

# AT&T Corporation

T

## AT&T Consumer: A Base Case Ahead of The Triennial Review

- In anticipation of the upcoming triennial review, we're publishing the first in a series of closer looks at AT&T. This note focuses on AT&T Consumer and provides greater detail into our base case and why we believe AT&T's margin pressure may slow.
- In our analysis, we've taken a closer look at the impacts of
  - 1) Substitution/economy driven volume decline;
  - 2) Customer share loss to competitors;
  - 3) Price pressure;
  - 4) Local share gain.
- Specifically, we find that the magnitude of margin pressure at AT&T Consumer could diminish based on the mix shift between the 4 effects discussed above. Simply put, AT&T should have increasing ability to cut costs in line with revenue declines. Our current assumptions result in positive EBITDA for the next 5 yrs.
- The most significant variable in our assumptions is AT&T's UNE-P efforts, which are highly dependent on the upcoming decision from the FCC next Thursday. This uncertainty and high degree of variability is why we have remained Neutral on the stock despite our forecasts. Our base case as detailed in this note does not assume a harvest strategy by AT&T, but instead a continued but more moderated deployment of UNE-P over the next 3 to 4 years. We will explore scenario analyses for UNE-P in an upcoming series.
- Our analysis here is primarily aimed at providing a more detailed look at AT&T's consumer segment, and thus we are making no changes to our current AT&T model or our 12-month price target of \$27 in association with this report. Our price target is based on the average of our five-year DCF, which results in a target of \$25, and our sum-of-the-parts valuation of \$29.70.
- We continue to rate T a Neutral given the upcoming potential for stock volatility due to the FCC's Triennial Review.

AT&T runs one of the world's largest long-distance networks. The company is a leading supplier of voice, data, Internet and managed services for the public and private sectors.

### research team

Lara Warner  
202 354 2702  
lara.warner@csfb.com

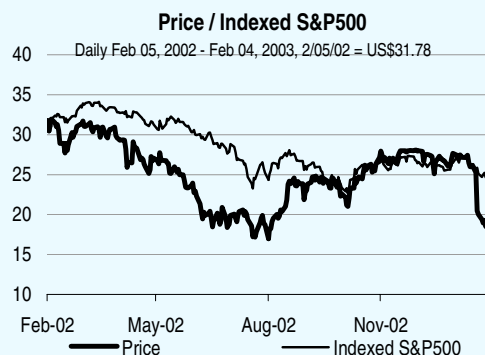
Ido Cohen  
(212) 325-5087  
ido.cohen@csfb.com

Julia Belladonna  
(212) 325-5288  
Julia.belladonna@csfb.com

*For specific information relating to the Firm's investment banking relationships, if any, with companies mentioned in this report and for important disclosure information regarding the Firm's rating system, valuation methods, and potential conflicts of interest, please refer to the Disclosure Section at the end of the report.*

Rating	<b>NEUTRAL* [V]</b>
Price (05 Feb 03)	<b>18.36 (US\$)</b>
Target price (12 months)	<b>27.00 (US\$)</b>
52 week high - low	<b>31.94 - 16.97</b>
Market cap. (US\$m)	<b>14,376.58</b>
Enterprise value (US\$m)	<b>28,517.58</b>
Region / Country	<b>Americas / United States</b>
Sector	<b>Wireline</b>
Analyst's Coverage Universe	<b>Wireline</b>
Weighting (vs. broad market)	<b>MARKET WEIGHT</b>
Date	<b>05 February 2003</b>

\*Stock ratings are relative to the coverage universe in each analyst's or each team's respective sector.  
[V] = This stock is considered volatile (see definition).



Year	12/02A	12/03E	12/04E
EPS (CSFB adj., US\$)	<b>2.88</b>	<b>1.86</b>	<b>1.30</b>
Prev. EPS (US\$)			
P/E (x)	<b>6.4</b>	<b>9.9</b>	<b>14.1</b>
P/E rel. (%)	<b>35.8</b>	<b>63.8</b>	—
Q1 EPS	<b>0.61</b>	<b>0.55</b>	
Q2	<b>0.81</b>	<b>0.50</b>	
Q3	<b>0.67</b>	<b>0.41</b>	
Q4	<b>0.79</b>	<b>0.39</b>	

Number of shares (m)	IC (12/02A, US\$m)
<b>783.04</b>	—
BV/Share (12/02A, US\$)	EV/IC (x)
—	—
Net Debt (12/02A, US\$m)	Dividend 2002 (US\$)
—	—
Net debt/Total cap. (12/02A)	Dividend yield
—	—

Year	12/02A	12/03E	12/04E
Revenues (US\$m)	<b>37,682.0</b>	<b>35,008.0</b>	—
EBITDA (US\$m)	<b>10,923.0</b>	<b>8,714.0</b>	—
OCFPS (US\$)	—	—	—
P/OCF (x)	—	—	—
EV/EBITDA (x)	—	—	—
ROIC	<b>13.5%</b>	<b>14.5%</b>	<b>14.5%</b>

Source: Company data, CREDIT SUISSE FIRST BOSTON (CSFB) estimates.

## A Deeper Look at AT&T Consumer

In anticipation of the upcoming triennial review, we are publishing the first in a series of closer looks at AT&T. This note focuses on AT&T Consumer and provides greater detail into our base case and why we believe AT&T's margin pressure may slow.

This analysis is also particularly important at this time, as following an EBITDA decline of \$2B in 2001 (from ~\$7B in '00 to \$5B in '01) and \$2B in 2002 (from \$5B in '01 to \$3B in '02), many investors are deeply concerned that the segment may only be viable for another 1-2 years.

The purpose of our study is to show that the magnitude of margin pressures at AT&T Consumer could diminish, and that the segment could continue to produce positive EBITDA for at least the next five years. We currently project the following EBITDA trend for AT&T Consumer going forward, and will attempt to detail this view through our study.

### Exhibit 1: CSFB's Current AT&T Consumer EBITDA Estimates

US\$ in millions, unless otherwise stated

	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
AT&T Consumer EBITDA	7,089	4,898	3,026	1,879	1,477	1,300	1,122	951	808
EBITDA Growth		-31%	-38%	-38%	-21%	-12%	-14%	-15%	-15%
Incremental Shift in EBITDA		(2,191)	(1,872)	(1,147)	(402)	(177)	(178)	(170)	(144)

Source: Company data, CSFB estimates.

### Format of Our Study

The first part of this study will focus on the net incremental EBITDA impact of revenue loss or gain driven by four sources:

1. Technology substitution & economic pressures, which reduces the average minutes-of-use per residential LD subscriber;
2. Customer loss due to share take, primarily by the RBOCs as they enter the LD market through the FCC's 271 process;
3. Price reductions;
4. Consumer local revenue gains via the Unbundled Network Elements-Platform (UNE-P).

A summary of the incremental impact of substitution, share loss, price pressure and our current assumption for local share gain are presented in exhibit 2 below.

**Exhibit 2: Summary of Exhibits 5, 6, 7 & 8***US\$ in millions, unless otherwise stated*

	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
Substitution Incremental Revenue Loss	(1,540)	(751)	(365)	(115)	(59)	(51)	(44)
RBOC Share Gain Incremental Revenue Loss	(269)	(223)	(158)	(116)	(85)	(44)	(18)
Pricing Pressure Incremental Revenue Loss	(1,206)	(858)	(580)	(303)	(256)	(220)	(191)
<b>Total Incremental LD Revenue Lost</b>	<b>(3,014)</b>	<b>(1,832)</b>	<b>(1,103)</b>	<b>(533)</b>	<b>(401)</b>	<b>(314)</b>	<b>(253)</b>
Incremental Access Cost Declines from Substitution	369	214	123	43	25	23	23
Incremental Access Cost Declines from Customer Loss	64	64	53	43	35	20	9
Incremental Billing/Care Cost Decline from Cust. Loss	65	67	56	43	32	17	7
<b>Total Incremental LD Costs Avoided</b>	<b>498</b>	<b>345</b>	<b>231</b>	<b>129</b>	<b>92</b>	<b>60</b>	<b>39</b>
<b>Incremental EBITDA (from UNE-P)</b>	<b>1</b>	<b>236</b>	<b>182</b>	<b>139</b>	<b>54</b>	<b>(19)</b>	<b>(44)</b>
<b>TOTAL Incremental EBITDA Impact</b>	<b>(2,515)</b>	<b>(1,251)</b>	<b>(690)</b>	<b>(266)</b>	<b>(254)</b>	<b>(273)</b>	<b>(258)</b>

*Source: Company data, CSFB estimates.*

The second part of this exercise will focus on isolating the other drivers of AT&T Consumer's cost structure, to see where further cost cutting could take place.

Through this study we will show that the current margin pressure on AT&T Consumer could diminish in intensity, and that the unit could continue to produce positive EBITDA for several more years.

**Net Incremental Impact on EBITDA from Rev Loss/Gain****Incremental Substitution/Economy Impact Should Diminish**

AT&T's consumer segment is experiencing a decrease in the average minutes of use per customer driven by increased mobile phone usage for long-distance calls, e-mail substitution for phone calls, and economic pressures forcing some customers to cut back their LD usage. These trends were exacerbated in 2002 by the introduction of the wireless industry's "free nights and weekends" offering, the weak economy, and the anniversary of September 11, which drove abnormally high volumes in 3Q01 (and thus a tougher comparison in 2002). In order to attempt to quantify the revenue impact of these trends we have made the following assumptions for average wireline long-distance minute use per customer, with historical data from 1995-2000 taken from the FCC (Trends in Telephone Service, May 2002, Table 15.2):

**Exhibit 3: Historical and Average Wireline LD Minutes-of-Use per Subscriber**

	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001 [1]</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
Avg LD MOU/sub/month	143	143	149	144	131	116	105	85	73	66	63	61	60	58
Growth%		0%	4%	-3%	-9%	-11%	-9%	-19%	-14%	-10%	-4%	-3%	-3%	-3%

[1] Note the improvement in the rate of decline of 2001 volumes vs. 2000 reflects the positive impact on calling volumes of September 11, 2001.

Source: FCC reports, CSFB estimates.

As shown, we expect the impact of economy and substitution driven volume decline to diminish post 2002, as the economy stabilizes and as wireless incremental penetration and MOU/sub growth slows (see Exhibit 4). Overall, we expect the average wireline LD

MOU/sub/month to fall from approximately 2 hours of use in 2000, to about one hour of use by 2008.

#### Exhibit 4: Wireless Penetration and MOU/sub Trends

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Wireless Penetration	38.9%	45.2%	49.2%	52.8%	56.0%	58.9%	61.3%	63.3%	65.2%
Incremental Penetration		6.3%	4.1%	3.6%	3.2%	2.8%	2.4%	2.0%	1.8%
Growth in Wireless MOU/sub		45.0%	28.7%	20.0%	9.5%	6.5%	6.1%	3.8%	3.7%

Source: CSFB Wireless Research estimates (December 2, 2002 report "...Six is a Crowd" Exhibit 12).

Combining these assumptions with our estimates for AT&T's average consumer price per minute and customer base, we are able to estimate the incremental revenue impact from these trends on AT&T's Consumer segment. At the cost level, the impact of this revenue loss is partially offset by avoided access costs on both ends of a call, which we estimate at \$0.035/minute. Using these assumptions, we see that the estimated incremental impact on EBITDA should diminish over time. Our analysis is presented in Exhibit 5 below:

#### Exhibit 5: Est Incremental EBITDA Impact of Economy/Substitution on AT&T Consumer

Minute-of-Use-Impact	2001	2002	2003	2004	2005	2006	2007	2008
Avg LD MOU/sub/month	105	85	73	66	63	61	60	58
Growth%	-9%	-19%	-14%	-10%	-4%	-3%	-3%	-3%
Min/month lost per sub		-20	-12	-7	-3	-2	-2	-1
Avg. LD Price/minute (includes International)	0.173	0.146	0.123	0.104	0.094	0.084	0.076	0.068
		-16%	-16%	-15%	-10%	-10%	-10%	-10%
Avg. AT&T Residential Customers (Millions)	45.8	44.0	41.9	40.0	38.4	37.0	36.2	35.8
		-4%	-5%	-5%	-4%	-4%	-2%	-1%
Incremental Revenue Impact (\$Millions)		(1,540)	(751)	(365)	(115)	(59)	(51)	(44)
Access Cost Avoided, \$0.035/min (\$Millions)		369	214	123	43	25	23	23
<b>Incremental Loss in EBITDA (\$Millions)</b>		<b>(1,170)</b>	<b>(537)</b>	<b>(243)</b>	<b>(72)</b>	<b>(35)</b>	<b>(27)</b>	<b>(22)</b>

Source: Company data, CSFB estimates.

#### Impact of RBOC Driven Share Loss Should Slow as Incremental Penetration Decelerates and Avg. Profit per LD Sub Diminishes.

A second source of revenue loss at AT&T Consumer is customer loss. The key distinction between substitution driven volume declines and customer loss driven volume declines is that AT&T is able to eliminate billing and customer care costs when they lose a customer, but not when customers simply use less minutes. To quantify the impact of this revenue loss we have taken the aggregate of our RBOC assumptions for

residential LD subscriber additions and then assumed 40% of that figure represents share take directly from AT&T.

Combining these assumptions with our estimates for AT&T's average consumer price per minute and average MOU/sub, we are able to estimate the incremental revenue impact of customer loss on AT&T's Consumer segment. At the cost level, the impact of this revenue loss is partially offset by 1) avoided access costs on both ends of the call, which we estimate at \$0.035/minute, and 2) avoided billing and customer care costs – which we estimate at \$3/sub in 2002, falling 10%/year as AT&T adds increased automation and outsourcing to reduce these costs. Using these assumptions, we derive the estimated incremental impact on EBITDA, which we summarize in Exhibit 5 below. You will note that by 2008, given substantial reductions in MOU/sub and price/minute the profitability of a standalone LD customer is meager at best. This implies that most of AT&T Consumer's profits will be derived by customers who also purchase Local service from AT&T (which we estimate at approximately 20% of AT&T's Consumer customer base in 2008).

**Exhibit 6: Estimated Incremental EBITDA Impact of Share Loss on AT&T Consumer**

Customer Loss Impact	2002	2003	2004	2005	2006	2007	2008
Avg. Customers Lost (M)	(1.80)	(2.07)	(1.92)	(1.63)	(1.37)	(0.80)	(0.38)
Avg MOU Lost	85	73	66	63	61	60	58
Avg. LD price/minute	0.146	0.123	0.104	0.094	0.084	0.076	0.068
Incremental Revenue Impact from Customers Lost (\$Millions)	(269)	(223)	(158)	(116)	(85)	(44)	(18)
Access Cost Avoided, \$0.035/min (\$Millions)	64	64	53	43	35	20	9
(Billing \$1.50/cust, Care \$1.50/cust in '02, declining 10%/yr)	\$3.00	\$2.70	\$2.43	\$2.19	\$1.97	\$1.77	\$1.59
Billing, Customer Care Cost Avoided, (\$Millions)	65	67	56	43	32	17	7
<b>Incremental Loss in EBITDA (\$Millions)</b>	<b>(140)</b>	<b>(92)</b>	<b>(49)</b>	<b>(30)</b>	<b>(18)</b>	<b>(7)</b>	<b>(2)</b>

Source: Company data, CSFB estimates.

**Price Pressure Impact: We Forecast Pricing Declines Stabilizing ~10%**

A third pressure on AT&T Consumer's revenue and profit is price decline. Price pressure results both from AT&T offering new lower price points to maintain a certain share of gross additions, as well as customers within AT&T's base moving to more competitive price plans. The average rate of AT&T Consumer LD price decline has worsened over the past two years from an estimated -9% in 2000, to -12% in 2001, and to -16% in 2002. Looking out to 2003, given the increasing entrance of the RBOCs into the market place, and continued wireless substitution pressures, we currently forecast another year of 16% price decline. In '04, we expect this to improve only slightly to -15%, and by 2005 we forecast average price declines improving to 10%, with the improvement driven by increased bundling by all providers (and hopefully some consolidation in the wireless market).

Combining these assumptions with our estimates for AT&T's average customer base and average MOU/sub, we are able to estimate the incremental revenue impact of price declines on AT&T's Consumer segment, which flows directly to the profit line. We summarize this impact in Exhibit 7 below:

**Exhibit 7: Estimated Incremental EBITDA Impact of Avg LD Price Decline at Consumer**

<b>Pricing Impact</b>							
	2002	2003	2004	2005	2006	2007	2008
Avg LD Price/minute	0.146	0.123	0.104	0.094	0.084	0.076	0.068
	-16%	-16%	-15%	-10%	-10%	-10%	-10%
Price/minute change per year	-0.027	-0.023	-0.018	-0.010	-0.009	-0.008	-0.008
Total Customers (M)	44.0	41.9	40.0	38.4	37.0	36.2	35.8
Avg. MOU/customer	85	73	66	63	61	60	58
<b>Incremental Revenue/EBITDA Impact (\$Millions)</b>	<b>(1,206)</b>	<b>(858)</b>	<b>(580)</b>	<b>(303)</b>	<b>(256)</b>	<b>(220)</b>	<b>(191)</b>

Source: Company data, CSFB estimates.

**Local Entry Impact: Local Share Provides New Source of Profit**

UNE-P driven local market share gains should partially offset the declines in profit from LD operations at AT&T Consumer. At the end of 2001, AT&T had been offering the service in just two states (NY and TX) since late 1999 and had an estimated 1.5 million access lines, or almost 10% market share. With the addition of seven additional states in 2002 (MI, GA, OH, IL, CA, NJ, and MA), this figure grew over 100% to approximately 3.1 million (2.4M customers with ~1.3 lines/customer), for approximately 5.5% residential market share of the combined nine states. Given the uncertainty surrounding the FCC's upcoming triennial review and its impact on the economics of UNE-P, we have assumed that AT&T enters no additional states with a local residential offering beyond 1Q03 (AT&T added Indiana on 1/27/03). However, we do expect AT&T to continue marketing local services aggressively over the next two to three years in those states where it currently has a presence, as we believe the process of moving customers onto its own switches from UNE-P is more economical for AT&T if it successfully gains scale in targeted markets ahead of the cut. Accordingly, we expect AT&T's residential market share in the ten states in which it is currently offering local service to increase to 14% by 2005, and level off there. Revenues will also be influenced by prices, which we expect will decline 5% per year.

On the cost side, we estimate that it costs \$15M in initial operating costs to enter a single market, but that within a year EBITDA margins should approach 30%. A summary of the incremental EBITDA impact of these assumptions is presented in Exhibit 8 below:

**Exhibit 8: Estimated Incremental EBITDA Impact of Local Share Gain**

Local Gains	2002	2003	2004	2005	2006	2007	2008
UNE-P Customers	2,425,000	3,925,000	5,325,000	6,325,000	6,725,000	6,725,000	6,725,000
UNE-P Lines (at 1.3 lines/customer)	3,152,500	5,102,500	6,922,500	8,222,500	8,742,500	8,742,500	8,742,500
Rev/line/month	\$36.10	\$34.30	\$32.58	\$30.95	\$29.40	\$27.93	\$26.54
Revenue from UNE-P	910	1,745	2,351	2,813	2,993	2,931	2,784
Incremental Revenue from UNE-P	354	835	605	462	180	(62)	(147)
Incremental EBITDA Gained (~30% margin)	106	251	182	139	54	(19)	(44)
Mkt Entry Costs (7 in '02, 1 in '03)	(105)	(15)					
<b>Incremental EBITDA Gained (\$Millions)</b>	<b>1</b>	<b>236</b>	<b>182</b>	<b>139</b>	<b>54</b>	<b>(19)</b>	<b>(44)</b>

Source: Company data, CSFB estimates.

**Other Cost Effects**

If we now compare the incremental EBITDA impact suggested by this study to our current AT&T model, we find that our projected estimates for cost cutting appear more optimistic than our analysis to this point. However, given we have 2002 actual results we see that AT&T was clearly more successful in its cost cutting effort than our analysis would suggest this past year - so what additional cost cutting measures have we missed?

**Exhibit 9: Incremental EBITDA Trend Implied by Consumer Study vs. Our Model**

	2002A	2003	2004	2005	2006	2007	2008
Consumer Study Incremental EBITDA Shift	(2,515)	(1,251)	(690)	(266)	(254)	(273)	(258)
Currently Modeled incremental EBITDA Shift	(1,872)	(1,147)	(402)	(177)	(178)	(170)	(144)
<b>Implied Additional Cost Cutting Measures Required to Hit our Estimate</b>	<b>643</b>	<b>104</b>	<b>288</b>	<b>88</b>	<b>76</b>	<b>102</b>	<b>114</b>

Source: Company data, CSFB estimates.

The key variable costs we have examined to this point are:

- Access costs;
- Billing costs;
- Customer care costs.

However, we believe there are three other key cost drivers we have yet to take into account, and which AT&T will have to be able to cut if the company is to hit our current estimates:

1. *Bad-debt expense*: this is another variable expense, and thus should decline as AT&T's customer base declines. AT&T Consumer's bad debt expense

provision declined from approximately \$595M in 2000 to approximately \$300M in 2001.

2. *Non-access transport and leased capacity charges:* These represent the more fixed portion of the “access and interconnection” and “costs of services and products” cost lines. We estimate these costs totaled \$500-600M in 2002, and should remain fairly unchanged going forward.
3. *Advertising & promotions budget:* While investors should look at these costs as somewhat fixed (given AT&T remains a national market player and advertiser despite diminishing share), this budget is obviously discretionary. In 2002, we estimate AT&T’s cost per gross LD customer addition at \$75 with annual churn of approximately 30%. To the extent that AT&T decides to run the Consumer business under more of a harvest strategy vs. acquisition strategy the acquisition and sales budget could be a greater source of cost savings going forward. We estimate these costs were in the \$700-900M range in 2002.

**Exhibit 10: AT&T Consumer Estimated LD Customer Acquisition and Sales Costs**

Cost of Churn	2001	2002	2003	2004	2005	2006	2007	2008
Customer Base BOP	46.6	45.0	43.0	40.8	39.2	37.6	36.4	36.0
Customer Base EOP	45.0	43.0	40.8	39.2	37.6	36.4	36.0	35.7
Churned Customers (30%)	(14.0)	(13.5)	(12.9)	(12.2)	(11.8)	(11.3)	(10.9)	(10.8)
Gross Customers Adds	12.4	11.5	10.7	10.6	10.2	10.1	10.5	10.5
Net Additions (Net Customers Lost)	(1.6)	(2.0)	(2.2)	(1.7)	(1.6)	(1.1)	(0.5)	(0.3)
<b>Marketing Cost, \$75/Gross Add (\$Millions)</b>	<b>(926)</b>	<b>(864)</b>	<b>(805)</b>	<b>(794)</b>	<b>(762)</b>	<b>(760)</b>	<b>(786)</b>	<b>(787)</b>

Source: Company data, CSFB estimates.

## Risks to Our Analysis

While our analysis may underestimate the impact of wireless substitution, the impact of RBOC 271 LD entry and share gain, or the degree of pricing pressure, the most imminent and significant risk to our analysis is clearly AT&T’s ability to continue growing its local initiative via the unbundled network elements-platform (UNE-P) or some other platform.

Our study currently assumes that AT&T will refrain from entering additional markets beyond the current 10 states in which it is offering local service, but that it will continue to grow its local subscriber base in those 10 states over the next 3 years. Under these assumptions we estimate AT&T’s local effort will be producing over \$800M of EBITDA by 2006, or about 80% of the Consumer unit’s EBITDA in that year - shifting to almost 100% of Consumer EBITDA by 2008.

We currently expect the FCC to vote on the rules surrounding AT&T’s ability to continue utilizing UNE-P on February 13<sup>th</sup>. If the outcome of that decision forces AT&T to scale



back its local effort vs. our assumptions, it would clearly have a negative impact on our Consumer EBITDA forecasts. .

## Exhibit 11: AT&amp;T Consolidated Projected Earnings Model, Annual

## AT&amp;T Earnings Model - Summary

(\$ in Millions)

	2000A	2001A	2002A	2003E	2004E	2005E	2006E	2007E	2008E
<b>Consumer Revenue</b>	18,606	14,843	11,527	9,451	7,983	7,220	6,599	5,946	5,384
<b>Business Revenue</b>	28,731	27,704	26,558	25,757	24,859	24,264	23,811	23,446	23,266
<b>Corporate and Other Rev</b>	(487)	(351)	(258)	(200)	(100)	(100)	(100)	(100)	(100)
<b>Broadband &amp; Other Elimination ac</b>	-	-	-	-	-	-	-	-	-
<b>Total CSI Revenue</b>	<b>46,850</b>	<b>42,196</b>	<b>37,827</b>	<b>35,008</b>	<b>32,742</b>	<b>31,384</b>	<b>30,309</b>	<b>29,292</b>	<b>28,551</b>
Access and other connection	13,139	12,085	10,790	10,058	9,583	9,199	8,895	8,609	8,404
<i>Margin %</i>	28.0%	28.6%	28.5%	28.7%	29.3%	29.3%	29.3%	29.4%	29.4%
Costs of services and products	8,236	8,621	8,363	8,072	7,427	7,197	7,060	6,938	6,877
<i>Margin %</i>	17.6%	20.4%	22.1%	23.1%	22.7%	22.9%	23.3%	23.7%	24.1%
Selling, general and administrative	7,385	8,066	7,988	8,164	7,818	7,600	7,448	7,283	7,064
<i>Margin %</i>	15.8%	19.1%	21.1%	23.3%	23.9%	24.2%	24.6%	24.9%	24.7%
<b>EBITDA</b>	<b>18,090</b>	<b>13,424</b>	<b>10,686</b>	<b>8,714</b>	<b>7,914</b>	<b>7,389</b>	<b>6,907</b>	<b>6,461</b>	<b>6,205</b>
<i>Margin %</i>	38.6%	31.8%	28.2%	24.9%	24.2%	23.5%	22.8%	22.1%	21.7%
"Other"	40	39	-	-	-	-	-	-	-
<b>EBITDA Excluding Other</b>	<b>18,130</b>	<b>13,463</b>	<b>10,686</b>	<b>8,714</b>	<b>7,914</b>	<b>7,389</b>	<b>6,907</b>	<b>6,461</b>	<b>6,205</b>
Depreciation and amortization	4,538	4,558	4,888	5,137	5,324	5,510	5,688	5,859	6,024
Net restructuring and other charges	759	1,036	1,437	-	-	-	-	-	-
Total operating expenses	34,057	34,366	33,466	31,431	30,151	29,505	29,090	28,690	28,369
Operating income	12,793	7,830	4,361	3,577	2,591	1,879	1,219	602	182
<i>Margin %</i>	27.3%	18.6%	11.5%	10.2%	7.9%	6.0%	4.0%	2.1%	0.6%
Other income	1,189	1,327	(77)	-	-	-	-	-	-
Interest expense	1,503	1,493	1,448	1,182	899	732	570	410	249
Income before income taxes, minorit	12,479	7,664	2,836	2,395	1,691	1,147	650	192	(67)
Provision for income taxes	4,486	2,891	1,587	934	660	447	253	75	(26)
<i>Tax%</i>	36%	38%	56%	39%	39%	39%	39%	39%	39%
Minority interest income (expense)	41	131	114	-	-	-	-	-	-
Net earnings (losses) from equity inv	10	(4,836)	(400)	-	-	-	-	-	-
Income before extraordinary loss	8,044	68	963	1,461	1,032	700	396	117	(41)
Extraordinary loss (net of income tax	-	732	-	-	-	-	-	-	-
Cumulative effect of accounting char	-	-	-	-	-	-	-	-	-
<b>Net income</b>	<b>8,044</b>	<b>(664)</b>	<b>963</b>	<b>1,461</b>	<b>1,032</b>	<b>700</b>	<b>396</b>	<b>117</b>	<b>(41)</b>
Wtd Avg Shares (split adjusted)	708	729	766	784	792	800	808	816	824
<b>EPS</b>	<b>\$11.36</b>	<b>(\$0.91)</b>	<b>\$1.26</b>	<b>\$1.86</b>	<b>\$1.30</b>	<b>\$0.88</b>	<b>\$0.49</b>	<b>\$0.14</b>	<b>(\$0.05)</b>

Source: Company data, CSFB estimates.

## Exhibit 12: AT&amp;T Consumer Projected Earnings Model, Annual

<b>AT&amp;T Consumer</b>									
<i>(\$ in Millions)</i>									
	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
AT&T Consumer Minutes (Millions)	93,765	82,296	70,656	60,506	51,430	44,230	39,807	36,622	34,791
<i>Growth %</i>	-6%	-12%	-14%	-14%	-15%	-14%	-10%	-8%	-5%
AT&T Consumer Price/Minute (\$s)	0.195	0.173	0.146	0.123	0.104	0.094	0.084	0.076	0.068
<i>Growth %</i>	-9%	-12%	-16%	-16%	-15%	-10%	-10%	-10%	-10%
<b>LD Voice Rev (Direct-Dial, Calling Card)</b>	<b>18,318</b>	<b>14,223</b>	<b>10,317</b>	<b>7,421</b>	<b>5,362</b>	<b>4,150</b>	<b>3,361</b>	<b>2,783</b>	<b>2,380</b>
	-15%	-22%	-27%	-28%	-28%	-23%	-19%	-17%	-15%
States				TX, NY, MI, GA, OH, IL, CA, NJ, MA, IN	TX, NY, MI, GA, OH, IL, CA, NJ, MA, IN	TX, NY, MI, GA, OH, IL, CA, NJ, MA, IN	TX, NY, MI, GA, OH, IL, CA, NJ, MA, IN	TX, NY, MI, GA, OH, IL, CA, NJ, MA, IN	TX, NY, MI, GA, OH, IL, CA, NJ, MA, IN
Residential Lines Marketable	15,905,000	15,905,000	57,666,000	60,597,000	60,597,000	60,597,000	60,597,000	60,597,000	60,597,000
Net Adds	760,000	375,000	1,290,000	1,500,000	1,400,000	1,000,000	400,000	-	-
Local Customers	760,000	1,135,000	2,425,000	3,925,000	5,325,000	6,325,000	6,725,000	6,725,000	6,725,000
<i>Growth %</i>		49%	114%	62%	36%	19%	6%	0%	0%
Access Lines/Customer	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Local Customer Lines	988,000	1,475,500	3,152,500	5,102,500	6,922,500	8,222,500	8,742,500	8,742,500	8,742,500
<i>Market Share %</i>	6.21%	9.28%	5.47%	8%	11%	14%	14%	14%	14%
Local + vertical svcs ARPL/month	\$40.00	\$38.00	\$36.10	\$34.30	\$32.58	\$30.95	\$29.40	\$27.93	\$26.54
		-5%	-5%	-5%	-5%	-5%	-5%	-5%	-5%
<b>Local Voice Revenue</b>	<b>276.1</b>	<b>556.1</b>	<b>910.2</b>	<b>1,745.4</b>	<b>2,350.7</b>	<b>2,812.5</b>	<b>2,993.0</b>	<b>2,930.5</b>	<b>2,784.0</b>
<i>Growth %</i>		101%	64%	92%	35%	20%	6%	-2%	-5%
<b>WorldNet Access Revenue (ISP)</b>	<b>300</b>	<b>300</b>	<b>300</b>	<b>285</b>	<b>271</b>	<b>257</b>	<b>244</b>	<b>232</b>	<b>221</b>
		0%	0%	-5%	-5%	-5%	-5%	-5%	-5%
<b>Total Revenue</b>	<b>18,894</b>	<b>15,079</b>	<b>11,527</b>	<b>9,451</b>	<b>7,983</b>	<b>7,220</b>	<b>6,599</b>	<b>5,946</b>	<b>5,384</b>
Growth Y/Y	-13.1%	-20.2%	-23.6%	-18.0%	-15.5%	-9.6%	-8.6%	-9.9%	-9.4%
Growth Seq	-13.1%	-20.2%	-23.6%	-18.0%	-15.5%	-9.6%	-8.6%	-9.9%	-9.4%
<b>Restated Revenue (For Emerging Issue Task F)</b>	<b>18,606</b>	<b>14,843</b>	<b>11,527</b>	<b>9,451</b>	<b>7,983</b>	<b>7,220</b>	<b>6,599</b>	<b>5,946</b>	<b>5,384</b>
Growth Y/Y	-13.2%	-20.2%	-22.3%	-18.0%	-15.5%	-9.6%	-8.6%	-9.9%	-9.4%
Growth Seq	-13.2%	-20.2%	-22.3%	-18.0%	-15.5%	-9.6%	-8.6%	-9.9%	-9.4%
<i>Operating Expenses</i>									
Access and other connection	5204	4040	3,164	2,646	2,155	1,949	1,782	1,605	1,454
<i>Margin %</i>	28%	27%	27%	28%	27%	27%	27%	27%	27%
Costs of services and products	2557	2382	1,784	1,523	1,237	1,083	990	892	808
<i>Margin %</i>	14%	16%	15%	16%	16%	15%	15%	15%	15%
Selling, general and administrative	3840	3569	3,552	3,403	3,113	2,888	2,706	2,497	2,315
<i>Margin %</i>	20%	24%	31%	36%	39%	40%	42%	42%	43%
Total Oper Expenses	11,601	9,991	8,501	7,572	6,506	5,920	5,477	4,995	4,577
<b>EBITDA</b>	<b>7005</b>	<b>4852</b>	<b>3026</b>	<b>1879</b>	<b>1477</b>	<b>1300</b>	<b>1122</b>	<b>951</b>	<b>808</b>
<i>Margin %</i>	37%	32%	26%	20%	19%	18%	17%	16%	15%
Other	84	46	-	-	-	-	-	-	-
<b>EBITDA excluding "Other"</b>	<b>7,089</b>	<b>4898</b>	<b>3026</b>	<b>1879</b>	<b>1477</b>	<b>1300</b>	<b>1122</b>	<b>951</b>	<b>808</b>
<i>Margin %</i>									
Depreciation and amortization	167	200	162	153	152	151	151	150	150
Net restructuring and other charges	97	31	197	-	-	-	-	-	-
Operating income	6741	4621	2668	1726	1325	1148	971	801	657
Other income, net	81	189	45	0	0	0	0	0	0
Interest expense	164	154	53	-62	-100	-131	-156	-176	-191
<b>Income before income taxes</b>	<b>6658</b>	<b>4656</b>	<b>2659</b>	<b>1788</b>	<b>1425</b>	<b>1279</b>	<b>1127</b>	<b>977</b>	<b>849</b>
Provision for income taxes	2546	1783	1,011	697	556	499	440	381	331
<i>Income Tax %</i>	38.2%	38.3%	38%	39%	39%	39%	39%	39%	39%
<b>Net income</b>	<b>4112</b>	<b>2873</b>	<b>1649</b>	<b>1091</b>	<b>869</b>	<b>780</b>	<b>687</b>	<b>596</b>	<b>518</b>
Wtd Avg Shares (split adjusted)	708	729	766	784	792	800	808	816	824
<b>EPS</b>	<b>\$5.80</b>	<b>\$3.94</b>	<b>\$2.15</b>	<b>\$1.39</b>	<b>\$1.10</b>	<b>\$0.98</b>	<b>\$0.85</b>	<b>\$0.73</b>	<b>\$0.63</b>

Source: Company data, CSFB estimates.

## Exhibit 13: AT&amp;T Business Projected Earnings Model, Annual

AT&T Business + Corp. & Other  
(\$ in Millions)

	2000A	2001A	2002A	2003E	2004E	2005E	2006E	2007E	2008E
<b>DATA</b>									
Est. Non-Packet (Private Line & Govt.)	5,834	6,038	6,023	5,791	5,598	5,477	5,363	5,218	5,025
<i>Est Y/Y Growth</i>	8%	3%	0%	-4%	-3%	-2%	-2%	-3%	-4%
Estimated Total Frame-Relay & ATM	2,388	3,011	3,345	3,945	4,625	5,319	5,957	6,552	7,208
<i>Est Y/Y Growth</i>	43%	26%	11%	18%	17%	15%	12%	10%	10%
Estimated Total IP	695	910	1,146	1,490	1,788	2,057	2,303	2,534	2,787
<i>Est Y/Y Growth</i>	42%	31%	26%	30%	20%	15%	12%	10%	10%
Estimated Total Packet (Frame, ATM, IP)	3,083	3,921	4,492	5,435	6,413	7,375	8,260	9,086	9,995
<i>Est Y/Y Growth</i>	44%	27%	15%	21%	18%	15%	12%	10%	10%
<b>AT&amp;T Biz/Wholesale Data Revenue</b>	<b>8,918</b>	<b>9,959</b>	<b>10,515</b>	<b>11,226</b>	<b>12,011</b>	<b>12,852</b>	<b>13,623</b>	<b>14,304</b>	<b>15,020</b>
<i>Est Y/Y Growth</i>	18%	11.7%	6%	7%	7%	7%	6%	5%	5%
<b>VOICE</b>									
AT&T Biz/Wholesale Minute Est (Millions)	175,215	179,489	180,613	186,841	177,499	168,624	160,193	152,183	144,574
<i>Growth %</i>	11%	2%	1%	3%	-5%	-5%	-5%	-5%	-5%
AT&T Biz/Wholesale Price/Minute Est (\$)	0.108	0.092	0.081	0.069	0.062	0.056	0.050	0.045	0.041
<i>Growth %</i>	-10%	-15%	-12%	-15%	-10%	-10%	-10%	-10%	-10%
<b>AT&amp;T Biz/Wholesale LD Voice Revenue</b>	<b>18,987</b>	<b>16,541</b>	<b>14,677</b>	<b>12,852</b>	<b>10,989</b>	<b>9,395</b>	<b>8,033</b>	<b>6,868</b>	<b>5,872</b>
<i>Growth %</i>	-0.7%	-13%	-11%	-12%	-15%	-15%	-15%	-15%	-15%
<b>LOCAL VOICE</b>									
Net Adds	840,000	650,000	679,000	650,000	650,000	650,000	650,000	650,000	650,000
Local Customer Lines	2,272,000	2,922,000	3,601,000	4,251,000	4,901,000	5,551,000	6,201,000	6,851,000	7,501,000
<i>Growth%</i>	59%	29%	23%	18%	15%	13%	12%	10%	9%
Local + vertical svcs ARPL/month	\$44.79	\$38.67	\$34.92	\$35.64	\$33.85	\$32.16	\$30.55	\$29.03	\$27.57
<i>Growth %</i>	-40%	-14%	-10%	2%	-5%	-5%	-5%	-5%	-5%
<b>AT&amp;T Business Local Voice Revenue</b>	<b>995.4</b>	<b>1,205.3</b>	<b>1,366.6</b>	<b>1,678.9</b>	<b>1,859.0</b>	<b>2,016.9</b>	<b>2,154.4</b>	<b>2,273.0</b>	<b>2,374.5</b>
<i>Growth %</i>	19.8%	21%	13%	23%	11%	8%	7%	6%	4%
<b>Normalized Business Services</b>	<b>28,900</b>	<b>27,705</b>	<b>26,558</b>	<b>25,757</b>	<b>24,859</b>	<b>24,264</b>	<b>23,811</b>	<b>23,446</b>	<b>23,266</b>
<i>Growth %</i>	5.2%	-4.1%	-4.1%	-3.0%	-3.5%	-2.4%	-1.9%	-1.5%	-0.8%
<b>Business Services</b>	<b>28,900</b>	<b>27,705</b>	<b>26,558</b>	<b>25,757</b>	<b>24,859</b>	<b>24,264</b>	<b>23,811</b>	<b>23,446</b>	<b>23,266</b>
<i>Growth %</i>	5.2%	-4.1%	-4.1%	-3.0%	-3.5%	-2.4%	-1.9%	-1.5%	-0.8%
<b>Revenues - Normalized for Concert Divestiture, and elimination of PCCC</b>	<b>28,886</b>	<b>27,705</b>	<b>26,558</b>	<b>25,757</b>	<b>24,859</b>	<b>24,264</b>	<b>23,811</b>	<b>23,446</b>	<b>23,266</b>
<i>Growth %</i>	4.7%	-4.1%	-4.1%	-3.0%	-3.5%	-2.4%	-1.9%	-1.5%	-0.8%
Corporate & Other	(487)	(351)	(258)	(200)	(100)	(100)	(100)	(100)	(100)
Corporate & Other Normalized	(307)	(33)	(258)	(200)	(100)	(100)	(100)	(100)	(100)
<b>Biz &amp; Corp &amp; Other</b>	<b>28,413</b>	<b>27,354</b>	<b>26,300</b>	<b>25,557</b>	<b>24,759</b>	<b>24,164</b>	<b>23,711</b>	<b>23,346</b>	<b>23,166</b>
<i>GM %</i>	46%	45%	46%	45%	45%	45%	44%	44%	44%
98, '99, '00 and 1Q01 financials based on 5/01 Proxy (	<b>2000</b>	<b>2001</b>	<b>2002A</b>	<b>2003E</b>	<b>2004E</b>	<b>2005E</b>	<b>2006E</b>	<b>2007E</b>	<b>2008E</b>
<b>REVENUE.....(EITF Adjusted at Consumer)</b>	<b>28,244</b>	<b>27,353</b>	<b>26,300</b>	<b>25,557</b>	<b>24,759</b>	<b>24,164</b>	<b>23,711</b>	<b>23,346</b>	<b>23,166</b>
Access and other connection.....	7,935	8,045	7,626	7,411	7,428	7,249	7,113	7,004	6,950
<i>Margin %</i>	28.1%	29.4%	29.0%	29.0%	30.0%	30.0%	30.0%	30.0%	30.0%
Costs of services and products	5,679	6,239	6,579	6,549	6,190	6,114	6,070	6,047	6,070
<i>Margin %</i>	20.1%	22.8%	25.0%	25.6%	25.0%	25.3%	25.6%	25.9%	26.2%
Selling, general and administrative.....	3,545	4,497	4,436	4,761	4,704	4,712	4,742	4,786	4,749
<i>Margin %</i>	12.6%	16.4%	16.9%	18.6%	19.0%	19.5%	20.0%	20.5%	20.5%
<b>EBITDA</b>	<b>11,085</b>	<b>8,572</b>	<b>7,660</b>	<b>6,835</b>	<b>6,437</b>	<b>6,089</b>	<b>5,785</b>	<b>5,510</b>	<b>5,398</b>
<i>Margin %</i>	39.2%	31.3%	29.1%	26.7%	26.0%	25.2%	24.4%	23.6%	23.3%
"Other"	(44)	(7)	-	-	-	-	-	-	-
<b>EBITDA Excluding Other</b>	<b>11,041</b>	<b>8,565</b>	<b>7,660</b>	<b>6,835</b>	<b>6,437</b>	<b>6,089</b>	<b>5,785</b>	<b>5,510</b>	<b>5,398</b>

Source: Company data, CSFB estimates.

**Exhibit 14: AT&T Business Projected Earnings Model, Annual, continued****AT&T Business + Corp. & Other**

(\$ in Millions)

	2000A	2001A	2002A	2003E	2004E	2005E	2006E	2007E	2008E
Depreciation and amortization.....	4,371	4,358	4736	4984	5172	5358	5537	5709	5874
Net restructuring and other charges.....	662	1,005	1,240	-	-	-	-	-	-
Total operating expenses.....	22,192	24,144	24,616	23,705	23,493	23,433	23,462	23,545	23,642
<b>EBIT Excluding Other</b>	6,114	3,925	1,684	1,851	1,266	731	248	(199)	(476)
Operating income.....	6,052	3,209	1,684	1,851	1,266	731	248	(199)	(476)
Margin %	21.4%	11.7%	6.4%	7.2%	5.1%	3.0%	1.0%	-0.9%	-2.1%
Other income.....	1,108	1,138	(202)	-	-	-	-	-	-
Interest expense.....	1,339	1,339	1396	1245	1000	863	725	586	440
Income before income taxes, minority interest, (losses)	5,821	3,008	86	607	266	(132)	(477)	(785)	(916)
Provision for income taxes.....	1,940	1,108	33	237	104	-52	-186	-306	-357
Tax%	33.3%	36.8%	38%	39%	39%	39%	39%	39%	39%
Minority interest income (expense).....	41	131	114	-	-	-	-	-	-
Net earnings (losses) from equity investments.....	10	(4,836)	(400)	-	-	-	-	-	-
Income before extraordinary loss.....	3,932	(2,805)	(233)	370	162	(81)	(291)	(479)	(559)
Extraordinary loss (net of income taxes of \$80).....	-	732	-	-	-	-	-	-	-
Cumulative effect of accounting change	-	-	-	-	-	-	-	-	-
Net income.....	3,932	(3,537)	(233)	370	162	(81)	(291)	(479)	(559)
Wtd Avg Shares (split adjusted)	708	729	766	784	792	800	808	816	824
<b>EPS</b>	<b>\$5.55</b>	<b>(\$4.85)</b>	<b>(\$0.30)</b>	<b>\$0.47</b>	<b>\$0.21</b>	<b>(\$0.10)</b>	<b>(\$0.36)</b>	<b>(\$0.59)</b>	<b>(\$0.68)</b>

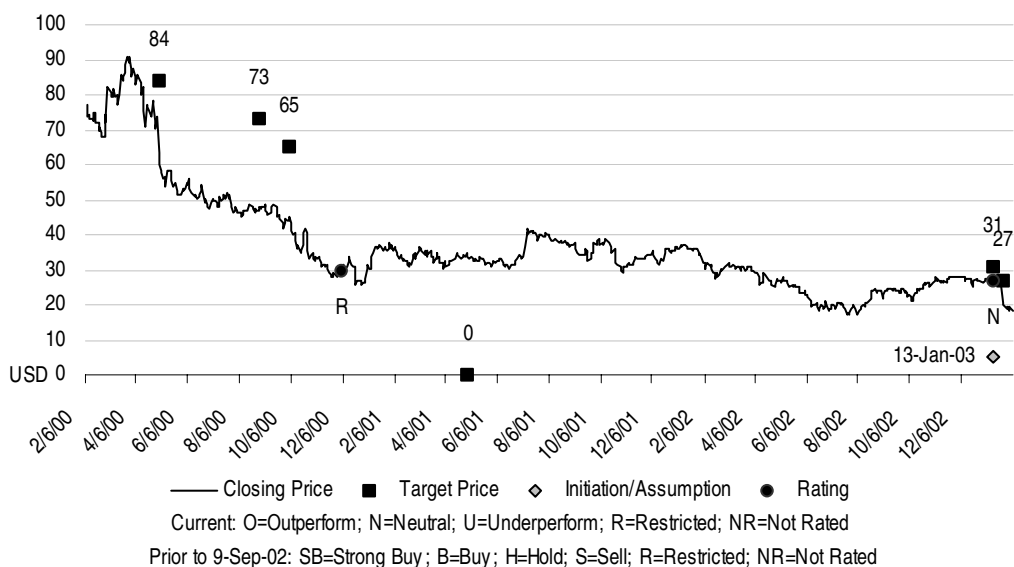
Source: Company data, CSFB estimates.

**Companies Mentioned (Price as of 05 Feb 03)**

AT&amp;T Corporation (T, \$18.36, NEUTRAL, TP \$27)

**DISCLOSURE SECTION**

## 3-Year History Chart for T



T Date	Closing Price (\$)	Target Price (\$)	Rating	Initiation/Assumption
5/2/00	63.345	84		
8/29/00	47.98	73		
10/4/00	44.87	65		
12/4/00	29.787		RESTRICTED	
5/1/01	34.81	0		
1/13/03	27.13	31	NEUTRAL	X
1/24/03	20.03	27		

The analyst(s) responsible for preparing this research report received compensation that is based upon various factors including CSFB's total revenues, a portion of which are generated by CSFB's investment banking activities.

**Analyst's stock ratings are defined as follows:**

**Outperform:** The stock's total return is expected to exceed the industry average\* by at least 10-15% (or more, depending on perceived risk) over the next 12 months.

**Neutral:** The stock's total return is expected to be in line with the industry average\* (range of  $\pm 10\%$ ) over the next 12 months.

**Underperform\*\*:** The stock's total return is expected to underperform the industry average\* by 10-15% or more over the next 12 months.

\*For Asia/Pacific, Latin America, and Emerging Markets, stock ratings are relative to the relevant country index (rather than the analyst's industry coverage universe).

\*\*In an effort to achieve a more balanced distribution of stock ratings, the Firm has requested that analysts rate at least 15% of their coverage universe as Underperform. This guideline is subject to change depending on several factors, including general market conditions.

**Restricted:** CSFB policy and/or applicable law and regulations preclude certain types of communications, including an investment recommendation, during the course of CSFB's engagement in an investment banking transaction and in certain other circumstances.

**Volatility Indicator [V]:** A stock is defined as volatile if the stock price has moved up or down by 20% or more in a month in at least 8 of the past 24 months or the analyst expects significant volatility going forward. All IPO stocks are automatically rated volatile within the first 12 months of trading.

**Analyst's coverage universe weightings are defined as follows:**

**Overweight:** Industry expected to outperform the relevant broad market benchmark over the next 12 months.

**Market Weight:** Industry expected to perform in-line with the relevant broad market benchmark over the next 12 months.

**Underweight:** Industry expected to underperform the relevant broad market benchmark over the next 12 months.

---

**CSFB's distribution of stock ratings (and banking clients) is:**

Global Ratings Distribution*		
<b>Outperform</b>	36%	(47% banking clients)
<b>Neutral</b>	42%	(41% banking clients)
<b>Underperform</b>	20%	(32% banking clients)
<b>Restricted</b>	2%	

*\*For purposes of the NYSE and NASD ratings distribution disclosure requirements, our stock ratings of Outperform, Neutral, and Underperform most closely correspond to Buy, Hold, and Sell, respectively; however, the meanings are not the same, as our stock ratings are determined on a relative basis. (Please refer to definitions above.) An investor's decision to buy or sell a security should be based on investment objectives, current holdings, and other individual factors.*

---

**Price Target:** (12 months) for (T)

**Method:** Avg of DCF and Sum-of-the-parts using EBITDA multiples

**Risks:** Risk to Earnings, Risk to EBITDA and FCF

---

CSFB and/or its affiliates have managed or co-managed a public offering of securities for the subject company (T) within the past 12 months.

CSFB and/or its affiliates have received investment banking related compensation from the subject company (T) within the past 12 months.

CSFB and/or its affiliates expect to receive or intend to seek investment banking related compensation from the subject company (T) within the next 3 months.

As of the date of this report, Pershing Trading Company, a CSFB affiliate, acts as a specialist on a regional exchange in the securities of the subject company (T).

Credit Suisse First Boston (Europe) Limited (CSFB) acts as broker to T.

Disclosures continue on next page.

AMSTERDAM..... 31 20 5754 890  
 ATLANTA ..... 1 404 897 2800  
 BALTIMORE..... 1 410 659 8800  
 BANGKOK ..... 62 614 6000  
 BEIJING..... 86 10 6410 6611  
 BOSTON..... 1 617 556 5500  
 BUDAPEST ..... 36 1 202 2188  
 BUENOS AIRES..... 54 11 4394 3100  
 CHICAGO ..... 1 312 750 3000  
 FRANKFURT ..... 49 69 75 38 0  
 HOUSTON ..... 1 713 890 6700  
 HONG KONG ..... 852 2101 6000  
 JOHANNESBURG 27 11 343 2200

KUALA LUMPUR..... 603 2143 0366  
 LONDON ..... 44 20 7888 8888  
 MADRID ..... 34 91 423 16 00  
 MELBOURNE..... 61 3 9280 1888  
 MEXICO CITY ..... 52 5 283 89 00  
 MILAN ..... 39 02 7702 1  
 MOSCOW ..... 7 501 967 8200  
 MUMBAI ..... 91 22 230 6333  
 NEW YORK..... 1 212 325 2000  
 PALO ALTO ..... 1 650 614 5000  
 PARIS..... 33 1 53 75 85 00  
 PHILADELPHIA ..... 1 215 851 1000

SAN FRANCISCO.....1 415 836 7600  
 SÃO PAULO .....55 11 3841 6000  
 SEOUL .....82 2 3707 3700  
 SINGAPORE .....65 6212 2000  
 SYDNEY .....61 2 8205 4433  
 TAIPEI .....886 2 2715 6388  
 TOKYO .....81 3 5404 9000  
 TORONTO.....1 416 352 4500  
 WARSAW.....48 22 695 0050  
 WASHINGTON.....1 202 354 2600  
 ZURICH .....41 1 333 55 55

This report is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or which would subject Credit Suisse First Boston or its subsidiaries or affiliates (collectively "CSFB") to any registration or licensing requirement within such jurisdiction. All material presented in this report, unless specifically indicated otherwise, is under copyright to CSFB. None of the material, nor its content, nor any copy of it, may be altered in any way, transmitted to, copied or distributed to any other party, without the prior express written permission of CSFB. All trademarks, service marks and logos used in this report are trademarks or service marks or registered trademarks or service marks of CSFB.

The information, tools and material presented in this report are provided to you for information purposes only and are not to be used or considered as an offer or the solicitation of an offer to sell or to buy or subscribe for securities or other financial instruments. CSFB may not have taken any steps to ensure that the securities referred to in this report are suitable for any particular investor. CSFB will not treat recipients as its customers by virtue of their receiving the report. The investments or services contained or referred to in this report may not be suitable for you and it is recommended that you consult an independent investment advisor if you are in doubt about such investments or investment services. Nothing in this report constitutes investment, legal, accounting or tax advice or a representation that any investment or strategy is suitable or appropriate to your individual circumstances or otherwise constitutes a personal recommendation to you. CSFB does not offer advice on the tax consequences of investment and you are advised to contact an independent tax adviser. Please note in particular that the bases and levels of taxation may change.

Information and opinions presented in this report have been obtained or derived from sources believed by CSFB to be reliable, but CSFB makes no representation as to their accuracy or completeness. Additional information is available upon request. CSFB accepts no liability for loss arising from the use of the material presented in this report, except that this exclusion of liability does not apply to the extent that liability arises under specific statutes or regulations applicable to CSFB. This report is not to be relied upon in substitution for the exercise of independent judgment. CSFB may have issued, and may in the future issue, other reports that are inconsistent with, and reach different conclusions from, the information presented in this report. Those reports reflect the different assumptions, views and analytical methods of the analysts who prepared them and CSFB is under no obligation to ensure that such other reports are brought to the attention of any recipient of this report. CSFB and its affiliate companies are involved in many businesses that may relate to companies mentioned in this report. These businesses include specialized trading, risk arbitrage, market making, and other proprietary trading. CSFB may, to the extent permitted by law, act upon or use the information or opinions presented herein, or the research or analysis on which they are based, before the material is published.

Past performance should not be taken as an indication or guarantee of future performance, and no representation or warranty, express or implied, is made regarding future performance. Information, opinions and estimates contained in this report reflect a judgement at its original date of publication by CSFB and are subject to change without notice. The price, value of and income from any of the securities or financial instruments mentioned in this report can fall as well as rise. The value of securities and financial instruments is subject to exchange rate fluctuation that may have a positive or adverse effect on the price or income of such securities or financial instruments. Investors in securities such as ADRs, the values of which are influenced by currency volatility, effectively assume this risk.

Structured securities are complex instruments, typically involve a high degree of risk and are intended for sale only to sophisticated investors who are capable of understanding and assuming the risks involved. The market value of any structured security may be affected by changes in economic, financial and political factors (including, but not limited to, spot and forward interest and exchange rates), time to maturity, market conditions and volatility, and the credit quality of any issuer or reference issuer. Any investor interested in purchasing a structured product should conduct their own investigation and analysis of the product and consult with their own professional advisers as to the risks involved in making such a purchase.

Some investments discussed in this report have a high level of volatility. High volatility investments may experience sudden and large falls in their value causing losses when that investment is realised. Those losses may equal your original investment. Indeed, in the case of some investments the potential losses may exceed the amount of initial investment, in such circumstances you may be required to pay more money to support those losses. Income yields from investments may fluctuate and, in consequence, initial capital paid to make the investment may be used as part of that income yield. Some investments may not be readily realisable and it may be difficult to sell or realise those investments, similarly it may prove difficult for you to obtain reliable information about the value, or risks, to which such an investment is exposed.

This report may provide the addresses of, or contain hyperlinks to, websites. Except to the extent to which the report refers to CSFB's own website material, CSFB has not reviewed the linked site and takes no responsibility for the content contained therein. Such address or hyperlink (including addresses or hyperlinks to CSFB's own website material) is provided solely for your convenience and information and the content of the linked site does not in any way form part of this document. Accessing such website or following such link through this report or CSFB's website shall be at your own risk.

This report is issued and distributed in Europe (except Switzerland) by Credit Suisse First Boston (Europe) Limited, One Cabot Square, London E14 4QJ, England, which is regulated in the United Kingdom by The Financial Services Authority ("FSA"). This report is being distributed in the United States by Credit Suisse First Boston LLC; in Switzerland by Credit Suisse First Boston; in Canada by Credit Suisse First Boston Canada Inc.; in Brazil by Banco de Investimentos Credit Suisse Boston S.A.; in Japan by Credit Suisse First Boston Securities (Japan) Limited; elsewhere in Asia/Pacific by whichever of the following is the appropriately authorised entity in the relevant jurisdiction: Credit Suisse First Boston (Hong Kong) Limited, Credit Suisse First Boston Australia Equities Limited, Credit Suisse First Boston (Thailand) Limited, CSFB Research (Malaysia) Sdn Bhd, Credit Suisse First Boston Singapore Branch and elsewhere in the world by the relevant authorised affiliate of the above. Research on Taiwanese securities produced by Credit Suisse First Boston, Taipei Branch has been prepared and/or reviewed by a registered Senior Business Person.

In jurisdictions where CSFB is not already registered or licensed to trade in securities, transactions will only be effected in accordance with applicable securities legislation, which will vary from jurisdiction to jurisdiction and may require that the trade be made in accordance with applicable exemptions from registration or licensing requirements. Non-U.S. customers wishing to effect a transaction should contact a CSFB entity in their local jurisdiction unless governing law permits otherwise. U.S. customers wishing to effect a transaction should do so only by contacting a representative at Credit Suisse First Boston LLC in the U.S.

Please note that this report was originally prepared and issued by CSFB for distribution to their market professional and institutional investor customers. Recipients who are not market professional or institutional investor customers of CSFB should seek the advice of their independent financial advisor prior to taking any investment decision based on this report or for any necessary explanation of its contents. This research may relate to investments or services of a person outside of the UK or to other matters which are not regulated by the FSA or in respect of which the protections of the FSA for private customers and/or the UK compensation scheme may not be available, and further details as to where this may be the case are available upon request in respect of this report.

Copyright Credit Suisse First Boston, and its subsidiaries and affiliates, 2003. All rights reserved.