The Strategic Implications of Declining Postal Volumes on Costs, Prices, and Financial Sustainability of the USPS and Other Posts

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Purpose of Study

Based on costs and postal prices for volumes of 150, 125, 100, and 75 billion pieces (16, 29, 56, 68%)

(1) Show whether the U.S. Postal Service would be financially sustainable at these volume levels (assumes prices are increased to meet costs)

(2) Identify the strategic implications of reduced volumes

(3) Generalize the analysis for other posts

Conclusions for USPS (1)

- Other posts have prices as much as 80% higher than the USPS and they are profitable

- Financial sustainability criterion: not higher than other posts

- USPS is financially sustainable down to 100 billion pieces (56% drop)

- CPI price caps won't work

- Street time function becomes larger than the all the other functions combined

Conclusions for USPS(2)

- Variable costs will shrink, but short term fixed costs need managemt attention

- Decline of First Class single piece means the post office stops being a two way medium

- Post becomes a broadcast medium with profound changes in operations

- Legacy costs, debt and expenses from not moving the mail become an increasing burden

Volume History & Projections

Mail Volume (billion pieces)
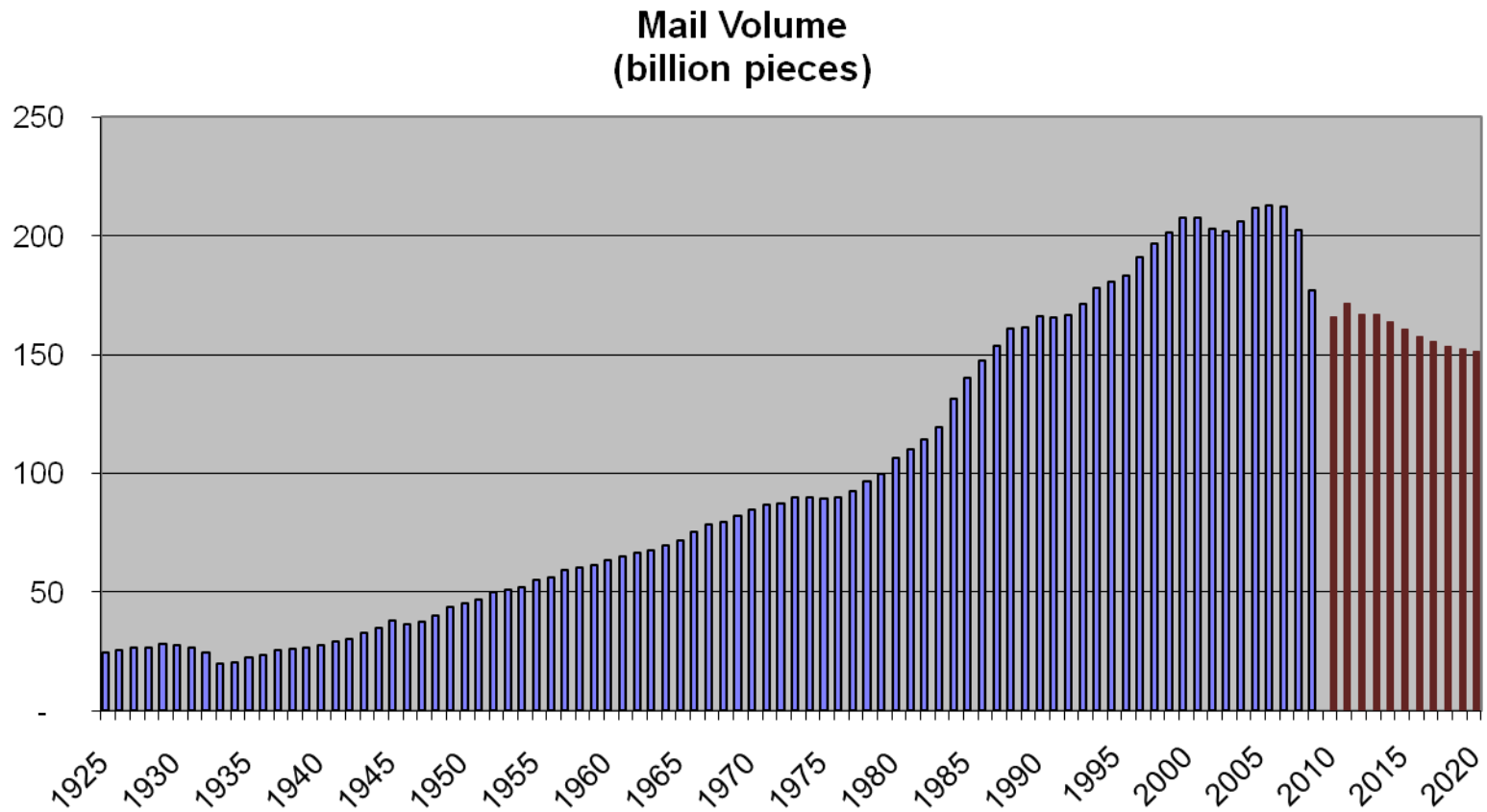
Sustainability at Lower Volumes

Country	Volume as Percentage of U.S. Volume	Price of Stamp in Purchasing Power Parity ($ US)
New Zealand	33%	0.32
Australia	33	0.37
Spain	20	0.41
United States	**100**	**0.42**
Netherlands	49	0.49
Luxembourg	58	0.53
Great Britain	47	0.54
Ireland	25	0.56
Sweden	50	0.59
France	43	0.60
Austria	44	0.62
Denmark	40	0.64
Germany	43	0.64
Portugal	16	0.67
Japan	25	0.69
Italy	14	0.71
Finland	58	0.72
Norway	53	0.78

All have profitable mail business.

The Model

- It projects future costs from base year costs reflecting changes due to:
    - volume by product
    - cost level (labor and other resources)
    - efficiencies due to cost reduction programs
    - nonvolume workload (e.g., number of post
    - offices and number of delivery stops)
    - service wide costs (depreciation, workers' compensation, escrow requirements, etc.)

Workings of the Model

- The model rolls forward over two hundred cost components based on empirically derived cost elasticities

- calculates the prices needed to breakeven for new volumes

- Then applies own price elasticities and calculates a new breakeven revenue for new vpolumes

Model Based on Accounting System

Cost Segments and Example Components

Segment	Example of Component
1 – Postmasters	Postmasters EAS 23 and below
2 – Supervisors and Technical Personnel	Higher Level Supervisors
3 – Clerks and Mail handlers, CAG A-J	Mail Processing
4 – Clerks, CAG K	Clerks, CAG K
6 – City Delivery Carriers, In-Office	In-Office Direct Labor
7 – City Delivery Carriers, Street	Network Travel
8 – Vehicle Service Drivers	Vehicle Service Drivers
10 – Rural Carriers	Equipment and Maintenance Allowance
11 – Custodial Maintenance	Equipment Maintenance
12 – Motor Vehicle Service	Supplies and Materials
13 – Miscellaneous Operating Costs	Carfare and Tolls
14 – Purchased Transportation	Highway
15 – Building Occupancy	Rents
16 – Supplies and Services	Equipment

The Volume Mix Used in the Study

- Boston Consulting Group (BCG) mix for 150 billion pieces

- We extrapolate this mix to lower volumes

- BCG estimated that FC would decline by another 37 percent and advertising mail would grow slightly. Parcels would grow modestly

The Base Year – FY 2009

(billions)

	Initial Value	After Mailer Response to Price Increase
Volume	177.5	173.0
Cost	$71.9	$70.7
Revenue	$68.1	$70.7
Profit/(Loss)	($3.8)	($0.001)
Price Increase Required to Break Even	5.6%	6.8%

All financial results are in 2009 dollars.

The GMU Base Case

**Cost Model Results**
(billions)

Initial Volume	Volume after Price Increase	Cost	Price Increase above CPI Required to Break Even	Annual Price Increase Above CPI Required*	Number of Work years
150	136.8	$67.0	24.2%	2.0%	636,000
125	108.6	60.0	39.9	3.1	564,000
100	81.4	53.0	65.1	4.7	495,000
75	55.4	46.7	113.6	7.1	429,000

All financial results are in 2009 dollars.
* Assuming the volume level is reached in 2020

The GMU Base Case

Cost Model Results
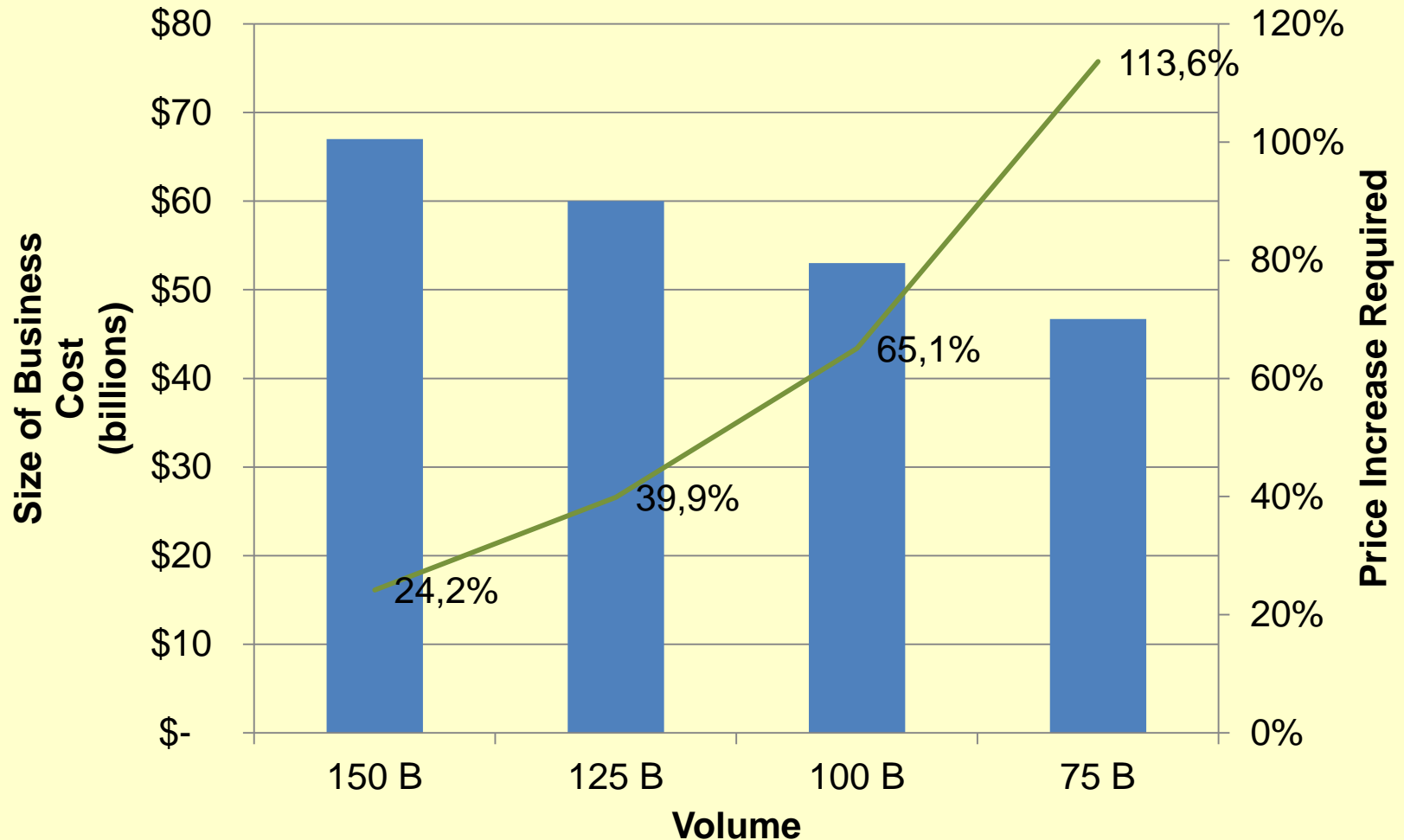
GMU Base Case
Annual Price Increases

If volume declines more slowly, the annual price increases required above CPI will be less.

Initial Volume	Price Increase above CPI Required	Annual Price Increases Above CPI		
		2020	2030	2040
150	24.2%	2.0%	1.0%	0.7%
125	39.9	3.1	1.6	1.1
100	65.1	4.7	2.4	1.6
75	113.6	7.1	3.7	2.5

Strategic Planning Implications of Declining Volume

**GMU Base Case Adjusted Total Revenue
and Average Revenue per Piece
($ 2009)**

Initial Volume (billions)	Adjusted Breakeven Revenue ($ billions)	Average Revenue per Piece
150	67	49.0¢
125	60	55.2¢
100	53	65.2¢
75	47	84.3¢

Major Functions

GMU Base Case Function Cost
($2009 billions)

Volume	150	125	100	75
Mail Processing	18	15	11	8
Transportation	6	5	4	3
Delivery	26	23	22	20
Retail/Window Service	4	3	3	3
Other	13	13	13	13
Total Cost	67	60	53	47

Sensitivity to Cumulitive Change in TFP

**Sensitivity of GMU Base Case Result
to 3 Percent Negative and Positive Changes in Cumulative TFP**

Initial Volume (billions)	-3% TFP Price Increase Above CPI	Base Case Price Increase Above CPI	+3% TFP Price Increase Above CPI
150	28.5%	24.2%	19.8%
125	45.0	39.9	34.9
100	71.2	65.1	59.0
75	121.8	113.6	105.5

Sensitivity to Fixed Cost Reductions

Sensitivity of GMU Base Case to a 10 Percent Reduction in Fixed Costs

Initial Volume (billions)	Base Case Price Increase Above CPI	Fixed Cost as a Percent of Total Cost	Price Increase Above CPI with 10 Percent Fixed Cost Reduction
150	24.2%	43.5%	17.8%
125	39.9	48.8	31.7
100	65.1	55.4	53.7
75	113.6	63.2	96.4

Sensitivity to Own Price Elasticity

**Sensitivity of Base Case Result to a
50 Percent Decrease and Increase in Price Elasticities**

Initial Volume (billions)	Base Case Breakeven Increase Above CPI	Breakeven Increase Above CPI with 50% Decrease in Price Elasticities	Breakeven Increase Above CPI with 50% Increase in Price Elasticities
150	24.3%	23.5%	28.0%
125	39.9	37.8	47.7
100	65.1	60.2	82.3
75	113.4	99.9	151.9

Sensitivity to 5 Day Delivery

**Sensitivity of GMU Base Case Result
to Five Day a Week Delivery**

Initial Volume (billions)	Base Case Price Increase Above CPI	Price Increase Above CPI with 5-Day Delivery
150	24.2%	17.4%
125	39.9	31.1
100	65.1	53.0
75	113.6	95.3

Sensitivity to Reduction in Retail Cost

**Sensitivity of GMU Base Case Result
to a 30 Percent Reduction in Retail Costs**

Initial Volume (billions)	Base Case Price Increase Above CPI	Price Increase Above CPI with 30% Retail Cost Reduction
150	24.2%	19.3%
125	39.9	33.9
100	65.1	57.3
75	113.6	102.5

Sensitivity Analysis (6)

**Sensitivity of GMU Base Case Result
to Paying Retiree Health Normal Costs Only in 2020**

Initial Volume (billions)	Base Case Price Increase Above CPI	Price Increase Above CPI Paying Retiree Health Normal Cost Only
150	24.2%	19.7%
125	39.9	34.2
100	65.1	57.5
75	113.6	102.6

12. Generalizing the GMU Model for Use with Other Posts

- Major activities are similar across posts

- Assume the empirically based cost elasticities are similar across posts except for delivery

- Delivery is largely fixed and other operations largely variable

- Less volume per stop means greater percent of fixed costs

- Used percentage of fixed costs as a parameter

Real Price Change vs. Volume Change

Figure 4
Breakeven Annual Percent Real Price Change vs. Volume Change Ratio
for 40%, 50%, & 60% 2009 Fixed/Total Cost Ratios
(2009-2020)
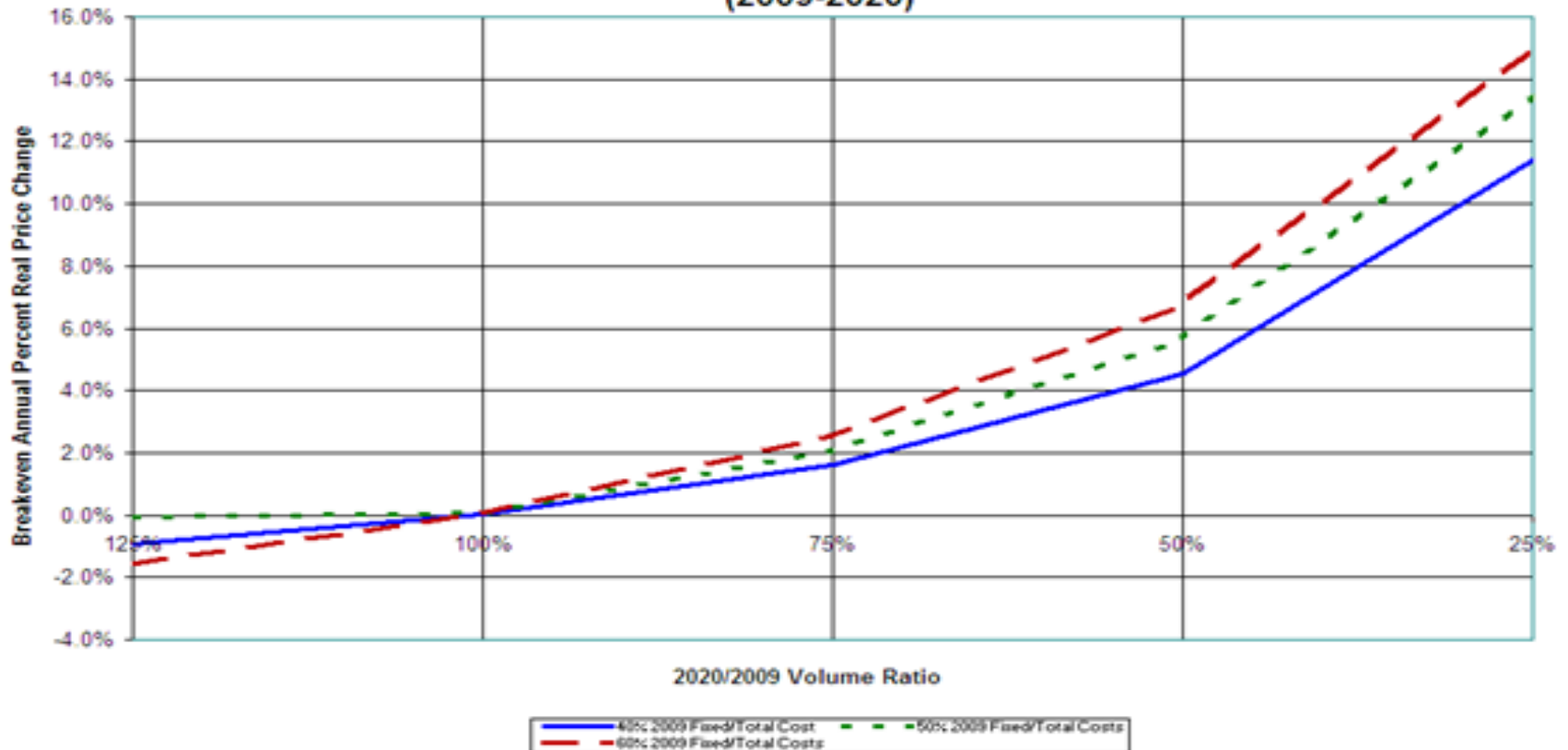
Table 19
GMU Model Results for 40%, 50%, & 60% Fixed/Total Cost Ratios

Case #	Fixed/Total Cost %	2020/2009 Volume %	Adj 2009-2020 BkEv Price Increase	Adj Annual BkEv Price Increase	% Fixed Costs
1	40%	125%	-9.8%	-0.9%	34.4%
2	40%	100%	0.5%	0.0%	40.3%
3	40%	75%	19.4%	1.6%	48.4%
4	40%	50%	62.9%	4.5%	59.8%
5	40%	25%	228.4%	11.4%	75.3%
6	50%	125%	-0.6%	-0.1%	35.6%
7	50%	100%	0.7%	0.1%	50.2%
8	50%	75%	25.6%	2.1%	58.3%
9	50%	50%	83.2%	5.7%	68.5%
10	50%	25%	301.3%	13.5%	80.4%
11	60%	125%	-16.0%	-1.6%	54.2%
12	60%	100%	0.9%	0.1%	60.3%
13	60%	75%	32.2%	2.6%	67.5%
14	60%	50%	104.5%	6.7%	75.6%
15	60%	25%	350.0%	15.0%	85.0%