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Research article

The effects of different modes of foreign bank entry in the Turkish banking sector during the 2007–2009 Global financial crisis

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Supplementary

Appendix

Appendix 1. Strategic groups of banks operating in Turkish banking sector between 2005–2010 based on bank assets using Ward's clustering technique.

Group 1											
2005		2006		2007		2008		2009		2010	
Turkish Bank AS	D	Adabank AS	D	Adabank AS	D	Adabank AS	D	Turkish Bank AS	A	Adabank AS	D
Adabank AS	D	Birlesik Fon Bankasi AS	D	Birlesik Fon Bankasi AS	D	Birlesik Fon Bankasi AS	D	Adabank AS	D	Birlesik Fon Bankasi AS	D
Birlesik Fon Bankasi AS	D	Deutsche Bank AS	FB	JPMorgan Chase Bank N.A.	FB	JPMorgan Chase Bank N.A.	FB	Birlesik Fon Bankasi AS	D	Deutsche Bank AS	FB
Habib Bank Limited	FB	Habib Bank Limited	FB	Societe Generale sa	FB	Societe Generale sa	FB	Deutsche Bank AS	FF	3 JPMorgan Chase Bank N.A.	FB
JPMorgan Chase Bank N.A.	FB	JPMorgan Chase Bank N.A.	FB	Unicredit Banca di Roma SPA	FB	WestLB AG	FB	Habib Bank Limited	FF	B WestLB AG	FB
Societe Generale sa	FB	Societe Generale sa	FB	WestLB AG	FB			JPMorgan Chase Bank N.A.	FF	3	
The Royal Bank of Scotland NV	V FB	WestLB AG	FB					The Royal Bank of Scotland NV	FF	3	
WestLB AG	FB							WestLB AG	F	3	
Characteristics: high in liquid asset		Characteristics: high in liquid asset	t	Characteristics: high in liquid asset,		Characteristics: high in liquid asset, other receivables,		Characteristics: high in liquid asset,		Characteristics: high in liquid asset,	
: low in non-specialized lending import loans, consumer loans,	ξ,	: low in nonspecialized loans, discount loans. Export loans,		: low in non-specialised, import loans, loans given to financial		: low in non specialised lending, export loans, import loans,		: low in nonspecialised, export loans, precious metals, specialise	d	: low in non specialised, discount notes, import loans, loans given	
precious metals, specialized		import loans, loans given to financial sector, international		sector, international loans, consumer loans, credit cards,		international loans, credit cards,		lending, other receivables.		financial sector, international loans, credit cards, precious	
lending, other receivables,		loans, consumer loans, credit cards, precious metals, specialize lending, other	d	precious metals, specialised lending, other receivables, foreig loans.	n	precious metals, specialised lending, foreign loans.				metals, specialised lending, oth receivables, domestic loans, foreign	ıer
		receivables, foreign loans.								loans.	
Group 2		2005		2005		•		2000		2010	
2005		2006		2007		2008		2009		2010	
Akbank TAS	D	Turkish Bank AS		Eurobank Tekfen AS		Turkiye Cumhuriyeti Ziraat Bankasi AS		Akbank TAS		Turkiye Cumhuriyeti Ziraat Bankasi AS	D
Sekerbank TAS	D	Turkiye Cumhuriyeti Ziraat Bankasi AS	D	Turkish Bank AS	D	Turkiye Halk Bankasi AS	D	Denizbank AS	A	Turkiye Halk Bankasi AS	D
Turkiye Cumhuriyeti Ziraat Bankasi AS	D	Turkiye Halk Bankasi AS	D	Turkiye Cumhuriyeti Ziraat Bankasi AS	D			Eurobank Tekfen AS	A		
Turkiye Halk Bankasi AS	D	Turkiye Is Bankasi AS	D	Turkiye Halk Bankasi AS	D			Fibabanka AS	A		
Turkiye Bankasi AS	D	Arap Turk Bankasi AS	FB	Deutsche Bank AS	FB			Fortis Bank AS	A		
Turkiye Vakiflar Bankasi TAO	D	Citibank AS	FB	Habib Bank Limited	FB			ING Bank AS	A		
Arap Turk Bankasi AS	FB	The Royal Bank of Scotland NV	FB	The Royal Bank of Scotland NV	FB			sekerbank TAS	A		
Deutsche Bank AS	FB							Turk Ekonomi Bankasi AS	A		
								Turkiye Garanti Bankasi AS	A		
								Turkiye Cumhuriyeti Ziraat Bankasi AS	D		
								Turkiye Halk Bankasi AS	D		
								Turkiye Is Bankasi AS	D		

Characteristics: high in specialized lending : low in discount notes, import loans, international loans, precious metals, foreign loans.		Characteristics: high in specialized lending, other receivables : low in import loans, precious metals		Characteristics: high in specialized lending : low in import loans, precious metals,		Characteristics: high in specialized lending : low in liquid asset, discount notes, import loans, precious metals, other receivables	d	Turkiye Vakiflar Bankasi TAO Societe Generale sa Characteristics: high in precious metals, specialized lending : low in import loans, other receivables	D FB	Characteristics: high in specialis lending : low in import loans, precious metals, other receivables,	sed
Group 3		•••						•••		••••	
2005		2006		2007		2008		2009		2010	
Fibabanka AS	A	Denizbank AS	A	Akbank TAS	A	Finans Bank AS	A	Finans Bank AS	Α	Akbank TAS	A
Finans Bank AS	D	Fibabanka AS	A	Denizbank AS	A	1		Yapi ve Kredi Bankasi AS		Eurobank Tekfen AS	A
ING Bank AS	D	Finans Bank AS	A	Fibabanka AS	A			Citibank AS		Finans Bank AS	A
Turkiye Garanti Bankasi AS		Turkiye Garanti Bankasi AS	A	Finans Bank AS	A	HSBC Bank AS	FB	HSBC Bank AS	FВ	Turk Ekonomi Bankasi AS	A
Yapi ve Kredi Bankasi AS		Yapi ve Kredi Bankasi AS	A	Fortis Bank AS	A					Turkiye Garanti Bankasi AS	A
HSBC Bank AS	ГB	HSBC Bank AS	FB	ING Bank AS Sekerbank TAS	A A					Yapi ve Kredi Bankasi AS Turkiye Is Bankasi AS	A D
				Turkiye Garanti Bankasi AS	A					Citibank AS	FB
				Yapi ve Kredi Bankasi AS	A					HSBC Bank AS	FB
				Anadolubank AS	D					TISDC Daile AS	1 D
				Turkiye Bankasi AS	D						
				Turkiye Vakiflar Bankasi TAO	D						
				Citibank AS	FB	1					
				HSBC Bank AS	FB						
Characteristics: high in non- specialized loans, consumer loans, credit cards and domest loans	ic	Characteristics: high in consume loans, credit cards, precious meta		Characteristics: high in consume loans, credit card, and other receivables	r	Characteristics: high in non- specialized loans, import loans, consumer loans, credit cards, precious metals, domestic loans		Characteristics: high in consumer loans, credit cards, precious metals.	•	Characteristics: high in credit cards, precious metals	
: low in liquid asset, specialized lending,	l	: low in		: low in		: low in specialised lending, other receivables		: low in import loans, specialised lending, other receivables.		: low in import loans, specialised lending, other receivables	d
Group 4											
2005		2006		2007		2008		2009		2010	
Denizbank AS	D	Akbank TAS	D	Turk Ekonomi Bankasi AS	A	Akbank TAS	A	Turkland Bank AS	A	Denizbank AS	A
Eurobank Tekfen AS	D	Eurobank Tekfen AS	D	Turkland Bank AS	A	Denizbank AS	A	Alternatif Bank AS	D	Fibabanka AS	D
Fortis Bank AS	A	Fortis Bank AS	A	Alternatif Bank AS	D	Fibabanka AS	A	Anadolubank AS	D	Fortis Bank AS	A
Kocbank AS		ING Bank AS	D		D	Fortis Bank AS	A	Tekstil Bankasi AS	D	ING Bank AS	A
Turk Ekonomi Bankasi AS	Α	Sekerbank TAS	D			ING Bank AS	Α			Sekerbank TAS	A
Turkland Bank AS Alternatif Bank AS	D D	Turk Ekonomi Bankasi AS Turkland Bank AS	A D			Sekerbank TAS Turk Ekonomi Bankasi AS	A A			Turkland Bank AS Alternatif Bank AS	A D

Analoshbark AS D. Amaloshbark AS D. Turkiye Vakilfar Bankasi AS A. Analoshbark AS D. Turkiye Vakilfar Bankasi AS D. Turkiye Vakilfar Bankasi AS D. Turkiye Vakilfar Bankasi TAO D. T												
Participal Rancad (Romas PAR	Anadolubank AS	D	Alternatif Bank AS	D			Turkiye Garanti Bankasi AS	A			Anadolubank AS	D
Turkiye Vakiflar Bankasi TAO Particle State Particl	Tekstil Bankasi AS	D	Anadolubank AS	D			Turkland Bank AS	A			Tekstil Bankasi AS	D
Characteristics: high in loans given to financial sector, ordicards, whether loans, shore in loans, specialized lending, other receivables. Characteristics: high in loans given to financial sector, ordicards, international loans, and high in foreign loans and foreign loans. Characteristics: high in discount notes, specialized lending, other receivables. Characteristics: high in discount notes, specialized lending, other receivables. Characteristics: high in discount notes, specialized lending, other receivables. Characteristics: high in discount notes, specialized lending, other receivables. Characteristics: high in discount notes, specialized lending, other receivables. Characteristics: high in discount notes, specialized lending, other receivables. Characteristics: high in discount notes, specialized lending, other receivables. Characteristics: high in discount notes, specialized lending, other receivables. Characteristics: high in discount notes, specialized lending, other receivables. Characteristics: high in discount notes, specialized lending, other receivables. Characteristics: high in discount notes, specialized lending, other receivables. Characteristics: high in discount notes, specialized lending, other receivables. Characteristics: high in discount notes, specialized lending, other receivables. Characteristics: high in discount notes, specialized lending, other receivables. Characteristics: high in discount notes, specialized lending, other receivables. Characteristics: high in discount notes, specialized lending, other receivables. Characteristics: high in discount notes, specialized lending, other receivables. Characteristics: high in discount notes, specialized lending, other receivables. Characteristics: high in discount notes, specialized lending, other receivables. Characteristics: high in discount notes, specialized lending, other receivables. Characteristics	Unicredit Banca di Roma SPA	FE	Tekstil Bankasi AS	D			Alternatif Bank AS	D			Turkiye Vakiflar Bankasi TAO) D
Characteristics: high in loans given to financial sector, precious metals, other loans. Characteristics: high in other ceevables Characteristics: high in in other precious metals, other loans, precious metals, other loans, precious metals, other loans, comestic loans of mencic loans in loans precious metals, other loans, comestic loans of mencic loans in loans precious metals, other loans, comestic loans of mencic loans in loans precious metals, other loans, comestic loans of loans, precious metals, other loans, domestic loans of loans, precious metals, operations metals, specialised leans, consumer loans, precious metals, other loans, domestic loans of loans, loans given to financial loans, loans given loans, international loans, and lingh in import loans, international loans, and lingh in loans loans given to financial loans given to financial loans, and lingh in loans loans given to financial loans, and lingh in more subjects in loans, loans given to financial loans, loans			Turkiye Vakiflar Bankasi TAO	D			Anadolubank AS	D			Societe Generale sa	FB
Characteristics: high in lones given to financial sector, precious metals, other loans. precious metals, other loans. precious metals, other loans and domestic foans precious metals, other loans, other lo							Tekstil Bankasi AS	D				
Characteristics: high in loams given to financial sector, precious metals, other loans, precious metals, other loans, and domestic loans precious metals, other loans, and domestic loans export loans, precious metals, other loans, short loans, precious metals, other loans, oth							Turkiye Bankasi AS	D				
precious metals, other loans, comestic clars Jow in other receivables Jow in Gamacial scetce, credit cards, precious metals, other loans, specialized lending, other receivables, or loans, specialized lending, other receivables, of loans, spe							Turkiye Vakiflar Bankasi TAO	D				
domestic loans clow in other receivables low in	given to financial sector,		Characteristics: high in other loans	:	specialized loans, export loans,			s	nonspecialized, export loans,		specialised loans, consumer loa	ans,
Solve in liquid asset, import loans, perceius redeivables Solve in liquid asset, import loans, perceius redeivables, specialized lending, other receivables, specialized lending, other receivables, other receivables receivables Solve in liquid asset, import loans, perceius redeivables, specialized lending, other receivables, other receivables Solve in liquid asset, import loans, perceivables, other receivables, other receivables, other receivables, other receivables Solve in loans, specialized lending, other receivables, other loans, specialized lending, other receivables, other loans, specialized lending, other receivables, other loans, specialized lending, other receivables, other loans, specialized lending, other lending, other loans, specialized lending, ot	precious metals, other loans.								other loans, domestic loans		other loans, domestic loans	
2005 2006 2007 2008 2009 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010	: low in other receivables		: low in		: low in liquid asset, import loans, specialized lending, other	r	: low in		loans, precious metals, specialised lending, other receivables, foreign	d		nns,
Bank Mellat FB Characteristics: high in international loans, foreign loans. I low in discount notes, loans given to financial sector, credit cards, precious metals, other loans, specialised elending, other loans, specialised lending, other loans, specialised lending, other loans, specialised lending, other receivables, domestic loans. FB Copy Bank AS D Unicredit Banca di Roma SPA FB Arap Turk Bankasi AS FB Turkish Bank AS FB Turkish Bank AS Arap Turk Bankasi AS FB Turkish Bank AS Arap Turk Bankasi AS FB Turkish Bank AS FB Turkish Bank AS Arap Turk Bankasi AS FB Turkish Bank AS FB Turkish Bank AS FB Turkish Bank AS Arap Turk Bankasi AS FB Turkish Bank AS FB	Group 5											
Characteristics: high in discount notes, import loans, international loans, and high in foreign loans : low in export loans, loans given to financial sector, credit cards, precious metals, other loans, specialized lending, other receivables, domestic loans. Croup 6 2006 2006 2007 2008 2009 2010 Characteristics: high in injosount notes, import loans, specialised lending, other receivables, domestic loans. Trurk Bankasi AS A Turk Ekronomi Bankasi AS A Characteristics: high in import loans, loans given to financial sector, credit cards, precious metals, other loans, specialised lending, other receivables, domestic loans. Characteristics: high in import loans, foreign loans : low in discount notes, import loans, joans given to financial sector, credit cards, precious metals, other loans, specialised lending, other receivables, domestic loans. **Core or a conting to the receivables, domestic loans. **Turk Bankasi AS A Turk Ekronomi Bankasi AS A Cocbank AS A Turk Ekronomi Bankasi AS A Turk Ekronomi Bankasi AS A Cocbank AS A Cochank AS B Cochank AS A Cochank AS B Cochank AS C Characteristics: high in international loans, foreign loans. International loans, foreign loans. International loans, foreign loans. It low in	2005		2006		2007		2008		2009		2010	
Ious in international loans, international loans, international loans, international loans, international loans, single in foreign loans Iow in export loans, loans given to financial sector, credit cards, precious metals, other loans, specialized lending, other receivables, domestic loans. Iow in discount notes, inport loans, loans given to financial sector, credit cards, precious metals, other loans, specialized lending, other receivables, domestic loans. Iow in discount notes, inport loans, international loans, foreign loans Iow in discount notes, inport loans, international loans, foreign loans Iow in discount notes, loans given to financial sector, credit cards, precious metals, other loans, specialized lending, other receivables, domestic loans. Iow in discount notes, inport loans, international loans, foreign loans Iow in discount notes, loans given to financial sector, credit cards, precious metals, other loans, specialised lending, other receivables, domestic loans. Iow in discount notes, loans given to financial sector, credit cards, precious metals, other loans, specialised lending, other receivables, domestic loans. Iow in discount notes, loans given to financial sector, credit cards, precious metals, other loans, specialised lending, other receivables, domestic loans. Iow in discount notes, loans given to financial sector, credit cards, precious metals, other loans, specialised lending, other receivables, domestic loans. Iow in discount notes, loans given to financial sector, credit cards, precious metals, other loans, specialised lending, other receivables, domestic loans. Iow in discount notes, loans given to financial sector, credit cards, precious metals, other loans, specialised lending, other receivables, domestic loans. Iow in discount notes, loans given to financial sector, credit cards, precious metals, other loans, specialised lending, other receivables, domestic loans. Iow in discount notes, loans given to financial sector, credit cards, precious metals, othe	Bank Mellat	FE	B Bank Mellat	FB	Bank Mellat	FB	Bank Mellat	FB	Bank Mellat	FB	Bank Mellat	FB
Sow in export loans, loans given to financial sector, credit cards, precious metals, other loans, specialized lending, domestic loans. Sow in discount notes, export loans, loans given to financial sector, credit cards, precious metals, other loans, specialized lending, other receivables, domestic loans. Some sector, credit cards, precious metals, other loans, specialized lending, other receivables, domestic loans. Some sector, credit cards, precious metals, other loans, specialized lending, other receivables, domestic loans. Some sector, credit cards, precious metals, other loans, specialized lending, other receivables, domestic loans. Some sector, credit cards, precious metals, other loans, specialized lending, other receivables, domestic loans Some sector, credit cards, precious metals, other loans, specialized lending, other receivables, domestic loans Some sector, credit cards, precious metals, other loans, specialized lending, other receivables, domestic loans Some sector, credit cards, precious metals, other loans, specialized lending, other receivables, domestic loans Some sector, credit cards, precious metals, other loans, specialized lending, other receivables, domestic loans Some sector, credit cards, precious metals, other loans, specialized lending, other receivables, domestic loans Some sector, credit cards, precious metals, other loans, specialized lending, other receivables, domestic loans Some sector, credit cards, precious metals, other loans, specialized lending, other receivables, domestic loans Some sector, credit cards, precious metals, other loans, specialized lending, other receivables, domestic loans Some sector, credit cards, precious metals, other loans, specialized lending, other receivables, domestic loans Some sector, credit cards, precious metals, other loans, specialized lending, other receivables, domestic loans Some sector, credit cards, precious metals, other loans, specialized lending, other receivables, domestic loans Some sector, credit ca	notes, import loans, internationa		notes, high in import loans, international loans, and high in		loans, international loans, high in	ı					notes, loans given to financial	nt
200520062007200820092010Denizbank ASDUnicredit Banca di Roma SPAFBArap Turk Bankasi ASFBEurobank Tekfen ASAArap Turk Bankasi ASFBEurobank Tekfen ASDTurkish Bank ASAArap Turk Bankasi ASAArap Turk Bankasi ASFBFortis Bank ASAFBHabib Bank LimitedFBKocbank ASADeutsche Bank ASFBThe Royal Bank of ScotlandFBTurkland Bank ASDThe Royal Bank of Scotland NVFBAlternatif Bank ASDThe Royal Bank of Scotland NVFBAnadolubank ASDThe Royal Bank asi ASThe Royal Bank asi ASTekstil Bankasi ASD	to financial sector, credit cards, precious metals, other loans, specialized lending, domestic		: low in loans given to financial sector, credit cards, precious metals, other loans, specialized lending, other receivables,		loans, loans given to financial sector, credit cards, precious metals, other loans, specialised lending, other receivables,		loans, loans given to financial sector, credit cards, precious metals, other loans, specialised lending, other receivables,		given to financial sector, credit cards, precious metals, other loans, specialised lending, other		loans, consumer loans, credit cards, precious metals, other loans, specialised lending, oth	ner
Denizbank AS D Unicredit Banca di Roma SPA FB Arap Turk Bankasi AS FB Eurobank Tekfen AS A Arap Turk Bankasi AS FB Turkish Bank AS A FB Eurobank Tekfen AS A FB Turkish Bank AS A FB FOrtis Bank AS A FB FB FORTIS Bank AS A FB FB FORTIS Bank AS A FB FB FORTIS Bank AS	Group 6											
Eurobank Tekfen AS D Fortis Bank AS A Fortis Bank AS FB Kocbank AS FB Kocbank AS FB Turk Ekonomi Bankasi AS A Turk Bankasi AS FB Turk Ekonomi Bankasi AS A Turkland Bank AS D Turkland Bank AS D Alternatif Bank AS D Alternatif Bank AS D Anadolubank AS D Tekstil Bankasi AS D	2005		2006		2007		2008		2009		2010	
Fortis Bank AS A Arap Turk Bankasi AS FB Habib Bank Limited FB Kocbank AS FB Deutsche Bank AS FB Turk Ekonomi Bankasi AS A Habib Bank Limited FB Turkland Bank AS D The Royal Bank of Scotland NV FB Alternatif Bank AS D Anadolubank AS D The Royal Bank of Scotland NV FB Tekstil Bankasi AS D The Royal Bank of Scotland NV FB Tekstil Bankasi AS D The Royal Bank of Scotland NV FB Tekstil Bankasi AS D The Royal Bank of Scotland NV FB Tekstil Bankasi AS D The Royal Bank of Scotland NV FB Tekstil Bankasi AS D Tekstil Bankasi AS D	Denizbank AS	D	Unicredit Banca di Roma SPA	FB	Arap Turk Bankasi AS	FB	Eurobank Tekfen AS	A	Arap Turk Bankasi AS	FB	Turkish Bank AS	A
Kocbank AS A Turk Ekonomi Bankasi AS A Turkland Bank AS D Turkland Bank AS D Alternatif Bank AS D Anadolubank AS D Tekstil Bankasi AS D Tekstil Bankasi AS D	Eurobank Tekfen AS	D					Turkish Bank AS	A			Arap Turk Bankasi AS	FB
Turk Ekonomi Bankasi AS A Turkland Bank AS D Alternatif Bank AS D Anadolubank AS D Tekstil Bankasi AS D	Fortis Bank AS	A					Arap Turk Bankasi AS	FB		ŀ	Habib Bank Limited	FB
Turkland Bank AS Alternatif Bank AS Anadolubank AS D Anadolubank AS D Tekstil Bankasi AS D	Kocbank AS	Α					Deutsche Bank AS	FB		Т	The Royal Bank of Scotland	FB
Alternatif Bank AS D Anadolubank AS D Tekstil Bankasi AS D	Turk Ekonomi Bankasi AS	Α					Habib Bank Limited	FB				
Anadolubank AS D Tekstil Bankasi AS D	Turkland Bank AS	D					The Royal Bank of Scotland NV	FB				
Tekstil Bankasi AS D	Alternatif Bank AS	D					•					
Tekstil Bankasi AS D	Anadolubank AS	D										
Unicredit Banca di Roma SPA FB												
	Unicredit Banca di Roma SPA	FE	}									

Quantitative Finance and Economics

Characteristics: high in loans given to financial sector, precious metals, other loans.	Characteristics: high in non- specialized loans, high in export loans, high in loan given to financial sector, high in domest	s notes, high in loans given to	Characteristics: high in discount notes, loans given to financial sector,	Characteristics: high in discount notes, loans given to financial sector,	Characteristics: high in export loans, high in international loans
: low in other receivables	loans : low in liquid asset, import loans, international loans, credit cards, precious metals, specialized lending, other receivables.	: low in import loans, credit cards, precious metals, specialised lending other receivables,		: low in consumer loans, credit cards, precious metals, specialised lending, other receivables.	: low in import loans, precious metals, other loans, specialised lending, other receivables.

Note: Each strategic group has its own specific characteristics in terms of bank assets. A, D, and FB symbols represent foreign-acquired banks, domestic banks and foreign bank branches respectively.

Appendix 2. Strategic groups of banks operating in Turkish banking sector between 2005–2010 based on bank sources of funds using Ward's clustering technique.

Group 1											
2005		2006		2007		2008		2009		2010	
Akbank TAS	D	Akbank TAS	D	Akbank TAS	A	Akbank TAS	A	Akbank TAS	A	Akbank TAS	A
										Eurobank Tekfen AS	
Denizbank AS	D	Denizbank AS	A	Denizbank AS	A	Denizbank AS	A	Denizbank AS	A		A
Eurobank Tekfen	n D	Eurobank Tekfen	D	Eurobank Tekfen	٨	Eurobank Tekfen	٨	Eurobank Tekfen	4	Fibabanka AS	D
AS Fibabanka AS	A	AS Fibabanka AS	A	AS Finans Bank AS	A A	AS Finans Bank AS	A	AS Fibabanka AS	A A	Finans Bank AS	
							A				A
Finans Bank AS	D	Finans Bank AS	A	Fortis Bank AS	A	Fortis Bank AS	A	Finans Bank AS	A	ING Bank AS	A
Fortis Bank AS	A	Fortis Bank AS	A	ING Bank AS	A	ING Bank AS	A	Fortis Bank AS	A	Turkland Bank AS	A
FOILIS DAIIK AS	A	FOILIS DAIIK AS	A	Turkish Bank	A	ING Dalik AS	A	FOIUS Dank AS	A	AS Alternatif Bank	A
ING Bank AS	D	ING Bank AS	D	AS	D	sekerbank TAS	A	ING Bank AS	A	AS	D
n (O Danie 110	2	Turkish Bank AS		715	2	Turkish Bank AS	••	II (O Dunia 110		710	2
sekerbank TAS	D		D	Turkland Bank	A		A	Sekerbank TAS	A	Anadolubank AS	D
Turk Ekonomi		Turkiye Garanti				Turkland Bank		Turkland Bank		Tekstil Bankasi	
Bankasi AS	A	Bankasi AS	A	Anadolubank AS	D	AS	A	AS	A	AS	D
Turkiye Garanti	A	Turkland Bank	D	Tekstil Bankasi	D	Alternatif Bank	D	Alternatif Bank	D	Citibank AS	FB
Bankasi AS Turkland Bank A		Alternatif Bank	D	AS	D	AS	D	AS	D	The Royal Bank of	ГD
Turkianu Dank A	D 22	AS	D			Anadolubank AS	D	Anadolubank AS	D	Scotland NV	FB
Yapi ve Kredi		115				Tekstil Bankasi A		Tekstil Bankasi		Scottana IVV	
Bankasi AS	A	Anadolubank AS	D				D	AS	D		
		Tekstil Bankasi				Turkiye Is					
Adabank AS	D	AS	D			Banksi	D	Citibank AS	FB		
Alternatif Bank	ъ	Hanan I Ia	ED					Hanan 1 40	ED		
AS	D	HSBC Bank AS	FB					HSBC Bank AS The Royal Bank	FB		
Anadolubank AS	D							Scotland NV	FB		
Tekstil Bankasi	В							Scottana 117	12		
AS	D										
Citibank AS	FB										
HSBC Bank AS	FB										
Characteristics: n	nid high in foreign					Characteristics: mi	d high funds				
currency resident						borrowed from do					
	irrency abroad, mi	d Characteristics: hi	ioh in funds	Characteristics: mi	d high in funds	high funds borrow					
high in funds born		borrowed in dome	0	borrowed from dor		banks, low high pu				Characteristics: high i	n foreign currency
	nid high in preciou	S high in foreign cur				low high saving de		Characteristics: hi	gh in foreign	residents in Turkey, fu	
metals deposits		Turkey, mid high	in precious metals	public sector depos	it	other institution de	posit	currency residents	in Turkey,	borrowed from domes	tic banks
Group 2											
2005		2006		2007		2008		2009		2010	

Turkiye Halk Bankasi AS D	Sekerbank TAS		D Sekerbank T	TAS A	Turk Ekonor	ni Bankasi AS	A	Turk Ekor	nomi Bankasi AS	A Denizba		A
	Turk Ekonomi Banl	kasi AS	A		Turkiye Gara	ınti Bankasi AS	A	Turkiye G	aranti Bankasi AS	Turk Ek A Bankasi Turkiye	AS	A
	Yapi ve Kredi Bank	asi AS	A		Turkiye Hall HSBC Bank		D FB	Turkiye H	alk Bankasi AS	D Bankasi		A
Characteristics: high in interbar deposits participation banks,	Č	_	n Characterist interbank deposits par	ics: high in interban ticipation banks, mi		-	-		stics: mid high in pu osits, mid high in co		eristics: l k deposit	_
saving deposits, mid high in public sector deposits, mid high other institutions deposits : low in interbank deposits fore:	deposits, mid high i	s, precious	s metals Turkey, mid	nrency residents in high saving deposit stitution deposits	ts, low deposits, mic	U 1	_	low high in	mid high in precious nterbank deposits, lo stitution deposits	w high commer	ntion ban cial depo s metals o	osits,
banks	: mid low in interba	nk deposi	ts domestic banks		: mid low oth	er institution de	eposits.					
Group 3 2005	2006	20	007		2008	200	9		2010			
Kocbank AS A	Adabank AS The Royal Bank of	D To	urk Ekonomi Bankasi A	AS A	Adabank AS Birlesik Fon	D Yap	oi ve Kredi Bankasi	AS A	Fortis Bank AS		A	
	Scotland NV		urkiye Garanti Bankasi api ve Kredi Bankasi A		Bankasi AS Deutsche Bank Societe Genera				Sekerbank TAS Yapi ve Kredi Ba	ınkasi AS	A A	
		A	dabank AS	D	SA The Royal Ban	FB			Turkiye Halk Bar	nkasi	D	
			lternatif Bank AS itibank AS	D FB	Scotland NV WestLB AG	FB FB			HSBC Bank AS		FB	
			SBC Bank AS e Royal Bank of Scotla	FB and NV FB								
Characteristics: high in foreign currency residents in Turkey, commercial deposits, precious metal deposits,	interbank domestic ba	anks, in hig	aracteristics: high in fo Turkey, high in precio th interbank participati mmercial deposits	us metal deposits, n	Characteristic in foreign curresidents in T low foreign curresidents abro	s: mid high me rency res urkey par urrency ad,	aracteristics: high in etals, mid high forei idents in Turkey, in rticipation banks	gn currency	paricipation ba sits deposits, mid l	: mid high interba nks, mid high pub high precious meta urrency residents	lic sector als depos	r
: mid low in foreign currency residents abroads	low in funds borrowed	l from dor	nestic banks		interbank dep participation l		w in interbank depos	its foreign b	oanks mid low interba	ank deposits foreig	gn banks	
Group 4 2005	2006		2007	2008		2009			2010			
Turkish Bank AS I	O Citibank AS JPMorgan Chase Ba		Fibabanka AS A	A Fibabanka AS	A	Adabank AS	}	D	Adaban	k AS	D	,
	N.A.	В		O Citibank AS	FB	Birlesik Fon	Bankasi AS	D	Birlesik	Fon Bankasi AS	D	1
				В		JPMorgan C	hase Bank N.A.	FB	JPMorg	an Chase Bank N.	A. F	В

Characteristics:high in funds borrowed from domestic banks	Characteristics: high in interbank deposits foreign banks	Habib Bank Limited FI JPMorgan Chase Bank N.A. FI Unicredit Banca di Roma SPA FI Characteristics: mid high precious metals	3 Characteristics residents in Tu	: high foreign currency rkey, high interbank n banks, mid high posits	Characteritics: high low in sa commercial deposits and oth			s: high in interbank deposits
: low in interbank desposits domestic banks, participation banks, public sector deposits and other institution deposits	low in interbank deposits domestic banks, low in foreign currency residents abroad	low in public sector deposits, mid low in funds borrowed from foreign banks	low interbank of	deposit domestic bank, deposist participation other instituition	low in foreign currency resid in interbank deposits from do borrowed from domestic ban public sector deposits	omestic banks, lo	w in funds funds borrowe	ed from foreign banks, funds from domestic banks, low in
Group 5	***	•••	_					****
2005	2006	200	7	2008			2009	2010
Birlesik Fon Bankasi AS D	Birlesik Fon Bankasi AS	S D We	stLB AG	FB JPMc	rgan Chase Bank N.A.	FB	Arap Turk Bankasi AS FB Deutsche Bank AS	Turkish Bank AS A Deutsche Bank AS
Deutsche Bank AS FB	Deutsche Bank AS	FB					FB	FB
JPMorgan Chase Bank N.A. FB The Royal Bank of Scotland	WestLB AG	FB					Societe Generale sa FB	
NV FB							WestLB AG FB	
WestLB AG FB Characteritics: high in interbank deposits in domestic banks, high interbank deposits in foreign bank: interbank deposits participation	s. domestic banks, low hig	interbank deposits dep h in precious metals dep	uracteristics: high osits domestic bar osits, low high fur n foreign banks	nks, commercial nds borrowed Chara banks	cteristics: high in interbank de	posits domestic	Characteristics: high in interbank deposits domestic banks, funds borrowed from foreign banks	Characteritics: high in interbank domestic banks, mid high of funds borrowed from foreign banks
banks, funds borrowed from domestic banks, funds borrowed from foreign banks, public sector deposits	funds borrowed from for other instituition deposit	reign banks, low in : lo ts, mid low foreign ban id, mid low commercial ban	w in interbank dep ks, funds borrowe ks, saving deposit osits, other institu	posits foreign foreig ed from domestic depos ts, public sector dome	n currency residents abroad, its participation banks, funds stic banks, funds borrowed fr , saving deposits	interbank borrowed from om foreign	low in public sector depo deposits, mid low in savi	sits, low in precious metals
Group 6								0
2005	2006	2007		2008	2009		2010	
Turkiye Cumhuriyeti Ziraat Bank	Turkiye Vakif asi AS D Bankasi TAO	•	•	Turkiye Cumhuriyet Ziraat Bankasi AS Turkiye Vakiflar	D Turkiye Cumhuriyet	i Ziraat Bankasi A	•	huriyeti Ziraat D
Turkiye Vakiflar Bankasi TAO	D	Turkiye Halk Turkiye Vaki	Bankasi AS D flar Bankasi	Bankasi TAO	D Turkiye Vakiflar Ba	nkasi TAO	D Turkiye Vaki	flar Bankasi TAO D

Characteritics: high in public sector deposite other institution deposits, mid high in central bank of Turkey, mid high saving deposits commercial deposits: low in interbank deposits participation banks Group 7	tral Characteristics: high in	TAO I Characteritics: high in saving deposit, high in public sector ardeposit, high in other instituti deposit i low in funds borrowed from t	characteristics: deposits, public deposits, other deposits.	sector sinstitution i	sector deposi institution de domestic ban mid low in i	cs: high in saving depots, commercial deposit posits, mid high interbaks nterbank deposits fore ous metals deposits.	ts, other ank deposit	deposits and has mid high in sa commercial de	nigh in institution aving deposits an	deposits, ad
_	006 2007			2008		2009			2010	
Turkiye Is Bankasi AS D B T B T	urkiye lumhuriyeti Ziraat ankasi AS D Turkiy urkiye Halk ankasi AS D urkiye Is Bankasi	e Is Bankasi AS I)	Yapi ve Kredi	Bankasi AS	A Turkiye Is B	ankasi AS	D	Turkiye Is Bankasi AS	D
Characteristics: high in interbank deposits in central bank of turkey, high in funds borrowed from foreign banks, cmid high participation banks : mid low infunds borrowed from domestic banks n	Characteristics: high in characteristics: high in of Turentral bank of Turkey, institut	teristics: high in interbank dep key, mid high public sector de ion deposit, low foreign currer key, low high commercial depo , mid high other institution dep	posits, mid high othe acy deposits resident osit	erdeposits in cen s high in comme precious metal	tral bank of rcial deposit s deposits	Turkey, deposits in c s, high in high funds b banks, mid b low funds bo	entral bank corrowed from high saving corrowed from	of Turkey, mid om domestic deposits m foreign banks,	Characteristics: interbank depor central bank of saving deposits, low in foreign c residents abroau	sits in turkey, turrency
Group 8 2005	2006	2007	2	2008		2009	20	010		
Habib Bank Limited FB	Habib Bank Limited FB Societe Generale sa	Societe Generale sa		Habib Bank imited	FB	Turkish Bank AS	A So	ociete Generale s	a FB	
Societe Generale sa FB Unicredit Banca di Roma SPA FB Characteristics: mid high in interbank de domestic banks, low high funds borrowed domestic banks and low high funds borrofrom domestic banks	FB Unicredit Banca di Roma SPA FB Characteristics: high in posits funds borrowed from from foreign banks, mid high	Characteristics: high in fund domestic banks, funds borro banks		Characteristic funds borrowe domestic bank	s: high in ed from	Habib Bank Limited Characteristics: high borrowed from dom	n funds	from foreign ba	FB : high in funds bo anks n currency reside	
: low in foreign currency residents in Turf foreign currency residents abroad, interb deposits foreign banks, interbank deposit participation banks, saving deposits, publisector deposits,	residents in Turkey, mid low interbank deposits	: low in foreign currency residents a deposits domestic banks, say sector deposits, commercial institution deposits	broad, interbank ring deposits, public	low in interba banks, interba banks, particip other institution	nk foreign oation banks,	low in precious meta	als	Turkey, foreign interbank depo borrowed from deposits, public	n currency reside sits domestic banks a domestic banks c sector deposits posits, other inst	nts abroad nks, funds , saving ,
Group 9 2005 2006	20	07	2008	2009)		2010			

Arap Turk Bankas	si	Arap Turk Bankas	i	Arap Turk Bankasi		Arap Turk Bankasi	İ				
AS	FB	AS	FB	AS	FB	AS	FB	Bank Mellat	FB	Arap Turk Bankasi AS	FB
Bank Mellat	FB	Bank Mellat	FB	Bank Mellat	FB	Bank Mellat	FB			Bank Mellat	FB
										Habib Bank Limited	FB
Characteristics: hi currency residents high interbank dep banks, mid high fu from foreign bank	s abroad, mid posits foreign ands borrowed	_	abroad, mid red from foreign terbank deposits	Characteristics: high currency residents a interbank deposits f banks, mid high fund from foreign banks	ibroad, oreign ds borrowed	Characteristics: hig currency residents interbank deposits banks, funds borro foreign banks,	abroad, participatio	n Characteristics: h residents abroad, banks, : low in interbank	nigh in foreign currency interbank deposits foreign a deposits domestic banks, from domestic banks,	Characteristics: high in for residents abroad, mid high domestic banks/foreign ba borrowed from domestic b funds borrowed from forei	interbank deposits nks, mid high funds banks and low high
: low in foreign cu in Turkey, public commercial depos	sector deposits		al deposits	: mid low commerci	ial deposits	: low in commercia mid low in foreign residents in turkey	currency	commercial depo	public sector deposits, sits, other institution s metals deposits.	: low public sector deposit sector deposits and mid lov deposits	

Note: Each strategic group has its own specific characteristics. A, D, and FB symbols represent foreign-acquired banks, domestic banks, and foreign bank branches respectively.



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