of the Crisis

Not surprisingly, this analysis reveals a large gap (\$29.1 billion) between interest rate-sensitive assets and liabilities, reflecting banks' vulnerability to changes in interest rates. Interestingly, the gap between rate-sensitive Turkish lira assets and liabilities is smaller (\$3.5 billion), suggesting that the changes in Turkish lira rates will have a relatively mild impact on banks' profitability. Also of note is that 85% of Turkish lira fixed-rate assets are backed by foreign currency funding, which is a concern from a currency risk standpoint.

To determine the impact of changes in interest rates on banks' profitability we have employed the following simple analysis. First, as only rate-sensitive instruments are affected by changes in interest rates, we discarded all fixed-rate instruments. Second, we clustered the data into four groups based on their similarities in funding costs. This allows us to reflect the divergent interest rate changes of different instruments rather than relying on a more limited, one-rate-fits-all framework. Then, we calculated the gap between rate-sensitive assets and liabilities for each funding group. Table 30 summarises banks' exposure to different sources of funding and our selection of the key interest rate variable for each funding category.

Table 30: Sensitivity to Interest Rates

(\$ billion)

Interest Rate Drivers	Instruments
TL overnight repo	2.9 Repos, interbank placements and borrowings
TL time deposit	0.5 Deposits and loans
\$ time deposit	24.5 Deposits, interbank placements
\$ central bank depot	1.2 All short-term money market borrowings

Source: J.P. Morgan estimates.

Finally, we calculated the losses to the system based on the actual changes in our key interest rate variables in Q4 2000. Table 31 illustrates the increase in some of the key interest rates since the outbreak of the crisis. The depreciation of the lira on February 22 obviously complicates this calculation as it increases the cost of foreign exchange funding. However, to isolate the effects of the system's interest rate exposure on bank profitability and analyse it separately from the impact of devaluation, we have assumed the lira remains constant in this study. We deal with the effects of devaluation in the next section.

Table 31: Changes in Key Interest Rates Since the Outbreak of the Crisis

(%)	Pre-Crisis July-Sept	Post Crisis Oct-Dec
TL savings deposits (3 months)	40.7%	68.2%
O/N repo rates	37.2%	107.2%
\$ deposits (3 months)	10.7%	13.4%
\$ central bank depot rates	14.3%	28.2%

Source: Central Bank of Turkey.

Table 32 illustrates our estimate of the potential effect of the recent increase in interest rates on bank earnings. **Under our base case scenario, which reflects the actual changes in interest rates in the fourth quarter, we estimate the loss of capital in the banking system due to higher interest rates at about \$3.1 billion. The following caveats are worth highlighting.**

1. This is a static estimate. Banks may increase their rate-sensitive assets as their fixed-rate assets mature or may acquire more fixed-rate liabilities to invest in more rate-sensitive liabilities.
2. This is an annualised estimate based on the actual funding costs in the fourth quarter. Implicit in this assumption is that interest rates will remain at their fourth-quarter levels until the end of September 2001.

Table 32: Sensitivity Analysis

(\$ million, unless otherwise noted)

	Increase in Key Interest Rates (%)				Potential Losses Due to Increase in Rates				Total Loss
	TL Repo	FC Dep	TL Dep.	FC Repo	TL Repo	FC Dep.	TL Dep.	FC Repo	
Central	70%	3.0%	27.5%	17.0%	2,021	734	144	208	3,106
Optimistic	55%	2.5%	22.5%	14.0%	1,586	612	118	171	2,486
Pessimistic	85%	3.5%	32.5%	20.0%	2,450	856	170	244	3,721

Source: J.P. Morgan estimates.

The above exercise clearly shows that the magnitude of losses is largely driven by changes in banks' cost of foreign currency funding rather than lira funding. The danger with this scenario is that the relative attractiveness of foreign currency funding coupled with supervisory forbearance is likely to encourage gambling to resurrect strategies from the standpoint of weak institutions. Only high margins offered by short positions would restore the capital of these institutions, providing a new lease of life. Weak banks had, therefore, no other option but to maintain and perhaps further increase the size of their open positions. A strong lira and relative stability of foreign currency funding prevented the crisis from reaching larger proportions until February 22. The devaluation of the lira changed all that almost overnight.

Hit Number 2: Impact of the Devaluation

Estimating the impact of devaluation on the banking system requires us to make two assumptions, both equally challenging. 1) Where is the lira going to level off? 2) How large is the open foreign currency position in the system?

The Open Position in the System Is Large

Our breakdown of banks' assets and liabilities indicates a balance sheet currency mismatch of \$21.7 billion. However, we need to adjust this number to reflect the net *non-interest-earning foreign exchange assets* of the system, such as reserve requirements and investments in affiliated companies, which totalled \$7.2 billion at the end of September 2000. It is debatable whether some of these foreign subsidiaries should really be considered foreign exchange assets when they may, in fact, be running large open positions themselves. Nevertheless, in the absence of more accurate information, we give banks the benefit of the doubt and deduct all their net non-interest-earning foreign exchange assets from their open position. This reduces the net open position in the system to \$14.5 billion before offsetting derivative transactions.

Derivatives Are Unlikely to Provide Effective Protection

Whether off-balance sheet derivatives effectively reduce banks' currency exposure is hotly debated in banking. We take a cynical view of these instruments and do not regard them as offsetting banks' currency exposure for two reasons.

1. The strong growth rate of these transactions since the beginning of the stabilisation programme is greater than can be justified by the volume of foreign trade and, therefore, suggests a speculative trend. In Mexico, banks were able to circumvent the regulations by using derivative instruments to increase their net open positions. When the exchange rate collapsed, the exposure of Mexican banks proved much larger than the authorities had expected.
2. The derivative transactions have been incurred largely by third parties, which should bear the consequences of their own risk assessment, at least in theory. In practice, however, it is rather different. In both Korea and Mexico, even when banks covered their direct exchange rate risk they remained exposed to credit risk when many of their counterparties could not honour their forward contracts. In effect, exchange rate risk was converted into credit risk.

Losses Are Likely to Be Substantial

An open position of \$14.5 billion would produce a net loss of \$3.9 billion based on an exchange rate of TL 950,000:\$1, wiping out nearly 50% of private banks' equity. Each additional TL 100,000 of depreciation would increase the cost of devaluation by about \$1.4 billion. We think this is realistic considering we have not made any adjustments for net open positions parked in offshore accounts and foreign exchange liabilities dressed as Turkish lira deposits.

Hit 3: Asset Quality

This is probably the least of the banks' worries given the minuscule size of the credit market in Turkey. Here we make the simple and arbitrary assumption that non-performing loans in the system will increase to 20% of total loans from the current 10.5%. We estimate the impact of this on bank profitability at \$3.7 billion assuming all these impaired assets have to be fully provisioned and there would be no recoveries. In reality, Turkish banks historically recover a significant percentage of their non-performing loans as many loans in the system are backed by collateral. Using a conservative recovery ratio of 35% would yield net losses of \$2.4 billion. A significant portion of these costs is likely to be borne by the government either through the purchase of impaired assets of insolvent banks (such as Demirbank) or through foregone tax revenues.

How Big Is the Capital Shortfall?

Table 33 illustrates our estimate of the additional capital requirement of the banking system to restore its capital adequacy ratio to 8%. Given the current levels of capital, expected increase in future loan loss provisions and loss of net worth due to maturity and currency mismatches, the banking system faces a capital shortfall of \$6.2 billion.

Table 33: Assessing Capital Shortfall for Private and SDIF Banks

(\$ million, as at September 30, 1999)

Indicator	Amount
Current non-performing loans	2,748
Current loan loss provisioning	2,016
Net impaired assets	732
Pre-crisis capital (September 30, 1999)	5,993
Expected increase in non-performing loans	2,408
Expected losses due to maturity mismatch	3,110
Expected losses due to FX losses	3,900
Operational losses of SDIF banks	1,200
Capital injected by the government	5,718
Current capital	1,093
Capital shortfall to reach 8% CAR	6,203
Capital shortfall to reach 4% CAR	2,555
TL deposit stock	16,822
Impact of 500 basis point inc. in TL spread	841
Increase in fee income	405
Years required to reach 8% CAR	2.9
Capital invested in affiliates	11,197

Source: TBA, J.P. Morgan estimates.

Improving Quality of Capital and Earnings Is Far More Important

The size of the capital shortfall in the system is alarmingly large but interpreting this number requires care and historical perspective to avoid misleading conclusions.

Although a BIS ratio of 8% is widely accepted as the minimal level of solvency for the banking industry, the Turkish banking system has not operated with a solvency ratio anywhere near 8% in the past three years, perhaps even longer.

The problem in Turkey is not so much that the system lacks supervisory capital but rather that its quality is low. Table 33 illustrates that the level of capital in private commercial banks was \$6 billion at the outset of the crisis. However, closer analysis reveals that a significant portion, if not all, of this capital was taken out of the banking system through investments in affiliates companies. These investments stood at a staggering \$11 billion, nearly twice the level of capital in the banking system as of September 30, 2000. In other words, not only did Turkish banks deploy their entire capital to fund their investments in affiliate companies but they borrowed money to invest in them. From a supervisory standpoint, Turkish banks were showing adequate levels of capital but the reality was that the system was effectively operating with negative working capital, and this was one of the contributory factors to the outbreak of the crisis, in our opinion. Consequently, if the banking system can initially achieve a solvency ratio of 3-4%, this is a far bigger cushion than it has had in the past three years.

Improving flow problems should be a top priority for the Turkish authorities as the system currently operates with negative spreads.

Another important source of vulnerability for the system was declining profit margins due to the reckless competition from cash-strapped state and insolvent banks, forcing the system to take riskier bets on margins to make money. We believe that improving the quality of banks' earnings is just as important as improving the solvency of the system to ensure that the balance sheet does not quickly deteriorate again.

Could Banks Grow Out of Their Troubles?

In our view, once a minimum level of solvency is established, the industry could easily cover its shortfall from earnings provided that flow problems are addressed properly. Allowing banks to grow out of the crisis is undoubtedly a risky proposition as this is what got them into trouble in the first place. An undercapitalised banking system can inspire banks to finance

risky, but potentially high-return, projects in an attempt to restore capital. Notwithstanding these risks, a gradual recapitalisation plan may be justified for the following reasons.

First, as noted above, the quality of bank capital is traditionally poor and the real capitalisation level of the system has remained well below 3-4% in the past three years. An initial solvency ratio of 3% is probably a much bigger cushion than the system has enjoyed for a long time. Second, because the capital shortfall in the system is so large and the amount of capital available from both public and private sources is so limited, restoring the solvency in the banking system to 8% in a single attempt is unrealistic. We would note that a 500 basis point increase on Turkish lira deposit spreads, which are currently negative due to competition, coupled with a doubling of banking service fees, would restore banking solvency to 8% in less than three years.

The Fiscal Burden of Restructuring Is High

The government has already spent close to \$14 billion on recapitalising the 11 insolvent institutions. Of this, \$8.1 billion was injected from SDIF resources at the time of the interventions. The remaining \$5.7 billion was injected in the form of special bonds issued for the BRSA in December 2000. In addition, the government issued \$6.8 billion in bonds to reduce the stock of unpaid duties at Ziraat and Halkbank in January 2001.

Despite the substantial resources already poured into the banking system, more are needed, in our view. Estimating the fiscal cost of the crisis is difficult as we do not have complete information on the solvency of the system and the government's plans to resolve the crisis are, at best, sketchy. Nonetheless, we make an attempt largely based on our earlier findings.

Table 34: Government Securities Issued to Recapitalise Banks

Bank	Amount	Issue Date	Type/Maturity
Ziraat Bank	TL 2,000 trillion	March 1, 2001	CPI+10% Year
Ziraat Bank	\$500 million	March 1, 2001	Libor+2%
Halkbank	TL 2,000 trillion	March 1, 2001	CPI+10% Year
Halkbank	\$500 million	March 1, 2001	Libor+2%
SDIF banks	\$2,700 million	December	
SDIF banks	TL 2,036 trillion	December	

Source: Central Bank.

- Eliminating the stock of unpaid duty losses at Ziraat and Halkbank will require an additional \$13.2 billion, on our estimates, assuming their losses have not increased as a result of the crisis.
- We forecast the fiscal cost of additional non-performing loans — through either the purchase of impaired assets of insolvent banks or foregone tax revenues — at \$2.4 billion.
- The cost of recapitalising private banks will add another \$3.1 billion based on the assumption that these costs will be shared equally with the private sector. This is an optimistic view as most of the additional capital requirement is likely to come from existing and future insolvent banks, the cost of which is likely to fall largely on the government.

We estimate the extra fiscal cost of restructuring the banking sector to be at least \$18.7 billion, bringing the total gross cost to the government to close to \$40 billion or 20% of GNP. The net cost will only be known after proceeds from privatisation of SDIF banks and recoveries of loans accruing to the government have been taken into account.

Debt Capacity Is a Significant Constraint

The cost of financial sector restructuring is likely to result in a substantial increase in the level of domestic debt stock. We have already seen a significant increase in domestic debt stock as a result of the government's decision to issue special bonds to recapitalize state-owned and insolvent banks. This raises the question of the sustainability of the public debt burden. Even if interest rates remain at 2000 levels, interest payments are expected to account for 77% of fiscal revenues.

Table 35: Public Debt and Restructuring Burden

(\$ billion)

Public debt stock, December 2000	91.4
Expected additional fiscal cost	17.9
Total expected public debt burden	109.3
Annual interest payment on the additional burden	3.6
Interest payment as a percentage of 2000E revenue	76.0%
Interest payment as a percentage of 2001E revenues	77.0%

Source: J.P. Morgan estimates.

HOW THE FOUR MAJOR TURKISH BANKS STACK UP

In this section we consider the four banks under coverage, following the methodology used in the previous section to determine their losses due to interest rate and currency mismatches. This is tricky ground for an analyst as we attempt to draw conclusions on the loss of banks' capital and, hence, their solvency with imperfect information. However, we feel no banking analysis would be complete without attempting to measure each bank's likely loss given the severity of the macro shock the system suffered.

Measuring Interest Rate Exposure

As discussed previously, we have divided banks' assets and liabilities into two groups based on their sensitivity to changes in interest rates: rate-sensitive and fixed-rate instruments. We considered all assets and liabilities with an average duration of less than 90 days to be rate-sensitive, which included all interbank placements and borrowings, all Turkish lira loans excluding consumer loans, time deposits, repo funding and a small percentage of floating rate government debt instruments. The remaining assets are considered fixed rate (i.e. a change in interest rates does not affect associated cash flows right away). Normally, we would prefer to have performed some type of gap analysis. But, given the limited amount of information available on the duration according to currency mix, this is the only method available. The breakdown of each bank's funding and asset mix according to their sensitivity to changes in interest rates is provided in Table 36.

Table 36: Asset Mix and Funding Structure of the Four Major Turkish Banks

(\$ billion, as at December 31, 2000)

	Akbank	Garantibank	Isbank	YKB
Rate-Sensitive Assets				
TL				
Funds sold	3.1	0.9	0.3	0.2
Securities (FRNs)	0.1	0.3	0.4	0.4
Loans excluding consumer loans	<u>1.1</u>	<u>0.5</u>	<u>0.7</u>	<u>1.8</u>
	4.3	1.7	1.4	2.4
Foreign Exchange				
Funds sold	0.8	0.5	1.1	1.6
Fixed-Rate Assets				
TL				
Consumer loans	0.4	0.7	0.9	0.4
Securities including repos	<u>1.6</u>	<u>1.5</u>	<u>2.2</u>	<u>1.0</u>
	2.0	2.2	3.1	1.4
Foreign Exchange				
Securities including repos	0.4	0.2	0.1	0.7
Loans	<u>2.4</u>	<u>2.4</u>	<u>2.7</u>	<u>2.2</u>
	2.8	2.6	2.8	2.9
Rate-Sensitive Liabilities				
TL				
Repo + interbank	0.9	1.7	1.4	1.0
Time deposits	<u>1.5</u>	<u>0.6</u>	<u>1.6</u>	<u>0.9</u>
	2.4	2.3	3.0	1.9
Foreign Exchange				
Repo + interbank	0.2	0.5	0.1	0.8
Time deposits	<u>3.4</u>	<u>2.3</u>	<u>3.7</u>	<u>3.5</u>
	3.6	2.8	3.8	4.3
Fixed-Rate Liabilities				
TL				
Borrowings	-	-	-	-
Demand deposits	<u>0.5</u>	<u>0.3</u>	<u>0.6</u>	<u>0.8</u>
	0.5	0.3	0.6	0.8
Foreign Exchange				
Borrowings	2.2	2.6	1.1	1.1
Demand deposits	<u>0.5</u>	<u>0.6</u>	<u>0.9</u>	<u>0.6</u>
	2.7	3.2	2.0	1.7

Source: Company reports and J.P. Morgan estimates.

Table 36 highlights the vulnerability of each bank to different types of funding and associated changes in interest rates. Akbank appears best positioned to take advantage of higher Turkish lira rates as its rate-sensitive Turkish lira assets exceed its Turkish lira-sensitive liabilities. Garantibank's main weakness is clearly its reliance on short-term money market lira funding. Isbank appears to be in a similar position but its main vulnerability comes from the lira deposit funding rather than money markets. YKB seems to have a fairly balanced mix with the exception of its relatively large interest rate exposure on its foreign currency liabilities. Table 37 shows the exposure of each bank to different types of funding, on our estimates.

Table 37: Exposure of the Four Major Turkish Banks According to Funding Type

(\$ billion, as at December 31, 2000)

	Akbank	Garantibank	Isbank	YKB
TL overnight	2.2	(0.9)	(1.0)	(0.8)
FC repo	(0.2)	(0.5)	(0.1)	(0.8)
TL deposits	(0.3)	0.2	(0.5)	1.4
FC deposits	(2.6)	(1.8)	(2.6)	(2.0)

Source: J.P. Morgan estimates.

Using the actual changes in interest rates in the fourth quarter as a proxy for the direction of interest rates, we then determine the potential losses for each bank. This is clearly an oversimplification. However, rather than rely on an ambitious estimate of the future direction of interest rates in a volatile environment, we have opted for the safety of the actual data. As all banks have few assets that extend beyond six months, we have limited our forecast horizon to six months. The summary of our analysis is provided in Table 38.

Table 38: Impact of Changes in Interest Rates by end 2001

(\$ billion)

	Akbank	Garantibank	Isbank	YKB
TL overnight	0.77	(0.30)	(0.36)	(0.27)
FC repo	(0.02)	(0.04)	0.00	(0.07)
TL deposits	(0.04)	0.03	(0.07)	0.19
FC deposits	0.00	0.00	0.00	0.00
Total	0.70	(0.31)	(0.44)	(0.15)

Source: J.P. Morgan estimates.

Akbank is the only beneficiary of higher interest rates mainly as a result of its liquid balance sheet and limited exposure to the repo market. YKB suffers only minor losses, largely based on the strength of its Turkish lira lending book, which can quickly reprice higher rates. Isbank and Garantibank appear the most vulnerable to changes in interest rates largely as a result of their relatively large exposure to the repo market. Garantibank is also disadvantaged by its weaker presence in the more lucrative lira lending business.

We now move to the more contentious issue of estimating losses on banks' open foreign currency positions. Again, we stick to the methodology of discarding the offsetting effects of derivative instruments. This is clearly a harsh treatment but we think it is justified based on investors' experience in other emerging countries. For example, in Mexico and Korea the collapse of the exchange rate resulted in greater losses than estimated by the authorities as many of these contracts were either not honoured or simply transformed into credit problems.

In Table 39 we provide the *gross* open foreign exchange position of the four major banks before derivative contracts and our estimate of their losses based on the exchange rate of TL 950,000 to the dollar.

Table 39: Estimated Losses on Open Currency Positions

(\$ million)

	Akbank	Garantibank	Isbank	YKB
Reported	(167)	(133)	(309)	(228)
Excluding Forwards	(1,972)	(1,231)	(531)	(721)
Loss on open position based on TL 950,000/\$1	(550)	(343)	(148)	(201)

Source: Company data, J.P. Morgan estimates.

Akbank is clearly the most vulnerable to the depreciation of the lira due to its relatively large open currency position. We argue that this analysis should be viewed as a worst-case stress test as it ignores the offsetting effect of derivative instruments and does not account for any reduction in open positions that banks may have engineered before the lira was floated on February 22.

Asset Quality

Here we make an arbitrary assumption and assume that non-performing loans will double for all four banks in the next 12 months. We stick to our earlier assumption and project a recovery rate of 35%. The increase in provisioning requirement for each bank to cover our projected deterioration in asset quality is provided below. This is clearly a crude exercise as it does not take into account which banks have strict credit control systems and better collateral.

Table 40: Estimated Losses Due to the Deterioration in Asset Quality

(\$ million)

	Akbank	Garantibank	Isbank	YKB
Current non-performing loans	(62)	(128)	(245)	(187)
NPLs/total gross loans (%)	1.6%	2.2%	5.3%	4.1%
Reserves for loan losses	(54)	(112)	(214)	(86)
Projected increase in non-performing loans	(62)	(128)	(245)	(187)
Additional provision requirement	(49)	(98)	(189)	(222)

Source: J.P. Morgan estimates.

Table 41 summarises our estimates of the erosion of capital for the four major banks based on the results predicted by our interest rate risk analysis and an aggressive estimate of losses on open currency positions.

Table 41: Estimated Decline in Equity Due to the Crisis in 2001

(\$ million)

	Akbank	Garantibank ¹	Isbank	YKB
Interest rate position	(702)	311	436	150
Open currency position	550	343	148	201
Asset quality	49	98	189	222
Total losses	(103)	753	773	573
Estimated 2000 IAS equity	1,718	1,632	2,995	2,563
Total losses as a % of capital	-6%	46%	26%	22%

Source: J.P. Morgan estimates.

1. Consolidated actual.

In aggregate, we anticipate the four major Turkish banks will suffer some fallout from the recent crisis and destruction of some of their capital. But, even with the direst assumptions, no bank in our universe faces a threat to its solvency.

- Despite its relatively large foreign exchange exposure, we expect Akbank to emerge from the crisis relatively unscathed mainly due its liquid balance sheet, which allows it to benefit from higher rates. However, as the universe of creditworthy counterparties in the system shrinks, Akbank may find it increasingly difficult to deploy its liquidity.
- Interestingly, although Isbank is generally viewed as a safe haven stock, due to its limited exposure to the currency, the market may be overlooking the potential negative impact of its interest rate exposure. In our opinion, this could be equally damaging if rates continue to increase.

There is a limit to what balance sheets and other statistics tell about a bank. The volatile nature of the crisis compounds this problem. Therefore, we stress the need to view this study as a framework to highlight each bank's vulnerability rather than a precise measurement of their capital funds.

WHAT HAPPENS NEXT?

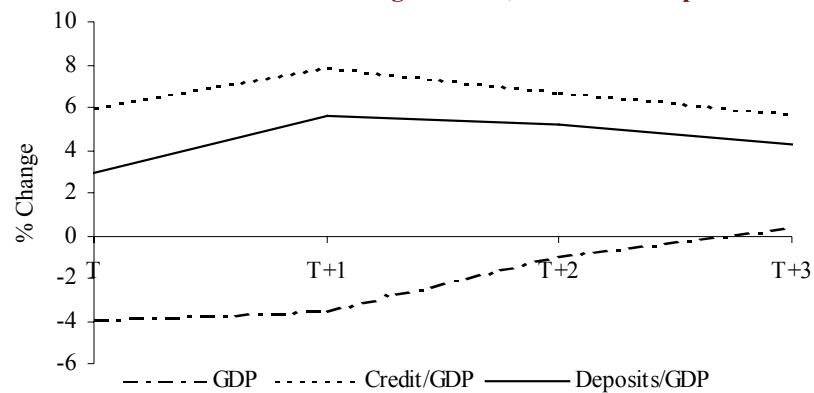
This section looks at what happens to an economy after a banking crisis breaks out. There are several common features in countries undergoing a crisis. We review these briefly below using an IMF survey² to help us determine the post crisis-developments in the Turkish banking industry.

Global Experience

Output Contracts Sharply but Returns to Its Pre-Crisis Level Quickly

A World Bank analysis of 36 banking crises between 1970 and 1980 (Chart 17) suggests that, while financial distress wreaks havoc in the banking system, banking crises do not seem to be followed by sharp recessions. The crisis is usually accompanied by a sharp decline in output of about 4%. The growth remains depressed in the following year but returns to its pre-crisis level thereafter. This is consistent with the U-shape recoveries seen following the 1995 Mexican and 1997 Asian crises. Interestingly, countries that experience multiple crises tend to experience markedly higher average rates of growth after their final crisis ends. Perhaps surprisingly, in more developed countries the slowdown in output is more persistent.

Chart 17: Crisis Aftermath: Change in GDP, Credit and Deposits



Source: IMF.

No Credit Crunch

While the growth rate of bank credit falls below its pre-crisis level, beginning in the crisis year, credit as a share of GDP remains significantly above pre-crisis levels. Thus, credit slows down but less so than output. Moreover, when output growth returns to its pre-crisis levels in the second and third year following the crisis, credit growth remains depressed. So, banks typically do not curtail their lending activity during crises. This evidence casts doubt on the credit crunch theory, according to which the lack of bank credit significantly contributes to output decline following a banking crisis and the resumption of bank lending is a necessary condition for output recovery.

² Demirguc-Kunt, Detragiache and Gupta: An Empirical Analysis of Banking Systems in Distress.

Depositors Do Not Run

Deposits, as a share of the output, generally increase after a crisis relative to the pre-crisis period, suggesting that depositor runs have a limited aggregate effect. Some banks may experience runs and lose deposits but these deposits seem to be reinvested elsewhere in the banking system, so banks do not lose deposits in aggregate. There are two possible explanations why depositors do not run in face of widespread insolvency in the banking system. First, even in the direst of circumstances there remains a segment of the banking system that is perceived to be safe. Second, depositors in many of the sample countries are protected by a generous safety net, including explicit deposit insurance.

Inflation Rises in Emerging Countries

In developed countries, the rate of inflation falls during a banking crisis and is substantially lower than the average rate before a crisis. But, in emerging countries crises are accompanied by a significant increase in inflation that peaks in the year after the crisis and lasts throughout the aftermath period. Thus, not only does inflation tend to rise rather than fall during crises, it is typically higher than in developed countries. The increase in the rate of depreciation of the currency is even more marked, even if only eight countries in the sample had a full-blown currency crisis.

Large Bailouts Have Adverse Effects on Output

Another frequent question is how the resources injected into the banking system relate to economic output after a banking crisis. The data suggest that higher bailout expenditures have no significant effects — either directly or indirectly — on the post-crisis growth rate of real GDP. In fact, when governments inject resources into banking system bailouts, this does not reduce — and may well increase — the social losses associated with a banking crisis. In addition, expenditures on bank bailouts are inflationary and higher rates of inflation have their own adverse welfare effects.

Banking Sector Consolidates

Countries that have undergone financial sector restructuring now have fewer financial institutions and more concentrated financial sectors. A year after the financial sector restructuring process started in Korea, the banking sector has been significantly consolidated, with 11 of the 33 commercial banks and 21 of the 30 merchant banks either closed or merged since December 1997. Similarly, Brazil experienced a steady consolidation, albeit at a slower pace, than Korea, with the number of bank institutions down from 246 at the outset of the real plan to 194 at the end of 1999. Other countries as diverse as Argentina and Indonesia experienced similar trends following the restructuring of their financial sectors. Given the fragmented nature of the banking industry and weak capitalisation of many institutions, we expect the number of banks in Turkey to decline sharply over the next three years.

Table 42: Bank Consolidation in Selected Emerging Markets

Country	Number of Banks	
	Pre-Crisis	Post-Crisis
Brazil	246	194
Korea	33	22
Indonesia	238	165
Argentina	205	119

Source: IMF.

Stock Market Performance

Although financial sector distress typically leads to consolidation of the banking industry, its impact on bank stocks' performance is less obvious. In this section, we look at the post-crisis performance of Brazil, South Korea and Mexico, in the hopes of drawing parallels with the Turkish experience. In all crisis countries, bank stocks showed significant positive real equity returns from their lows following the devaluation of their currency. However, performance varied considerably between each country.

Brazil: Not a Clear Comparison

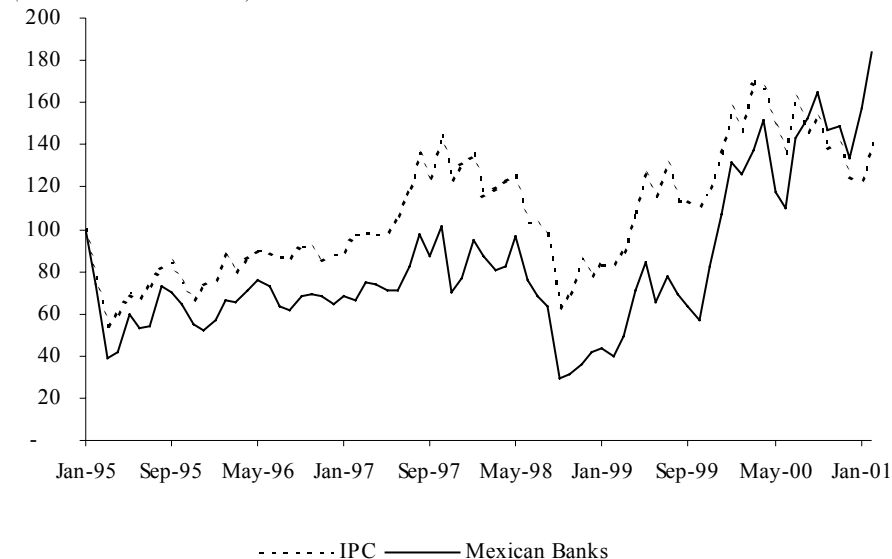
The performance of Brazilian bank stocks has been impressive, with the DS Brazilian index doubling in US dollar terms following the devaluation of the real in February 1999. However, unlike their Turkish counterparts, Brazilian banks had a low currency exposure going into the crisis. So the parallels between the two countries are misleading, in our view. The experience of Mexico and Korea is perhaps more relevant for Turkey given their large currency exposure at the outset of the crisis.

Mexico: Closer Parallels

In our view, Mexico's experience is more useful given the banking system's similarities to Turkey. In Mexico, bank stocks continued to lose ground until the announcement of a US-sponsored package as the high stock of external debt coupled with the low level of reserves raised concerns over Mexican borrowers' capacity to service their foreign obligations. Bank stocks rebounded quickly following the announcement, doubling in value in less than three months. However, it took nearly three years for bank stocks to regain their absolute value while in relative terms they continued to underperform the IPC index until the end of 1998. The slow recovery of Mexican banks can, arguably, be attributed to the gradualist approach of the Mexican authorities in dealing with the crisis.

Chart 18: Post-Crisis Performance of Mexican Banks

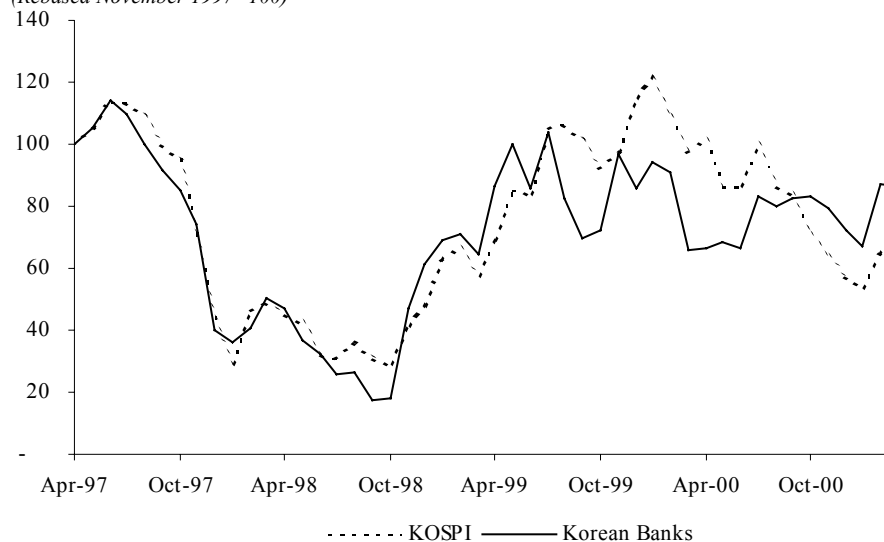
(Rebased: Dec. 1994 = 100)



Source: Datastream.

Chart 19: Post-Crisis Performance of Korean Banks

(Rebased November 1997=100)



Source: Datastream.

South Korea: Not a Close Comparison

In Korea, bank stocks continued to lose value until September 1998, nearly nine months after the crisis. But the ensuing rebound was far stronger than in Mexico, with the DS Weighted Bank index tripling in value and nearly regaining its pre-crisis value. In our view, the slower recovery of Korean bank stocks initially can be partly attributed to the size of the problem faced by the authorities. The amount of troubled debt faced by the Korean banks far exceeded that faced by the Mexican banks. While banks' loans represented 21% of GDP in 1994, in Korea they represented 71.5% of GDP in 1997. In addition, Korean banks faced more leveraged borrowers.

Turkish Bank Stocks Likely to Follow a Similar Path to Mexican Bank Stocks

We expect the Turkish banks to perform similarly to the Mexican banks for the following reasons.

- As in the case of Mexico, Turkey's financial sector is smaller and corporate distress less pronounced than in Korea.
- The overriding concern in Mexico during the tequila crisis was the capacity of Mexican borrowers to service their debt, which was quickly alleviated once the US government decided to bail out Mexico. Similarly, the main problem in Turkey is the huge debt overhang caused by the public sector. In contrast, in Korea the debt restructuring process mainly focused on large conglomerates and, to a lesser extent, on medium-sized enterprises, which is more complex and time consuming.
- The Mexican crisis of 1995 had its roots in domestic over-consumption whereas the Asian crisis was in part the product of high levels of domestic investment.
- Unlike the Korean and Mexican episodes, the legal framework to resolve banking sector problems is largely in place in Turkey. In Korea, the authorities lacked key legislative powers until August 1998, which delayed recovery.
- The resolution process in Turkey is unlikely to be as comprehensive as that in Korea.

AKBANK

A Safe Consolidation Play

BUY
\$0.72

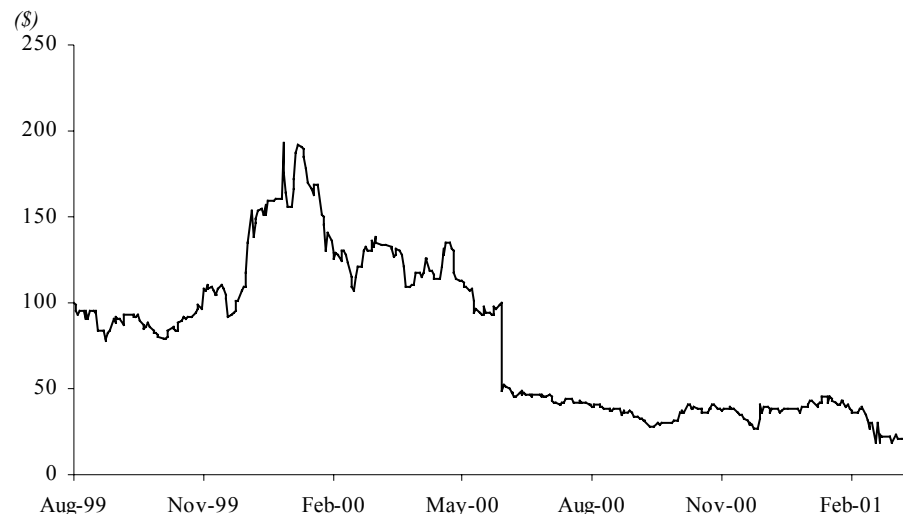
Akbank is one of the three largest private banks in Turkey with total assets of \$11.6 billion at the end of 2000. It leads in terms of profitability. In our view, its superior profitability is attributable to its conservative management style, strong capitalisation and solid deposit base, which enables it to raise funds inexpensively.

Akbank has been one of the best-performing banking stocks since November 2000, outperforming the ISE-100 index by 15% largely due to its solid balance sheet and strong cash position, which has allowed it to take advantage of the high interest rates. Although it is likely to take a hit on its relatively large currency position, we believe that higher interest income from its cash position should more than offset these losses, allowing the bank to post positive earnings growth in 2001.

We see Akbank as a safe play on the consolidation of the Turkish banking industry. Its solid balance sheet offers protection against Turkish macro volatility while high spreads on deposits make any market share gains very valuable for the bank. Furthermore, as a pure banking play, Akbank provides the highest exposure to the Turkish banking sector and stands to gain substantially from consolidation.

The shares are trading 28% below our fair value, offering investors significant upside potential should our consolidation scenario play out. **We rate the stock a BUY and establish a target price of \$1.01 per GDR based on our component valuation model.** Any opportunist acquisition by Akbank could unlock additional value for shareholders, which is not currently reflected in our target price.

Chart 20: Akbank Stock Performance — GDR



Source: Datastream

GDR (Reuters: AKBNK.IS, Bloomberg: AKBNK TA)

		YE Dec	EPS	P/E	P/NAV		
Price (26/03/2001)	\$0.72	1999	0.04	20.0	1.2	Market Cap.	\$1.8 bn
52-Week Range	\$2.60-0.69	2000E	0.11	6.5	1.1	Shares Out.	500 bn
		2001E	0.09	8.3	1.0	NAV 2001E	\$1.8 bn

INVESTMENT THESIS

Positives

Minimal Crisis Damage Due to Strong Liquidity Position

Akbank is likely to emerge from the crisis much stronger than its competitors due to its strong liquidity position, in our opinion. Going into the crisis, the bank had more than \$3.9 billion (35% of its average assets) in liquid assets and a positive Turkish lira interest rate gap — in other words, the duration of its Turkish lira liabilities exceeded that of its Turkish lira assets. Although the bank is likely to take a substantial hit on its currency position, higher rates on the asset side should more than offset these losses. Akbank is the only bank in our universe for which we are projecting positive earnings growth this year if the lira stabilises at around the current exchange rate of TL 950,000 to the dollar.

A Strong Profitable Franchise

The bank has a balanced business mix, with spreads on Turkish lira liabilities representing 51% of its net interest income, and enjoys the highest margins in the business. Its superior margins are largely attributable to the public's perception of it as 'safe and sound', which lowers its cost of collecting deposits. The unfolding crisis, if anything, is likely to reinforce this view.

Table 43: Interest Margin Analysis

(\$ million, as at December 31, 2000)

	Currency	Amount	As a % of Total	Interest Rate	Interest Exp/Rev
Funding					
Free capital	TL	1,244	14%	0.0%	
Deposits					
FC customer	\$	3,519	39%	5.8%	204
TL customer	TL	1,774	19%	19.6%	348
Borrowings					
Interbank	TL	78	1%	28.1%	22
Money market	TL/FC	355	4%	16.7%	59
Repo	TL	425	5%	Market	0
Syndication	\$	1,707	19%	5.7%	97
		9,103			730
Unallocated					20
Total interest expense					750
Assets					
Due From Banks					
Foreign	FC	573	7%	1.9%	11
Domestic	TL	2,054	25%	47.0%	965
Loans					
FC	FC	1,751	21%	13.7%	239
TL	TL	1,462	18%	38.9%	569
Securities					
Government securities	TL	1,692	20%	22.7%	385
Other securities	NA	730	9%	12.2%	89
		8,261			2,257
Unallocated					8
Total interest income					2,265
Net interest income					1,515

Source: Company data, J.P. Morgan estimates.

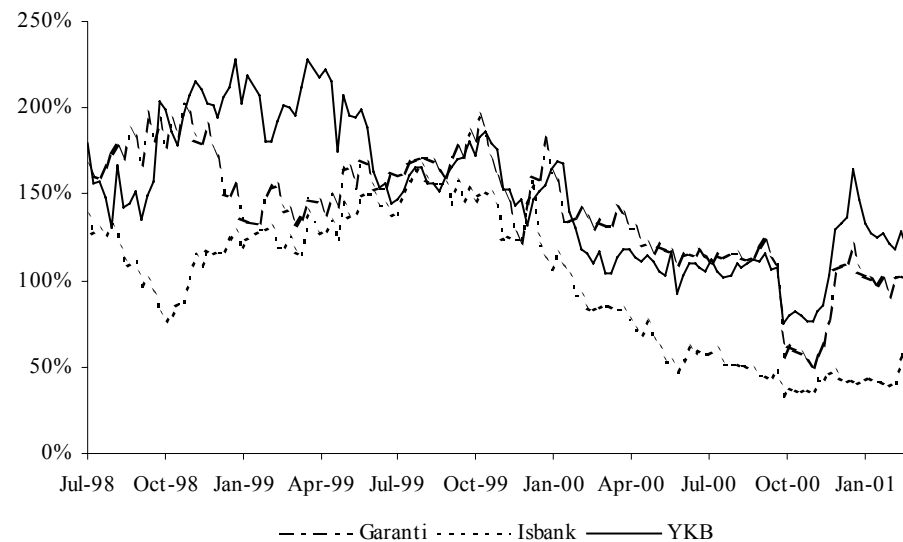
Main Beneficiary of Consolidation of the Turkish Banking Industry

We see Akbank as the main beneficiary of the expected consolidation of the Turkish banking industry. Because of its high margins, the bank's equity value is sensitive to market share gains, particularly in the lira segment. Every dollar of new deposits it collects should generate large cash flows and create significant incremental value for its shareholders. Further, unlike Isbank and YKB, Akbank does not have a conglomerate structure and 100% of its equity value comes from the banking business. As such, any incremental value generated in the banking business is fully reflected in its equity value.

Undervalued

By almost any measure, Akbank shares look cheap. The shares are trading at 1.1 times our estimated 2001 inflation-adjusted book value, near the bottom of its historical range. Our sum-of-the-parts valuation places the bank's potential equity value at \$3.3 billion or \$1.31 per GDR, implying 78% upside potential from current levels. Investors rewarded Akbank for its skilful management of the crisis by awarding the stock a premium valuation relative to Garantibank and YKB. We believe this premium is justified based on the strength of the balance sheet and profitability of the franchise, which is likely to be strengthened further if the government begins shutting down some of the weak banks.

Chart 21: Relative Price/Book Value Performance of Akbank



Source: Datastream, J.P. Morgan estimates.

Risks

Strategic Challenge Remains Unanswered

Akbank has a conservative approach to banking, which rests on three pillars: 1) a strong and liquid balance sheet that allows it to borrow inexpensively; 2) a ruthless focus on costs to maximise profits; and 3) a cautious approach to lending. By concentrating on the liability side and avoiding high-risk lending strategies, it has achieved some of the highest returns in the industry. While others tried to build a retail banking business by giving away consumer loans at negative spreads, Akbank refused to join the fray, preferring the safety and higher returns of cash. With hindsight, this strategy has worked very well.

Akbank could afford to continue to sit on top of its cash pile until the dust settles. But it is looking at a historical opportunity to deliver a strategic coup, which could catapult it into a dominant position in the industry. True, the bank looks set to gain market share as weaker banks exit the industry, but it could play a more active role in consolidating the industry, particularly in light of the strength of its balance sheet, in our view. Because of its higher margins, the bank's equity value is sensitive to volume growth. Each 1% additional market share gained by Akbank would increase its equity value by about \$500 million less the cost of the acquisition. To maximise value, the bank should, therefore, use its balance sheet more aggressively and acquire market share. In our view, a well-executed acquisition strategy would put Akbank ahead of the pack, perhaps in a similar position to Bank Itau in Brazil.

Debt Restructuring Is a Risk to Earnings

Being a strong bank in Turkey can be a liability, given the government's tendency to lean on strong banks to finance its needs. Moreover, the crisis has reduced the government's ability to issue new debt, making the restructuring of the domestic debt stock likely. While this should be good news for the banking system as a whole, sitting on top of a pile of low-yielding assets, it may have negative impact on Akbank's profitability if its cash pile is converted into lower-yielding government bonds.

Earnings Outlook

The volatility of the economic environment and the lack of a clear economic policy in the aftermath of the crisis make it nearly impossible to project earnings reliably. However, we are forecasting 10% earnings growth in 2001 in US dollar terms based on Turkish accounting standards, largely due to the bank's net lending position during the crisis. The results should be heavily loaded towards the second half of the year. We expect the first-quarter results to be weak as they are likely to bear the brunt of the damage caused by the crisis. We would see any weakness in the share price on release of the results as a buying opportunity.

Table 44: Akbank: Summary Income Statement and Balance Sheet

(\$ million, year-end December 31)

	1996	1997	1998	1999	2000	2001E	2002E
Income Statement							
Interest income	1,192	1,993	2,422	2,648	2,267	2,868	2,388
Lending operations	421	793	1,035	872	816	1,100	944
Due from banks	63	44	94	172	976	1,125	580
Securities portfolio	684	1,082	1,209	1,546	474	642	862
Others	24	74	84	58	1	1	1
Interest expenses	(460)	(759)	(874)	(1,030)	(752)	(1,041)	(919)
Deposits	(427)	(714)	(803)	(943)	(612)	(857)	(723)
Borrowings	(32)	(39)	(70)	(86)	(140)	(184)	(195)
Others	(1)	(6)	(1)	0	0	0	0
Net interest income	732	1,234	1,548	1,618	1,515	1,827	1,469
Net foreign exc. gain or (loss)	(55)	(167)	(127)	(174)	(354)	(560)	(127)
Adjusted net interest income	677	1,067	1,421	1,443	1,162	1,266	1,341
Provision for possible loan losses	(2)	(3)	(54)	(62)	(76)	(99)	(106)
Net interest income after provisions	675	1,064	1,367	1,382	1,085	1,167	1,236
Net fee & commission income	20	19	16	7	67	83	136
Net capital market gains	16	10	19	108	53	64	58
Others	9	14	14	34	42	40	42
Non-interest income	45	42	50	149	163	187	237
Personnel	(84)	(96)	(117)	(128)	(134)	(135)	(161)
Admin & other	(109)	(163)	(206)	(258)	(278)	(310)	(384)
Other tax expenses	(8)	(10)	(12)	(15)	(25)	(24)	(26)
Non-interest expenses	(200)	(269)	(336)	(401)	(437)	(469)	(571)
Non-operating income	28	25	18	8	12	12	13
Pre-tax net income	548	862	1,099	1,138	823	897	915
Provision for taxes	(167)	(270)	(341)	(379)	(272)	(293)	(298)
Net income	381	592	757	759	551	604	617
Core earnings	720	1,106	1,416	1,531	1,248	1,354	1,473
Balance Sheet (as at December 31)							
Cash	115	191	233	163	147	127	139
Banks	541	512	1,018	1,214	3,910	3,587	3,917
Reverse repo receivables	77	44	0	0	87	194	190
Marketable securities	1,760	1,596	2,398	3,032	2,057	2,800	3,137
Reserve deposits at Central Bank	304	325	395	381	484	382	444
Loan portfolio	1,436	2,087	2,754	2,546	3,915	3,720	5,061
Past due loans	4	12	47	63	62	96	154
Provisions for past due loans	3	2	26	47	54	88	140
Accrued interest	406	636	615	738	434	411	566
Other receivables	142	154	163	74	216	271	295
					0	0	0
Fixed assets	201	337	415	231	294	316	399
Property equipment	135	124	162	157	205	219	265
Financial assets	51	31	49	47	66	79	114
Other assets	15	182	204	26	23	18	19
Total assets	4,983	5,893	8,011	8,394	11,552	11,816	14,159
Deposits	3,367	3,649	4,572	4,810	6,514	7,373	9,117
Funds borrowed	64	506	878	1,245	2,314	2,282	2,443
Payables under repurchase agreement	270	213	343	343	599	282	306
Accrued interest	93	193	231	165	232	224	258
Other payables	53	58	68	91	79	67	73
Provisions	244	279	464	325	175	115	163
Other liabilities	20	16	19	13	29	34	28
Stockholders' equity	871	978	1,436	1,402	1,611	1,439	1,770
Capital stock	181	243	398	462	744	466	434
Retained earnings	617	572	822	884	794	888	1,222
Revaluation of fixed assets	73	162	216	56	73	84	114
Total liabilities + equity	4,983	5,893	8,011	8,394	11,552	11,816	14,159

Source: Company data, J.P. Morgan estimates.

Table 45: Akbank: Ratio Analysis*(%, year-end December 31)*

	1997	1998	1999	2000	2001E	2002E
Interest Margin Analysis						
AEAs/total assets	67.5%	71.7%	76.8%	78.0%	81.2%	81.5%
Interest earned on AEAs	51.8%	49.2%	43.1%	29.9%	31.3%	19.9%
Interest paid on ABLs	23.5%	20.4%	20.3%	15.0%	17.5%	8.7%
Adj. net interest margin	27.8%	28.9%	23.5%	15.3%	13.8%	11.2%
TL spread	31.1%	39.8%	27.3%	19.8%	23.1%	12.8%
\$ spread	2.3%	3.3%	2.8%	7.9%	7.0%	5.3%
Funding Structure						
Customer deposits/total borrowings	81.0%	75.2%	73.0%	63.3%	69.0%	71.5%
Demand deposits/total deposits	25.6%	23.2%	18.4%	16.2%	16.2%	16.2%
Market share in customer deposits	0.0%	7.2%	6.4%	6.8%	9.0%	0.0%
Profitability						
ROA	10.5%	10.6%	9.0%	5.6%	5.3%	4.2%
ROE	62.5%	60.8%	52.7%	37.3%	41.0%	33.8%
Asset Quality						
NPLs/gross loans	0.6%	1.7%	2.4%	1.6%	2.5%	2.9%
LLR/NPL	19.6%	97.3%	96.4%	151.8%	134.0%	127.8%
Related party loans/total loans	5.0%	1.9%	2.0%	17.2%	17.1%	11.7%
Liquidity/Capital Adequacy						
Loans/assets	35.4%	34.4%	30.3%	33.9%	31.5%	35.7%
Loans/deposits	57.2%	60.3%	52.9%	60.1%	50.5%	55.5%
Liquid assets/total borrowings	48.5%	57.0%	63.9%	59.6%	59.2%	54.6%
Equity/total assets	16.6%	17.9%	14.1%	13.9%	12.2%	12.5%
Equity/total assets + contingent liabilities	13.3%	14.8%	7.5%	8.1%	8.5%	9.3%
Free capital/total assets	14.0%	15.3%	11.8%	11.6%	9.7%	9.9%
Efficiency						
Operating expenses/ATA	4.8%	4.7%	4.8%	4.4%	4.7%	3.9%
Operating expenses per \$ deposits	0.073	0.082	0.083	0.078	0.068	0.061
Staff expenses per \$ deposits	0.026	0.029	0.027	0.024	0.020	0.017
Growth Analysis						
Total assets	18.3%	35.9%	4.8%	37.6%	2.3%	19.8%
Loans	45.3%	32.0%	-7.6%	53.8%	-5.0%	36.0%
Deposits	8.4%	25.3%	5.2%	35.4%	13.2%	23.7%
Core earnings	53.7%	28.0%	8.1%	-18.5%	8.5%	8.7%
Net income	55.7%	27.8%	0.2%	-27.4%	9.7%	2.1%
Fee income	-4.6%	-11.9%	-57.4%	858%	24.4%	63.5%
Operating expenses	10.5%	24.8%	19.6%	8.9%	7.3%	21.8%

Source: Company data, J.P. Morgan estimates.

Table 46: Akbank: Summary of Inflation-Adjusted Financials

(\$ million, year-end December 31)

	1998	1999	2000E	2001E	2002E
Net interest income	1,534	1,704	1,515	1,827	1,469
FX losses	(162)	(196)	(354)	(560)	(127)
Adjusted NII	1,372	1,508	1,162	1,266	1,341
Provision for loan losses	(46)	(65)	(76)	(99)	(106)
NII after provisions	1,326	1,443	1,085	1,167	1,236
Income from banking services	94	123	145	166	241
Trading income	20	112	53	64	58
Other	14	33	42	40	42
Total banking income	1,454	1,711	1,326	1,437	1,578
Operating expenses	(447)	(515)	(515)	(551)	(676)
Net banking income	1,007	1,196	811	885	902
Income from equity participations	60	13	12	12	13
Extraordinary gain or (loss)	2	(70)	0	0	0
Profit before tax	1,069	1,139	823	897	915
Taxation	(318)	(388)	(272)	(293)	(298)
Net income	751	751	551	604	617
Monetary gain or (loss)	(396)	(661)	(301)	(386)	(210)
Net income after monetary loss	355	90	275	218	407
Banking return	293	147	238	206	393
Balance Sheet (as at December 31)					
Total assets	8,199	9,852	12,152	12,098	14,466
Liquid assets	1,073	1,390	4,057	3,714	4,056
Securities	2,867	3,824	2,057	2,800	3,137
Loans	2,758	2,421	3,915	3,720	5,061
Equity participations	114	125	130	140	150
Premises and equipment	206	241	245	270	295
Deposits	4,769	5,210	6,514	7,373	9,117
Repos	369	343	599	282	306
Borrowings	881	1,246	2,314	2,282	2,443
Shareholders' equity	1,525	1,518	1,718	1,836	2,143

Source: Datastream, J.P. Morgan estimates.

TURKIYE IS BANKASI

Market
Performer
\$1.00

Share Price Fully Reflects the Strength of Franchise

Established in 1924, mainly as a development bank, Isbank is the oldest and largest private bank in Turkey with a distribution network of 851 branches. Largely as a result of its legacy of being a development bank, it has a vast portfolio of industrial assets concentrated mainly in glass making and, with its recent acquisition of the third GSM licence in Turkey, in telecommunications.

Isbank has been the best-performing bank stock since November 2000, outperforming the ISE-100 index by 40%. Although the shares are currently trading at the richest price/book value multiple among its peers, we believe that this premium is well supported by ROEs close to 30% in its banking business and a new CEO who is committed to creating shareholder value.

However, we are cautious on Isbank in the near term as we think the market is fully discounting all the good news and may be overlooking some of the risks. Unquestionably, it offers investors protection in a volatile environment because of its limited currency position and solid funding base. However, there are also risks. We are particularly concerned by its large interest rate exposure, the performance of its lending book and the growing capital demands of the fledgling telecoms business, which could be a drag on earnings in the short term. We rate the stock a Market Performer with a GDR 12-month target price of \$1.05.

Chart 22: Isbank Stock Performance — GDR



Source: Datastream.

GDR (Reuters: ISCTR.IS, Bloomberg: ISCTR TA)

		YE Dec	EPS	P/E	P/NAV		
Price (26/03/2001)	\$1.00	1999	0.05	18.6	2.1	Market Cap.	\$5.8 bn
52-Week Range	\$3.05-0.46	2000E	0.06	17.0	1.9	Shares Out.	559 bn
		2001E	0.05	18.8	1.8	NAV 2001E	\$3.2 bn

INVESTMENT THESIS

Positives

Best Banking Franchise in Turkey

Isbank has the best banking franchise in Turkey, where it generates ROEs close to 30%. In our view, its superior profitability is largely attributable to its stable, low-cost funding base. Nearly 85% of the bank's funding comes from customer deposits, which gives its funding stability. Its success in collecting deposits can be traced to its 851-strong branch network, the largest of any private bank, and a customer base which mainly comprises small depositors that tend to be relatively stable and less price sensitive. Largely a function of the strength of its deposit franchise, Isbank enjoys the best margin mix of the four major banks with spreads from lira liabilities representing 71% of its net interest income.

Table 47: Isbank: Interest Margin Analysis

(\$ million, as at December 31, 2000)

	Currency	Amount	As a % of Total	Interest Rate	Interest Exp/Rev
Funding					
Free capital	TL	274	3%		
Deposits					
FC customers	\$	4,085	50%	5.5%	224
TL customers	TL	1,970	24%	28.6%	564
Borrowings					
Money market	TL	206	3%	11.2%	23
Money market	TL/FC	125	2%	27.9%	35
Repo	TL	664	8%	Market	0
Syndication	\$	918	11%	6.7%	62
		8,243			908
Unallocated					5
Total interest expense					913
Assets					
Due From Banks					
Foreign	FC	946	13%	3.8%	36
Domestic	TL	106	1%	26.9%	28
Interbank	TL	315	4%	19.2%	61
Loans					
FC	FC	2,132	28%	12.2%	259
TL	TL	1,512	20%	49.9%	754
Securities					
Government securities	TL	2,076	28%	32.0%	664
Other securities	NA	449	6%	0.9%	4
		7,537			1,806
Unallocated					26
Total interest income					1,833

Source: Company data, J.P. Morgan estimates.

Shareholder-Friendly CEO

The CEO, Mr. Ersin Ozince, who is committed to transforming the bank from a disparate array of businesses to a value-creating conglomerate, is another strength. To execute this strategy, Mr. Ozince recently unveiled a three-point plan: sell assets in mature industries where possible; invest proceeds in high-growth industries; and improve the bank's transparency by listing unlisted assets and increasing financial disclosure. Mr. Ozince delivered on his promise by raising \$300 million in asset sales in 2000 and investing the proceeds in new businesses, such as telecoms and fuel retailing. The market rewarded Mr. Ozince with a huge rerating of the stock, with Isbank shares outperforming the ISE-100 index by a staggering 80% since the beginning of 1999.

Limited Foreign Currency Position

Historically, the bank has kept a small open foreign currency position and currency arbitrage revenues generally account for less than 25% of its net interest income. We estimate its open currency position at \$531 million or 18% of capital at the end of 2000, the smallest of the four Turkish banks.

New Banking Regulation Could Speed up Disposals

Before the devaluation on February 22, the BRSA was working on a new regulation that could lead to significant changes in the way Turkish banks deploy their capital. The draft regulation plans to broaden the definition of the related party transaction to include all equity investments in non-financial companies. The new rule, if accepted in its current form, could force Isbank to divest some its non-bank holdings to bring its group-related party exposure in line with prudent limits, freeing more cash for the expansion of other higher-growth businesses.

Risks

Expensive Foray into Telecoms Business

A main criticism of the bank is that its partnership with Telecom Italia paid too much for the third GSM licence. A broad comparison of licence auctions in different countries supports this view; Table 48 provides a comparison of cellular auctions in various countries. Certainly, the price paid by the Is-Tim consortium represents a record amount paid for a GSM licence in the region based on a broad measure of price per operator per population.

Table 48: Cellular Auctions in Select Countries

Country	Auction	Date	Holder	Price \$mm	\$/Pop	\$/Operator/Pop
Egypt	GSM	1999	Mobinil	512	7	15
Morocco	GSM	1999	Medi Telecom	1,100	38	76
Turkey	GSM	1999	Is-Tim	2,525	38	152
Poland	UMTS	2000	TC, TPSA, Polkomtel	576	15	45
Bulgaria	GSM	2000	OTE	135	17	33

Source: J.P. Morgan estimates.

Interest Rate Exposure Is Overlooked

Isbank is often viewed as a safe haven stock because of its limited exposure to the currency. In our view, however, this assessment overlooks the bank's large interest rate exposure, which could be equally damaging. According to our estimates, the bank had a net Turkish lira interest rate exposure of \$1.5 billion at the end of 2000. The potential damage of an interest exposure of this size is equivalent to the damage caused by a currency position of \$1.5 billion if interest rates remain high.

Table 49: Sum-of-the-Parts Analysis

(\$ million)

Company	Business Line	Ownership	Valuation Method	Company Value	Share Value
Anadolu Sigorta	Insurance	40.8%	Trading	87	35
Anadolu Cam	Glass containers	33.5%	Trading	28	9
Anadolu Hayat Sigorta	Life insurance	62.0%	Trading	132	82
Bayek	Hospitals	54.3%	Acquisition cost	93	51
Disbank	Banking	9.3%	Trading	107	10
IS Leasing	Leasing	35.3%	Trading	33	12
IS REIT	REIT	47.1%	Trading	165	78
Is Investment Trust	Investment trusts	10.0%	Trading	31	3
Izmir Demir Celik	Steel	56.9%	Trading	44	25
Pasabahce Cam Sanayii	Glassware	33.2%	Comparable	250	83
Soda Sanayii	Chemicals	33.6%	Trading	50	17
T. Sise Cam	Glass	68.9%	Trading	407	281
Trakya Cam	Flat glass	15.9%	Trading	192	31
TSKB	Development bank	37.0%	Trading	23	9
Turk Pirelli	Tyres	25.8%	Comparable	300	77
IS-Dogan Pet Inv.	Fuel retailing	40.0%	Trading	859	344
Trakya Yatirim Holding	GSM operator	65.3%	Comparable	499	326
Is-Tim	GSM operator	14.0%	Comparable	1,996	279
Publicly-traded companies					934
All (including unlisted)					1,750
Others at BV					363
Conglomerate value					3,048

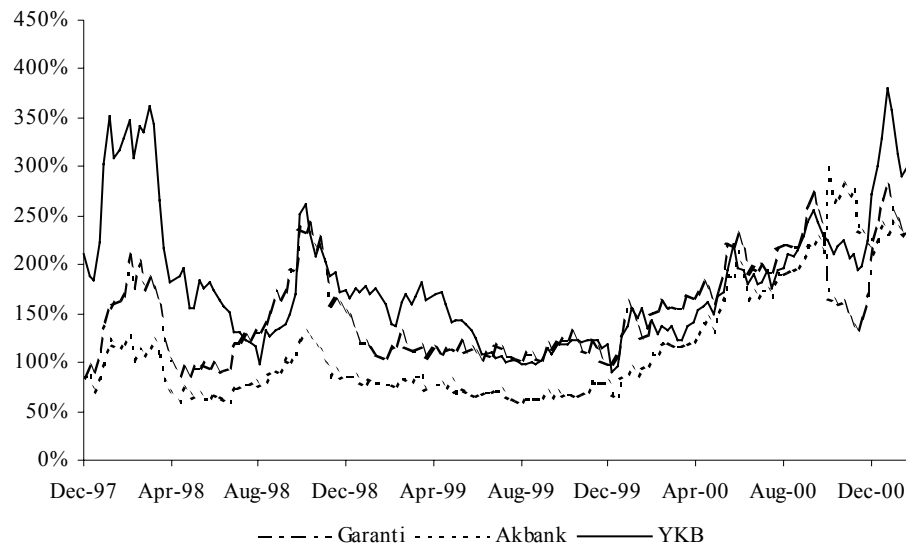
Source: Company data, J.P. Morgan estimates.

Note: Priced as at March 25, 2001.

Fully Valued

Although Isbank has one of the strongest banking franchises in Turkey, current valuations fully reflect this, in our opinion. Our sum-of-the-parts valuation model puts the fair value of Isbank at \$1.05 per GDR, 5% above its current price. The shares are trading at a substantial premium to its peers suggesting that the market has fully discounted all the good news in terms of its lower currency risk and solid funding base. Historical comparisons also suggest the shares are fully valued as they are trading near the top of their historical range.

Chart 23: Price/Book Ratio Relative to Its Peers



Source: Datastream, J.P. Morgan estimates.

Operating Efficiency is Very Low

Isbank has the highest operating expenses of the four banks although this can be partly explained by its larger distribution network. Operating expenses represented 7% of average assets in 2000, which we think is high by any standard. The easiest way for Isbank to create value is to reduce operating expenses, which currently gobble up nearly all its core banking revenues. The trouble is it faces a structural problem here — how does a bank slash costs aggressively when it is owned by its employees?

Earnings Outlook

We are projecting a 15% decline in 2001 earnings in US dollar terms, reflecting our expectations of a sharp decline in Isbank's asset quality due to the impact of the devaluation of the currency. This may appear optimistic given the severity of the crisis: however, our estimate represents a decline of more than 40% since the peak of the cycle in 1999. Our key assumptions are that non-performing loans will peak at 7.6% from the current 5.8% of gross loans, and operating expenses will improve to 6.5% from 7% of average assets. Our model does not incorporate any of our consolidation scenarios but projects a small increase in deposit market share due to the flight to quality.

Table 50: Isbank: Income Statement and Balance Sheet
(\$ million, year-end December 31)

	1996	1997	1998	1999	2000	2001E	2002E
Income Statement							
Interest income	1,235	1,823	2,010	2,456	1,833	2,213	2,038
Lending operations	748	1,046	1,203	1,178	1,022	1,288	1,253
Due from banks	82	94	144	114	126	299	213
Securities portfolio	368	616	578	1,079	668	609	555
Others	36	67	85	85	16	16	17
Interest expenses	(507)	(785)	(899)	(1,069)	(914)	(1,139)	(1,035)
Deposits	(468)	(730)	(847)	(1,010)	(823)	(1,008)	(891)
Borrowings	(38)	(51)	(51)	(56)	(85)	(126)	(138)
Others	(1)	(4)	(1)	(2)	(6)	(5)	(6)
Net interest income	728	1,038	1,111	1,387	919	1,074	1,003
Net foreign exc. gain or (loss)	(27)	(138)	(104)	(97)	(97)	(211)	(53)
Adjusted net interest income	700	900	1,007	1,290	822	863	950
Provision for possible loan losses	(63)	(111)	(97)	(247)	(187)	(227)	(107)
Net interest income after provisions	638	789	910	1,043	636	636	843
Net fee & commission income	102	124	172	185	186	210	297
Net capital market gains	63	46	101	172	170	95	95
Others	239	80	125	141	194	184	195
Non-interest income	404	249	399	498	550	489	587
Personnel	(254)	(288)	(340)	(373)	(392)	(362)	(416)
Admin. & other	(224)	(127)	(139)	(176)	(220)	(226)	(298)
Other tax expenses	(23)	(21)	(24)	(28)	(151)	(101)	(108)
Non-interest expenses	(501)	(436)	(503)	(577)	(762)	(689)	(822)
Non-operating income or (loss)	40	59	26	33	129	92	27
Pre-tax net income	581	661	831	997	553	528	634
Provision for taxes	(197)	(248)	(314)	(398)	(143)	(176)	(214)
Net income	383	413	517	599	410	352	420
Core earnings	1,042	1,038	1,309	1,541	1,186	1,125	1,430
Balance Sheet (as at December 31)							
Cash	143	178	162	169	171	155	163
Banks	1,110	941	795	1,404	1,443	2,335	2,937
Reverse repo receivables	580	438	125	205	133	64	104
Marketable securities	992	1,126	1,375	1,948	3,160	2,372	2,770
Reserve deposits at Central Bank	452	436	471	481	624	577	684
Loan portfolio	3,170	3,124	3,636	3,013	4,342	4,291	5,837
Past due loans	70	78	116	222	245	353	384
Provisions for past due loans	70	78	116	222	214	328	380
Accrued interest	370	403	412	746	465	372	425
Other receivables	157	68	57	40	51	48	53
Fixed assets	569	656	1,007	1,163	2,428	1,944	1,825
Property equipment	212	256	299	396	598	577	645
Financial assets	310	320	606	677	1,726	1,280	1,086
Other assets	47	80	102	90	104	87	95
Total assets	7,543	7,370	8,040	9,170	12,847	12,183	14,801
Deposits	4,786	4,499	4,905	5,507	6,933	7,857	9,895
Funds borrowed	578	530	606	869	1,388	1,436	1,685
Payables under repurchase agreement	661	805	520	357	1,243	350	239
Accrued interest	135	142	149	235	199	201	239
Other payables	99	132	113	127	117	83	91
Provisions	340	148	263	445	220	99	202
Other liabilities	69	178	150	88	306	259	282
Stockholders' equity	873	936	1,334	1,542	2,441	1,898	2,169
Capital stock	101	247	405	517	832	521	486
Retained earnings	522	533	608	664	603	638	909
Revaluation of fixed assets	250	157	321	361	1,005	738	775
Total liabilities + equity	7,543	7,370	8,040	9,170	12,847	12,183	14,801

Source: Company data, J.P. Morgan estimates.

Table 51: Isbank: Ratio Analysis*(%, year-end December 31)*

	1997	1998	1999	2000	2001E	2002E
Interest Margin Analysis						
AEAs/total assets	64.9%	66.5%	67.8%	59.1%	46.2%	50.4%
Interest earned on AEAs	37.0%	39.7%	41.6%	27.2%	28.1%	18.5%
Interest paid on ABLs	17.9%	19.0%	18.9%	13.9%	15.5%	9.2%
Adjusted net interest margin	18.3%	19.9%	21.8%	12.2%	10.9%	8.6%
TL spread	43.1%	40.8%	38.1%	21.3%	20.8%	14.5%
\$ spread	4.7%	5.9%	9.4%	6.7%	6.6%	5.4%
Funding Structure						
Customer deposits/total borrowings	75.9%	78.0%	78.5%	71.9%	80.9%	83.2%
Demand deposits/total deposits	30.0%	29.9%	24.8%	21.5%	21.5%	21.5%
Market share in customer deposits	0.0%	7.8%	7.3%	7.9%	0.0%	0.0%
Profitability						
ROA	7.2%	6.7%	6.7%	3.8%	2.9%	2.7%
ROE	58.1%	44.2%	40.1%	20.7%	17.1%	18.2%
Asset Quality						
NPLs/gross loans	2.4%	3.1%	6.8%	5.3%	7.6%	6.2%
LLR/NPL	152.1%	139.1%	108.7%	104.2%	105.2%	114.2%
Related party loans/total loans	25.0%	7.3%	6.6%	11.8%	14.8%	10.1%
Liquidity/Capital Adequacy						
Loans/assets	42.4%	45.2%	32.9%	33.8%	35.2%	39.4%
Loans/deposits	69.4%	74.1%	54.7%	62.6%	54.6%	59.0%
Liquid assets/total borrowings	44.8%	38.6%	53.0%	41.1%	41.2%	41.9%
Equity/total assets	12.7%	16.6%	16.8%	19.0%	15.6%	14.7%
Equity/total assets + contingent liabilities	8.5%	11.2%	11.2%	12.5%	6.6%	14.9%
Free capital/total assets	4.9%	5.3%	5.1%	1.0%	0.5%	3.1%
Efficiency						
Operating expenses/ATA	5.8%	6.5%	6.5%	7.0%	6.5%	5.4%
Operating expenses per \$ deposits	0.094	0.107	0.107	0.125	0.094	0.081
Staff expenses per \$ deposits	0.062	0.072	0.069	0.064	0.049	0.041
Growth Analysis						
Total assets	-37.4%	105.1%	12.3%	178.5%	-26.5%	4.9%
Loans	-3.6%	8.0%	2.2%	29.6%	-7.5%	18.5%
Deposits	-6.0%	9.0%	12.3%	25.9%	13.3%	25.9%
Core earnings	7.7%	25.2%	15.9%	-31.6%	-14.1%	33.5%
Net income	25.6%	26.6%	26.8%	-64.1%	23.1%	21.7%
Fee income	23.7%	15.3%	14.6%	-39.1%	0.0%	32.6%
Operating expenses	-7.2%	15.5%	14.6%	32.1%	-9.6%	19.4%

Source: Company data, J.P. Morgan estimates.

Table 52: Isbank: Summary IAS Income Statement and Balance Sheet

(\$ million, year-end December 31)

	1998	1999	2000E	2001E	2002E
Net interest income	1,105	1,265	853	914	854
FX losses	(106)	(95)	(90)	(180)	(45)
Adjusted NII	999	1,170	763	735	809
Provision for loan losses	(73)	(246)	(173)	(193)	(91)
NII after provisions	926	924	590	541	718
Income from banking services	200	229	222	226	312
Trading income	81	159	158	81	81
Other	80	106	180	156	166
Total banking income	1,287	1,419	1,151	1,005	1,277
Operating expenses	(699)	(695)	(757)	(633)	(759)
Net banking income	588	723	393	371	517
Income from equity participations	82	77	78	62	65
Extraordinary gain or (loss)	(73)	1	42	16	(43)
Profit before tax	597	801	513	450	540
Taxation	(195)	(282)	(133)	(150)	(182)
Net income	402	520	380	300	358
Monetary gain or (loss)	(168)	(220)	(52)	(2)	(19)
Net income after monetary loss	234	300	328	298	338
Banking return	225	222	208	219	316
Balance Sheet (as at December 31)					
Total assets	8,933	10,415	12,847	12,464	14,801
Liquid assets	793	1,573	1,614	2,538	3,100
Securities	928	2,147	3,160	2,429	2,770
Loans	3,937	3,004	4,342	4,394	5,837
Equity participations	1,043	1,103	1,325	1,400	1,500
Premises and equipment	1,001	1,171	1,190	1,250	1,400
Deposits	5,062	5,507	6,933	8,045	9,895
Repos	557	357	1,243	358	239
Borrowings	606	869	1,388	1,470	1,685
Shareholders' equity	2,507	2,707	2,995	3,243	3,531

Source: Company data, J.P. Morgan estimates.

T. GARANTI BANKASI

BUY
\$3.15

Value Story too Big to Ignore

For a long time, Garantibank has been one of the most successful banks in Turkey with the highest ROEs in the industry. Despite its relatively small branch network, the bank achieved these good returns by avoiding costly Turkish lira deposits and concentrating its efforts on cheaper foreign currency financing. Although this strategy has proved a success, it has made the bank too dependent on foreign currency funding and hampered the development of a strong lira franchise, in our view. Spreads on foreign currency deposits, which are most at risk from foreign competition, represent 58% of the bank's interest income. **In our view, the bank needs to strengthen its presence in the lira market to compete effectively with its peers.**

Garantibank is trading at less than 1.0 times our inflation-adjusted post-crisis book value, offering a substantial discount to its peers. Although it faces some near-term challenges, we believe this discount is too deep to be justified by the relative weakness of its deposit franchise. We rate the stock a BUY and establish a target price of \$6.02 based on our sum-of-the-parts valuation. However, **we view the stock as a value story given its limited deposit franchise to fund its growth.**

Chart 24: Garantibank Stock Performance — GDR



Source: Datastream.

GDR (Reuters: GARAN.IS, Bloomberg: GARAN TA)

		YE Dec	EPS	P/E	P/NAV		
Price (26/03/2001)	\$3.15	1999	0.84	3.8	0.7	Market Cap.	\$0.9 bn
52-Week Range	\$22.5-2.85	2000E	0.89	3.5	0.5	Shares Out.	260 bn
		2001E	0.78	4.0	0.6	NAV 2001E	\$1.4 bn

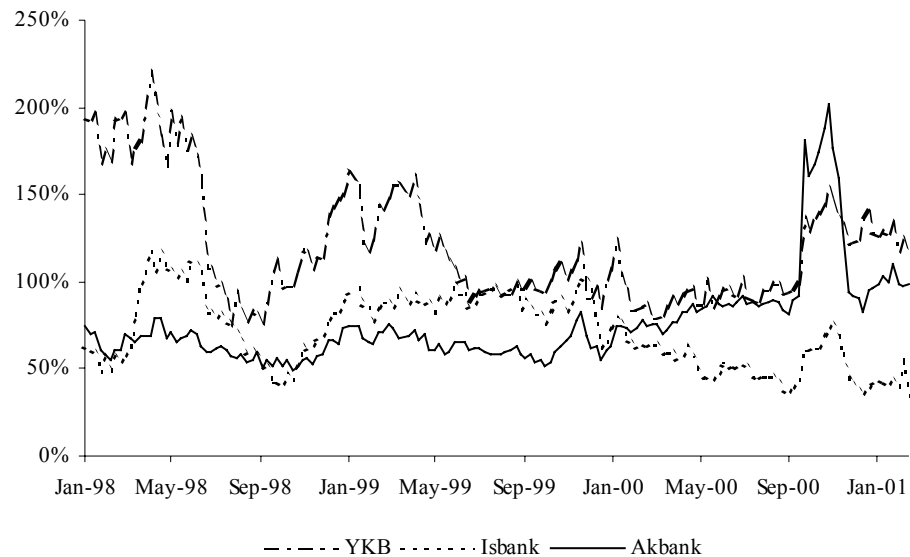
INVESTMENT THESIS

Positives

Attractive Valuations

Based on our estimate of inflation-adjusted book values, Garantibank is trading at less than 1.0 times its 2001 post-crisis book value, near its historical low. In addition, the discount between Garantibank shares and its peers has widened considerably, particularly relative to Isbank and YKB. Although the bank faces some near-term strategic challenges, we do not believe such a deep discount is justified, particularly if the bank moves aggressively to attend them. Our sum-of-parts valuation also suggests the shares are massively undervalued, trading at a 48% discount to their fair value.

Chart 25: Price/Book Ratio Trends Relative to Its Peers



Source: Datastream, J.P. Morgan estimates.

Asset Quality

Traditionally, the bank has enjoyed higher credit quality than its peers, particularly relative to Isbank and YKB. Further, in two of the deepest recessions Turkey has experienced (1994 and 1999) the asset quality of the bank held up reasonably well relative to its peers. Given the severity of the expected downturn in economic activity, this could be a huge benefit for the bank if historical trends hold.

Risks

Heavy Reliance on Foreign Funding

One of Garantibank's defining characteristics is its strength in raising cheap foreign currency funding and its relative weakness in the lira market. Garantibank determined early on that the cost of raising domestic funds would be prohibitively expensive given its small scale relative to Akbank and Isbank. Instead, it concentrated on raising foreign funds in international markets and, as a result, profits rose from \$115 million in 1994 to \$498 million in 1998. However, problems began to emerge with this strategy when the rapid growth rate of the bank led to pressure on its capacity to raise foreign funds. In our view, the bank has simply grown too big too fast to be financed without the support of a strong Turkish lira funding base. On a consolidated basis, Turkish lira funds make up a respectable 30% of the bank's total funding but most of this funding comes from money market sources, such as repos and interbank deposits, which are typically volatile. Turkish lira customer deposits represented less than 8% of the bank's total funding at the end of 2000, the lowest of the four major banks.

Table 53: Interest Margin Composition ¹

(\$ million, as at December 31, 2000)

	Currency	Amount	As a % of Total	Interest Rate	Interest Exp/Rev
Funding					
Free capital	TL	569	5%		
Deposits					
FC customers	\$	4,126	33%	6.9%	285
TL customers	TL	1,022	8%	27.1%	277
Borrowings					
Money market funds	TL	795	6%	17.7%	141
Money market	TL/FC	1,833	15%	32.3%	592
Repo	TL	1,109	9%	Market	0
Syndication	\$	<u>2,987</u>	24%	7.0%	<u>208</u>
		12,441			1,504
Unallocated					53
Total interest expense					1,556
Assets					
Due From Banks					
Foreign	FC	978	9%	9.3%	91
Domestic	TL	625	6%	44.1%	275
Interbank	TL	98	1%	10.6%	10
Loans					
FC	FC	2,979	27%	10.8%	323
TL	TL	1,788	16%	44.4%	794
Securities					
Government securities	TL	3,005	27%	30.9%	930
Other securities	NA	<u>1,645</u>	15%	7.9%	<u>129</u>
		11,118			2,553
Unallocated					78
Total interest income					2,631

Source: Company data, J.P. Morgan estimates.

1. Based on consolidated TGAP accounts.

Strategic Disadvantage

The bank's limited presence in the lira market poses some near-term strategic challenges. The bank has a strong franchise in raising foreign exchange funds but the spread on foreign exchange liabilities is low at around 4%. If the bank had invested all its foreign exchange liabilities in foreign currency assets, the resultant interest income would not be enough to cover its operating expenses. Furthermore, the foreign exchange business is the most susceptible to the entry of foreign competition. Spreads on Turkish liabilities are certainly more rewarding but the bank has a limited ability to attract cheap Turkish lira funds. To make matters worse, Ottoman Bank, the wholly-owned subsidiary of the bank, appears to be running a similar model effectively competing with Garantibank for the same business. In our opinion, the most effective solution to this problem is to divest Ottoman and acquire a stronger lira franchise, such as Vakifbank.

Higher Expenses Are a Drag on Earnings

Garantibank's earlier success to a large extent depended on a lean organisational structure, which allowed it to make a profit in a very competitive environment. Three years ago, Garantibank was one of the most efficient banks in the system with a lead in all traditional efficiency ratios. However, its operating structure has deteriorated sharply in the past three years with an 84% increase in operating overheads in US dollar terms.

Earnings Outlook

We are projecting net earnings of \$223 million in 2001, down 32% year on year. Our main difficulty in modelling Garantibank is the fact that a significant percentage of profits comes from the trading and other income line, which is not fully visible. We forecast net trading revenue of \$134 million in 2001, which seems conservative compared with last year's trading revenues of \$293 million. We have also not incorporated any meaningful drop in operating expenses. Any material improvement in operating structure would prompt us to increase our earnings estimate.

A Note on Margin Analysis

Our estimate of the bank's franchise value is largely based on consolidated TGAP results, as the bank has a large number of financial subsidiaries which make up nearly 35% of its revenues. However, the level of disclosure in consolidated accounts is not as detailed as the bank-only results, which means we have to make more assumptions on the composition of the bank's revenue mix. (For example, consolidated results do not break down lending income according to currency type.) As such, our margin analysis is bound to be less accurate for Garantibank than for the other banks. However, given its extensive financial holdings, we felt that using bank-only results would give us a less valuable picture.

Table 54: Garantibank: Income Statement and Balance Sheet

(\$ million, year-end December 31)

	1996	1997	1998	1999	2000	2001E	2002E
Income Statement							
Interest income	812	1,454	2,280	2,621	1,809	2,023	1,685
Lending operations	477	748	937	861	830	973	923
Due from banks	45	80	205	190	236	527	244
Securities portfolio	263	583	1,077	1,523	717	498	491
Others	27	43	61	47	26	25	26
Interest expenses	(300)	(513)	(999)	(1,444)	(1,073)	(1,203)	(940)
Deposits	(189)	(341)	(762)	(1,192)	(844)	(927)	(702)
Borrowings	(111)	(171)	(235)	(250)	(228)	(275)	(237)
Others	(1)	(1)	(2)	(2)	(1)	(1)	(1)
Net interest income	512	941	1,281	1,177	736	819	745
Net foreign exc. gain (loss)	(148)	(304)	(203)	(300)	(103)	(209)	(64)
Adjusted net interest income	364	637	1,077	876	632	610	681
Provision for possible loan losses	(10)	(24)	(97)	(81)	(80)	(109)	(46)
Net interest income after provisions	354	613	981	796	552	502	635
Net fee & commission income	30	34	42	53	90	124	201
Net capital market gains	74	70	89	168	293	139	144
Others	15	29	17	20	53	50	53
Non-interest income	119	134	148	241	435	314	398
Personnel	(91)	(121)	(169)	(195)	(175)	(170)	(198)
Admin & other	(107)	(151)	(183)	(224)	(308)	(335)	(428)
Other tax expenses	(6)	(9)	(9)	(13)	(21)	(20)	(21)
Non-interest expenses	(204)	(280)	(361)	(432)	(503)	(525)	(648)
Non-operating income or (loss)	9	9	1	(25)	(59)	28	41
Pre-tax net income	278	475	769	579	425	318	426
Provision for taxes	(37)	(78)	(272)	(148)	(96)	(96)	(133)
Net income	241	397	498	432	329	222	294
Core earnings	473	747	1,129	1,036	988	810	1,034
Balance Sheet (as at December 31)							
Cash	71	87	66	81	75	66	73
Banks	690	685	1,302	853	1,328	1,606	1,471
Reverse repo receivables	198	0	296	0	59	65	52
Marketable securities	1,030	2,634	1,875	3,747	3,215	2,987	3,539
Reserve deposits at Central Bank	162	143	195	310	352	298	340
Loan portfolio	2,076	2,882	2,926	2,629	3,739	3,654	4,574
Past due loans	13	23	39	51	99	154	171
Provisions for past due loans	13	23	39	51	91	145	162
Accrued interest	192	480	605	847	387	330	394
Other receivables	5	3	6	8	12	12	13
Fixed assets	339	420	719	1,161	1,262	1,041	1,153
Property equipment	196	279	373	373	467	427	494
Financial assets	96	48	130	646	615	448	479
Other assets	46	93	216	142	180	166	181
Total assets	4,763	7,333	7,991	9,636	10,437	10,068	11,616
Deposits	1,961	2,505	4,135	4,427	5,117	5,315	6,435
Funds borrowed	1,359	2,384	1,821	2,301	2,967	2,653	2,737
Payables under repurchase agreement	707	1,529	492	1,255	597	505	557
Accrued interest	53	117	135	187	152	153	177
Other payables	80	71	73	87	175	170	185
Provisions	38	11	220	233	79	88	114
Other liabilities	74	92	194	62	133	153	135
Stockholders' equity	491	623	919	1,085	1,217	1,031	1,272
Capital stock	181	195	159	481	387	243	226
Retained earnings	238	332	631	394	606	564	772
Revaluation of fixed assets	71	97	128	209	224	223	274
Total liabilities + equity	4,763	7,333	7,991	9,636	10,437	10,068	11,616

Source: Company data, J.P. Morgan estimates.

Table 55: Garantibank: Ratio Analysis

(%, year-end December 31)

	1997	1998	1999	2000	2001E	2002E
Interest Margin Analysis						
AEAs/ total assets	62.8%	72.9%	60.9%	71.9%	76.0%	76.7%
Interest earned on AEAs	34.7%	42.9%	44.8%	27.8%	27.2%	17.9%
Interest paid on ABLs	18.6%	21.9%	26.6%	16.2%	18.0%	10.3%
Adjusted net interest margin	15.2%	20.3%	15.0%	9.7%	8.2%	7.2%
TL spread	8.8%	29.1%	0.4%	15.5%	16.0%	12.2%
\$ spread	10.7%	7.4%	8.5%	5.4%	5.1%	5.2%
Funding Structure						
Customer deposits/total borrowings	29.3%	49.6%	41.6%	44.2%	49.0%	51.6%
Demand deposits/total deposits	37.4%	23.2%	18.4%	18.0%	14.7%	15.3%
Market share in customer deposits		5.3%	4.6%	4.9%	5.5%	0.0%
Profitability						
ROA	6.1%	6.5%	4.7%	3.4%	2.2%	2.4%
ROE	68.1%	62.5%	41.4%	29.2%	20.2%	22.4%
Asset Quality						
NPLs/gross loans	0.8%	1.3%	1.9%	2.6%	4.0%	3.6%
LLR/NPL	100.0%	162.2%	131.6%	128.7%	117.7%	121.8%
Related party loans/total loans	5.6%	1.9%	3.1%	5.5%	3.6%	2.6%
Liquidity/Capital Adequacy						
Loans/assets	39.3%	36.6%	27.3%	35.8%	36.3%	39.4%
Loans/deposits	115.1%	70.8%	59.4%	73.1%	68.8%	71.1%
Liquid assets/total borrowings	48.7%	51.8%	54.1%	39.4%	43.2%	40.8%
Equity/total assets	8.5%	11.5%	11.9%	11.7%	10.2%	11.0%
Equity/total assets + contingent liabilities	4.5%	6.1%	6.9%	5.7%	2.5%	2.8%
Free capital/total assets	4.1%	5.2%	1.9%	1.4%	1.6%	2.7%
Efficiency						
Operating expenses/ATA	4.2%	4.7%	18.3%	5.1%	5.6%	5.3%
Operating expenses per \$ deposits	0.113	0.105	0.098	0.108	0.103	0.097
Staff expenses per \$ deposits	0.050	0.049	0.044	0.037	0.033	0.030
Growth Analysis						
Total assets	54.0%	9.0%	20.6%	8.3%	-3.5%	15.3%
Loans	38.8%	1.5%	-10.1%	42.2%	-2.3%	25.2%
Deposits	27.7%	65.1%	7.0%	15.6%	3.9%	21.1%
Core earnings	57.8%	51.2%	-8.2%	-4.7%	-18.0%	27.6%
Net income	65.0%	25.3%	-13.3%	-23.7%	-32.4%	31.8%
Fee income	13.7%	23.1%	24.1%	70.2%	38.9%	61.8%
Operating expenses	34.6%	32.0%	19.6%	16.4%	4.5%	23.3%

Source: Company data, J.P. Morgan estimates.

Table 56: IAS Consolidated Income Statement and Balance Sheet

(\$ million, year-end December 31)

	1998	1999	2000	2001E	2002E
Income Statement					
Interest income	2,791	3,345	2,699	2,912	2,410
Lending operations	1,120	1,137	1,130	1,346	1,225
Due from banks	315	350	370	309	204
Securities portfolio	1,306	1,813	1,149	1,201	904
Others	49	46	50	56	77
Interest expenses	(1,280)	(1,928)	(1,610)	(1,757)	(1,357)
Deposits	(960)	(1,453)	(1,208)	(1,307)	(949)
Borrowings	(285)	(396)	(350)	(377)	(316)
Others	(35)	(79)	(53)	(73)	(92)
Net interest income	1,511	1,417	1,090	1,155	1,052
Net foreign exc. gain or (loss)	(334)	(369)	(124)	(219)	(128)
Adjusted net interest income	1,177	1,048	966	936	925
Provision for possible loan losses	(99)	(55)	(111)	(151)	(92)
Net interest income after provisions	1,078	993	854	784	833
Net fee & commission income	56	165	244	258	347
Net capital market gains	119	311	357	387	407
Others	12	36	104	88	101
Non-interest income	188	512	705	733	855
Personnel	(244)	(349)	(389)	(438)	(415)
Admin & other	(242)	(369)	(547)	(544)	(684)
Other tax expenses	(18)	(24)	(39)	(56)	(71)
Non-interest expense	(504)	(742)	(975)	(1,038)	(1,170)
Non-operating income or (loss)	2	(10)	29	(12)	6
Pre-tax net income	763	753	614	467	524
Provision for taxes	(275)	(302)	(261)	(132)	(153)
Net income before minority interest	488	451	353	334	371
Minority interest	(2)	4	26	24	15
Net income before loss on net monetary position	486	455	378	358	386
Monetary loss	(170)	(236)	(147)	(155)	(100)
Net income	315	218	231	203	286
Balance Sheet (as at December 31)					
Cash	77	93	87	89	109
Banks	1,501	1,623	1,977	2,038	1,938
Marketable securities	3,295	5,341	5,003	4,296	4,340
Reserve deposits at Central Bank	310	399	447	420	369
Loan portfolio	4,086	4,086	5,871	6,064	6,951
Past due loans	41	84	132	187	217
Provisions for past due loans	74	87	163	219	261
Accrued interest	909	955	793	975	695
Fixed assets	813	1,096	1,367	1,446	1,707
Property equipment	613	822	1,062	1,026	1,173
Financial assets	109	112	156	182	287
Other assets	92	162	149	238	247
Total assets	10,958	13,591	15,515	15,295	16,065
Deposits	5,418	6,339	7,359	9,171	9,123
Funds borrowed	2,751	3,385	4,656	3,219	3,645
Payables under repurchase agreement	1,050	1,555	939	606	652
Accrued interest	354	488	507	536	739
Other payables	40	83	168	182	222
Provisions	195	393	132	102	125
Other liabilities	7	37	122	51	65
Stockholders' equity	1,141	1,311	1,632	1,428	1,494
Capital stock	711	1,125	1,202	1,050	1,064
Retained earnings	430	187	430	378	430
Total liabilities + equity	10,958	13,591	15,515	15,295	16,065

Source: Company data, J.P. Morgan estimates.

YAPI KREDI BANK

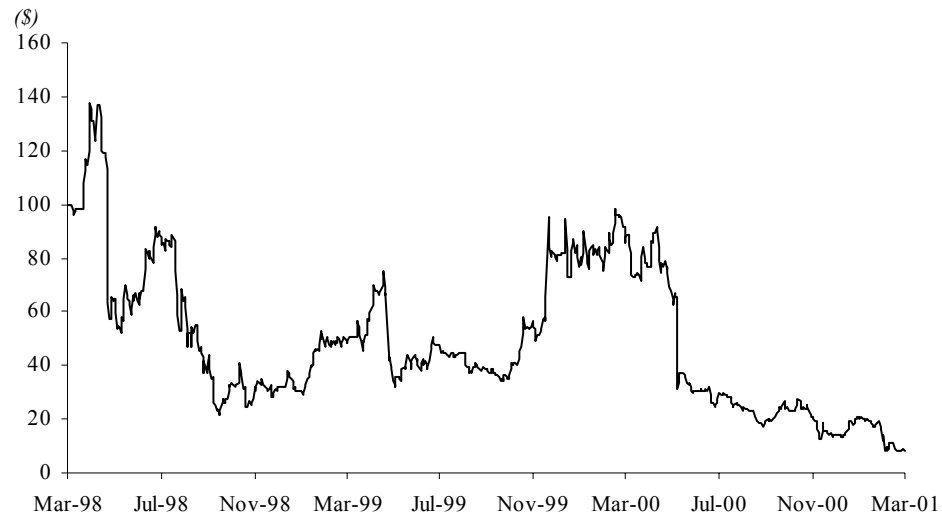
BUY
\$2.92

Deserves a Higher Rating

Yapi Kredi Bank (YKB) was established in 1944 as a private commercial bank. In 1980, it was acquired by the Cukurova Group, one of the largest conglomerates in Turkey with interests in the telecommunications, finance, steel, textile and tourism sectors. The bank has successfully established itself as Turkey's leading consumer bank by introducing several new products, such as ATMs and credit cards.

In our opinion, the crisis has opened up a good opportunity for YKB to acquire a strong retail franchise in Turkey at historically low valuations. The shares are trading at substantially below their fair value, offering a deep discount relative to Akbank and Isbank. Although this can be partly explained by its relatively lower profitability and weaker presence in the lira market, the discount is unjustifiably large, in our view. Any strategic initiatives to release more shareholder value by aggressively disposing of industrial assets and streamlining the group's financial activities could set the stage for a powerful shift in sentiment towards the stock. We believe it offers an excellent risk/reward profile with limited downside potential from current levels. We rate the stock a BUY with a target price of \$5.56 per GDR.

Chart 26: YKB Stock Performance — GDR



Source: Datastream.

GDR (Reuters: YKBNK.IS, Bloomberg: YKBNK TA)

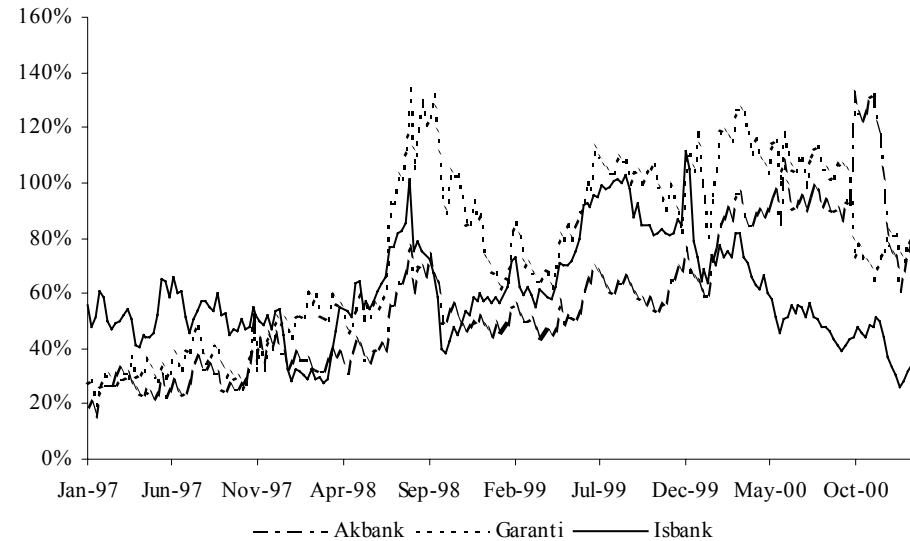
		YE Dec	EPS	P/E	P/NAV		
Price (26/03/2001)	\$2.92	1999	0.35	8.3	0.7	Market Cap.	\$1.5bn
52-Week Range	\$17.25-2.83	2000E	0.63	4.6	0.6	Shares Out.	552bn
		2001E	0.39	7.4	0.6	NAV 2001E	\$2.7bn

INVESTMENT THESIS

Valuations at Historical Low

In our view, the shares are massively undervalued based on our component valuation and historical comparisons. We estimate the fair value of the bank at \$6.48 per GDR based on our sum-of-the-parts valuation model. Furthermore, the shares are trading at less than 1.0 times our estimated post-crisis book value, a huge discount to its peers. The stock offers a compelling risk and reward trade-off with limited downside risk from current levels.

Chart 27: Relative Price/Book Ratio of Yapi Kredi Bank



Source: Datastream, J.P. Morgan estimates.

Sound Business Mix

The bank enjoys a balanced business mix, with core banking revenues representing 66% of its total revenues in 2000, the highest among the four major Turkish banks. It also has a decent deposit franchise with a good showing in both the lira and foreign exchange segments, but it lacks the dominance of Isbank, particularly in the lira market. The bank, however, has a dominant franchise in the credit card segment, which compensates for its relative weakness on the funding side. We see YKB as one of the main beneficiaries of the expected consolidation of the banking industry largely based on the strength of its retail franchise.

Table 57: Margin Analysis

(\$ million, as at December 31, 2000)

	Currency	Amount	As a % of Total	Interest Rate	Interest Exp/Rev
Funding					
Deposits					
FC customers	\$	4,134	47%	6.2%	257
TL customers	TL	1,440	16%	23.5%	338
Borrowings					
Money market	TL	161	2%	46.4%	75
Money market	TL/FC	1,038	12%	13.3%	138
Repo	TL	602	7%	Market	0
Syndication	\$	912	10%	11.5%	105
		8,793			912
Unallocated					53
Total interest expense					965
Assets					
Due From Banks					
Foreign	FC	1,259	17%	7.4%	93
Domestic	TL	318	4%	20.4%	65
Loans					
FC	FC	2,037	27%	12.5%	255
TL	TL	1,881	25%	46.9%	881
Securities					
Government securities	TL	1,415	20%	25.3%	358
Other securities	NA	704	10%	2.5%	18
		7,614			1,669
Unallocated					56
Total interest income					1,725

Source: Company data, J.P. Morgan estimates.

Risks

Conglomerate Structure

YKB is not a pure banking play as 50% of its equity value comes from industrial holdings. As such, it offers less direct exposure to the banking business. A further complication is that the performance of the stock will, to an extent, be driven by the management's ability to erase the conglomerate discount embedded in its shares. This requires a stronger strategic response than is currently visible.

Table 58: Conglomerate Valuation

(\$ million)

Company	Business Line	Ownership	Valuation Method	Company Value	Share Value
Turkcell	Telecoms	1.5%	Trading	4,295	65
Yapi Kredi Sigorta	Insurance	53.1%	Trading	76	41
Fintur	New media	19.4%	Cost	400	78
Yapi-Koray	REIT	26.0%	Trading	21	6
YK Leasing	Leasing	65.4%	Trading	93	61
Cukurova Celik	Steel	19.9%	Cost	257	51
Turkcell Holding	Telecoms	20.0%	Trading	2,147	430
Publicly traded total					172
All (including unlisted)					731
Others at book value					318
Conglomerate value					1,221

Source: J.P. Morgan estimates.

Note: Priced as at March 25, 2001.

Dual Banking Business Is a Distraction

In our view, YKB faces some strategic challenges at the group level, which could negatively affect its stock performance. Cukurova Group, the bank's majority shareholder, also has a controlling stake in Pamukbank, the fifth-largest private bank in Turkey. Conceptually, this creates a problem for YKB's minority shareholders whose interests are not clearly in line with those of the Cukurova Group. For example, how does Pamukbank balance its sometimes competing interests as a shareholder in YKB and a principal competitor? In other words, investors can never be certain which bank the group will focus on more aggressively in terms of management resources and future strategic initiatives. In our view, a single banking entity would be good for minority shareholders, as it would more closely align their interests with those of the majority shareholders.

Earning Outlook

We forecast earnings of \$286 million in 2001 for YKB, down 30% year on year. Our model does not, however, incorporate any gains from asset sales to smooth the bottom line. At the operating level, we are projecting a modest 6% increase in core earnings, largely a function of higher real interest rates, some improvement in funding costs due to flight to quality and higher interest-earning asset levels stemming from disposals in 2000.

Table 59: Yapi Kredi Bank: Income Statement and Balance Sheet

(\$ million, year-end December 31)

	1997	1998	1999	2000	2001E	2002E
Income Statement						
Interest income	1,083	1,905	2,220	1,725	2,067	1,701
Lending operations	871	1,388	1,409	1,165	1,388	1,304
Due from banks	89	127	166	166	249	304
Securities portfolio	100	352	622	375	412	73
Others	23	38	23	19	18	19
Interest expenses	(643)	(1,179)	(1,533)	(969)	(1,210)	(982)
Deposits	(586)	(1,063)	(1,325)	(733)	(995)	(794)
Borrowings	(55)	(113)	(207)	(236)	(214)	(188)
Others	(2)	(4)	0	0	0	0
Net interest income	440	726	688	757	857	719
Net foreign exc. gain or (loss)	(189)	(211)	(135)	(110)	(252)	(53)
Adjusted net interest income	250	515	552	647	605	666
Provision for possible loan losses	(11)	(57)	(64)	(120)	(80)	(91)
Net interest income after provisions	240	458	488	526	525	575
Net fee & commission income	118	211	226	211	228	306
Net capital market gains	69	99	195	58	94	109
Others	19	51	26	17	16	17
Non-interest income	206	362	446	286	338	432
Personnel	(131)	(219)	(230)	(224)	(218)	(249)
Admin & other	(106)	(196)	(203)	(272)	(286)	(336)
Other tax expenses	(24)	(37)	(11)	(18)	(17)	(18)
Non-interest expenses	(261)	(452)	(444)	(514)	(521)	(603)
Non-operating income or (loss)	164	35	204	266	39	36
Pre-tax net income	349	402	694	564	381	440
Provision for taxes	(49)	(76)	(190)	(154)	(95)	(124)
Net income	300	326	503	411	286	315
Core earnings	446	819	934	813	863	1,007
Balance Sheet (as at December 31)						
Cash	132	141	110	117	101	111
Banks	593	733	1,659	1,792	2,202	2,071
Reverse repo receivables	73	13	201	51	78	108
Marketable securities	1,443	1,926	2,059	2,387	2,271	3,134
Reserve deposits at Central Bank	238	260	427	473	436	501
Loan portfolio	3,122	3,863	3,592	4,383	4,290	5,462
Past due loans	47	119	167	187	210	251
Provisions for past due loans	15	27	50	86	115	138
Accrued interest	628	884	763	474	360	395
Other receivables	39	36	12	7	2	2
Fixed assets	580	872	901	2,086	1,622	1,672
Property equipment	309	424	403	529	483	534
Financial assets	159	239	322	1,435	1,079	1,073
Other assets	112	210	177	122	59	65
Total assets	6,881	8,819	9,840	11,873	11,456	13,568
Deposits	4,387	5,473	6,463	6,868	7,302	8,919
Funds borrowed	497	741	935	1,242	1,186	1,431
Payables under repurchase agreement	845	1,089	788	695	482	545
Accrued interest	136	214	175	220	212	248
Other payables	102	106	71	143	162	177
Provisions	50	116	208	91	66	88
Other liabilities	80	51	67	137	161	66
Stockholders' equity	783	1,029	1,133	2,477	1,885	2,096
Capital stock	292	425	444	747	702	654
Retained earnings	326	308	440	434	486	721
Revaluation of fixed assets	165	296	249	1,296	697	721
Total liabilities + equity	6,881	8,819	9,840	11,873	11,456	13,568

Source: Company data, J.P. Morgan estimates.

Table 60: Ratio Analysis*(%, year-end December 31)*

	1997	1998	1999	2000	2001E	2002E
Interest Margin Analysis						
AEAs/total assets	63.4%	61.4%	66.2%	66.3%	0.0%	0.0%
Interest earned on AEAs	34.1%	38.4%	35.7%	24.4%	25.9%	16.2%
Interest paid on ABLs	23.6%	24.6%	23.5%	14.2%	17.9%	9.7%
Adjusted net interest margin	7.9%	10.4%	8.9%	9.2%	7.6%	6.3%
TL spread	4.7%	14.0%	28.3%	27.7%	27.2%	21.1%
\$ spread	9.7%	7.9%	5.6%	6.3%	4.7%	3.5%
Funding Structure						
Customer deposits/total borrowings	75.6%	70.4%	65.1%	66.5%	70.4%	70.4%
Demand deposits/total deposits	25.8%	23.2%	18.4%	20.5%	20.5%	20.5%
Market share in customer deposits	0.0%	8.5%	7.3%	6.7%	8.3%	0.0%
Profitability						
ROA	6.1%	4.1%	5.2%	3.9%	2.5%	2.2%
ROE	54.5%	35.2%	45.2%	22.5%	13.8%	13.9%
Asset Quality						
NPLs/gross loans	1.5%	3.0%	4.4%	4.1%	4.7%	4.4%
LLR/NPL	31.4%	46.5%	39.2%	65.8%	71.9%	70.2%
Related party loans/total loans	12.3%	7.8%	7.4%	22.9%	14.8%	10.8%
Liquidity/Capital Adequacy						
Loans/assets	45.4%	43.8%	36.5%	36.9%	37.4%	40.3%
Loans/deposits	71.2%	70.6%	55.6%	63.8%	58.7%	61.2%
Liquid assets/total borrowings	38.7%	38.1%	46.6%	44.5%	47.8%	46.1%
Equity/total assets	11.4%	11.7%	22.0%	20.9%	16.5%	15.4%
Equity/total assets + contingent liabilities	7.1%	6.9%	11.3%	11.0%	0.0%	16.1%
Free capital/total assets	4.6%	4.2%	6.2%	5.1%	3.7%	4.4%
Efficiency						
Operating expenses/ATA	5.3%	5.7%	18.5%	4.8%	4.6%	4.2%
Operating expenses per \$ deposits	0.078	0.091	0.071	0.079	0.075	0.065
Staff expenses per \$ deposits	0.039	0.044	0.010	0.035	0.031	0.027
Growth Analysis						
Total assets	14.5%	28.2%	11.6%	20.7%	-3.5%	18.4%
Loans	4.7%	23.7%	-7.0%	22.0%	-2.1%	27.3%
Deposits	3.5%	24.8%	18.1%	6.3%	6.3%	22.1%
Core earnings	-14.3%	83.7%	14.0%	-13.0%	6.2%	16.7%
Net income	31.1%	8.5%	54.6%	-18.4%	-30.4%	10.2%
Fee income	9.2%	78.5%	6.7%	-6%	7.8%	34.3%
Operating expenses	11.6%	27.9%	-1.8%	15.8%	1.3%	15.8%

Source: Company data, J.P. Morgan estimates.

Table 61: Yapi Kredi Bank: Summary IAS Income Statement and Balance Sheet

(\$ million, year-end December 31)

	1998	1999	2000E	2001E	2002E
Net interest income	871	1,006	703	730	613
FX losses	(247)	(315)	(102)	(215)	(45)
Adjusted NII	623	691	600	515	567
Provision for loan losses	(73)	(78)	(112)	(68)	(78)
NII after provisions	550	613	489	447	490
Income from banking services	216	233	260	255	342
Trading income	127	226	54	80	93
Other	5	16	15	13	14
Total banking income	897	1,088	819	796	939
Operating expenses	(583)	(635)	(542)	(505)	(595)
Net banking income	314	453	277	291	344
Income from equity participations	56	104	36	33	30
Extraordinary gain or (loss)	39	21	210	0	0
Profit before tax	409	578	524	325	374
Taxation	111	226	143	81	106
Net income	299	352	381	243	268
Monetary gain or (loss)	(112)	(126)	(64)	(47)	(37)
Net income after monetary loss	187	226	317	197	232
Banking returns	92	101	70	163	201
Balance Sheet (as at December 31)					
Total assets	9,409	10,533	11,873	11,731	13,568
Liquid assets	773	1,572	1,910	2,358	2,181
Securities	1,812	2,243	2,387	2,326	3,134
Loans	3,689	3,553	4,383	4,393	5,462
Equity participations	242	272	1,325	1,400	1,500
Premises and equipment	1,489	1,614	1,307	1,250	1,400
Deposits	5,161	6,050	6,868	7,477	8,919
Repos	1,009	772	695	494	545
Borrowings	701	935	1,242	1,214	1,431
Shareholders' equity	1,928	2,159	2,476	2,622	2,804

Source: Company data, J.P. Morgan estimates.

Table 62: Recommendations and Prices of Companies Mentioned in this Report

Stock	Recommendation	Price
Banco Bradesco	BUY	R\$9.3
Banco Itau	BUY	R\$162.0
OTE	Long-Term Buy	GDr 14.82
Sparbanken Foresta	Long-Term Buy	Skr 117.5
TPSA	BUY	ZL 22.80
Unibanco	BUY	\$21.75

Source: Datastream and J.P. Morgan estimates.

Note: Prices as at March 26, 2001.

J.P. Morgan Securities or Chase Securities has acted as lead or co-manager in an offering of securities for Banco Bradesco, Banco Itau, HSBC, Nordbanken, OTE, TPSA, Sparbanken Foresta and Unibanco within the past three years.

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