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Private Equity Workshop – Tenth Annual Private Equity Conference at the Federal Reserve Bank of Chicago

International Private Equity: Southeast Europe Region

The Privatization of Turk Telekom: Case Study[1]

[1] This case was prepared for a workshop at The Tenth Annual Private Equity Merchant Banking Conference at the Federal Reserve Bank of Chicago on July 20, 2010. Daniel Menendez, Wharton '10, wrote the case under the supervision of Professor Bülent Gültekin using publicly available materials. This is the first draft of the case and is not intended for distribution beyond the conference participants. We thank Mimi Xue, Wharton '11, for her editorial contributions.

The Privatization of Turk Telekom

The Telecommunications Private Equity Consortium (TPEC) is analyzing a proposal to acquire a 55% stake in Turk Telekom (TT), the primary provider of telecommunications services in Turkey with 19.4 million fixed line subscribers and 3.2 million data and internet subscribers. The Turkish Government owns 100% of TT and is conducting a partial privatization with an installment payment plan that requires 20% down payment at closing in June 2005 with the remaining 80% paid in 5 equal installments financed at LIBOR + 2.5%. Each year the buyer will be required to post a "performance bond" in the amount of the following year's installment (principal and interest). More information about the privatization requirements are presented in page 11 and in the exhibits.

TPEC believes Turk Telekom is a profitable monopoly that is under-managed by the government and could be repositioned by adjusting its strategy, redirecting the firm's marketing efforts, and improving its cost management. Furthermore, Turkey seems like an attractive market given its size, recent macroeconomic achievements, and positive outlook. TT's privatization is considered a unique investment opportunity that has been accelerated under the Justice and Development Party (AKP) leadership. The Cabinet has recently passed a decree stipulating that a 55% controlling stake in the company would be initially sold to a qualified strategic investor in an open auction. The Turkish treasury wants the acquirer to be a world-class partner with a view of increasing efficiency and the service quality. To meet this requirement, TPEC is partnering with Prussia Telecom, a major European telecommunications operator, to make a joint bid.

Turk Telekom

Turk Telekom is the incumbent telecommunications operator in Turkey and was established in 1995 when the telecommunications business was split off from the General Directorate of Postal, Telegraph and Telephone (PTT). TT has 56,022 employees and is the world's 15th largest operator in terms of subscriber base and the 13th largest in network capacity. TT's net revenues for 2003 and 2004 were $4,314 and $4,630 million[2] with EBITDAs of $1,863 and $1,968 million, respectively. For the fiscal year ending December 2005, the firm is expected to generate $4,900

[2] All figures in this document that carry a $ sign are expressed in U.S. dollars.

million in revenues and $2,100 million of EBITDA. The financial data and projections can be found in Exhibits 1 and 2. The following table presents some key operational metrics for the company:

	Dec-00	Dec-01	Dec-02	Dec-03	Dec-04
Access Lines in Service	18.4	18.9	18.9	18.9	18.9
Access Line Capactiy (m)	20.8	21.3	21.1	21.2	21.4
Fixed Line Penetration (as % of population)	27%	27%	27%	27%	27%
Digitalization Switches	87%	89%	90%	91%	96%
Digitalization Transmission	97%	98%	98%	100%	100%
Number of Employees	71,965	69,545	63,598	61,219	56,022

Turk Telekom provides the following services as an integrated operator: PSTN (telephone), mobile, cable TV, cable internet, data & internet services. Below we present summaries of each service, and it is important to note that Cable TV and Cable internet services are <u>not</u> part of this privatization.

- **PSTN (Telephone Services)** – TT has a capacity of 21.4 million access lines and a penetration of 27% if measured by population and 94% if measured by number of households. The access lines are 93% digital, 78% urban and 76% residential.

PSTN Data for 2004

Year	Number of PSTN Subscribers	Increase YoY	Telephone Penetration Values per Population
1995	13,227,704	8.46%	21.20%
1996	14,286,460	8.00%	22.40%
1997	15,579,458	9.05%	24.80%
1998	16,806,982	7.88%	26.30%
1999	17,911,722	6.57%	27.60%
2000	18,395,171	2.70%	28.00%
2001	18,904,486	2.77%	28.50%
2002	18,890,000	-0.08%	27.10%
2003	18,916,721	0.14%	26.70%
2004	19,125,163	1.10%	27.00%

Source: Telecommunications Authority of Turkey

The access lines are geographically distributed as follows: 38% in the top 3 cities (Istanbul, Ankara, and Izmir) and 55% in the top 10 cities. About 50% of the lines are in the West, 40% in the central region, and 10% in the East.

	Dec-00	Dec-01	Dec-02	Dec-03	Dec-04
Digital Access Lines	87%	89%	90%	91%	93%
Analog Access Lines	13%	11%	10%	9%	7%
Lines in Urban Areas	75%	76%	77%	78%	78%
Lines in Rural Areas	25%	24%	23%	22%	22%
Business Lines	24%	24%	24%	24%	24%
Residential Lines	76%	76%	76%	76%	76%

In 2004, Turk Telekom had a Principal/Exchange rate of 1.74 and a Local/Principal rate of 1.60, which indicates that the local network (copper wires used for access purposes in public switched services) does not have a capacity problem. In August 2004, Turk Telekom implemented a tariff rebalancing strategy and introduced different customer plans with price reductions, especially for long distance and international calls. TT operates 80,000 payphones with either magnetic card payphones (70% of the total) or smart/credit card payphones (30%) and is considering installing an additional 70,000 smart payphones. TT offers other services within PSTN such as directory and operator assistance, convenience services (wake-up calls, reminders, caller ID, call forwarding, call waiting, conference call, etc), and toll-free and private service numbers.

- **Mobile Services (AVEA)** – the mobile segment together with the broadband segment in fixed services is TT's expected growth engine, and Avea is TT's mobile service provider. Avea is a merged entity established between TT's Aycell and Aria (jointly owned by Telecom Italia and Isbank, a local Turkish bank). The history of this merger illustrates the competitive dynamics and regulatory landscape of the mobile segment. Incumbents in the Turkish mobile sector were "Turkcell" (the market leader) and "Telsim". In 2000, Telecom Italia entered the market with "Aria" by acquiring the third GSM license at $2.95 billion, twice as high as the second highest offer. This was done to introduce a barrier to entry for a 4th player as the bid was to set the minimum benchmark for the next license. This strategy worked until TT decided to enter the mobile market with "Aycell" and paid a $5.7 billion fee for the license. In 2003, Aria and Aycell decided to merge, given the financial impact of the strong 2001-devaluation of the Turkish Lira, the weak macro-environment, and both companies' inability to reach economies of scale and capture market share (they had only 7% and 4% MS, respectively). In February 2004, Avea was formed. TT currently owns

40.6% of the company, which is now the third and smallest player in the Turkish GSM sector.

Avea's Shareholder Structure

Company	Percentage
Turk Telekom	40.6%
Telekom Italia Mobile	40.6%
Isbank	18.8%
Total	100.00%

Avea still holds the combined spectrum of Aria and Aycell, but it will soon have to divest half in an open auction held by the regulator. This should attract new entrants to the mobile sector.

Avea currently has 15% market share with 5.5 million subscribers (36% are postpaid) and covers 25% of the country's area and 62% of the population. Telsim was seized by the government due to criminal charges against the owners. This has allowed Avea to capture market share, at least temporarily since Telsim will probably be sold after the privatization of Turk Telekom.

A key measure used in the mobile sector is the Average Revenue Per User (ARPU), which is currently $10 per user for Avea. This is about 20% lower than its competitors. In comparison, Turkcell's blended ARPU is $12 per user. TPEC's partner, Prussia Telecom, believes that Avea can increase its ARPU through a more focused marketing strategy and convergent services. In addition, Avea can benefit from Telsim's current situation and continue capturing market share and raising its ARPU.

Despite the recent positive momentum, Avea has incurred losses since its inception. By December 2004, the company has already impaired $4.6 billion of the GSM license, although only 40% impacted TT's income statement. Avea needs an injection of $1.3 billion to refinance $1 billion in defaulted debt and an additional $300 million to cover short term cash-flow requirements. Initially, Telecom Italia arranged $1.5 billion in financing but did not complete the transaction because this required a government pledge of TT's Avea stake and could have jeopardized the privatization process. Hence, the funding will have to be addressed after TT is privatized.

- **Cable TV and Cable Internet Services** - This business segment is not part of the current privatization process. The Cable TV service was launched in 1991 and is offered in 20 provinces to 1.2 million subscribers and over 2.5 million homes. Cable internet is offered in 12 provinces. The company has partnerships with local players who invest in increasing capacity, customer expansion, and maintenance.

- **Data and Internet Services** – TT offers DSL, VoIP, WLAN and Leased Line services. Transmission costs for these services are suboptimal because they do not share a common backbone and have low interworking between networks, which include Turkey Digital Data Network (TDM – TSDnet), Turkey Packet Switching Network (TURPAK), Turk Telekom Network (TTnet), and the IP Backbone.

Business Optimization: Human Resources, Networks, Real Estate and Information Technology

TPEC is considering different alternatives to improve operating efficiency and reduce costs, which require modifying the employee base, optimizing the multiple networks, expanding the real estate, and upgrading TT's information technology.

<u>Human Resources:</u> there is a need to rationalize the employee base, improve employee talent, and raise productivity. Turk Telekom has 56,022 employees with a productivity ratio of 350 access lines per employee. This is acceptable for international standards but not for TT since its ratio requires important adjustments. TT's productivity ratio is skewed upwards since the company has very few customer service employees and relies heavily on subcontracting for daily operations. However, the real productivity ratio is difficult to measure for an appropriate comparison. The government has agreed to relocate up to 26,277 employees without union memberships (47% of the total TT employees) to other public companies and at no cost for the buyer. The remaining employees have signed a collective union agreement and any decision to continue reducing headcount beyond those 26,277 employees would be allowed by both the government and the union but at a cash severance cost of approximately $15,000 per employee.

The employee base has to be rebalanced to reflect more sales and less technical personnel, which requires re-training or substantial hiring. Massive layoffs will not be required since the total number of employees needed by 2010 is forecasted to be 42,255 (gradual reduction or re-training can be done). In order to achieve a commercially focused business operating in a more competitive environment, TPEC needs to revamp its senior management team and recruit a new CEO, CFO, CTO, CMO and HR director (among other executives). To retain talent, a retention policy needs to be implemented together with a new high-quality HR management system.

Network: its characteristics and evaluation of the current capabilities are presented in the table below.

Service	Existing Capabilities	Evaluation
PSTN	20 m installed lines on digital exchange provided by 4 vendors ~1 m lines on analog switches	High level of maintenance expenses needed Complex mgmt of switches due to high # of vendors
Transmission	SDH DWDM Fiber optic cables Radio relay systems	Transmission network in the urban areas seems to be technologically up to date
Data	IP backbone TURPAK: packet switched data network TTNet: frame relay/ATM data network	Multiple (2) data networks related to different data transmission protocols
Access	ADSL Metro Ethernet Wireless	ADSL coverage ~80% of lines ADSL technology up to date High copper quality to support ADSL growth

Other network characteristics include:

- 93% digitalization of the local exchange
- 100% digitalization of the transmission network
- 91% of the transmission media is fiber optic
- Fiber optic transmission media constitutes 91% of the transmission infrastructure and uses DWDM, SDH and PDH technologies
- 1,304,112 km of fiber optic cable has been installed along 99,226 km
- Digital microwave systems are used to cover most of the major traffic destinations and to provide back-up to the fiber optic routes
- Digital microwave systems account for approximately 9% of the transmission capacity.

	Transmission Infrastructure	Switching Infrastructure
Local	Largely twisted pair	11,129 local exchanges 96% digital
Long Distance	99,226 km of fiber optic cable 8,986 microwave transmitters/receivers	20 first class toll exchanges
International	Satellite Submarine fiber optic cables 21,665 64 voice and 4,647 data channels at different speeds	3 international digital gateway switches

Key areas for improving TT's network, especially in the rural areas, include:

- i) Replacing analog switches with new generation digital switches
- ii) Optimizing national switching network by reducing the number of switching layers and substituting rural and local switches;
- iii) Deploying ADSL
- iv) Implementing IP-MPLS access;
- v) Upgrading the access network
- vi) Centralizing the surveillance network
- vii) Reducing absolute number vendors
- viii) Simplifying operations and maintenance process.

Real Estate**:** Turk Telekom has three types of real estate: owned (1912 buildings), allocated (4,067 parcels provided by the treasury/municipalities) or rented (6,823 properties). An expansion of all three will be required.

Information Technology: the information systems in use are outdated or non-existent. Several projects are required to upgrade the IT capabilities with a 3-year plan that encompass the following: i) Data Entry and Work Order Project; ii) Payment Collection Project; iii) Trouble Management Project; iv) Call Center Project; v) ERP Project.

Regulatory Environment

The telecommunications industry in Turkey has been experiencing important regulatory changes until recently. Law #4502 enacted in January 2000 introduced framework which separated policy making, regulatory and operational functions, established an independent regulator, and set guidelines for pricing and interconnection.

Three entities are currently responsible for regulating the Turkish Telecommunications industry:

a) The Ministry of transportation – establishes the telecommunications policy and determines the scope of universal service requirements.
b) The Telecom Authority (TA) – regulates tariffs, access, interconnections, and service quality; issues authorization agreements, concession agreements, licenses, and permissions for operators; resolves disputes, etc. In general, the TA regulates the fixed interconnection and mobile termination rates in Turkey and has consistently reduced rates since 2003 on the basis of international benchmarks. The TA may continue to revise these rates downwards.
c) The Competition Board – enforces the competition law and carries out investigations in the telecommunications sector. It is the entity responsible for authorizing mergers and acquisitions and grant exemptions or negative clearance certificates to agreements.

The market for telecommunications equipment in Turkey was liberalized in the 1980s. Mobile services were provided by two competing firms, Turkcell and Telsim, which had revenue share agreements with TT. In 1998, the two operators where then issued licenses to operate GSM 900 networks. Value-added services were liberalized earlier in 1994. The rest of the market (PSTN services, CATV, fixed telecom infrastructure) was opened to competition in January 2004, ending Turk Telekom's legal monopoly over PSTN services.

Turkish Telecommunications Market

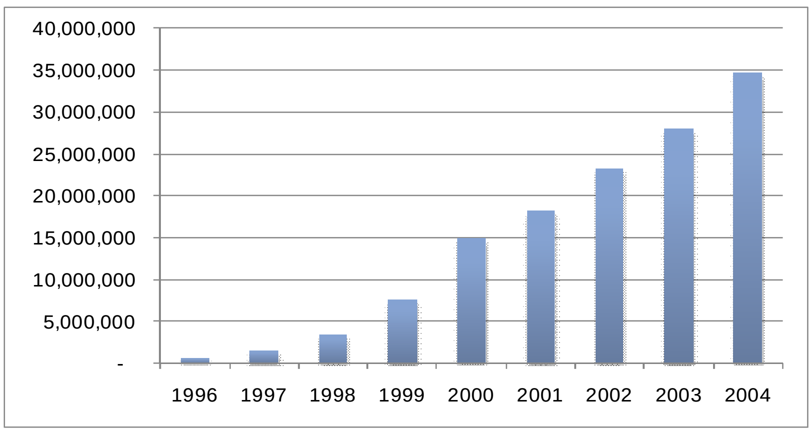
Turkey is the largest telecommunications market in Central and Eastern Europe, Middle East and Africa, resulting from its large and relatively wealthy population (70 million inhabitants with about $8,500 of GDP per capita). The Turkish fixed line market is the largest in the region and has achieved rapid growth in broadband and mobile penetration. Communications spending accounts for 2.3% of GDP in Turkey. Given the high correlation between GDP and telecom spending per capita, the forecasted real GDP growth rate of 5% for the Turkish economy should have important wealth effects in the telecom market.

Currently, the Turkish telecom market totals $8.5 billion with 19.4 million fixed lines, 36 million mobile subscribers and the following revenue breakdown:

Segment	Participation	Revenues ($ millions)
Voice telephone	52.2%	4,437
Data	4.6%	391
Internet	2.5%	213
Mobile	37.5%	3,188
Cable TV	1.1%	94
Satellite TV	2.1%	179
Total Market	100.0%	$ 8,500

In general, the number of subscribers of most segments has been growing at a high rate, especially for mobile telephones. The following table shows the evolution of the total number of GSM subscribers:

Year	GSM Subscribers
1996	692,779
1997	1,481,323
1998	3,360,000
1999	7,560,000
2000	14,970,000
2001	18,228,598
2002	23,323,113
2003	27,887,535
2004	34,707,549



GSM Penetration by population in EU-25 countries is 83% while the same rate is only 49% for Turkey. This depicts the growth potential of the GSM segment. For upcoming years, analysts also expect strong growth in the broadband market and pressure on voice revenue.

Turk Telekom can expect changes in the competitive landscape resulting from:

1. GSM operators (mobile segment) – users of fixed lines switching to mobile lines and competition for business customers via GSM boxes.
2. Alternative Operators – new operators as potential market entrants (such as Tele 2) in 2006/2007.

3. Cable TV – competition can result from the Cable TV business considering:

   i) The two-way provision of all sound, data, image and radio/TV signals over the Cable TV Network.

   ii) Cable TV's ability to offer video, voice, and internet services.

   iii) Market that passes 2.5 million homes with 1.2 subscribers.

   Nevertheless, in Turkey, Cable TV was combined with the loss-making satellite business and analysts argue that the combined entity will lack the resources and focus to formulate and execute a successful expansion strategy, at least in the near term. In the long term, the consequences could be more serious. Local loop unbundling (LLU) will not be licensed before 2005 (not in the Telecom Authority's 2005 work plan), but when it happens, LLU can become a competitive product/tool considering that the population is concentrated (60% of the population is categorized as "urban" and one third of them are concentrated in the five largest cities).

Quick overview of Turkey

Turkey is the second largest country by area in Europe after Russia. Turkey's population is 70 million and is growing at more than 1% annually, making Turkey the most populous nation in Europe by 2015. The country became a republic in 1923 with a multi-party parliamentary democracy and has single-party rule since then, with new elections scheduled for 2007. The current Turkish government has a majority in parliament and a strong focus on reform, pushing important privatizations such as Turk Telekom.

Important data points for Turkey consider:

- The monetary policy is governed by an independent Central Bank
- The Turkish Lira has a fully floating exchange rate
- Foreign exchange reserves amount to $35 billion.
- It currently has BB-/BB foreign/local rating.
- GDP is $300 billion and grew 9% in 2004 with an inflation rate of 8% (projected to be 5% by the end of 2007).
- The macroeconomic environment has improved rapidly with declining interest rates and sustainable decreases in inflation.

The foreign exchange parity is expected to remain stable as the Turkish Lira is supported by economic reforms and the flow of revenues streaming from tourism. During the first 6 months of 2005, the Turkish Lira appreciated against the dollar but depreciated severely in 2001 and 2002 of 115% and 13% respectively, severely affecting investments in the telecommunications sector. Since then many reforms have been implemented, including the establishment of an independent central bank, a floating currency regime, and a more disciplined monetary/fiscal policy.

Turkey has strong economic and cultural ties with Europe, Caucasus, the Middle East and Central Asia and began accession negotiations with the European Union. The country is member of NATO and OECD. The Istanbul Stock Exchange (ISE) has a market capitalization of approximately $100 billion with an annual turnover of $180 billion, and is the most likely venue for an eventual IPO for Turk Telekom.

The Privatization Process

This is the Turkish government's third attempt in seven years to privatize Turk Telekom. To succeed this time, the government has improved the regulation, changed the ownership structure, modified the repayment schedule and removed several constraints. The process timeline is as follows:

➢ Pre-qualification	January 11th, 2005
➢ Conduct due diligence	February 7th to April 7th, 2005
➢ Deadline for SPV Consortium formation	June 17th, 2005
➢ Final bids due	June 24th, 2005
➢ Closing	November 2005

Transaction and Financing Structure

The tender specification for Turk Telekom's privatization provides that:

- The SPV for the privatization of the 55% stake must be established in Turkey. Turk Telekom will become a joint-stock company under the ownership of the Undersecretariat of the Treasury of the Turkish Republic.

- An installment payment method is available whereby 20% of the purchase price is paid at closing and the balance can be paid in 5 equal installments at one-month LIBOR+2.5% rate (in US Dollars).
- Purchase price needs to be secured by an annual performance bond, share pledge and a guarantee of the 20% down payment, which terminates at closing.
- The SPV will receive 55% of the dividends of Turk Telekom.
- SPV investors will nominate 6 out of 10 directors with major decisions requiring 7 out of 10 votes.
- TT will not provide any upstream guarantees for SPV obligations.
- The Ministry of Transportation will exercise shareholders rights for the Government's 45% stake and all corresponding financial benefits will go to the Treasury.

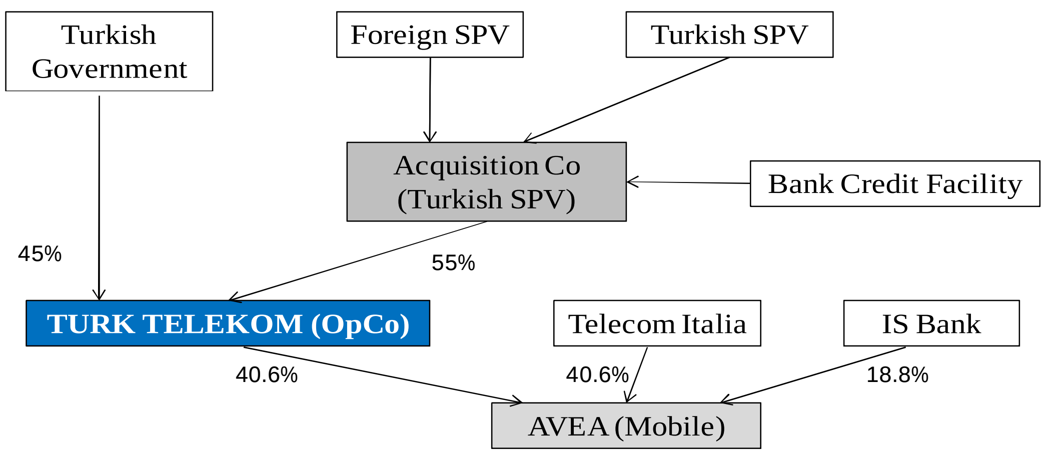
Financing and Exit Strategy

The Consortium plans to inject $250 million of equity into the SPV at closing. In general, the shareholders of the SPV will provide any additional funding as non-interest bearing subordinated debt to the SPV. This makes the structure more efficient when considering the corporate taxation costs on interest and the withholding taxes. The installment payment option makes the deal attractive because it provides upfront leverage with the government that helps minimize the equity commitment at closing. A revolving credit facility at the SPV level will fund a significant portion of each installment paid to the government. The levels of leverage can be sustained because with every installment paid, the government releases paid-up shares from the pledge. These shares can be re-pledged to other lenders as security. Dividends will be used to cover some part or all of the installments (although during the first two years there a mismatch is expected – so mostly debt has been used in the financial projections).

The deal contemplates two different exit alternatives: The first one is to sell the shares of Turk Telekom on the exchange outside Turkey. This can be done through a tax-free merger of the SPV into TT. The SPV needs to remain in existence until it satisfies its obligations to the government (at least three years), so this tax-free transaction can be done after repaying the loan, and it would require clearance from the Capital Markets Board and the Privatization Agency. If the SPV repays its debt before the merger, there is a higher probability of clearance given that Turk Telekom wouldn't be burdened with additional debt.

The second exit strategy is to sell the SPV shares in the public market or in a negotiated private sale to a non-Turkish resident in a transaction effected outside Turkey. The sale of SPV shares to a person outside the Turkish taxing jurisdiction would not be subject to Turkish Tax (tax on capital gains and withholding tax add up to a combined rate of 37%). This also created a tax-efficient structure: the dividends paid by TT to the SPV are not subject to tax while the dividends paid by the SPV to TPEC would only be subject to a 10% withholding tax.

The diagram below shows the basic structure of the overall transaction, where TPEC and Prussia Telecom own the "Acquisition SPV". The breakdown of ownership for Turk Telekom and AVEA are shown in percentages at the corresponding level.



The privatization seems attractive at different acquisition prices. Exhibit 1 presents the highlights of the financial model considering a total equity value of $8 billion. Exhibit 2 presents the assumptions behind the model. Under the base case projections of an Equity Value of $8 billion and an exit multiple of 5.6x EBITDA, the IRRs at different exit years are estimated to be the following:

Exit year	IRR	Cash flows to SPV (Equity)							
(in millions of USD)		2005	2006	2007	2008	2009	2010	2011	2012
Year 3	71%	($945)	($396)	$0	$5,897				
Year 4	50%	($945)	($396)	$0	$0	$6,149			
Year 5	38%	($945)	($396)	$0	$0	$0	$6,109		
Year 6	31%	($945)	($396)	$0	$0	$0	$0	$6,254	
Year 7	26%	($945)	($396)	$0	$0	$0	$0	$0	$6,488

The IRR is sensitive to several factors such as the valuation price paid, the exit year, the exit multiple, margin expansion or contraction, changes to investment requirements and other factors that may affect cash flows. The Telecommunications Private Equity Consortium is interested in this privatization, but the investment committee is concerned about the multiple risks of entering this transaction, among them the future of the industry in Turkey, the competitive landscape, the regulatory environment, the reliability of the macroeconomic forecasts, the stability of the Turkish Lira, the suitability of the valuation assumptions, and the region's political volatility.

Exhibit 1: Financial Projections – *Base Case Scenario Assumes $8.0 billion TT Equity Value*

TURK TELEKOM
Base Case Scenario - Operating Projections

(in millions of USD)	Actual	Projected Years ending December 31st,								'05-10
	2004	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**CAGR**
Access Lines (mm)	19.1	19.4	19.6	19.9	20.2	20.4	20.7	20.9	21.2	1.3%
% Growth	*0.9%*	*1.5%*	*1.3%*	*1.3%*	*1.3%*	*1.3%*	*1.3%*	*1.3%*	*1.3%*	
ADSL Subs (mm)	0.5	1.2	1.9	2.6	3.1	3.7	4	4.3	4.5	27.2%
% of Access Lines	*2.4%*	*6.2%*	*9.7%*	*13.1%*	*15.6%*	*18.2%*	*19.4%*	*20.6%*	*21.6%*	
Exchange Rate	1.42	1.39	1.50	1.59	1.68	1.77	1.85	1.92	1.99	
Total Revenue	$ 4,630	$ 4,890	$ 5,050	$ 5,268	$ 5,470	$ 5,510	$ 5,443	$ 5,389	$ 5,362	2.2%
% Growth	*7.3%*	*5.6%*	*3.3%*	*4.3%*	*3.8%*	*0.7%*	*-1.2%*	*-1.0%*	*-0.5%*	
EBITDA	$ 1,968	$ 2,064	$ 2,009	$ 2,219	$ 2,412	$ 2,417	$ 2,319	$ 2,276	$ 2,252	2.4%
% Margin	*42.5%*	*42.2%*	*39.8%*	*42.1%*	*44.1%*	*43.9%*	*42.6%*	*42.2%*	*42.0%*	
% Growth	*5.6%*	*4.9%*	*-2.7%*	*10.5%*	*8.7%*	*0.2%*	*-4.1%*	*-1.9%*	*-1.1%*	
Net Income		$ 1,056	$ 1,020	$ 1,234	$ 1,416	$ 1,436	$ 1,408	$ 1,438	$ 1,414	5.9%
% Margin		*21.60%*	*20.20%*	*23.42%*	*25.89%*	*26.06%*	*25.87%*	*26.68%*	*26.37%*	
% Growth		-	*-3%*	*21%*	*15%*	*1%*	*-2%*	*2%*	*-2%*	
Dividend to be distributed Next Year *	0	$ 1,345	$ 1,175	$ 1,070	$ 1,230	$ 1,247	$ 1,223	$ 1,249	$ 1,226	-1.9%
Capex	320	460	845	807	811	790	705	632	625	8.9%
% of Revenue	*6.9%*	*9.4%*	*16.7%*	*15.3%*	*14.8%*	*14.3%*	*13.0%*	*11.7%*	*11.7%*	
EBITDA - Capex	$ 1,648	$ 1,604	$ 1,164	$ 1,412	$ 1,601	$ 1,627	$ 1,614	$ 1,644	$ 1,627	0.1%

SPECIAL PURPOSE VEHICLE

(in millions of USD)	Projected Years ending December 31st,							
	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Dividend received from previous year*		$ -	$ 646	$ 589	$ 677	$ 686	$ 673	$ 687
Net Interest		(297)	(292)	(266)	(234)	(198)	(157)	(114)
Other expenses		(12)	(12)	(12)	(12)	(12)	(12)	(12)
Cash flow available for debt paydown		(309)	342	310	430	476	504	561
Mandatory repayments		(704)	(704)	(704)	(704)	(704)	-	-
Net Cash/Minimum cash required		(5)	-	-	-	-	-	-
Cash Available/(Funding Gap)		(1,018)	(362)	(394)	(274)	(228)	504	561
Debt Issued/(Repaid)		622	362	394	274	228	(504)	(561)
Total Equity Injected	945	396	-	-	-	-	-	-
Cumulative Equity Injected	945	1,341	1,341	1,341	1,341	1,341	1,341	1,341

** Dividends to be distributed from 2005 and 2006 are based off statutory financials, whereas the financials shows are IFRS*

SPV Credit Ratios	Projected Years ending December 31st,							
	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Revolver	0	622	984	1,378	1,651	1,879	1,375	815
Term Loan	0	0	0	0	0	0	0	0
PA Debt	3,520	2,816	2,112	1,408	704	-	-	-
Senior Debt	$ 3,520	$ 3,438	$ 3,096	$ 2,786	$ 2,355	$ 1,879	$ 1,375	$ 815
Junior Debt	0	0	0	0	0	0	0	0
Total Debt	$ 3,520	$ 3,438	$ 3,096	$ 2,786	$ 2,355	$ 1,879	$ 1,375	$ 815
Debt Amortization		$ 82	$ 342	$ 310	$ 430	$ 476	$ 504	$ 561
Cum. Total Debt Paydown		$ 82	$ 424	$ 734	$ 1,165	$ 1,641	$ 2,145	$ 2,705
% Total debt paydown		2%	12%	21%	33%	47%	61%	77%

Exhibit 2: Assumptions - *Base Case*

Transaction

Fees	$65 million
SPV ownership in Türk Telekom	55%
Installment payment plan:	i) 20% at closing (all equity financed) ii) 80% remaining paid linearly in 5 years (16% annually)

Revenue Assumptions (2005 – 2010)

Segment	Revenue Range	CAGR
Subscription	$1,059 mn - $1,133 mn	2.00%
Traffic	$2,488 mn - $1,632 mn	-8.50%
Interconnection	$124 mn - $73 mn	-10.20%
GSM Operators	$241 mn - $83 mn	-19.20%
Internet	$374 mn - $1,097 mn	24.90%
Data	$346 mn - $502 mn	8.60%
Other	$258 mn - $842 mn	28.80%

Opex Assumptions (2005 – 2010)

Segment	Expenditure Range	CAGR
Human Resources	$1,202 mn - $1,361 mn	2.50%
Operating & Maintenance	$358 mn - $462 mn	5.20%
Marketing	$11 mn - $107 mn	58.40%
General & Administrative	$295 mn - $286 mn	-0.60%
Other	$986 mn - $895 mn	-1.90%

Capex Assumptions (2005 – 2010)

Segment	Range
CAPEX	$460 mn - $845 mn
CAPEX % of net revenues	9.4% - 16.7%
Total CAPEX over 6 years	$4,418 mn

Special Purpose Vehicle (SPV)

Description	Amount
Dividends for 2006	$0
Dividends for 2007	$646 mn
Dividends for 2008	$589 mn
Dividends for 2009	$677 mn
Dividends for 2010	$686 mn
Credit Facility Capacity	$1.5 billion in initial years. Capacity increases with time as government debt is repaid.

Exhibit 3: Sources & Uses, Acquisition Ratios, and Capitalization

Source and Uses of Funds (assumes $8.0 billion TT Equity Value)

Sources :		
Stock	$	945
Preferred Stock	$	-
New Debt Issued	$	3,520
Excess Cash from Balance Sheet	$	-
Total Sources	$	4,465

Uses :		
Equity Purchase Price	$	4,400
Existing Debt Rollover	$	-
Financing Costs	$	30
Deal Transaction Expenses	$	35
Total Uses	$	4,465

Exhibit 4: Multiples

Turk Telekom Valuation Multiples

2005E Multiples	w/out Fees	w/fees
Firm Value/Revenue	1.64	1.65
Firm Value/EBITDA	3.88	3.91
Firm Value/EBITDA - Capex	4.99	5.03
Firm Value/Access lines	$413	$416
Firm Value (TT ex. AVEA)/Revenue*	1.55	1.52
Firm Value (TT ex. AVEA)/EBITDA*	3.68	3.71
Firm Value (TT ex. AVEA)/EBITDA - Capex*	4.73	4.77
Firm Value (TT ex. AVEA)/Access Lines*	$392	$395

** Strips out 40% stake in AVEA at assumed value of $407 million*

Exhibit 5: European Wireline Public Market Comparison

Company	Share Price Local 10-Jun	% of 52 Week High	Market Cap (€bn) (1) Equity (9)	LMV (2)	EV (3)	EV/EBITDA (x) 2005E	2006E	2007E	2008E	EV/(EBITDA-Capex) (x) 2005E	2006E	2007E	2008E
Western European													
Belgacom	€ 27.19	80.9 %	9.8	10.3	11.5	5.0 x	4.7 x	4.4 x	4.0 x	6.8 x	6.4 x	5.8 x	5.4 x
BT Group	£ 2.20	99.0	27.2	38.8	38.2	4.6	4.5	4.4	4.2	10.1	9.6	8.8	7.8
Deutsche Telekom	€ 14.94	88.7	65.0	111.1	111.2	5.5	5.1	4.6	4.3	9.0	8.2	7.4	6.9
Eircom	€ 1.83	91.6	1.4	3.4	3.4	5.4	5.5	5.5	5.6	8.2	8.4	8.3	8.5
France Telecom	€ 22.80	91.6	54.6	107.1	108.2	5.9	5.4	5.0	4.7	8.4	7.6	7.1	6.6
KPN	€ 6.62	88.3	15.4	23.3	21.3	4.8	4.7	4.5	4.3	7.8	7.5	7.5	7.0
OTE	€ 15.88	100.0	7.8	10.7	12.1	5.8	5.2	4.5	4.0	10.0	8.7	6.9	6.1
Portugal Telecom (5)	€ 8.00	82.2	9.0	14.7	15.8	6.8	6.3	5.8	5.5	10.6	9.5	8.5	8.0
Swisscom	CHF 411.75	88.0	16.4	15.7	17.2	6.2	6.3	6.2	6.0	8.6	8.9	9.0	8.9
TDC	DKK 259.50	97.2	6.9	8.7	7.7	4.2	3.7	3.4	3.0	7.6	6.5	6.0	5.5
Telecom Italia	€ 2.58	81.7	38.9	71.7	87.6	6.2	5.7	5.3	5.0	9.6	8.3	7.5	7.0
Telefonica	€ 13.60	93.4	65.8	92.3	92.0	6.4	5.8	5.2	4.5	9.5	8.5	7.3	6.2
Telekom Austria	€ 16.24	99.3	8.1	10.3	10.3	6.6	5.6	5.3	4.9	10.6	9.0	8.3	7.5
Telenor (6)	NOK 51.25	84.4	11.2	13.6	13.2	4.7	4.4	3.9	3.5	12.5	8.7	6.5	5.5
TeliaSonera	SEK 35.60	82.0	18.1	18.9	15.1	5.4	5.1	4.8	4.5	8.8	8.1	7.3	6.6
Mean		89.9 %				5.6 x	5.2 x	4.8 x	4.5 x	9.2 x	8.3 x	7.5 x	6.9 x
Median		88.7				5.5	5.2	4.8	4.5	9.0	8.4	7.4	6.9
Eastern European													
Cesky Telecom (9)	CZK 464.00	99.9 %	4.9	5.7	5.7	5.7 x	5.4 x	5.0 x	NM	7.8 x	7.4 x	7.0 x	NM
Matav (9)	HUF 835.00	85.2	3.4	4.5	4.7	5.1	5.0	4.9	NM	13.8	8.1	7.8	NM
TPSA (9)	PLN 19.25	83.0	6.5	9.0	9.2	4.4	4.2	5.0	NM	7.0	6.5	8.0	NM
Mean		90.2 %				5.1 x	4.8 x	4.9 x	NA	9.5 x	7.3 x	7.6 x	NA
Median		88.7				4.9	4.7	4.9	NA	10.1	7.3	7.8	NA

Company	EBITDA Margin (%) 2005E	2006E	2007E	2008E	FCF Yield (%) (4) 2005E	2006E	2007E	2008E	P/Adj. E (x) (7) 2005E	2006E	2007E	2008E	Dividend Yield (%) 2005E	CAGR 05-08E Rev.	EBITDA	dj. EPS (	2004 EV/EBITDA to 04-07E EBITDA Growth (x)
Western European																	
Belgacom	41.7 %	41.9 %	42.2 %	42.5 %	9.0 %	9.5 %	10.2 %	10.6 %	11.4 x	10.7 x	10.2 x	9.8 x	4.9 %	(0.0)%	0.7 %	5.0 %	NM
BT Group	29.9	29.6	29.8	30.1	7.9	8.6	9.1	10.4	12.4	12.1	11.7	11.2	4.9	(0.2)	0.05	3.6	NM
Deutsche Telekom	35.1	35.7	36.6	36.4	11.1	9.7	10.8	12.2	11.6	7.4	7.7	8.2	4.6	2.7	3.9	12.2	1.1
Eircom	39.2	38.6	37.4	35.9	12.7	13.0	14.5	13.9	10.2	10.3	10.6	10.9	6.0	(1.3)	(4.2)	(2.3)	NM
France Telecom	38.9	40.1	40.9	41.5	9.4	11.0	11.3	12.0	12.0	9.6	8.6	7.9	3.7	2.2	4.5	14.8	1.3
KPN	38.1	38.3	39.0	40.3	12.2	12.2	12.0	12.4	10.3	9.7	9.1	8.3	6.0	(1)	0.9	7.6	NM
OTE	37.3	38.2	39.9	39.5	4.8	7.4	11.4	12.3	27.9	14.5	11.0	9.9	0.0	3.1	5.1	41.4	0.6
Portugal Telecom (5)	37.1	37.6	38.6	39.3	3.1	8.8	10.4	10.9	17.1	12.0	10.1	9.3	5.0	3.3	5.3	22.3	1.8
Swisscom	42.8	42.4	42.9	43.6	9.5	9.2	8.8	9.0	13.8	14.0	14.1	13.8	3.6	(2.7)	(2)	(0.2)	NM
TDC	28.2	29.0	29.6	29.8	10.6	14.1	14.2	14.7	12.1	9.8	8.8	8.4	5.0	2.2	4.2	13.0	0.9
Telecom Italia	45.3	46.7	47.6	47.7	10.0	10.5	11.5	11.7	15.0	13.0	11.7	10.9	4.4	1.9	3.6	11.3	3.0
Telefonica	40.3	40.3	41.5	43.9	9.9	10.8	11.3	13.0	14.1	13.0	11.3	9.0	4.4	3.7	6.7	16.1	0.8
Telekom Austria	39.9	41.2	41.0	40.8	10.4	10.1	10.9	12.6	21.3	18.4	15.3	14.2	2.9	3.8	4.6	14.5	1.0
Telenor (6)	33.8	34.2	34.9	35.0	3.9	8.3	11.5	13.1	13.4	10.8	9.5	8.6	3.9	4.3	5.5	16.0	0.9
TeliaSonera	35.1	36.6	37.2	37.4	9.2	9.4	10.6	11.5	11.0	9.7	8.9	8.4	3.9	5.7	7.9	9.6	0.4
Mean	37.5 %	38.0 %	38.6 %	38.9 %	8.9 %	10.2 %	11.2 %	12.0 %	14.2 x	11.7 x	10.6 x	9.9 x	4.2 %	1.9 %	3.1 %	12.3 %	1.2 x
Median	38.1	38.3	39.0	39.5	9.5	9.7	11.3	12.2	12.4	10.8	10.2	9.3	4.4	2.2	4.2	12.2	0.9
Eastern European																	
Cesky Telecom (9)	45.5 %	45.0 %	44.5 %	NM	11.4 %	11.3 %	11.0 %	NM	24.1 x	18.0 x	14.4 x	NM	2.9 %	NM	NM	NM	NM
Matav (9)	40.6	40.8	41.1	5.0	3.0 %	10.4 %	10.6 %	NM	12.9	12.4	11.8	NM	10.7	105.5	1.9	NM	1.0
TPSA (9)	44.2	43.8	41.8	NM	12.8 %	14.1 %	13.9 %	NM	11.5	10.8	9.1	NM	6.5	NM	NM	NM	NM
Mean	43.5 x	43.2 x	42.4 x	5.0 x	9.1 x	11.9 x	11.8 x	NA	16.2 x	13.7 x	11.7 x	NA	6.7 x	105.5 x	1.9 x	NA	1.0 x
Median	42.8	42.6	41.8	5.0	8.3	12.1	12.1	NA	13.5	12.3	10.9	NA	8.0	105.5	1.9	NA	1.0

Source: GS Research, all financials calendarised to year end.

(1) Fully diluted number of shares outstanding are used when calculating market capitalisation.

(2) LMV = Market Capitalisation + 2004 Net Debt; calculated using fully diluted number of shares outstanding and 2003E Net Debt.

(3) EV = Market Capitalisation + Net Debt + Minorities - Associates; Market value for Associates and Minorities if quoted, GS Research if unlisted.

(4) Multiple not shown if above 50. Price defined as equity value adjusted for minorities and associates.

(5) Telesp Celular consolidated on a proportionate basis.

(6) Bravida accounted for as an associate.

(7) Adjusted EPS is defined as net income excluding extraordinary items, UMTS licence and goodwill amortisation, divided by diluted number of shares outstanding

(8) Cash EPS is defined as net income excluding extraordinary items, depreciation and amortisation, divided by diluted number of shares outstanding

(9) Broker estimates

Exhibit 6: European Wireless Public Market Comparison

	Share Price Local 10-Jun	% of 52 Week High	Market Cap (1) €bn	Enterprise Value (2) €bn	EV/EBITDA			EV/(EBITDA-Capex)			FCF Yield %			P/Adj E (3)			Dividend Yield	2005 EV/EBITDA
					2005E	2006E	2007E	2005E	2006E	2007E	2005E	2006E	2007E	2005E	2006E	2007E	2005E	05-08E CAGR
Mobile Operators																		
O2	£1.27	98.1 %	16.4	16.4	5.5 x	4.6 x	4.0 x	18.2 x	11.8 x	9.0 x	4.9 %	6.8 %	8.1 %	13.5 x	12.4 x	10.5 x	3.1 %	0.5 x
Cosmote	€ 14.94	94.3	5.0	5.1	8.3	7.1	6.4	13.5	10.7	9.1	4.8	7.4	8.7	14.3	13.0	11.6	4.4	1.0
Mobistar	€ 64.30	91.3	4.1	4.5	7.1	6.7	6.3	10.8	9.9	8.7	6.2	6.7	7.7	15.0	14.5	14.3	3.3	2.1
TIM Hellas	$19.17	88.1	1.3	1.5	5.6	5.1	4.3	11.8	9.9	7.8	5.1	7.0	9.3	14.5	13.6	11.2	0.6	1.0
Tele2	SEK 225.00	68.2	10.1	10.5	18.7	16.4	14.2	39.1	25.8	21.6	1.4	2.5	3.0	51.2	41.9	32.7	1.1	1.5
TEM	€ 8.86	87.4	38.4	46.5	8.1	7.2	6.3	13.4	11.3	8.8	4.5	6.0	7.7	18.6	15.2	12.6	2.2	0.9
TIM	€ 4.47	79.9	38.3	38.6	6.2	6.0	5.6	9.6	8.7	7.7	5.4	6.1	7.5	15.4	14.4	13.4	6.3	1.5
Vodafone	£1.36	92.3	132.0	103.8	5.2	4.7	4.2	8.7	7.5	6.0	9.5	11.3	13.9	11.8	10.7	9.5	3.2	0.8
Mean		87.5 %			8.1 x	7.2 x	6.4 x	15.6 x	12.0 x	9.8 x	5.2 %	6.7 %	8.2 %	19.3 x	17.0 x	14.5 x	3.0 %	1.2 x
Median		89.7			6.6	6.3	5.9	12.6	10.3	8.8	5.0	6.8	7.9	14.7	14.0	12.1	3.1	1.0
MVNO																		
Virgin Mobile	£2.37	84.6	0.9	1.2	7.0 x	6.1 x	5.4 x	8.3 x	7.1 x	6.2 x	8.7 %	10.9 %	12.1 %	11.0 x	9.3 x	8.1 x	3.7 %	0.8 x
Eastern European																		
Mobile Telesystems	$31.40	78.3	10.2	11.4	4.9 x	4.1 x	3.5 x	13.1 x	7.4 x	5.8 x	5.0 %	9.4 %	12.0 %	8.8 x	7.2 x	6.3 x	3.5 %	0.6 x
Vimpelcom	$33.24	78.7	5.6	6.6	5.6 x	4.4 x	3.7 x	(68.3)x	10.6 x	7.6 x	NM	6.5 %	9.8 %	10.0 x	7.5 x	6.5 x	0.0 %	0.4 x

Source: GS Research

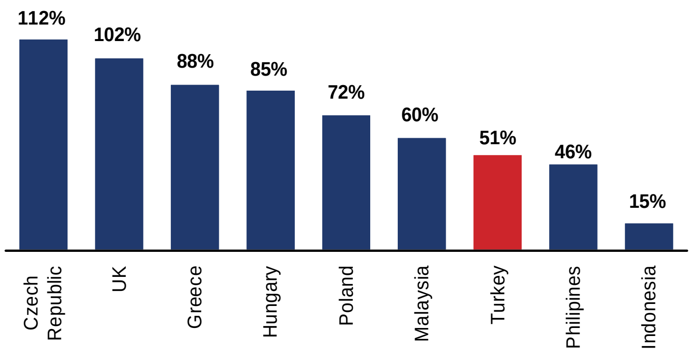
(1) Fully diluted shares oustanding are used when calculating market capitalisation

(2) Estimated net debt as of 31-Dec-2003 used when calculating enterprise value

(3) Adj. Earnings exclude Exceptionals, UMTS licence and goodwill amortisation. P/CE: Earnings exclude Depreciation & Amortisation

Exhibit 7: Miscellaneous statistics

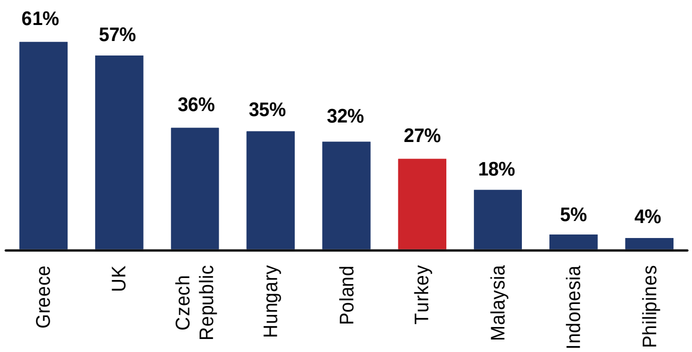
Mobile Penetration 2005E



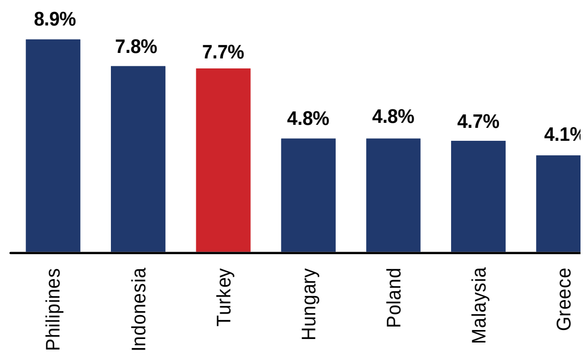
Country Credit Ratings[1]

		Current		2
	Outlook	Local Currency	Foreign Currency	Local Currency
UK	–	AAA/A-1+		AA/
Czech Republic	–	A+/A-1	A-/A-2	A+/A-1
Malaysia	–	A+/A-1	A-/A-2	A+/A-1
Hungary	–	A/A-1	A-/A-2	A/A-1
Greece	↑	A-/A-1		A
Poland	–	A-/A-2	BBB+/A-2	A/A-1
Philippines	↓	BB+/B	BB-/B	BBB+/A-2
Turkey	–	BB/B	BB-/B	
Indonesia	–	B+/B	B/B	B-/C

Fixed Line Penetration 2005E



10 Year - Government Bond Yields[2]



Source: Datastream, EMC database, S&P, Sofrecom

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[1] *As of May-2005.*
[2] *Data as of May 2005. Yield on US$ bonds.*