Statement of

Lee L. Selwyn

before the

Federal Communications Commission

***en banc* hearing on wireless early termination fees**

June 12, 2008

Chairman Martin, Commissioners, good morning, and thank you for inviting me to participate at today's hearing on the issue of early termination fees ("ETFs") imposed by many wireless carriers when their customers discontinue their service prior to the completion of the term of their contract. My name is Lee L. Selwyn; I am president of Economics and Technology, Inc. ("ETI"), based in Boston, ETI is a research and consulting firm specializing in telecommunications economics, regulation and public policy. I have submitted testimony before the Commission on numerous occasions dating back to the late 1960s, and have appeared before you in previous en banc hearings.

I have submitted testimony relative to the CTIA petition on two previous occasions. On May 11, 2006, I submitted a Declaration on behalf of the Wireless Consumers Alliance et al, and on September 8, 2006 I submitted a Declaration on behalf of AARP. I have recently been called as an expert witness by the Plaintiffs in the California class action litigation against Sprint, and expect to appear as an expert for the Plaintiffs in the California litigation against Verizon Wireless later this month.

The purpose of my testimony here today is to share with you the results of several economic analyses that I prepared for the California Sprint litigation or that have resulted from information adduced in the course of the trial. My testimony will address three specific issues:

(1) Handset subsidies. Based upon data compiled and published by the United States International Trade Commission and by the Cellular Telephone and Internet Association, the average difference between the wholesale costs carriers incur to purchase handsets from their manufacturers and the retail revenues they receive at the point of purchase from their subscribers is minimal. For 2006, this data indicate that on average the extent of the "handset subsidy" was only $14.33.

(2) Avoidable costs associated with early terminations are approximately equal to the "lost" contractual revenues. This is because carriers are able to take the expected level of early terminations into account in their demand forecasts, forecasts that in turn permit them to adjust both capital spending and operating expenses to account for the reduced level of demand.

(3) Sprint's "Cost per Gross Addition" cannot be used to rationalize its early termination fees. In fact, when viewed with respect to the total revenues that Sprint derives over the average service life of its customers – $3,665.61 – it is apparent that Sprint's marketing costs as represented by its CPGA, when expressed in terms of marketing costs per dollar of revenue, amount to less than ten cents for each dollar of revenue generated, *including the effects of early terminations on average customer service life.*

I conclude that Sprint's early termination fees of between $150 and $200 bear no relationship to the minimal loss of profits that Sprint actually experiences from such early terminations, and that even those customers who do terminate service prior to the completion of their contract term still generate net profit for Sprint.

I. Handset costs and "handset subsidies"

A frequently repeated industry rationale for ETFs is the claimed need for carriers to be able to recover costs they incur in providing handsets to customers below cost if the customer discontinues service prior to completion of a term contract. Handset subsidies are a component of "customer acquisition costs" - marketing expenses that carriers incur in order to attract new customers and retain existing customers. The practice of offering consumers handsets below cost as a central feature of the wireless carriers' marketing strategy to attract new customers can be traced back to the earliest days of cellular telephony, long before the introduction of term contracts or ETFs. Over time, as the volume of handsets being manufactured mushroomed and the production costs plummeted, the magnitude of such "subsidies" diminished to the point where it has all but disappeared.

Handset costs. An objective source of data on the wholesale prices of wireless handsets being paid by wireless carriers is the United States International Trade Commission ("USITC"). The USITC compiles data on the declared value and quantities of goods imported into the United States based upon information provided to the US Customs Service on Customs Declarations. Virtually all wireless handsets sold in this country are manufactured abroad and are thus

captured in the USITC compilation. The following table summarizes the USITC data for wireless handsets for each year from 1996 through 2006:

Table 1. US ITC Average Wholesale Costs Per Handset			
	Value of imports (millions)	Units imported (millions)	Average Wholesale Cost Per Handset
1996	$567.6	4.8	$ 117.70
1997	$945.6	8.2	$115.82
1998	$1323.3	13.0	$101.91
1999	$3,038.7	24.1	$ 111.98
2000	$6,067.9	51.8	$ 117.19
2001	$8,439.6	76.3	$ 110.67
2002	$9,431.1	87.5	$ 107.79
2003	$10,770.4	102.2	$ 105.35
2004	$16,690.8	146.0	$ 114.31
2005	$19,820.4	174.5	$ 113.58
2006	$21,737.9	189.0	$ 115.01

Over the entire period, the weighted average import price per handset was $112.26

Handset revenues. The Cellular Telephone and Internet Association ("CTIA") has published information on the average retail price paid by customers for wireless handsets. For 2006, CTIA indicated that the average retail price was $65.67. Wireless carriers typically

impose an "activation fee" at the time that the handset is purchased by the customer. Sprint's activation fee is around $35 per handset, bringing the total average handset price being paid by customers to about $100.67.[1] The corresponding 2006 average wholesale import price as cmpiled by the USITC was $115.00. As shown in the following table, using this data we can calculate the average handset subsidy as the difference between the average import value per handset ($115.00) and the average retail revenue per handset ($100.67), i.e., $14.33.

Table 2 Industry Average Handset Subsidy	
Average wholesale cost per handset	$115.00
Average revenue per handset	$65.67
Activation Fee	$35.00
Subtotal: Total average revenue per handset	$100.67
Industry Average Handset Subsidy	**$14.33**

II. Lost Profits due to Early Terminations

Approximately 35% of Sprint revenue is derived from charges for services whose purchase is not required under any term agreement ("optional charges"). These consist of overage charges, various service features such as text messaging, transmission of photos and

1. While stated separately, the activation fee is properly considered as part of the total handset revenue received by the carrier at the time of the retail purchase and should properly be included in the determination of the actual handset subsidy. Indeed, in its 2004 10-K as filed with the Securities and Exchange Commission, Sprint noted that it had that year modified its accounting practices specifically to recognize activation fee revenue as "equipment revenue."

other non-voice content, ring tones, and roaming charges. The "loss" of such optional services revenues as a result of customers' early termination of service cannot be recovered as contract damages because customers could fully perform their contractual obligations without incurring any of these optional charges. Under Sprint's business model, the monthly recurring charge (MRC) revenues subject to term contracts produce little or no profit, with nearly all profit being derived from non-contractual "optional" services. This does not mean that Sprint's wireless business is not profitable. However, the principal *source* for such profits lies in the *non-contractual* services. Customers on average incur a significant amount of charges for optional services and features above and beyond the amounts they are contractually obligated to pay. Put differently, if all of Sprint's customers did nothing more than precisely satisfy their contractual commitments – i.e., if they had purchased no services above and beyond those to which they were contractually obligated to purchase – the company would have earned little or no profit. In fact, revenues from optional charges overwhelm Sprint's profits. The revenue derived from optional charges represents between 29% and 40% of total revenue for each period he analyzed. These data are summarized in Table 3 below:

TABLE 3 OPTIONAL CHARGES AS PERCENT OF TOTAL REVENUE		
Year	MRC % of ARPU	**Non-MRC Total % of ARPU**
2001 Q4	65%	35%
2002 Q4	60%	40%
2003 Q4	67%	33%
2004 Q4	67%	33%
2005 Q4	67%	33%
2006 Q3	71%	29%
Source: Taylor Declaration, Exhibit D		

Thus, when revenues from non-contractual optional charges are excluded and avoidable costs are correctly determined, the calculation of contract revenues less avoidable costs results in minimal lost profits resulting from the early termination, certainly well below Sprint's $150 or $200 early termination fees.

Avoidable Costs

Sprint's Vice President of Network Engineering testified at trial that Sprint plans its network capacity investment based upon 18-24 month forecasts of demand. Early terminations factor into these demand forecasts, and reduce overall network capacity requirements relative to what they would have been had the early terminations not occurred. If those customers who had terminated their contracts prior to the full term had remained on the Sprint network, the company would have been forced to incur substantial additional capital expenditures to provide the necessary network capacity to absorb the significantly elevated level of demand. As a result of

the early terminations, Sprint can avoid, has avoided – and continues to avoid – substantial capital expenditures and associated depreciation, amortization, and cost of capital expenses by not having to provide service to customers who terminated their service prior to fulfilling their contract term. Indeed, Sprint's 10-K reports establish this direct linkage between the level of its operating costs, on the one hand, and the size of its customer base and overall usage of its network. For example, in its 2004 10-K, Sprint states:

> The PCS Group's costs of services and products mainly include handset and accessory costs, switch and cell site expenses, customer service costs and other network-related costs. These costs increased 6% in 2003 and 9% in 2002. The increases are primarily due to network support of a larger customer base, higher minutes of use, expanded market coverage and increased handset unit costs. ...[2]

Costs that are "fixed" at any single point in time may be"variable" when considered over a longer period of time. If the demand for a service, such as wireless, is growing, the service provider will need to make successive capital investments in its network so as to accommodate the growth in demand. If the *rate of growth* increases, the rate at which such capacity expenditures will be required will also increase; conversely, at a reduced rate of growth, the need for additional capacity is correspondingly reduced. A decision by a single customer to terminate service may have little or not direct effect upon aggregate carrier costs. However, when viewed in aggregate – i.e., with respect to the ongoing volume of early terminations over a protracted time frame – more than seven years in this case – the carrier has the ability to adjust its capital spending and various ongoing operating costs to accommodate the highly predictable rate of early terminations that it experiences on an ongoing basis.

---

2. Sprint 2004 10-K, at 39.

I have undertaken a high-level analysis to identify Sprint's variable, and hence *avoidable*, costs. I examined Sprint financial results as reported in the Sprint 10-K reports over multiple accounting periods, specifically over the period from 1999 through the second quarter of 2005. This analysis of Sprint financial reports confirms that, while some costs appear to be "fixed" or, more accurately, relatively volume-insensitive, a substantial portion of Sprint's operating costs and capital expenditures varies roughly in proportion to the average number of Sprint customers. Figure 1 plots Sprint's total operating costs, excluding operating costs associated with optional charges, and including Sprint's cost of capital, against the average number of Sprint customers in each year. Using linear regression analysis, I have plotted a trend line and, by extending the trend line to the Y-axis intercept (reflecting a theoretical zero customer count), we can identify the fixed cost component of the (pre-merger) Sprint Wireless Segment operating costs, including depreciation, return, and cost of capita, and excluding costs associated with optional charges, at roughly $6-billion.

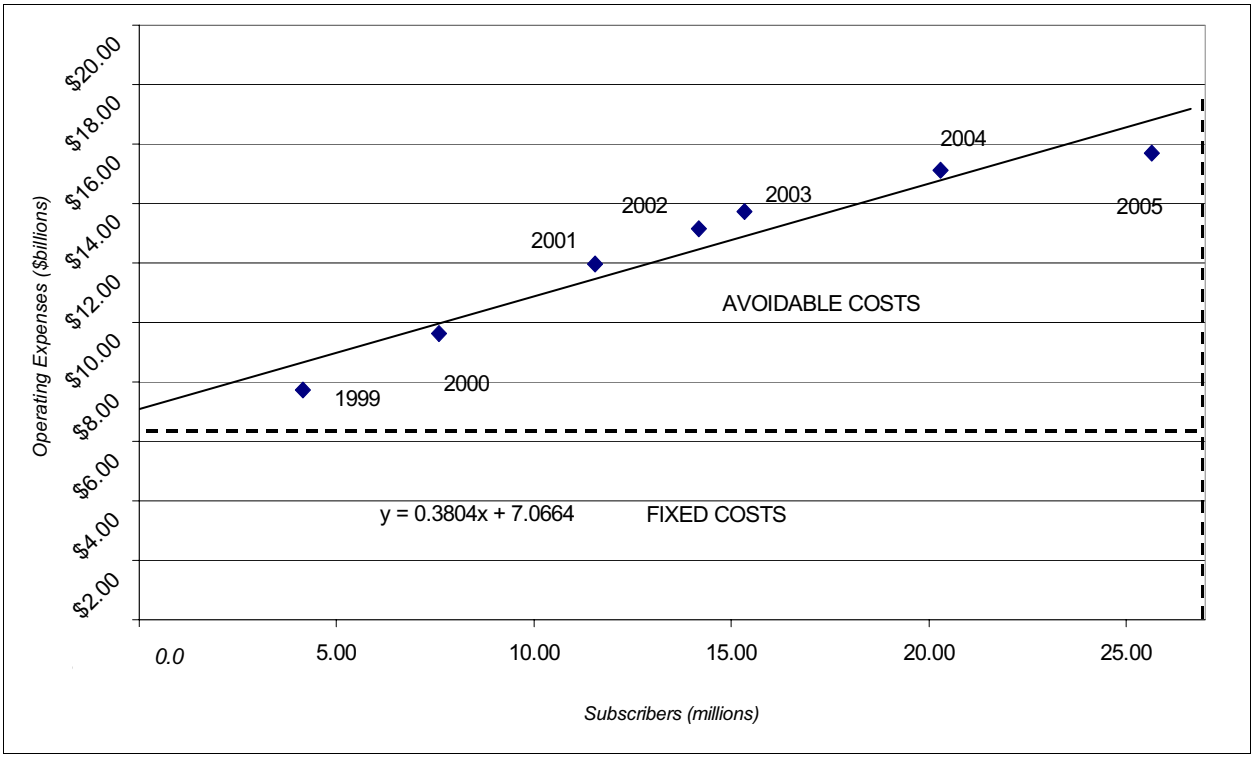


Figure 1. Sprint Wireless Segment operating expenses including depreciation, amortization and cost of capital, excluding costs associated with optional charges, vs. number of subscribers, 1999-2005.

I have also undertaken a similar analysis with respect to Sprint's net Property, Plant and Equipment ("PPE"). Table 4 below summarizes the total Sprint investment in PPE and the total number of Sprint customers as of the end of each calendar year from 1999 through 2005. Note that here I have used end-of-year customer counts rather than average intra-year customer counts, since I am comparing these figures with end-of-year plant in service. Figure 2 plots the total plant against the number of Sprint customers as of the end of each year beginning in 1999, and also provides a trend line calculated using linear regression analysis. As was the case with operating expenses, PPE has both fixed and variable components, with the fixed component being represented by the Y-intercept value on the graph.

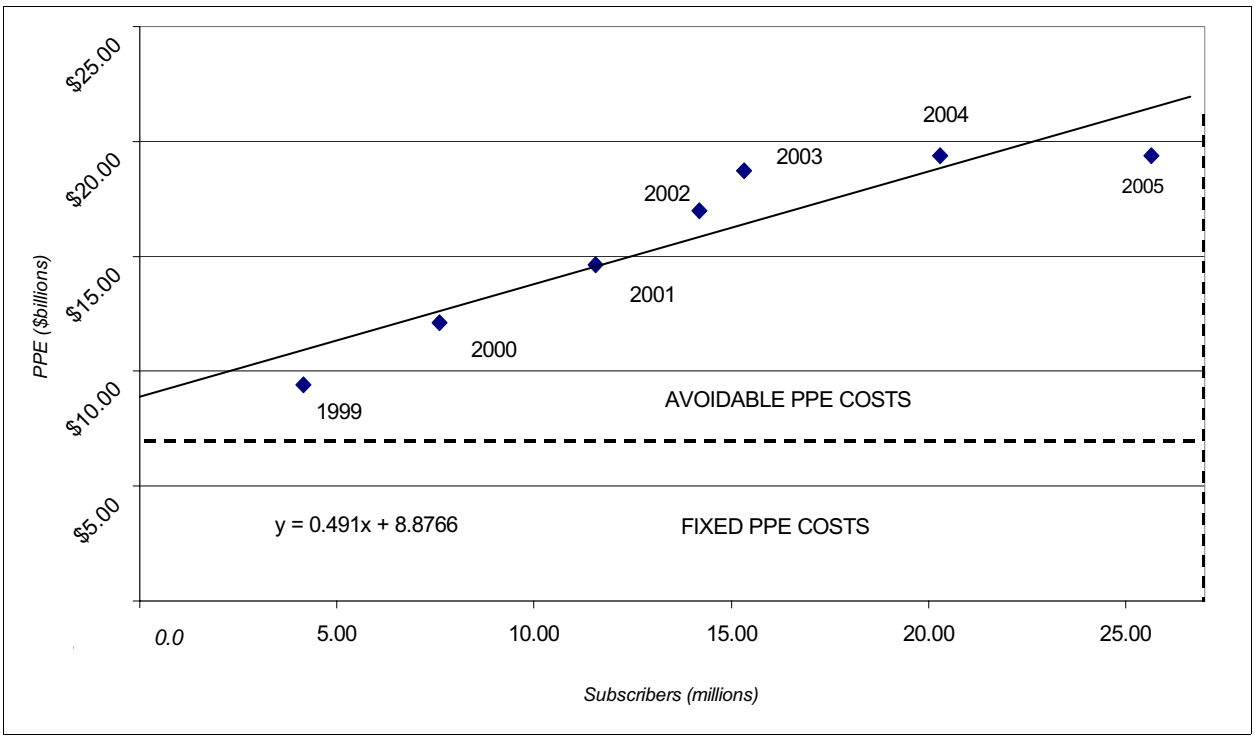


Figure 2. Sprint Wireless Segment Property Plant and Equipment (PPE) vs. Number of Subscribers, 1999-2005.

TABLE 4

SPRINT CORPORATION – WIRELESS SEGMENT
PROPERTY, PLANT AND EQUIPMENT AND SUBSCRIBER COUNTS
1999-2005

	1999	2000	2001	2002	2003	2004	2005
PPE ($billions)	$9.41	$12.12	$14.63	$16.98	$18.73	$19.38	$19.38
Subscribers (millions)	4.15	7.60	11.55	14.18	15.33	20.30	18.70

Source: Sprint 10-K reports, 1999-2004. 2005 data is based upon Sprint 10-Q report for 6 months ending June 30, 2005. Since no PPE data was provided in that report, end-of-year 2004 PPE is used.

Table 5 provides the average increment in PPE per customer for each year, which ranges between about $660 and $915, with the exception, once again, of 2004, where the increment is $525. This incremental approach to estimating variable operating expenses and capital expenditures ("opex" and "capex") is appropriate here because the costs that Sprint avoids when customers terminate their contracts prior to the end of the contract term are *long-run* costs. This is because the incidence of early terminations is both recurring and highly predictable, permitting Sprint to scale its opex and capex to account for those early terminations.

TABLE 5

SPRINT CORPORATION – WIRELESS SEGMENT
CUMULATIVE AVERAGE INCREASE IN PROPERTY, PLANT AND EQUIPMENT
PER CUMULATIVE NET SUBSCRIBER ADDED RELATIVE TO 1999

	1999	2000	2001	2002	2003	2004
Number of subscribers, end-of-year (millions)	5.70	9.50	13.60	14.76	15.90	24.70
PPE, end-of-year ($billions)	$9.41	$12.12	$14.63	$16.98	$18.73	$19.38
Variable/avoidable PPE per Subscriber		$712.11	$661.14	$835.21	$913.82	$524.47

Source: Sprint 10-K reports, 1999-2004. Subscriber count and PPE for 2005 was not available.

Rates of churn (customer attrition) for Sprint customers, including attrition due to early termination, are highly predictable on an aggregate, actuarial basis, and the effects of customer attrition on the rate of growth in Sprint's subscriber base are both substantial and highly predictable. Sprint is thus able to, and does, account for these effects in its budget and financial planning. Thus, since the variable component of Sprint's costs are linearly scalable with the number of subscribers, and the rate of growth in the number of subscribers is reasonably predictable, a proportionate amount of Sprint total costs can be considered "avoidable costs" for purposes of calculating, on an aggregate basis, the net loss caused by early terminations.

Revenues Less Avoidable Costs

Calculating contract damages based upon revenues less avoidable costs requires an appropriate estimate of both revenues and avoidable costs. I present such a calculation with respect to pre-merger Sprint in Table 6 below.[3]

For this calculation, the revenue figures from Sprint 10-K reports must first be adjusted to exclude revenues from optional charges. As I summarized on Table 3 above, these optional charges represent 29% to 40% of total revenue over the 1999-2005 period. My calculation starts with Sprint operating revenues, as reported in its 10-K SEC filings, reduced by the annual portion of revenues attributable to optional services, so as to eliminate the approximate portion of revenues attributable to non-contractual optional charges for overage, features and roaming.

TABLE 6

SPRINT OPERATING PROFIT MARGINS
BASED UPON MONTHLY CONTRACTUAL REVENUES AND EXPENSES

Sprint	1999	2000	2001	2002	2003	2004	2005 2Q annualized	Weighted Ave. 1999-2Q2005
ARPU net of optional revenues	$44.70	$45.89	$45.61	$42.57	$46.22	$39.68	$34.43	**$42.14**
Avg Variable Cost per unit	$41.03	$45.67	$47.46	$45.10	$44.79	$38.11	$30.82	**$41.43**
Profit margin per subscriber	$3.67	$0.22	($1.85)	($2.52)	$1.43	$1.58	$3.61	**$0.70**

Source: 2000-2005 Average Variable Cost derived from Table 4; 1999 value based on Figure 2 trend line. MRC/ARPU ratios obtained from Taylor Declaration, Exhibit D, column (b).

3. The Sprint/Nextel merger became effective in the second half of 2005. The last full-year data for Sprint is thus 2004. Accordingly, these calculations are based upon Sprint PCS operating results for the years 1999 through 2004 only.

As shown in Table 6, with these adjustments, Sprint profit margins with respect to non-optional contractual services are barely positive in some years and negative in others over the 1999-2005 period. Thus, when optional charges are excluded and all avoidable costs are considered, the weighted average profit on Sprint's contractual services is roughly $0.70 per customer per month. Data adduced at trial indicates that the average number of months remaining on contracts subject to early terminations is 13.12. Multiplying this by the $0.70 monthly profit loss produces an average lost profit per early termination of $9.18, clearly far below the $150 to $200 ETF being applied by Sprint.

III. Marketing costs in relation to total revenues

Wireless carriers regularly calculate their "Cost per Gross Addition" ("CPGA") as an indicia of the effectiveness and efficiency of their marketing program. All else equal, a relatively low CPGA would suggest a relatively efficient marketing program. CPGA is calculated by aggregating all marketing, selling, advertising and related costs, including any handset subsidies, and dividing this sum by the number of gross additions in a given accounting period, such as a year. CPGA is one indicator of marketing efficiency; a more commonly used measure, however, is typically expressed in terms of cents per dollar of revenue.

In defending their ETFs, the wireless carriers have focused heavily upon CPGA as somehow representing a "sunk" cost that must be recovered from each and every customer, even though substantial portions of CPGA, such as advertising, are not incurred on behalf of any specific customer, and the other components of CPGA are not unlike sales and marketing costs that are incurred by virtually every business in every industry. Without debating the merits of

CPGA as an appropriate index of marketing efficiency for management and investment analysis purposes, there is no basis for its use as a rationale for imposing an ETF. Carriers incur marketing and selling costs for the purpose of producing revenues and profits; adding customers is one means toward that end. When a customer subscribes for wireless service, the ultimate profitability of that customer will depend upon how much he or she spends and how long he or she remains on the network. It is entirely unreasonable for any company in any industry to expect that it will earn a specific minimum profit on each and every customer with whom it does business. Restaurants typically make most of their profits on alcoholic beverages, not on food. So when a particular customer orders only food and no liquor or wine, the restaurant may well lose money or earn only minimal profit. Yet there is no expectation that the patron that does not other a bottle of wine will be required to make up the "loss" by paying a fee upon leaving the restaurant. Yet by rationalizing the ETF to some "need" to recover average CPGA minimally from each and every customer, Sprint is doing just that.

According to information adduced at trial, Sprint undertakes revenue forecasting on the assumption that customers will remain on the Sprint network for an average of 60 months. This is an average customer life – some will terminate early, others will remain on the network for well beyond the 60 month average. Based upon this 60-month customer life, I have developed an estimate of Sprint's marketing costs per dollar of revenue, as summarized in Table 7 below.

Table 7 Sprint's marketing costs per dollar of revenue	
Weighted Average ARPU (1999-2005)	$61.09
Revenue per customer over 60-month average life assumed by Sprint	$3,665.61
Weighted Average CPGA (2000-2005)	$357.40
Gross profit per customer net of CPGA	$3,308.21
CPGA as % of Lifetime Revenue per Customer	9.75%

Average Revenue per Unit ("ARPU") is used by wireless carriers as a measure of monthly revenue per customer. For Sprint, average ARPU for the period 1999-2005 was $61.09. Multiplying this by the 60-month average life per customer, we see that on average each customer added (including those who terminate early) will produce $3,665 in revenue over the period of time that they, on average, remain Sprint customers. From data introduced at trial, the average CPGA over the period 2001 through 2005 was $357.40. Thus, on average, Sprint spends $354.40 to produce $3,665 in revenue, i.e., less than $0.10 per dollar of revenue. This cost is, if anything, lower than for many other companies, and certainly suggests that even with all of the early terminations Sprint and other wireless carriers experience, its overall return on its marketing outlays is quite substantial and impressive.

Wholesale cost per handset

	1996	1997	1998	1999	2000	2001
$ Value of imports	$567.6	$945.6	$1,323.3	$3,038.7	$6,067.9	$8,439.6
Units Imported	4.8	8.2	13.0	27.1	51.8	76.3
Average	$ 117.70	$ 115.82	$ 101.91	$ 111.98	$ 117.19	$ 110.67

	2002	2003	2004	2005	2006
$ Value of imports	$9,431.1	$10,770.4	$16,690.8	$19,820.4	$21,737.9
Units Imported	87.5	102.2	146.0	174.5	189.0
Average	$ 107.79	$105.35	$ 114.31	$ 113.58	$ 115.00

$ Value and units imported in millions

Industry Average Handset Subsidy -- 2006

- Average wholesale cost per handset (2006)…… $115.00
- Average revenue per handset (CTIA)…….. $65.67
- Activation Fee…… $35.00
- Total average revenue per handset (subtotal)…… $100.67
- Industry Average Handset Subsidy…….. **$14.33**

CTIA The Wireless Association® | CTIA is the International Association for the Wireless Telecommunications Industry, Dedicated to Expanding the Wireless Frontier.

U.S. Mobile Phone Sales Reached $4.4 Billion in the First Half of 2006

August 21, 2006 - The NPD Group, Inc.

A total of 67 million units sold through June of 2006;
Music capable handsets now 10 percent of all mobile phone sales;

Bluetooth-enabled handsets comprised 22 percent of all new sales in Q2 2006

PORT WASHINGTON, NEW YORK, August 15, 2006 – According to The NPD Group, the leader in market information for the wireless industry, mobile phone sales to consumers in the U.S. reached 67 million units in the first half of 2006. This number represents a slight decrease (less than 2 percent) compared to sales during the second half of 2005. NPD estimates total first half 2006 consumer sales of nearly $4.4 billion, after rebate and promotions.

"The U.S. handset market remained strong during the first half of this year," said Neil Strother, research director for mobile devices at The NPD Group. "There was a small, seasonal drop during the first half of this year, compared to the second half of last year. But this is to be expected, since holiday purchasing accounts for higher mobile phones sales during the latter part of every year."

According to NPD's Mobile Phone Track, Motorola continued its leadership in the U.S. market during the first quarter, boosting its share sequentially from 29 percent to 32 percent as it continued to ride the success of its popular RAZR models. Nokia and LG followed with 16 percent with Samsung at 15 percent.

Following is the breakdown of top 10 manufacturers' first half of 2006 market shares:

Motorola 32% Nokia 16% LG 16% Samsung 15% Sony Ericsson 4% Kyocera 4% Sanyo 32% UTStarcom (Audiovox) 2% RIM >1% Palm >1%

During the first half, Motorola continued to dominate the GSM (global system for mobile communication) space with a 42 percent share of the market, followed by Nokia with 23 percent and Samsung with 13 percent. During the time period, LG was the leader in CDMA handsets with a 36 percent market share, Samsung reached 18 percent and Motorola at 14 percent.

Among the most popular mobile phone features, sales of music enabled devices have doubled significantly since last year, from five percent during the second quarter of 2005 to more than 10 percent during the second quarter of 2006. The percentage of mobile phones with Bluetooth has increased significantly in the last year, from nine percent during Q2 2005 to 22 percent this past quarter.

Methodology: The NPD Group's Mobile Phone Track information service compiles and analyzes mobile device sales data based on more than 150,000 completed online consumer research surveys each month. Surveys are based on a nationally-balanced and demographically-representative sample, and results are projected to represent the entire population of U.S. consumers.

Contact Information: For more information on our products and services please e-mail: call her at (516) 625-2831. For press inquiries please e-mail Lee Graham at: or call him at (212) 333-4983.

About The NPD Group, Inc. Since 1967 The NPD Group has provided reliable and comprehensive consumer and retail information for a wide range of industries. Today, more than 1,400 manufacturers and retailers rely on NPD to help them better understand their customers, product categories, distribution channels and competition in order to help guide their businesses. Information from The NPD Group is available for the following industry sectors: automotive, beauty, consumer technology, entertainment, fashion, food and beverage, foodservice, home, software, sports, technology distribution channel, toys and wireless. For more information, visit wireless.npd.com.

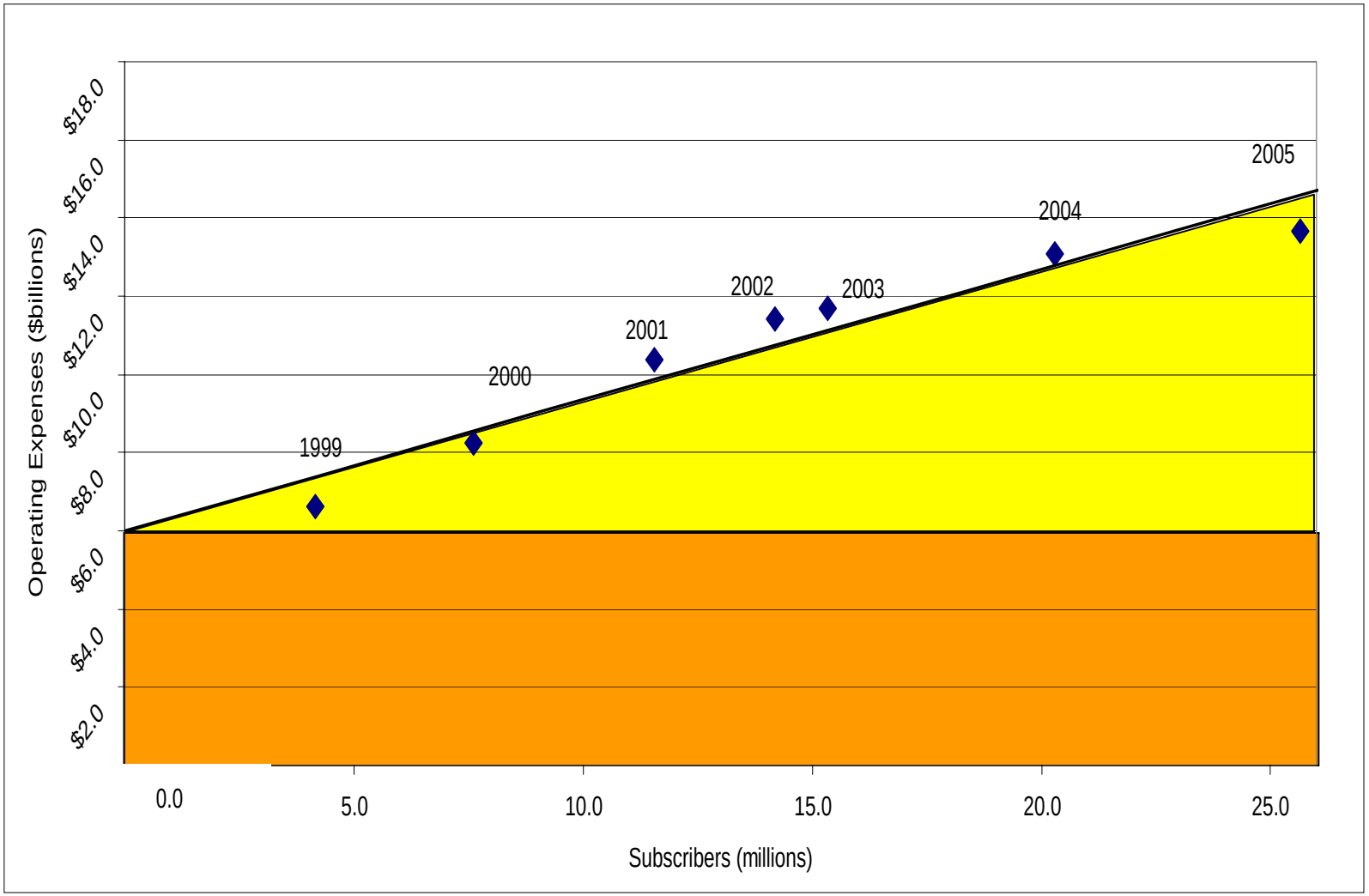
Quick Search by Keyword: Search

ADVANCED SEARCH

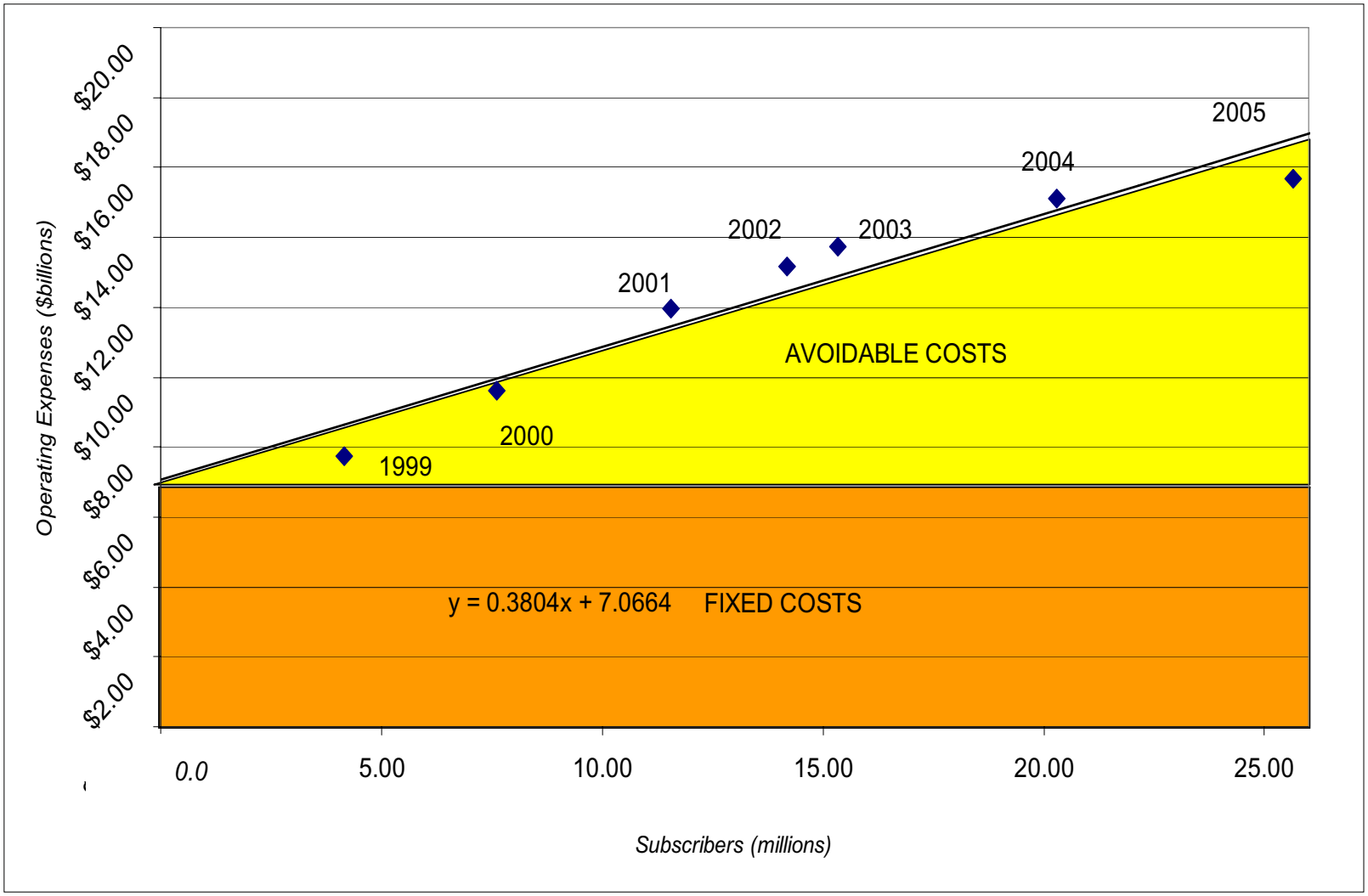
About 1/3 of Sprint's Revenue is From Optional Charges		
Year	Contractual charges	Optional charges
2001	65%	35%
2002	60%	40%
2003	67%	33%
2004	67%	33%
2005	67%	33%
2006	71%	29%

Source: Taylor Declaration 1/29/2007, Exhibit D

Sprint's Operating Expenses



Sprint's Property Plant & Equipment



SPRINT'S CONTRACT PROFIT MARGIN (per month)

Year	1999	2000	2001	2002	2003	2004	2005 (annualized)	**Weighted Average 1999-2Q2005**
Contract revenues (w/o optional charges)	$44.70	$45.89	$45.61	$42.57	$46.22	$39.68	$34.43	**$42.13**
Avg Variable Cost per subscriber	$41.03	$45.67	$47.46	$45.10	$44.79	$38.11	$30.82	**$41.43**
Monthly profit per subscriber	$3.67	$0.22	($1.85)	($2.52)	$1.43	$1.58	$3.61	**$0.70**

Sprint Marketing Costs

• Weighted Average ARPU (1999-2005)	$61.09
• Revenue per customer over 60-month average life assumed by Sprint	$3,665.61
• Weighted Average CPGA (2000-2005)	$357.40
• Gross profit per customer net of CPGA	$3,308.21
• CPGA as % of Lifetime Revenue per Customer	9.75%