
Chapter 2

Background and Purpose of Study

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Background and Purpose of Study

Introduction

By some measures, the U.S. Postal Service (USPS) has done remarkably well in the 10 years since postal reorganization.* Gross productivity, as measured by number of pieces of mail per workyear, has increased by 34 percent since fiscal year 1970 when 741,000 postal employees delivered 85 billion pieces of mail. In fiscal year 1980, 667,000 employees delivered 106.3 billion pieces of mail. In 1980, mail volume increased by 6.5 percent over 1979. First- and third-class mail volumes continue to show strength with increases of approximately 15 and 36 percent, respectively, over the last 5 years. During the same period, pieces of mail per capita have increased by about 13 percent, from 418 pieces per person in fiscal year 1976 to 480 pieces in 1980.¹

On the financial side, USPS more than broke even over the combined 1979-80 period. The surplus of \$470 million in fiscal year 1979 offset a deficit of \$306 million in 1980. The cost of postage continues to rise, but since 1975 at a rate that is lower than the consumer price index. If fully adjusted for inflation since 1975, a first-class stamp would cost 22¢ rather than the current 20¢. However, if fully adjusted for inflation since 1967, a first-class stamp would cost only about 14¢. Thus, about 6¢ out of the current 20¢ represents a real increase in the first-class letter rate since 1967. The letter rate in the United States continues to be well below rates in most other countries. For example, in 1980 the letter rate was about 29¢ in Britain and Japan, 31¢ in France and Sweden, and 33¢ in West Germany.²

Why, then, is there concern about the future of USPS? While recent years have been relatively good, the 1980's and 1990's will pose a number of new and perhaps more difficult challenges.

First, *the potential for further improvements in postal productivity through presort discounts and through mechanization and automation is limited.* Even a fully implemented expansion of the ZIP code to nine digits (known as ZIP + 4) would mean a cumulative reduction of only about 15,600 workyears by 1987 according to USPS estimates. Compared to the current USPS annual workyears of 679,000, the productivity improvement would amount to about 2.3 percents. This means that continued automation will provide only a small part of the total productivity improvement needed by USPS to offset inflationary increases in employee compensation and transportation, which together account for over 92 percent of total USPS annual expenditures.⁴

Second, while USPS operating statistics indicate that ontime delivery has been maintained for 95 percent of first-class mail destined for local or metropolitan area overnight delivery, *ontime delivery within 600 miles and for cross-country first-class mail generally has declined since 1977.* Two-day delivery of letters within 600 miles was achieved 86 percent of the time in 1980 compared to 90 percent in 1977. Three-day delivery of cross-country letters was achieved 87 percent of the time in 1980 compared to 91 percent in 1977.⁵ Part of

*The Postal Reorganization Act of 1970 enacted by Congress abolished the Post Office Department as a cabinet level agency of the executive branch. Postal functions were transferred to an independent Government agency known as the United States Postal Service, which commenced operations on July 1, 1971.

¹Annual Report of the Postmaster General, fiscal 1980.

²Ibid.

⁴Comptroller General of the United States, *Implications of Electronic Mail for the Postal Service Work Force* (Washington, D. C.: U.S. General Accounting Office, Feb. 6, 1981), p. 32. The estimated changes in workyears per year from the nine-digit ZIP are as follows: 1981 (+3), 1982 (+87), 1983 (-1334), 1984 (-2382), 1985 (-3301), 1986 (-4378), and 1987 (-4295) for a total reduction of 15,600 workyears. Per Nov. 4, 1981, discussion with Douglas Lynn of the USPS Operations Group.

⁵Annual Report, op. cit., p. 24.

⁶Ibid., pp. 8, 11.

the problem can be attributed to cutbacks in air carrier service, but it is also possible that the rising total volume of mail has begun to tax the capacity of the overall mail distribution system. For example, postal officials have testified that the elimination of Saturday delivery alone would create a mail backlog sufficient to overload the system for Monday delivery. On the other hand, postal officials point to the system's ability to handle peak volumes during holiday periods as evidence that overall capacity has not been reached.

Third, *a variety of technical regulatory, and market developments are contributing to a rapid increase in commercially offered electronic mail and message systems (EMS) that increasingly will compete with USPS*. As early as 1977, studies projected that EMS could divert substantial portions of mail from USPS, to the extent that total mail volume might actually start to decline by the early 1980's.⁶ None of these projections has yet been realized. However, the large number of commercial firms now in the electronic message market,^{*} coupled with recent developments in personal computers, viewdata/teletext, and other home information systems, suggests that this prospect is much more realistic than it was just a few years ago. Furthermore, regulatory decisions by the Federal Communications Commission over the last few years, coupled with congressional actions to rewrite the Communications Act of 1934, are clearing the way for increased competition in the electronic message market. Thus, while EMS will undoubtedly stimulate new message "traffic" between individuals and organizations, they also have the potential for diverting existing

traffic from other media, including a portion of the message traffic currently handled by the U.S. Mail. This diversion would come at a time when mail volume may also be reduced by the consolidation of many bills and payments, or the elimination of some billing and payment transactions altogether, as a consequence of the implementation of electronic funds transfer (EFT) systems.

Substantial erosion of U.S. Mail volumes, particularly first-class mail, could tend to raise the unit cost of carrying the remaining mail volume and/or force a reduction in the quality and convenience of mail service, thus providing further incentive for mail users to switch to alternatives such as private delivery services, newspaper inserts, and the like. Such a development could disadvantage users without a viable alternative to the U.S. Mail, jeopardize the ability of USPS to provide universal service, and adversely affect USPS employees.

An important issue for USPS is whether and how it will participate in the provision of electronic mail and message services. USPS currently provides a portion of Western Union's Mailgram service, and in January 1982 introduced a domestic service called "electronic computer-originated mail" (E-COM). An international EMS service, known as "international electronic post," has also been initiated. INTELPOST is outside the scope of this study. USPS has been developing a more advanced "electronic message service system" or EMSS which, for the purposes of this study, is considered to be an extension of E-COM to full nationwide deployment at all or most serving post offices. There are a variety of ways in which USPS could play one or more roles in the provision of EMS services, ranging from the delivery of hardcopy output to the provision of a complete end-to-end electronic mail service.

The Annual Report of the Postmaster General for fiscal year 1979 states flatly: "In the future, the only way the Postal Service will be able to keep its volume rising and finances dependable is through participating in elec-

⁶See, for example, F. B. Wood, R. W. Anthony, et al., *USPS and the Communications Revolution: Impacts, Options, and Issues*, Final Report to the Commission on Postal Service, prepared by the Program of Policy Studies in Science and Technology, The George Washington University, Washington, D. C., Mar. 5, 1977. Also see Arthur D. Little, *The Impact of Electronic Communication Systems on First Class Mail Volume in 1980-1990*, Cambridge, Mass., April 1978.

^{*}Examples include Quik-Comm (General Electric), Telemail (GTE Telenet), On-Tyme (Tymnet), InfoPlex (Plexus), Faxgram (Graphnet), Mailgram (Western Union), and Datapost (Southern Pacific). Electronic mail is also one of several services offered by Satellite Business Systems and other specialized or value-added common carriers.

tronic mail services.”⁷ In a July 1979 policy statement, the White House agreed, stating that “the national interest requires a Postal Service which can serve all Americans and interface with the world’s postal services efficiently and economically. The service has progressively achieved productivity improvement by mechanization and automation in processing of conventional mail . . . A postal EMS is the next logical step to achieve further cost reduction and mail processing improvement.”⁸

Over the last 3 years, the role of USPS in EMS has been in dispute before various regulatory agencies, the courts, and Congress. USPS initiated E-COM service in January 1982 after the USPS Board of Governors approved the Postal Rate Commission’s (PRC) 1980 recommended decision, with the exception of PRC’s “experimental” designation (of E-COM as an experimental rather than a permanent service) which was successfully appealed by the Governors to the courts. However, several private firms and the current administration believe that E-COM as present-

⁷*Annual Report of the Postmaster General*, fiscal 1979, p. 6.

⁸Administration Policy Statement, The White House, July 19, 1979.

ly implemented differs significantly in other ways from the concept originally recommended by PRC. A 1981 inquiry opened by PRC to review what form of E-COM USPS should be offering was suspended after its legality was challenged by USPS.

Comments filed before PRC jointly by the Departments of Commerce and Justice and a court challenge to E-COM filed by Justice indicate that the current administration is not supportive of E-COM as presently operating, or possibly of any USPS role in EMS that involves telecommunication, data processing, or printing. This in part reflects continuing concern that E-COM places an independent Government agency (USPS) in competition—perhaps unfairly and/or illegally—with private firms. Some of these firms believe that the demand for EMS can be met by private offerings, and that the USPS role should be restricted to the delivery of hardcopy output from electronic message systems. Others are concerned that in the future USPS may expand its EMS role from printing, enveloping, and physical delivery—as in E-COM—to include telecommunication and perhaps electronic delivery as well.

Congressional Interest

The implications of electronic mail and message systems for USPS, and especially the role of USPS in EMS, have been and continue to be a primary concern of congressional committees with direct jurisdiction over USPS and the Postal Reorganization Act of 1970, i.e., the House Committee on Post Office and Civil Service (and particularly the Subcommittee on Postal Operations and Services and the Subcommittee on Postal Personnel and Modernization) and the Senate Committee on Governmental Affairs (especially the Subcommittee on Civil Service, Post Office, and General Services).

The role of USPS is also of interest to the committees with jurisdiction over telecommunications to the extent that USPS becomes

involved with an EMS service that is subject to the Communications Act of 1934, in whole or in part. These committees include the House Committee on Energy and Commerce (and the Subcommittee on Telecommunications) and the Senate Committee on Commerce, Science, and Transportation (Subcommittee on Communications). In addition, other committees, such as the House Committee on Government Operations Subcommittee on Government Information and Individual Rights, have an interest in the privacy, competitive, and related implications of a USPS role in EMS.

Despite a variety of legislative initiatives in recent years, Congress has yet to agree on a clearly defined EMS role for USPS. H.R. 2813, introduced in the 97th Congress, would require

USPS to establish a separate organizational unit to provide EMS service, would prohibit cross-subsidization of EMS from public funds, would prohibit USPS from owning telecommunication services (but would permit USPS to contract for same), and would limit USPS to EMS services where the output is physically delivered through the U.S. Mail.⁹ H.R. 4758, also introduced in the 97th Congress, would prohibit all Federal agencies, including USPS, from providing data-processing or telecommunication services to non-Federal persons or entities unless explicitly authorized by statute. This bill would appear to prohibit USPS from offering telecommunication transmission and data-processing services without specific congressional approval.¹⁰ In the

⁹H.R. 2813, 97th Cong., 1st sess., Mar. 25, 1981, to amend title 39 of the United States Code, referred to the Committee on Post Office and Civil Service.

¹⁰H.R. 4758, 97th Cong., 1st sess., Oct. 15, 1981, to amend the Federal Property and Administrative Services Act of 1949. See *Congressional Record—House*, Oct. 15, 1981, p. H7425.

Senate, S. 898, “The Telecommunications Deregulation and Competition Act of 1981,” as enacted includes an amendment intended to clarify provisions of the act relating to electronic mail. The amendment makes clear that S. 898 does not authorize or prohibit USPS from offering telecommunication services or the electronic delivery of messages, whether by resale or otherwise. If, at some future time, Congress should authorize USPS to offer such service or if current law is interpreted to authorize it, the amendment stipulates the conditions under which such service would be offered, including the establishment of a separate organizational entity, among other things. Thus, in effect, S. 898 and the related Senate floor debate prior to enactment reaffirm the absence of congressional consensus on the participation of USPS in EMS.¹¹

¹¹See *Congressional Record—Senate*, Oct. 7, 1981, pp. S.11211-11216.

Study Purpose and Approach

This study addresses three major questions:

1. To what extent are privately offered EMS and EFT systems likely to affect the volume of mail handled by USPS?
2. Are changes in USPS mail volume likely to lead to significant adjustments in USPS rates, service levels, and/or labor force requirements? and
3. What are the implications for the future of USPS and how it might participate in the provision of EMS services?

At the heart of the study are two computer-based quantitative models. The first is a market penetration model used to project the level of conventional and electronic mail volumes under different sets of assumptions, and the second is the USPS revenue and cost model. There are four basic inputs to the market penetration model: 1) the baseline description of the mail flows derived from a survey based on 1977 data conducted for USPS by the Survey Research Center at the

University of Michigan; 2) a set of EMS and EFT technology assumptions; 3) a set of assumptions about the underlying growth rate of the mainstream; and 4) the range of selected alternatives (e.g., low, medium, high growth) for EMS development. The market penetration model is explained in chapter 3 and appendixes A and B, and the results are outlined in chapter 4.

The second quantitative model is the USPS revenue and cost model. It is designed to project the impacts of the growth or decline of overall USPS mail volume (conventional and EMS) on USPS rates, service levels, and labor requirements. The USPS revenue and cost model and the results for first-class mail are presented in chapter 5.

¹²M. Kallick, W. Rodgers, et al., *Household Mailstream Study, Final Report*, prepared for Mail Classification Research Division, U.S. Postal Service, 1978.

This study gives primary emphasis to impacts on the USPS mainstream (based on results of the market penetration model) and on USPS rates, service, and labor (based on combined results of the market penetration model and the revenue and cost model). Implications for rates, *service*, and labor are summarized in chapter 6. Secondary emphasis was placed on the potential implications for the telecommunication and computer industries, EMS privacy and security, and the long-term viability of USPS, discussed in chapter 7. Congressional policy considerations are discussed in chapter 8.

A note on computer modeling is in order. Prior studies on mail diversion have proven to be oversimplified. In order to better understand the complexities involved, OTA developed and used computer-based models to permit consideration of a larger number of variables and interrelationships than would otherwise be possible. While this approach is more systematic and complete than those used in prior studies, computer modeling has its limitations.

First, the precision of the projections can be misleading. The reader should focus on general trends and relationships rather than the specific numbers projected. Second, the models

are highly sensitive to initial assumptions. For this reason, sensitivity runs were conducted to see how much projections would change with different assumptions. Third, the models have limited ability to anticipate unexpected events. For example, the possibilities of a World War III, second Great Depression, mandatory wage/price freeze, nationwide postal labor strike, or repeal of the Private Express Statutes were not included. In other words, the models are based on a relatively “surprise-free” future. Fourth, the models do not fully reflect the possible effect of rates on mail volumes. There is a feedback process, but its exact nature is unknown. That is, changes in rates may have a significant effect on mail volume, which in turn affects mail rates 1, 2, or 3 years later (in the next ratesetting cycle). Despite these limitations, computer modeling can be a useful analytical tool.

Again, the study as a whole, and particularly the use of computer modeling, is intended to help Congress better understand the possible implications of EMS for USPS. The study is not intended to make a prediction of the future course of events. Many variations are possible. Finally, the study specifically avoids making judgments about the impacts identified and makes no recommendations relative to the role of USPS.