

The US Postal Service

Srenik Mehta / Qualcomm
Mathew Abraham / Applied Materials
Abhijit Mallick / Applied Materials
Anil Moolchandani / SanDisk
Robert Stets / Google
Ikhtlaq Sidhu / UC Berkeley

College of Engineering
University of California, Berkeley

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Abstract: The US Postal Service (USPS) has been hemorrhaging vast sums of money since 2006. The increasing convenience and availability of electronic communications have led to a steep drop in demand for conventional first-class mail, and the USPS has little flexibility to restructure its business operations to dramatically reduce costs and raise prices. The USPS is a unique service that provides a universal channel for commerce and communication for the entire nation and is worth preserving. In this report, we detail the steps taken by other national postal services to address threats to their financial viability while still maintaining most of their services. Furthermore, innovations adopted from collaborations with private enterprise within the logistics industry would further ensure the viability of the USPS and bring about even more benefits to society.



1. Introduction: Current State of the USPS

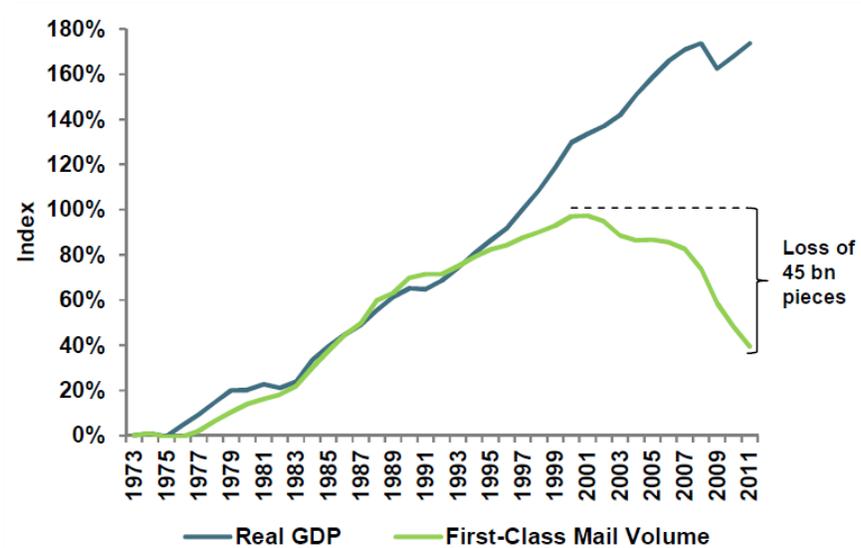
Much has been written about the current state of the USPS and its financial troubles. The USPS, unlike most businesses, is something between a government entity and a private business. Its quasi-government status complicates the fiscal picture of the USPS as well as the changes it needs to make to address revenue shortfalls and increasing costs in the digital age.

There are multiple factors contributing to the challenges that the USPS is facing. Declining volumes, fixed pricing and increasing labor costs associated with a large work force and a universal service obligation mandated by Congress are a few of the key challenges.

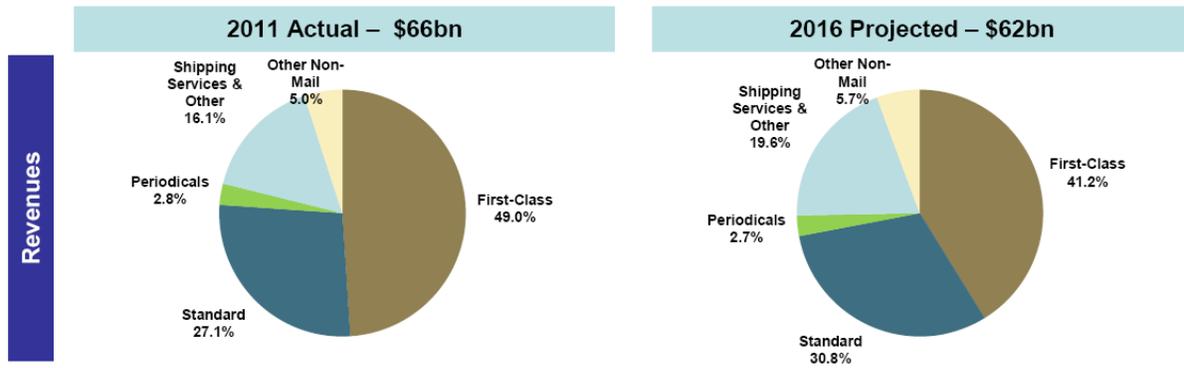
1.1 Declining volume

Declines in volume of first-class mail coincided with the US recession, which partially exaggerated the true effects of the shift to digital communication methods.

Figure 1: Declining First Class Mail Volume



First-class mail volume is the most profitable segment of the USPS business but is declining faster than standard mail, which is less profitable. The chart below [Figure 2] shows the total revenue decline predicted for 2016. As shown, the revenue from first-class volume is decreasing faster than revenue of other segments.



Source: Volume includes total mail only. Revenue includes mail and ancillary and special services revenue

Figure 2 Projected 2016 Postal Revenues

Volume declines are primarily due to:

- Ability to pay bills through online statements instead of mail
- Email as a substitute for mail and mailed invitations
- E-file of tax returns (in some cases, this is mandatory)
- Electronic payment of government benefits (e.g. Social Security)
- Email advertising instead of First Class and Standard advertising

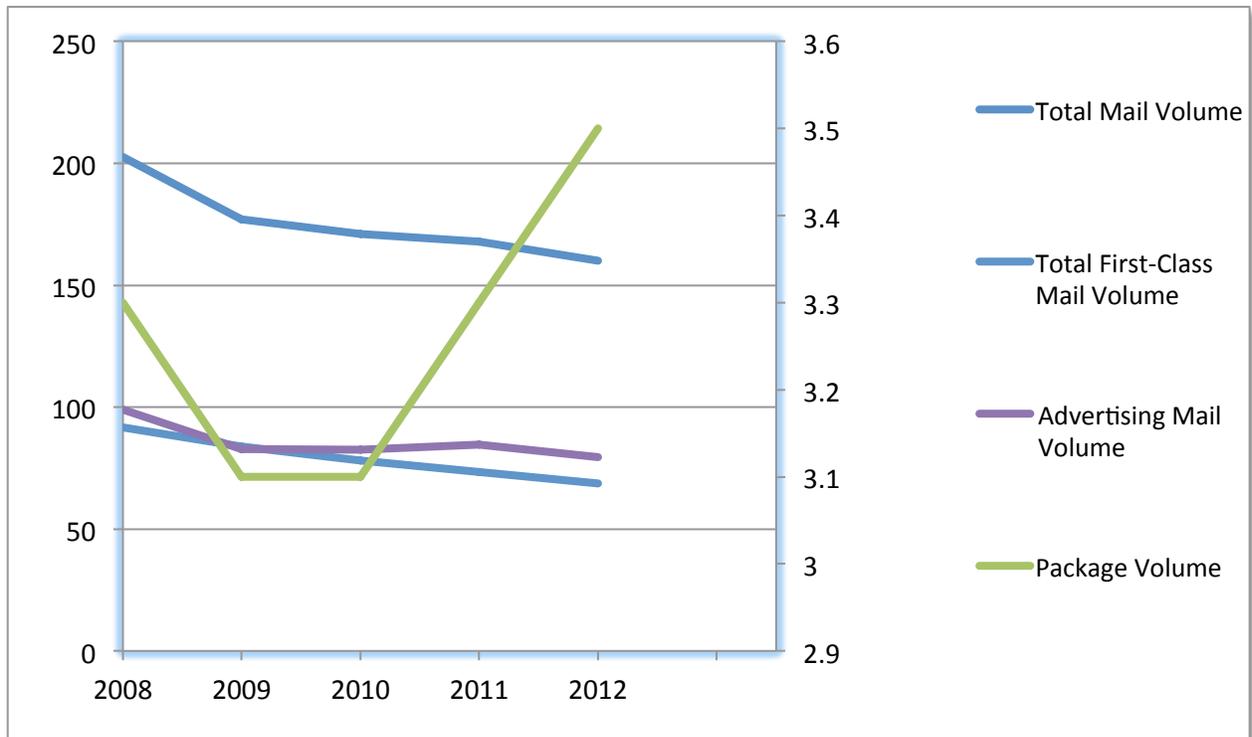


Figure 3: Mail Volume Segment Trends



1.2 Fixed pricing

Increases in stamp prices require congressional approval. The current pricing is capped by inflation and the inflation-adjusted price of stamps has remained the same over the years. This price guarantees the same level of service anywhere in the continental US, Alaska, Hawaii and US military installations throughout the world. The cost to send a letter in the US is about half of domestic rates in comparable European countries [Figure 4].

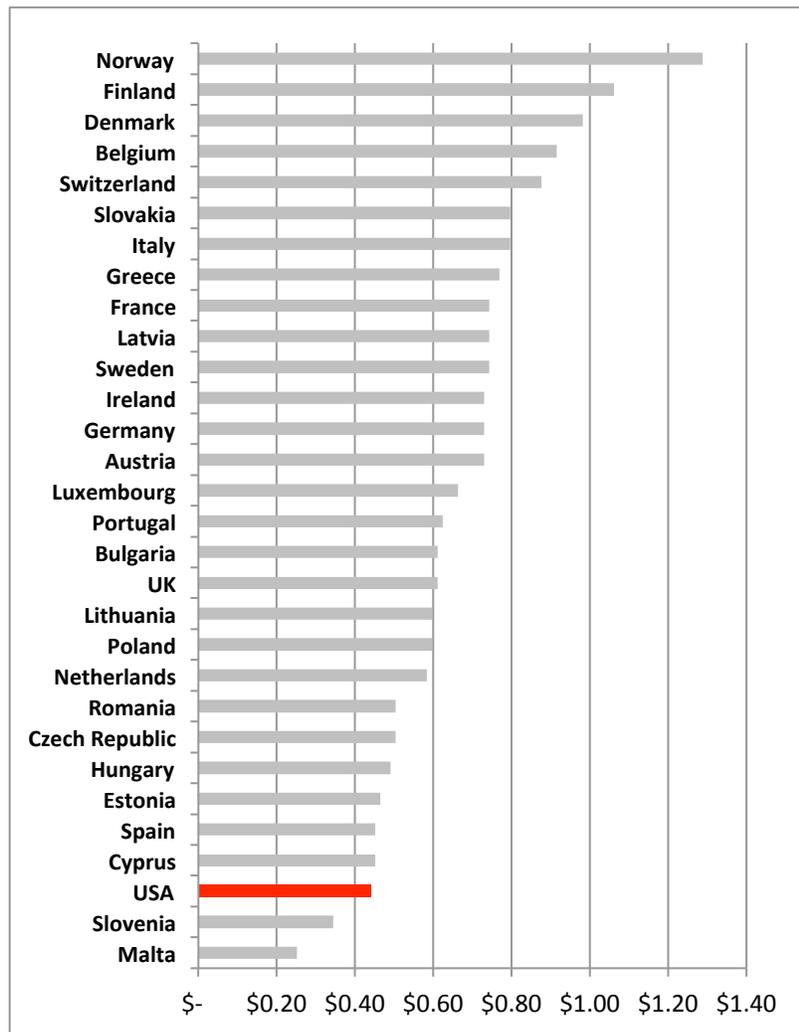


Figure 4: Normalized Domestic Postal Rates Europe vs USA

1.3 Costs

While the mail revenue declines, overall costs are increasing. Labor costs account for around 80 percent of the operating revenue. The losses often referred to in articles are misleading and difficult to ascertain. In 2006, Congress passed The Postal Accountability and Enhancement Act (PAEA), which requires the USPS to prefund retiree health care for the next 75 years in a 10-year period from 2006-2016. To date, 80 percent of the \$41 billion net loss since 2006 is due to PAEA. Figure 5 shows costs with and without accounting for the RHB (Retirement Health Benefits) pre-funding. Until 2008, the figure shows that without pre-funding, the USPS was profitable. Given that that the pre-funding is a congressional mandate and requires legislative approval to remove, the rest of the discussion in this report focuses on the losses without pre-funding included. Even without RHB, labor costs – wages, health benefits, workers compensation and Social Security – are quite significant.

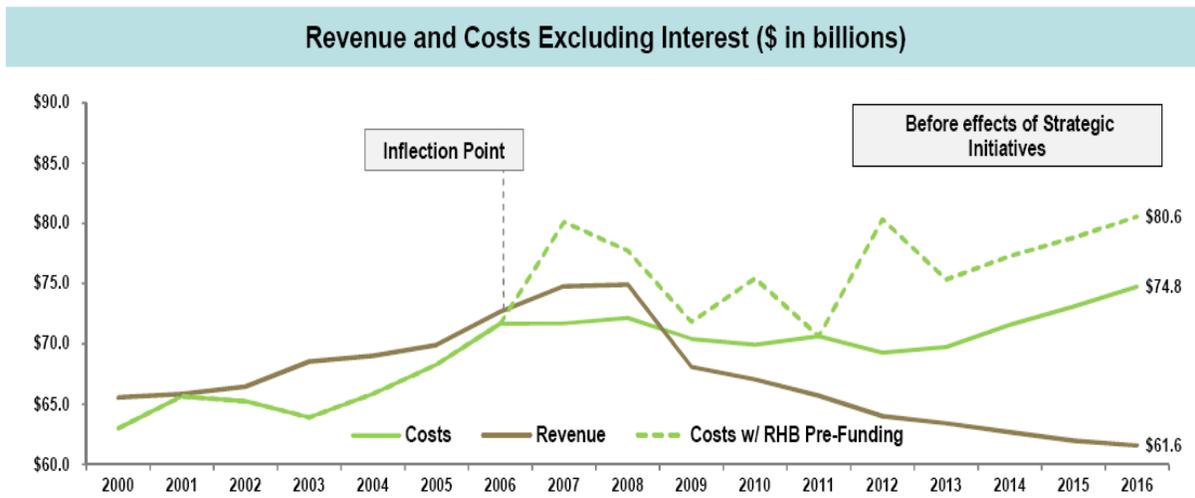


Figure 5: Revenue and Costs

Dollars in millions	2011	2010	2009	2008	2007
Operating Results					
Operating Revenue	\$65,711	\$67,052	\$68,090	\$74,932	\$74,778
Operating Expenses					
Compensation and benefits	48,310	48,909	50,883	52,358	53,306
Retiree health benefits*	2,441	7,747	3,390	7,407	10,084
All other operating expenses	19,883	18,770	17,557	17,973	16,715



Total Operating Expenses*	\$70,634	\$75,426	\$71,830	\$77,738	\$80,105
Operating Loss	(\$4,923)	(\$8,374)	(\$3,740)	(\$2,806)	(\$5,327)
Net Loss	(\$5,067)	(\$8,505)	(\$3,794)	(\$2,806)	(\$5,142)
P.L. 109-435 Payment to PSRHBF*	\$ —	\$5,500	\$1,400	\$5,600	\$8,358
Workers' Compensation Expenses	\$3,672	\$3,566	\$2,223	\$1,227	\$880
Financial Position					
Cash and cash equivalents	\$1,488	\$1,161	\$4,089	\$1,432	\$899
Property and equipment, net	20,337	21,595	22,680	23,193	23,596
All other assets	1,588	1,570	1,349	1,361	1,352
Total Assets	\$23,413	\$24,326	\$28,118	\$25,986	\$25,847
Total Debt	\$13,000	\$12,000	\$10,200	\$7,200	\$4,200

Figure 6: Income Statement without Prefunding

1.4 Universal service obligation and government oversight

In February 2013, the USPS decided to end Saturday service for first-class mail to reduce costs. In March 2013, Congress stated that the USPS “overstepped its bounds” and did not have the authority to end Saturday service. This is just one example of government regulatory oversight inhibiting the USPS from becoming fiscally sound. The charter and obligation of the post office is to provide universal service to all communities with monopolistic access to letterboxes at individual residences. The postal network was historically built to provide high service levels to customers, regardless of volumes driven. The network costs are fixed and high. The USPS has more US locations than McDonalds, Starbucks, Walmart and Walgreens combined. There are approximately 600 processing facilities, amounting to around 12 per state.

2. Domestic Comparative Analysis

Table A-1 compares the USPS, UPS and FedEx. The most notable difference is labor cost. For the UPS, which is unionized, labor is about 66 percent of its total operating costs. FedEx, on the other hand, is not unionized and labor is about 45 percent of their total operating costs. However, for the USPS, labor is 80-82 percent of their total operating costs. It is worthwhile to discuss this three-way disparity in labor costs.

Table A-1: Comparative Analysis: USPS vs. UPS vs. FedEx

	USPS	UPS	FedEx
Founded	1775	1907	1973
Approximate Employee Count	574,000	426,000	290,000
Yearly Wages (Average)	\$84k	\$67k	\$70k
Revenue	\$74.9 billion (2008)	\$51.5 billion (2008)	\$38 billion (2008)
Net Income	\$2.8 billion (2008)	\$3.6 billion (2008)	\$1.1 billion (2008)
Labor cost (% of operating cost)	82%	66%	45%
Daily Shipments (Average)	438 million	15.8 million	6.9 million
Express Package Delivered on Time	89%	91%	88%
Total Air Fleet	Doesn't own any jets; contracts out	268 jets	694 jets (rules air)
Total Ground Fleet	260,000	101,900	22,000



The differences in the proportion of labor costs can come from six major factors:

1. Compensation levels: what each company pays per hour worked
2. Work rules: how efficiently each company uses employees
3. Contracting: how companies use different models regarding use of contractors to handle the collection-to-delivery process, particularly the labor-intensive delivery function.
4. Network differences: how differences in the network affect the amount of labor involved in delivery, sortation, transportation and retail portions of an end-to-end movement.
5. Capital intensity: how companies differ in capital requirements, which affect the amount of non-labor costs needed to provide services.
6. Congressional requirements: how congressional requirements add to labor costs significantly while making minimal impact on capital spending.

2.1 Compensation Levels

Postal Service employees who work in delivery services and processing facilities receive compensations that fall above those of UPS and FedEx employees on average. Employees that provide retail services at the Postal Service have no real basis of comparison with employees at FedEx and UPS. Typically they are compared with other retail occupations and bank tellers. We have not looked at this comparison but the data is available from both private and public sources. Overall, it is unclear how much a compensation premium affects labor compensation's proportion of total costs.

2.2 Work Rules

Work rules used for mail processing, local transportation and retail services also increase USPS compensation expenses. Processing and retail facilities of the Postal Service are currently overstaffed. New employee schedules, similar to the part time schedules that FedEx and UPS use for its sortation centers, are required.

2.3 Contracting



The following table illustrates how the Postal Service, UPS and FedEx use contractors.

Table A-2: Comparison of Contracting at the USPS, UPS, and FedEx

	USPS	UPS	FedEx
Retail Outlets	Mostly staffed with employees	Mix of employees, contractors and franchises	Mix of employees, contractors and franchises; also provide printing and other business services
Intercity Transportation	Contracts out all intercity transportation	Uses employees and corporate assets; contracts out long-haul to railroads and airlines	Uses employees and corporate assets; contracts out long-haul to railroads and airlines
Delivery	All delivery completed by employees	Uses employees to deliver all parcels	Employees deliver FedEx Express; contractors deliver FedEx Ground and Home items

The three carriers have very different operating models that significantly affect the portion of costs associated with "compensation and benefits" and "contracted transportation." This makes comparisons particularly difficult as both the UPS and FedEx use contractors extensively for retail services and FedEx Ground uses contractors to deliver all parcels. An accurate comparison would identify the labor component of contracted retail, transportation, and delivery services, but this is nearly impossible.

2.4 Network Differences

The following chart looks at differences in the networks employed by the USPS, UPS and FedEx.

Table A-3: Comparison of Networks employed at the USPS, UPS, and FedEx

	USPS	UPS	FedEx
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Delivery Network	Delivers to nearly every business and residential addresses 6d/wk	Primarily delivers to business add; delivers to no more than 10% of all residential add 5d/wk; uses USPS to deliver significant but unknown percentage of ground parcels	Primarily delivers to business add; delivers to no more than 10% of all residential add 5d/wk; uses USPS to deliver 25% of ground parcels
Processing Network	Inefficient as designed to handle larger volume and different mix of mail and parcels	Continually optimized w/ limited excess capacity	Continually optimized w/ limited excess capacity
Retail Network	Focused on serving least knowledgeable parcel shippers and mailers	Focused on serving primarily business needing shipping services	Focused on serving primarily business needing shipping services

The Postal Service's delivery network is significantly more extensive than those of either UPS or FedEx, and primarily delivers to residential addresses that are more expensive to serve than business address due to volume of deliveries per delivery point. Delivering six days a week to residential addresses increases the proportion of labor costs as capital expenses, because the Postal Service has to pay for the same number of buildings and vehicles whether it delivered five days a week or six. Furthermore, some operating costs (like heating fuel and electricity) do not change as much as labor costs.

The Postal Service network has significantly exceeded its capacity. To the extent that there is overcapacity in either UPS or FedEx's network, it would affect short-term economic impacts or changes in population and economic growth across the United States. Both UPS and FedEx face prospects of increasing volumes, so they will be hard-pressed to provide sufficient capacity. Meanwhile, the Postal Service faces shrinking volumes, so its network faces the prospect of increasing levels of overcapacity and that, over time, existing facilities will be in sub-optimal locations.

The Postal Service's retail network focuses on less-knowledgeable customers. The Postal Service's network faces regulatory and legislated constraints that neither UPS nor FedEx face.

2.5 Capital Intensity

Capital intensity affects labor costs. Companies that are more capital-intensive have a lower proportion of labor compensation costs, and vice versa. For example, an electric utility company is a



more capital-intensive business than a nationwide retail chain. The following chart illustrates differences in capital intensity between the delivery services offered by the USPS, UPS, and FedEx.

Table A-4: Comparison of Capital Intensity of USPS, UPS, and FedEx

	USPS	UPS	FedEx
Transportation Assets	Mostly local delivery vehicles	Significant investments in airplanes, tractors and trailers	Significant investments in airplanes, tractors, trailers and local delivery vehicles
Information Technology Assets	Modest investment	Extensive investment	Extensive investment
Processing Facility Assets	Underutilize automated material handling	Efficient use of automated material handling and continual optimization	Highly automated sortation facilities

FedEx has the most transportation capital needs, as it operates the largest fleet of freighter airplanes in the United States. UPS has the second largest fleet of freighter airplanes. Both FedEx and UPS use their aircrafts to fly Postal Service mail and parcels, relieving the Postal Service from having to make substantial capital investments. The Postal Service's transportation needs lie primarily in its delivery fleet. However, it has not been able to afford to replace its aging fleet, so its capital spending on transportation assets are below what may be required for cost-efficient operations.

Both FedEx and UPS are leaders in information technology spending among transportation companies. They both view their IT investments as a competitive advantage. The Postal Service, on the other hand, has tended to underspend on information technology, resulting in long implementation schedules for needed infrastructure, management information systems, customer information and transaction systems, and track and trace systems for mail and parcels.

Finally, both UPS and FedEx have managed their processing network using network models for years without congressional interference. When additional facilities or upgrades are needed to ensure proper maintenance and worker safety, they have the resources to make these investments. The Postal Service is limited to use the facilities that it now has and thus faces significant backlogs in facility maintenance. To the extent that facilities are located in the wrong location, or are too small to



handle sortation of a larger geographic territory, the Postal Service does not have the capital to make those investments.

2.6 Congressional Requirements

The Postal Service face two requirements from Congress that increase cost of labor as a proportion of total costs.

1. Restrictions on how retail services are provided: Both regulatory and legal restrictions on the Postal Service's retail network increase labor costs. These costs come from both operating a retail network and managing the process to implement changes in the network. In addition, Congressional efforts to slow changes to the retail networks add additional labor costs to ensure the network can handle questions and concerns of members of Congress.
2. Restrictions on delivery frequency: Requiring the Postal Service to provide delivery services six days per week has a larger marginal impact on labor costs than it does on all other expenses. The proportion of labor costs would be lower if the Postal Service only delivered mail five days per week.

2.7 Other Comparisons

2.7.1 Shipping Rates: USPS, FedEx, UPS

In 90 percent of cases studied, FedEx Home Delivery was the least expensive option. For the two nearest destinations, USPS Priority Mail was the least expensive option and was also significantly faster. For the fastest overnight services, FedEx was again the lowest-cost option most of the time, although UPS had better rates to Devil's Lake, and offered service to more locations. In the end, FedEx generally had the best shipping prices.

2.7.2 Packing Material



All of the carriers offered free boxes for some of their premium shipping services. For example, UPS provides Two Day and Next Day boxes. But the USPS had far and away more free-box options. Moreover, those boxes were for its Priority Mail service, which was less expensive. Boxes are not cheap: in fact, they can cost \$1 or more. In terms of free packing materials, the advantage goes to USPS. FedEx Home Delivery came out to be the least expensive option.

2.7.3 Customer Service

Usually FedEx outscores the competition on customer service surveys. However, UPS has caught up with FedEx on customer satisfaction scorecards. Recently, UPS has also done better at delivering on time (about 91 percent) versus FedEx (about 88 percent), although FedEx tended to be faster overall. In the past, UPS has generally trailed FedEx, while USPS was largely regarded as a joke. In short, FedEx and UPS tie in customer service.



3. International Comparative Analysis

Postal services around the world are facing the same challenges that face the USPS. As shown in Figure B-1, the traditional revenue stream of letter mail has been declining and, more importantly, is projected to continue declining in all countries. This decline is at the heart of the USPS’ mounting financial problems.

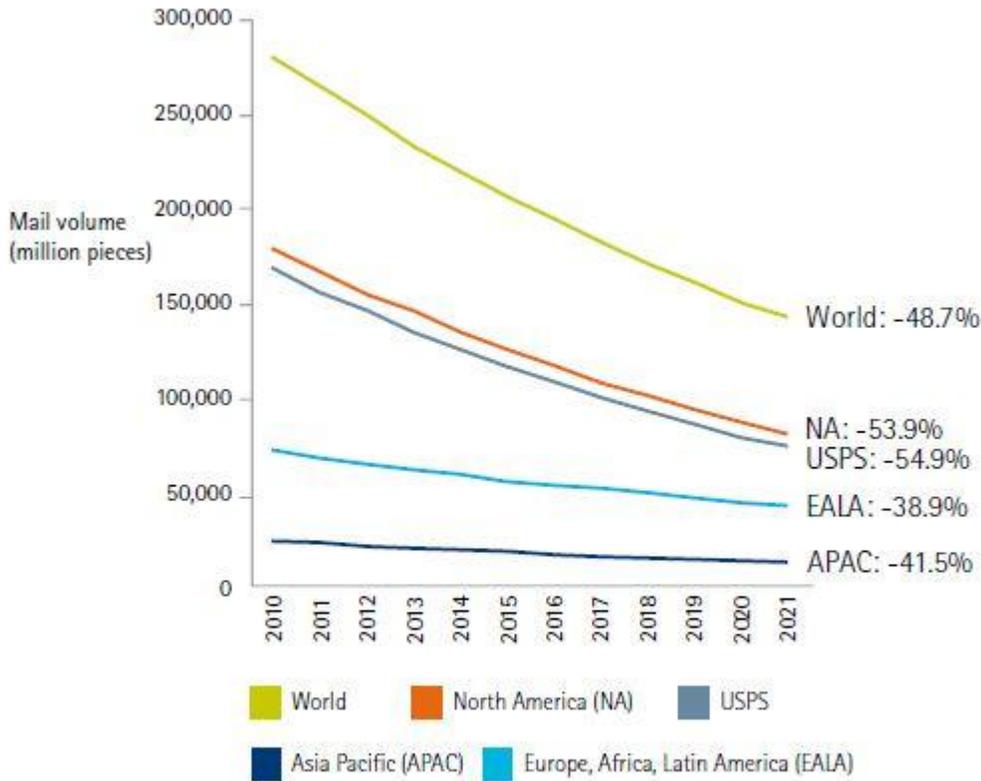


Figure B-1: Projected world-wide mail volume

Services in several countries are experiencing similar financial issues, but seven services in particular – Australia Post, La Poste (France), Deutsche Post (Germany), Poste Italiane (Italy), New Zealand Post, Posten AB (Sweden), and Swiss Post – have found ways to maintain overall profits. These services have similar universal service obligations as the USPS and so are good points of comparison. In this section, we will compare governance, costs, and revenue of these services and the USPS.

3.1 Corporate Governance

Table B-2 shows the government / private ownership split for our target services. Like the USPS, all mentioned postal services, other than Deutsche Post, are government-owned. Importantly, however,



all of the services except for Poste Italiane have been corporatized (e.g., have been turned into a Limited Liability Company) and so are responsible for their own revenues and profits. Such corporatization largely frees the company from government constraints.

Table B-2: Ownership and Profit Centers for target Postal Services [carbaugh11, pcf13]

Service	Percentage Owned: Government vs. Private	Profit Centers
Australia	100 vs. 0	Parcels
France	100 vs. 0	Parcels, Financial Services
Deutsche Post (2008 values)	31 vs. 69	Parcels, Freight
Poste Italiane	100 (not corporatized) vs. 0	Financial Services
New Zealand Post	100 vs. 0	Parcels, Financial Services
Posten AB	100 vs. 0	Financial Services
Swiss Post	100	Parcels, Financial Services
USPS	100 (not corporatized)	-

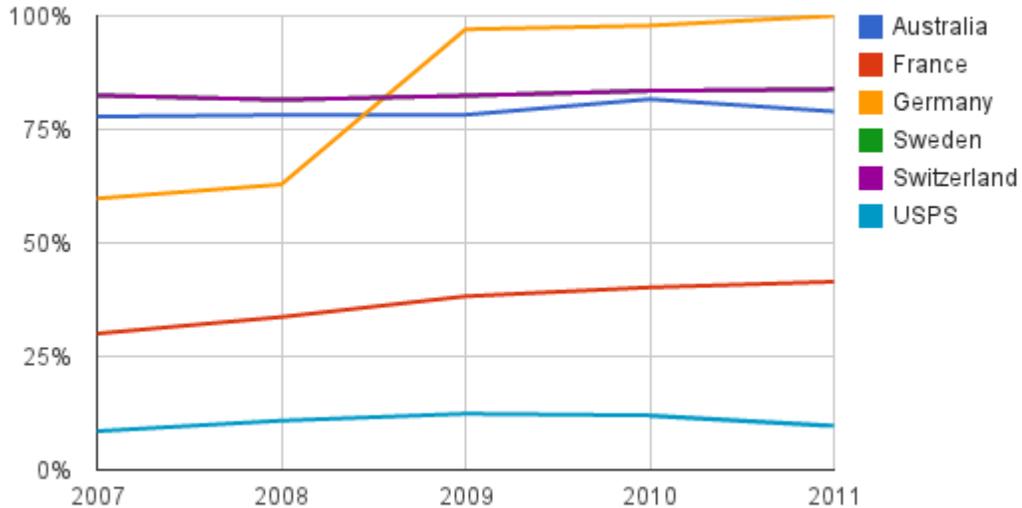
3.3 Costs

In the USPS, labor currently represents an extremely high 80 percent of total costs. As a dated, but still informative point of comparison, the Australia Post had a labor cost of 50 percent in 2003, while the USPS was at 78 percent [anthony]. Like the US, Australia is relatively large and has many sparsely populated regions. New Zealand is a more compact region, and the New Zealand Post has labor costs of 45 percent of total costs. [nzp10] (As noted above, domestic competitors FedEx and UPS have labor costs of 45 percent and 66 percent, respectively.) The USPS labor cost is high partially because the government has prevented it from shedding workers as the mail volume has decreased.

The government has also prevented USPS from reducing its operating costs. Most notably, profitable services have moved largely to eliminate company-owned post offices in favor of partnering with grocery stores and other widespread retail locations to share the space. Figure B-3 compares the percentage of non-owned permanent post offices among the countries examined in this section.



Figure B-3: Percentage of non-owned permanent post offices [upu]



3.4 Revenue

The USPS revenue strategy centers on first-class mail, but unfortunately, government constraints have kept prices artificially low. In terms of inflation-adjusted dollars, USPS raised its letter prices only 3 percent from 2001 to 2011. During that same period, European countries raised their inflation-adjusted letter prices an average of 32 percent [iret12]. USPS prices are in the lowest 25% of the world's postal prices [ibid].

Despite higher prices, the seven consistently profitable postal services are still barely breaking even and often lose money on letter mail. Instead, these services have been profiting in areas outside of letter mail. The most common and lucrative areas are parcels and finance. Deutsche Post and Australia Post bought large parcel delivery firms and now deal mainly in parcel and freight. Services such as Le Poste provide banking and insurance services from their widespread offices. Both the Deutsche Post and Australia Post's reputations and widespread access points make their services popular. Table B-2 has full breakdown of the profit centers for each of the target services.

4. Possible Solutions

Mail volume is projected to continue declining and few postal services across the world have demonstrated an ability to make significant profits on mail alone. The few that are profitable have



deregulated their postal departments such that they can keep their costs in line with revenue and offer innovative products that incorporate hybrid mail or increased package shipments. We believe the USPS must make significant changes in order to become profitable. There are opportunities available to significantly reduce costs and increase revenue.

4.1 Reducing costs

With mail volumes projected to continue to decline, the USPS should start reducing its workforce through attrition. The USPS estimates that 300,000 employees will retire over the next decade [usps13]. This measure, however, must complement other, quicker actions.

To this end, USPS should push the government to allow significant service changes. The recent proposal to reduce mail delivery to five days a week is critical. Another impactful change would be to relax the delivery latency of First Class mail from 1-3 days to 3-5 days. Also, as demonstrated by profitable postal services in other countries, USPS should significantly reduce the number of post offices it owns. It should instead partner with existing high-traffic retail businesses and sell its post office locations. USPS properties are often in desirable locations and could sell for good profit. Finally, USPS should work with the government to restructure and spread out their RHB funding requirements.

4.2 Increasing Revenue

First, USPS should work with the government to allow significant increases in their current mail prices. Second, USPS should investigate raising prices on popular products and adding tiered pricing to First Class mail. With regard to the latter, it is reasonable that the cost to send a letter from Anchorage to Miami should be different than one sent from San Francisco to Los Angeles.

However, letter mail volume is declining and USPS needs additional ways to increase revenue. We believe USPS should take advantage of its “last-mile” advantage. It has the strongest and widest fleet for delivering from a local sorting station to people's homes. USPS currently partners with UPS and others to deliver this lower-cost package service. USPS should work to expand these relationships. As online purchases increase, customers will want more goods shipped to their homes. Today, USPS only handles 15% of these deliveries with the rest serviced by UPS and FedEx. USPS should work to grow its share in the package shipment market.

Finally, USPS should investigate new products such as wine and spirits shipping, additional advertising products, and digital mail hybrids. The former are two proven areas for opportunity, while the latter has been explored with small to moderate success in other services.



Biographies

Abhijit Basu Mallick is Technology Director of the Silicon Systems Group at Applied Materials. His current research focuses largely on disruptive technologies for both FEOL and BEOL Dielectrics. Prior to joining Applied Materials, Abhijit was a post-doctorate scholar at Stanford University where he focused on high-mobility organic transistor semiconductors. Abhijit graduated with an M.S. from IIT Kanpur in 1998 and a Ph.D. in chemistry from Cornell University in 2004.

Srenik Mehta is the Senior Director of Engineering at Qualcomm Atheros, where he has been engaged in the development of analog, mixed-signal and RF integrated circuits and systems for a variety of wireless communication products including BT, FM, GPS, WLAN, and PHS (cellular). Srenik received B.S. and M.S. degrees in electrical engineering from the University of California, Berkeley in 1992 and 1997, respectively. From 1995 to 2000, Srenik worked as a Senior Design Engineer at Level One Communications (now Intel Corporation) in San Francisco, where he designed CMOS RF and mixed-signal ICs for cordless telephones. Since February 2000, he has been with Atheros Communications (now Qualcomm Atheros) in San Jose, California.

Anil Moolchandani received his MSEE degree from San Jose State University and a BSEE from the University of Mumbai, India. For the past seven years, Anil has been with SanDisk Inc. where he manages the worldwide physical design and DFT teams in the ASIC organization. Prior to SanDisk, Anil worked at Synopsys as a consultant helping leading semiconductor companies implement ASIC's. Anil started his career as a systems and FPGA engineer. In his spare time, Anil teaches engineering courses at UC Santa Cruz Extension.

Rob Stets is a Distinguished Engineer in Google's Search Infrastructure group. His current work focuses on integrating structured data into Google Search. Rob has a B.S.E degree from Duke University and a Ph.D. from University of Rochester.

Mathew Abraham started an industrial career at Intel in the development of flash memory technology after completing his academic training in physics. Over his four years in Intel, Mathew worked on yield production and ramp to high volume manufacturing, and thin films materials development. He then joined Applied Materials in 2008 to develop thin-film photovoltaic device technology in the Solar Division, transitioning to the Silicon Systems Division in 2010 to work on semiconductor industry device roadmap development and technology path-finding for future products.



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