Pitney Bowes

Engineering the flow of communication™

➢Postal Rate Commission➣

Washington, D.C. – February 22, 2006

Is There a Future for Mail?

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Pitney Bowes

Myth: Paper will Disappear

“The paperless office is close”
Business Week, 1975

“By the turn of the century we will live in a paperless society”
Fortune “10” CEO, 1986

“If mail service fails to improve, 60% of mail will be delivered electronically by the year 2000”
Wall Street Journal, 1987

“Electronic mail … could replace 25% of snail mail by 2000”
TIME Magazine, 1998

“E-mail is disrupting postal services. The volume of personal communication that is done by letter is dropping precipitously, leaving postal services with magazines, bills and junk mail”
Clayton Christensen, “The Innovator’s Solution”, 2003

Misinterpretation of the Present Situation

"The number of letters sent in individual pieces is dropping at an accelerating rate. Any grade school kid knows why: Nobody sends letters anymore; everybody uses e-mail."

Rick Geddes, "Thinking Outside of the Mailbox," The Washington Post, August 29, 2003

"The USPS survived the closure of the Brentwood and Trenton facility … because of the massive overcapacity built into its system. It was the consequence of the reduction in the volume of mail resulting from the increasing use of the Internet to pay bills, write letters, and send greeting cards."

Yossi Sheffi, "The Resilient Enterprise," 2005

The optimists were also wrong

The citizens who live in the next century will pay once cent for a postage stamp

– USPS Postmaster General, 1893

Free mail delivery will be universal

– Noted author, 1893

Before man reaches the moon mail will be delivered by rockets between New York and Australia

– USPS Postmaster General, 1959

Ahh ... Predictions ....

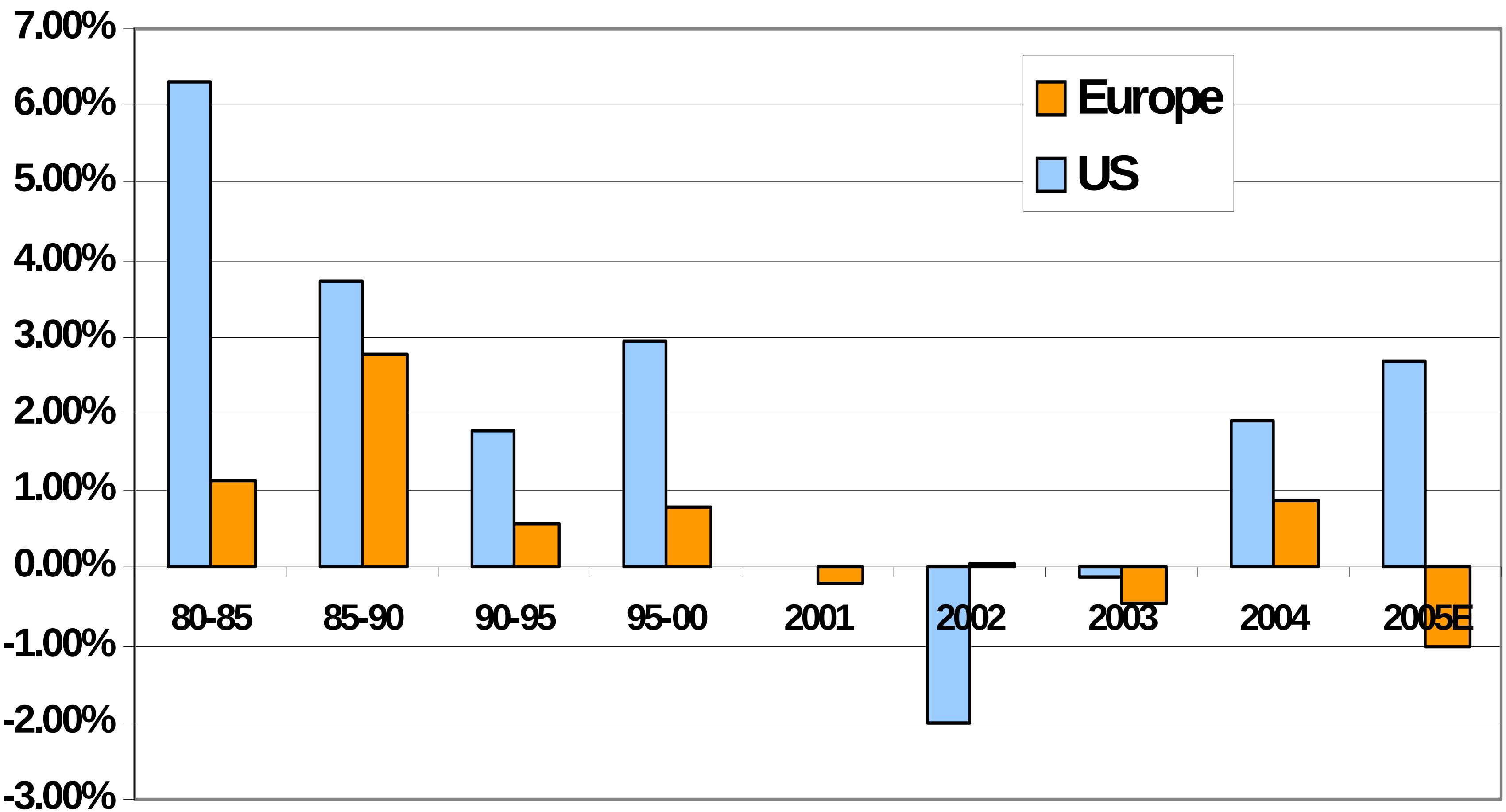
"It's very difficult to make predictions,

especially about the future."

\- Niels Bohr, Nobel Prize in Physics, 1922

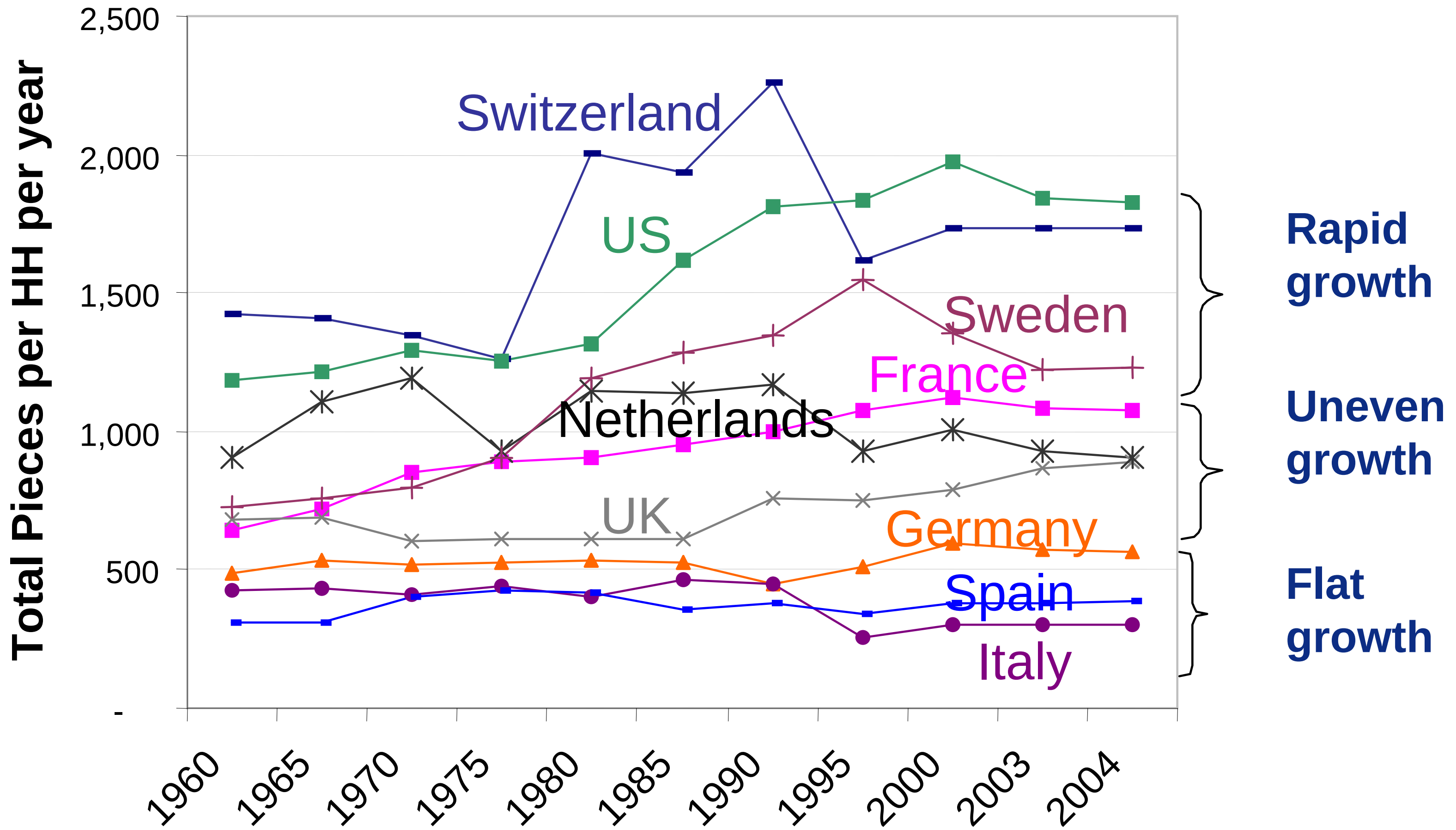
1. Trends

Volume growth rates peaked in the 80s

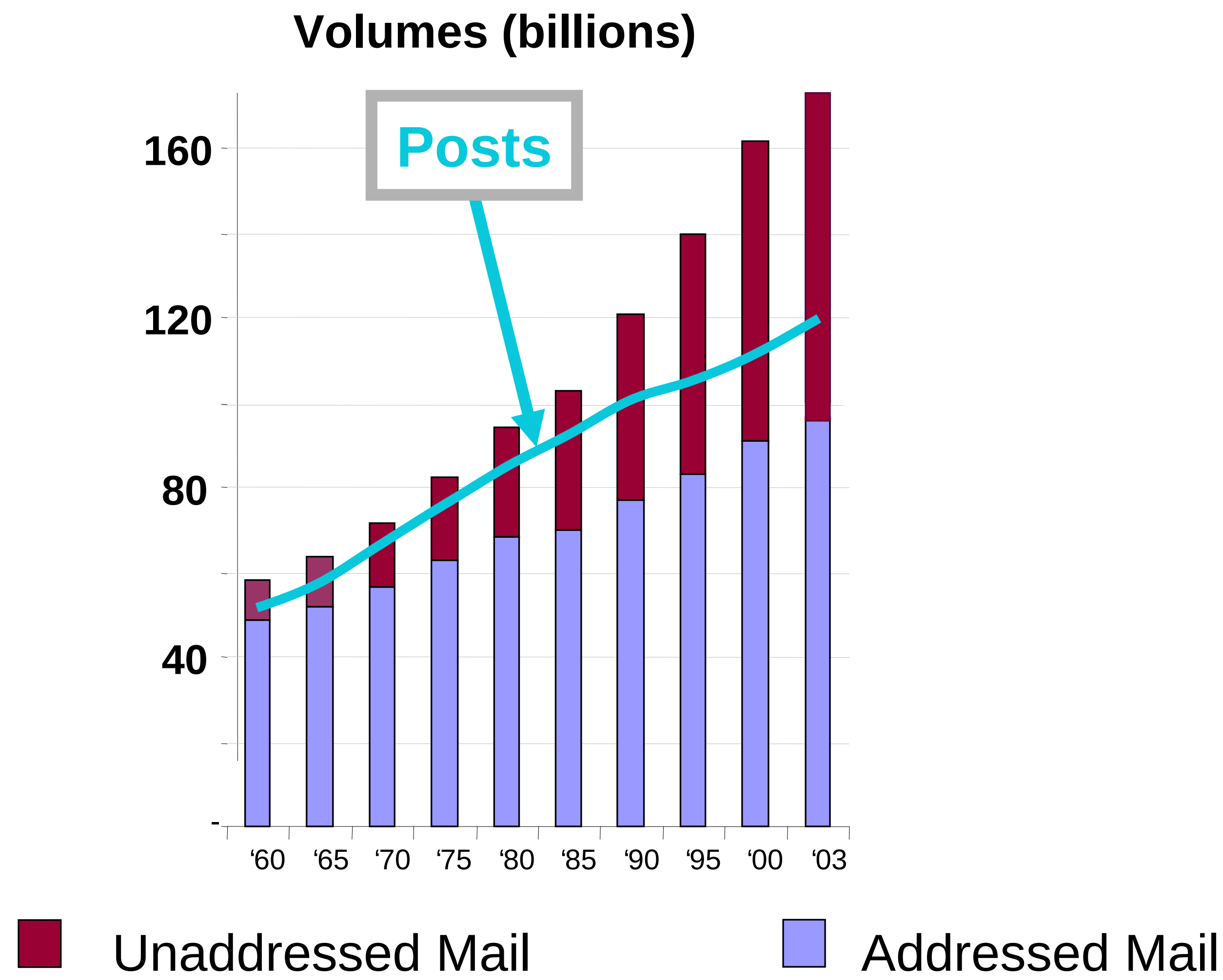


Source: Updated January 2006 from Nader (2004) and Jimenez (2005a).

Reality: Mail per household will not reach the same level in all countries



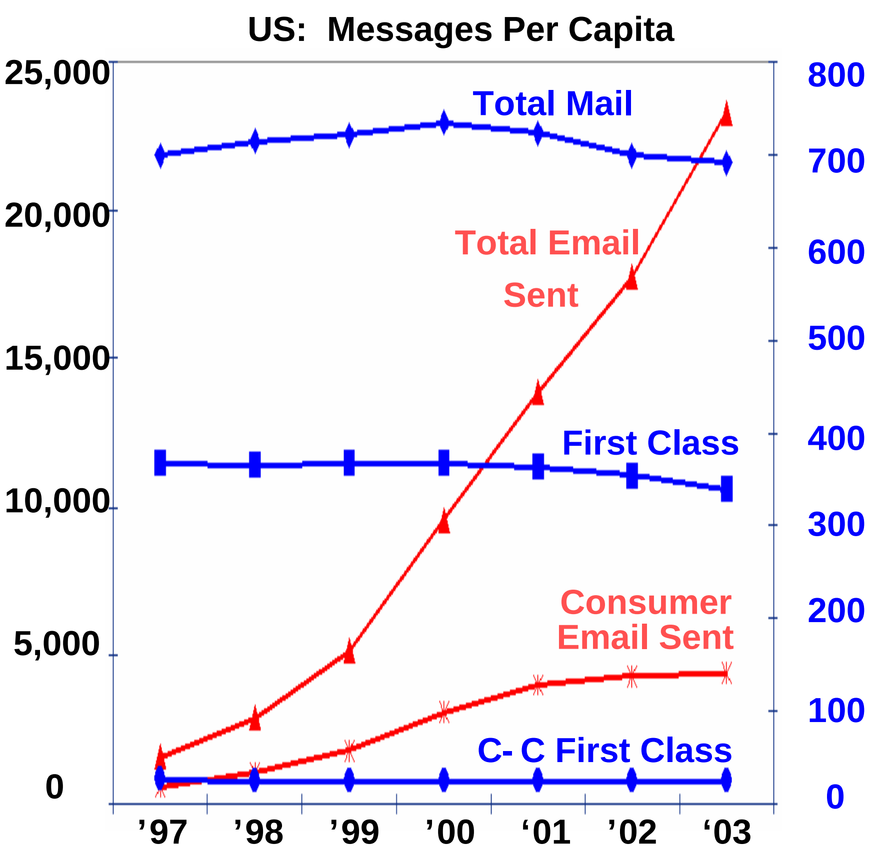
The low growth for some European Posts can be explained in part by competition



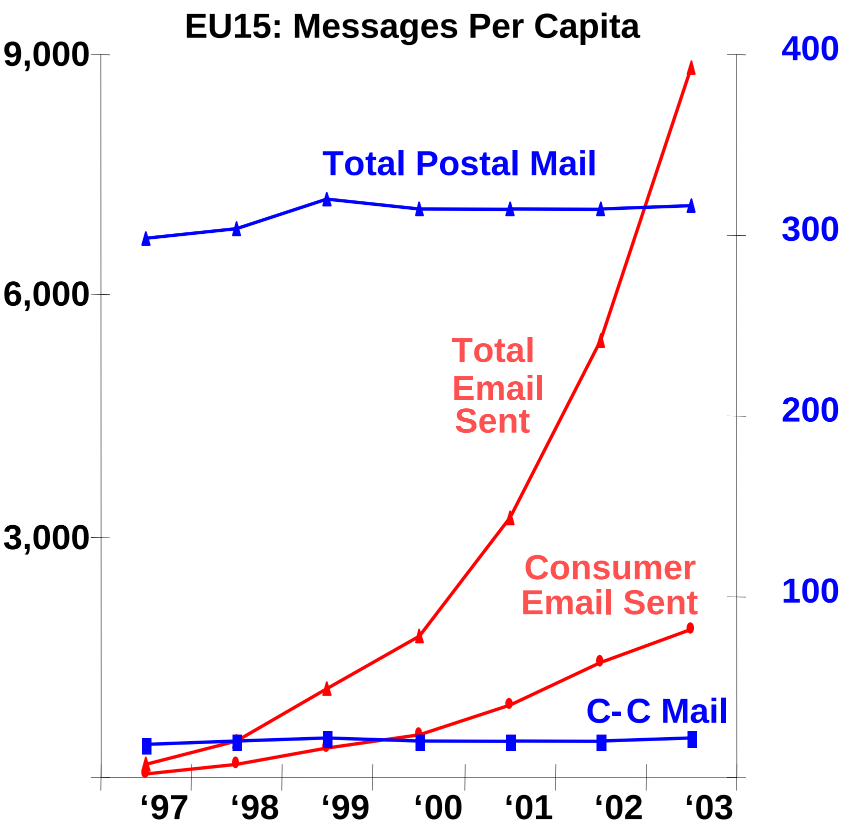
Source: PB Analysis based on published postal reports

Reality: US and EU mail per capita remains steady despite email explosion

Email / Mail 33 : 1

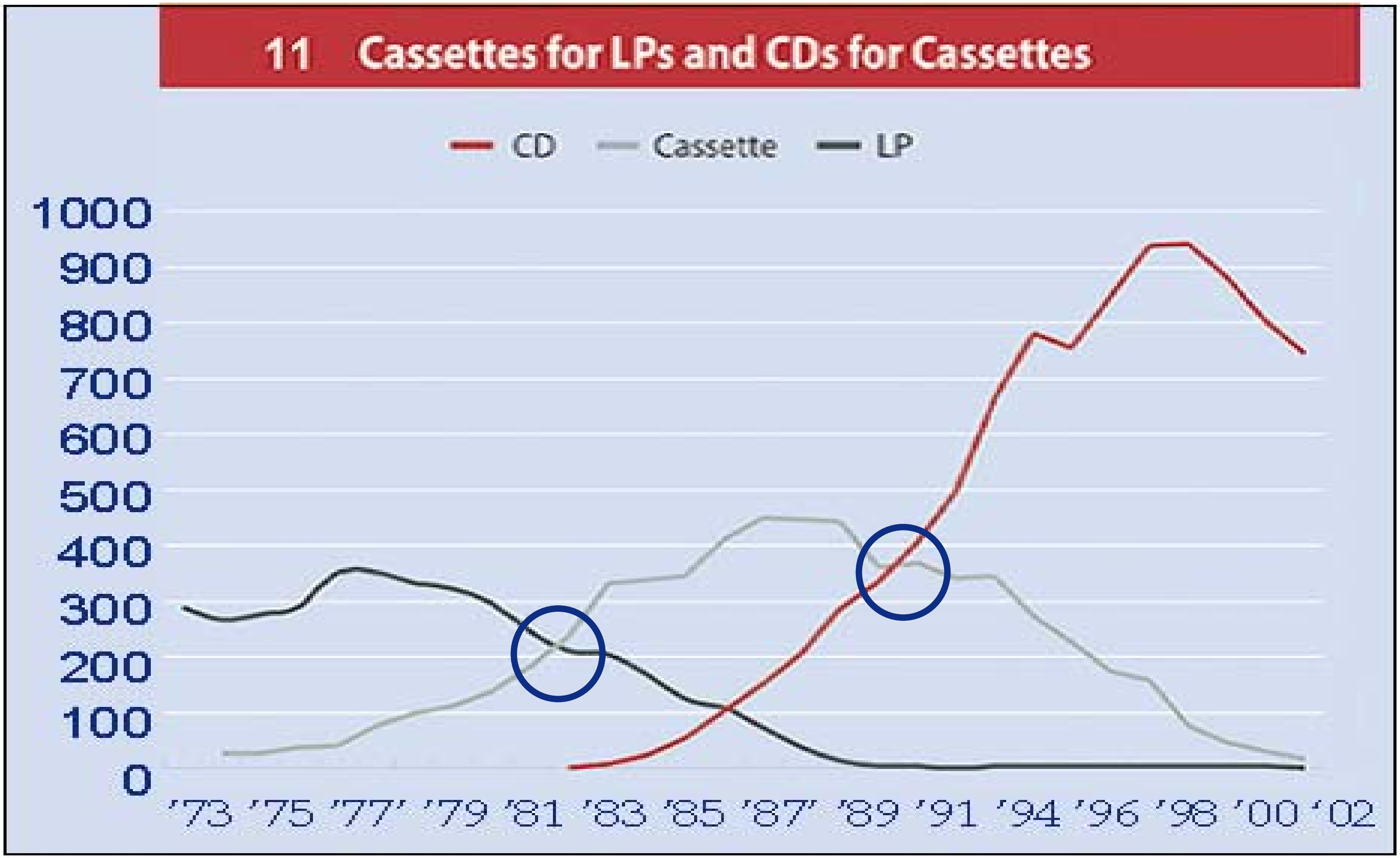


Email / Mail 23 : 1



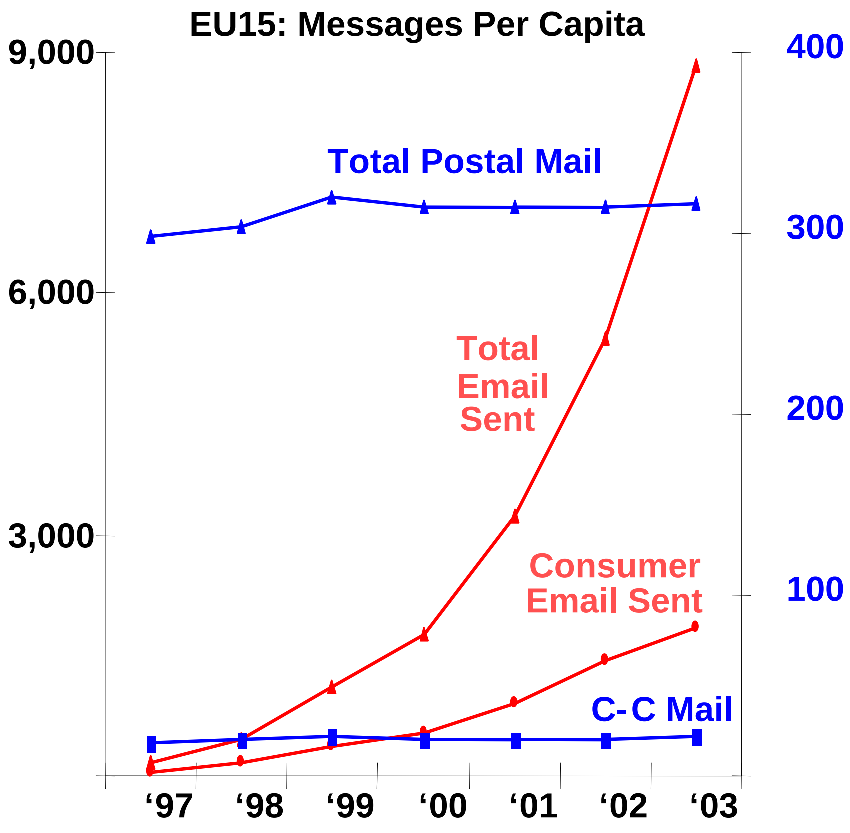
Source: PB Analysis

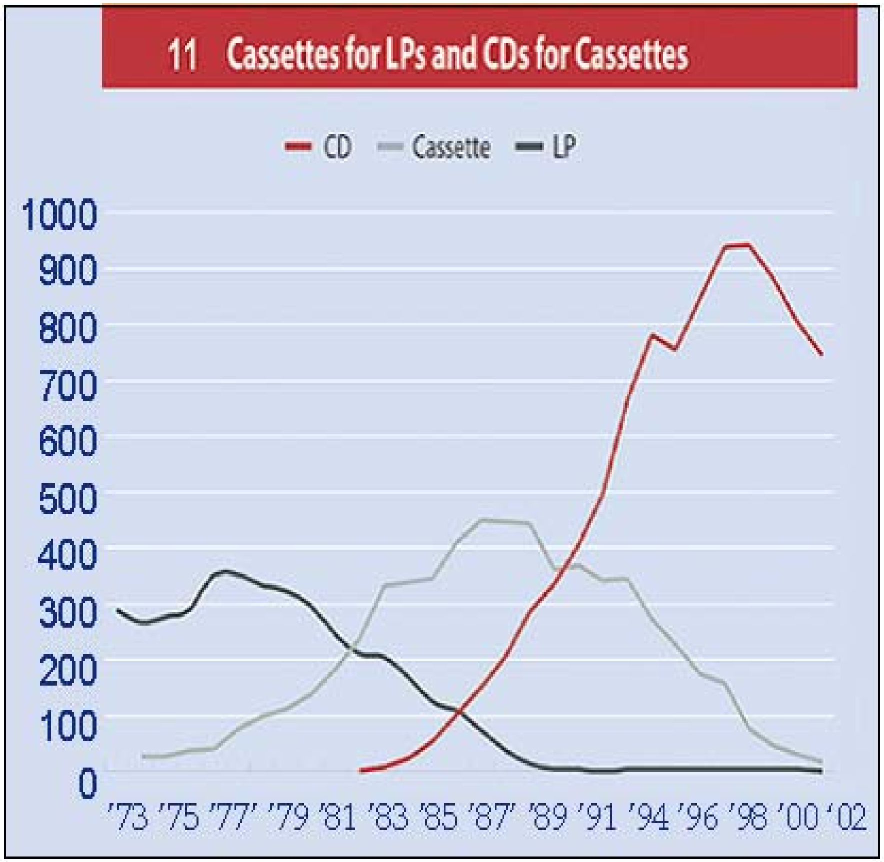
In a pure substitution pattern the new medium grows at the same rate as the other one declines



Source: PB Analysis

Email has not followed a classical substitution pattern





Reality: Email is a “Niche” application within FCM, not unlike express shipments

“Fast” and/or “free”

Email Niche

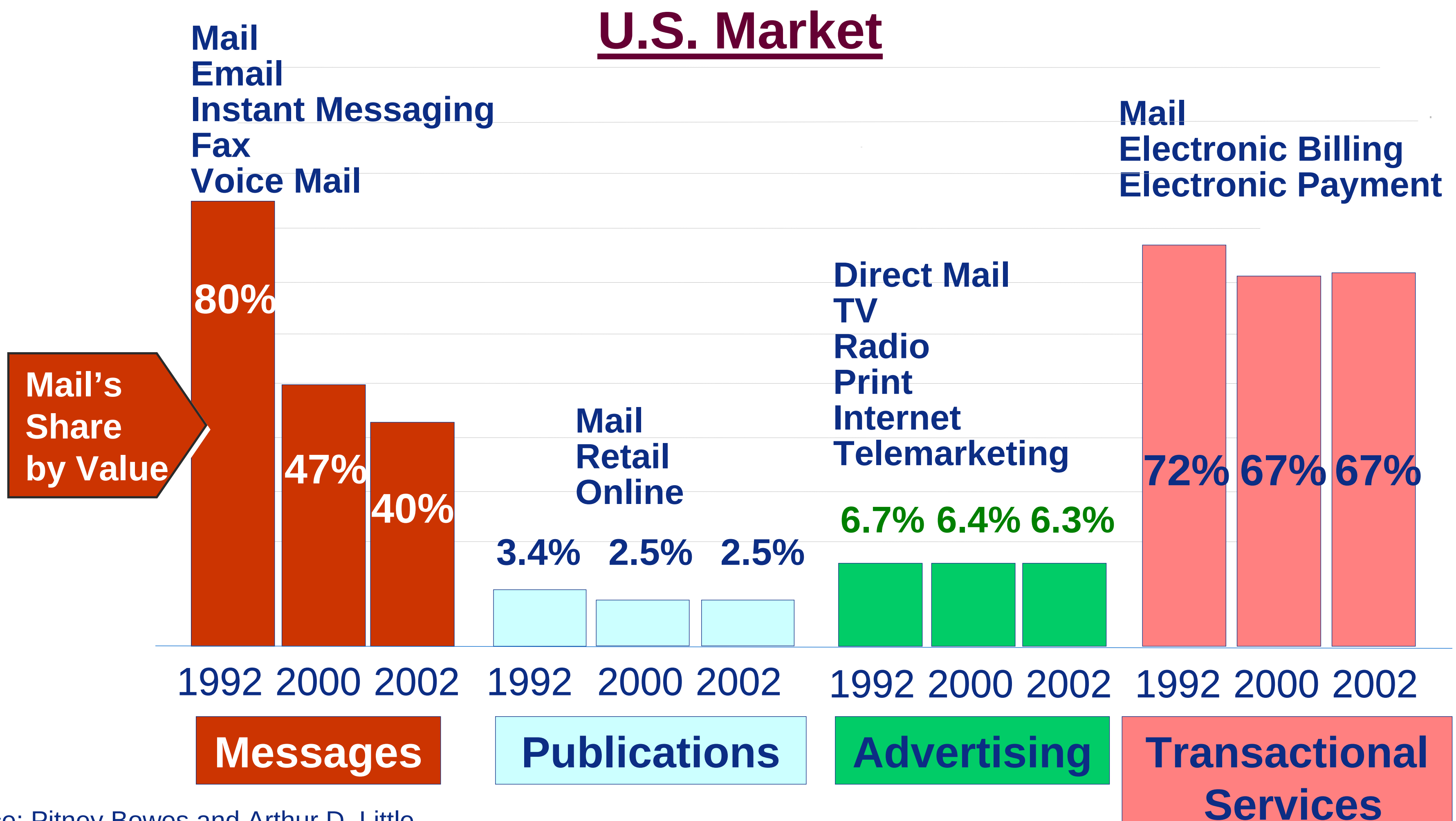
Most other email no longer replaces mail

First Class Mail

Fast, heavy weight, premium, single piece

Express Shipments Niche

Reality: Mail's share in each segment is evolving differently depending on the range of available alternatives



Source: Pitney Bowes and Arthur D. Little

2. Our Research

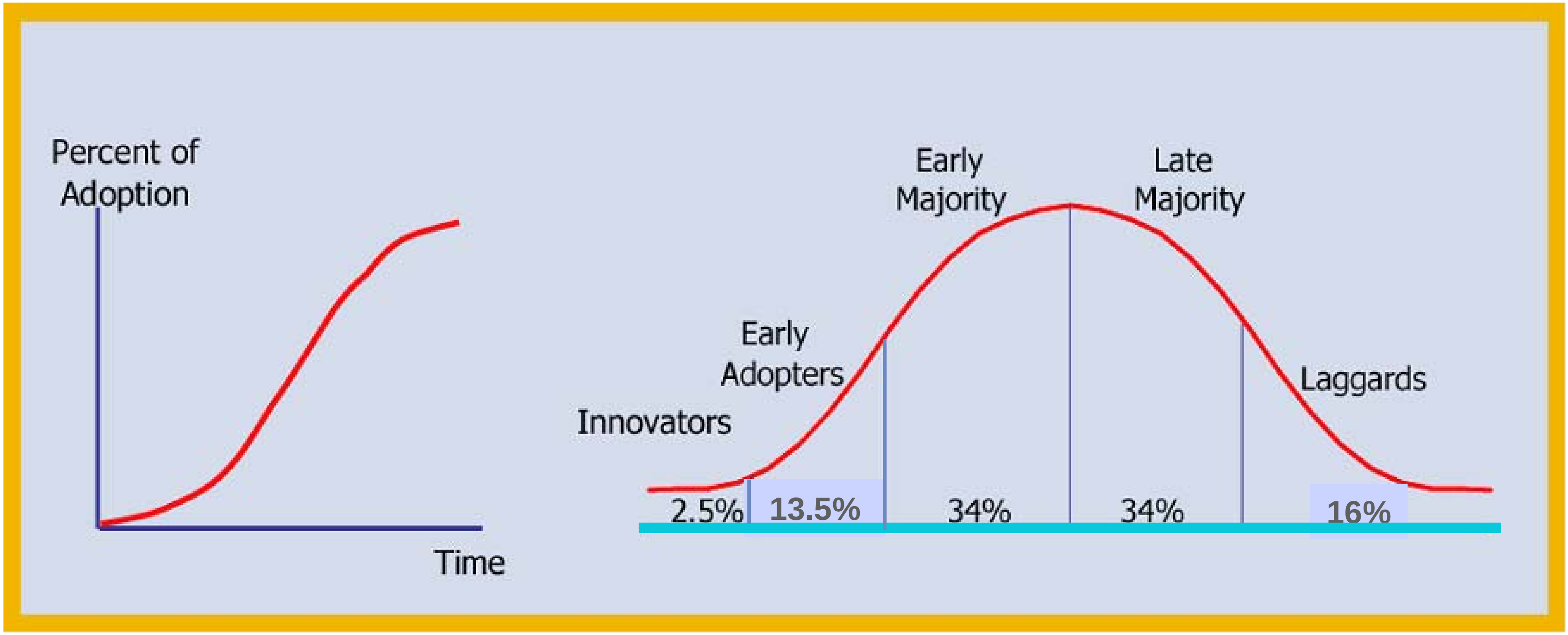
Our Research

- Document the literature – over 300 references
- Future of Mail: Review major trends in mail volumes in the US, Canada and Europe. Examine specific transactions and their evolution: bills, payments, correspondence, advertising, greeting cards.
- Review past mail demand models; build new ones
- Assess the volume forecasting accuracy
- Analyze drivers, enablers and barriers of shifts in mail volume: technology, competition, price and quality, regulation, human factors

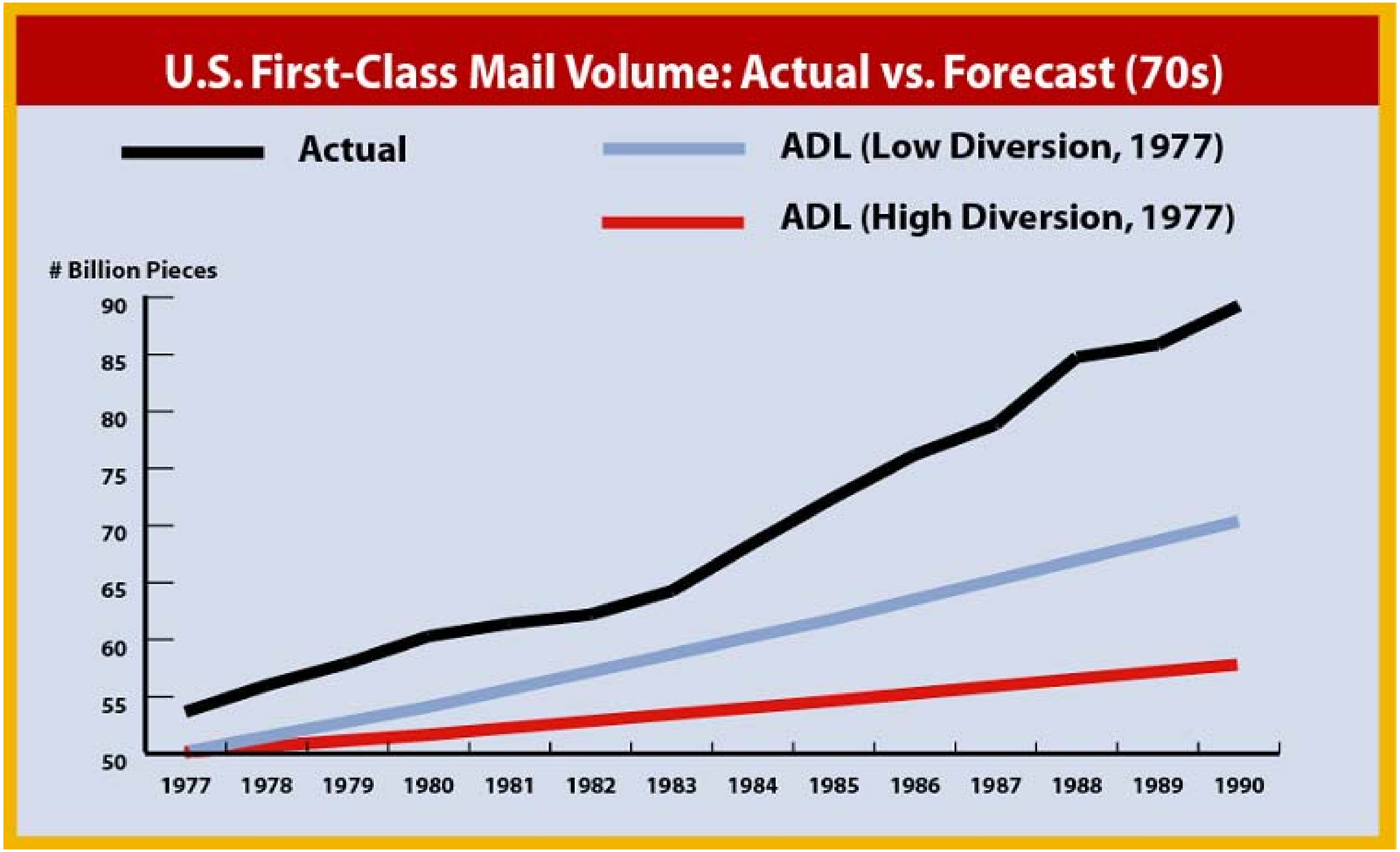
✸ Separate Myths from Realities ✸

3. Models

Myth: All substitution follows the Rogers Model for the diffusion of innovations



Myth: Forecasters in the 70s assumed that new technologies directly caused substitution ... and underestimated mail growth



Reality : The slow pace of fast change

"The status quo has a crucial advantage. It is already in equilibrium. The purpose of innovation is to act as a disequilibrating forces."

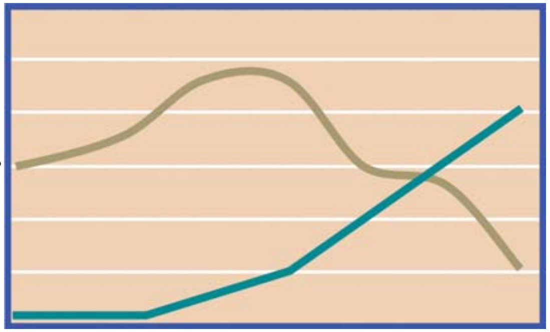
"For the status quo to change,
innovation in the business model and the market structure
are more important than the technology."

Bhaskar Chakravorti, "The Slow Pace of Fast Change"

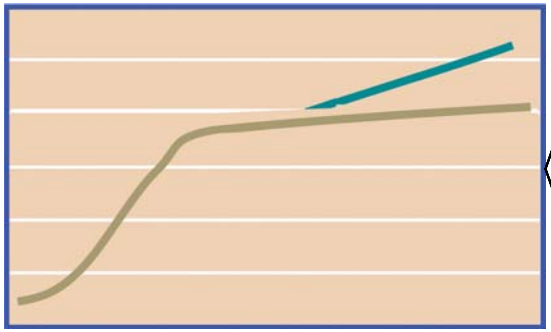
Several patterns arise when a new technology is introduced in a market

CDs vs cassette tapes

Pure Substitution



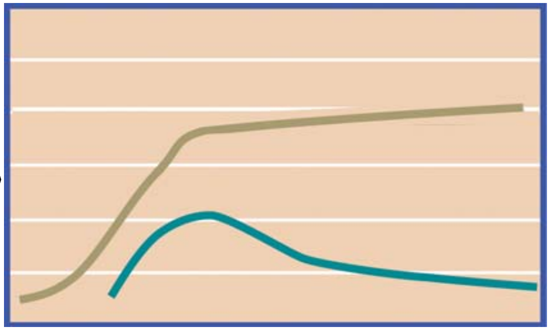
Complementarity



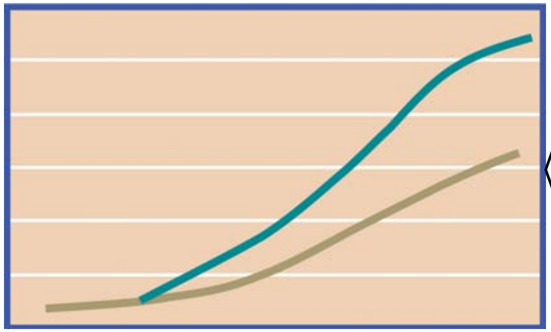
Mobile telephones

Video-phones; electronic greeting cards

Stalling



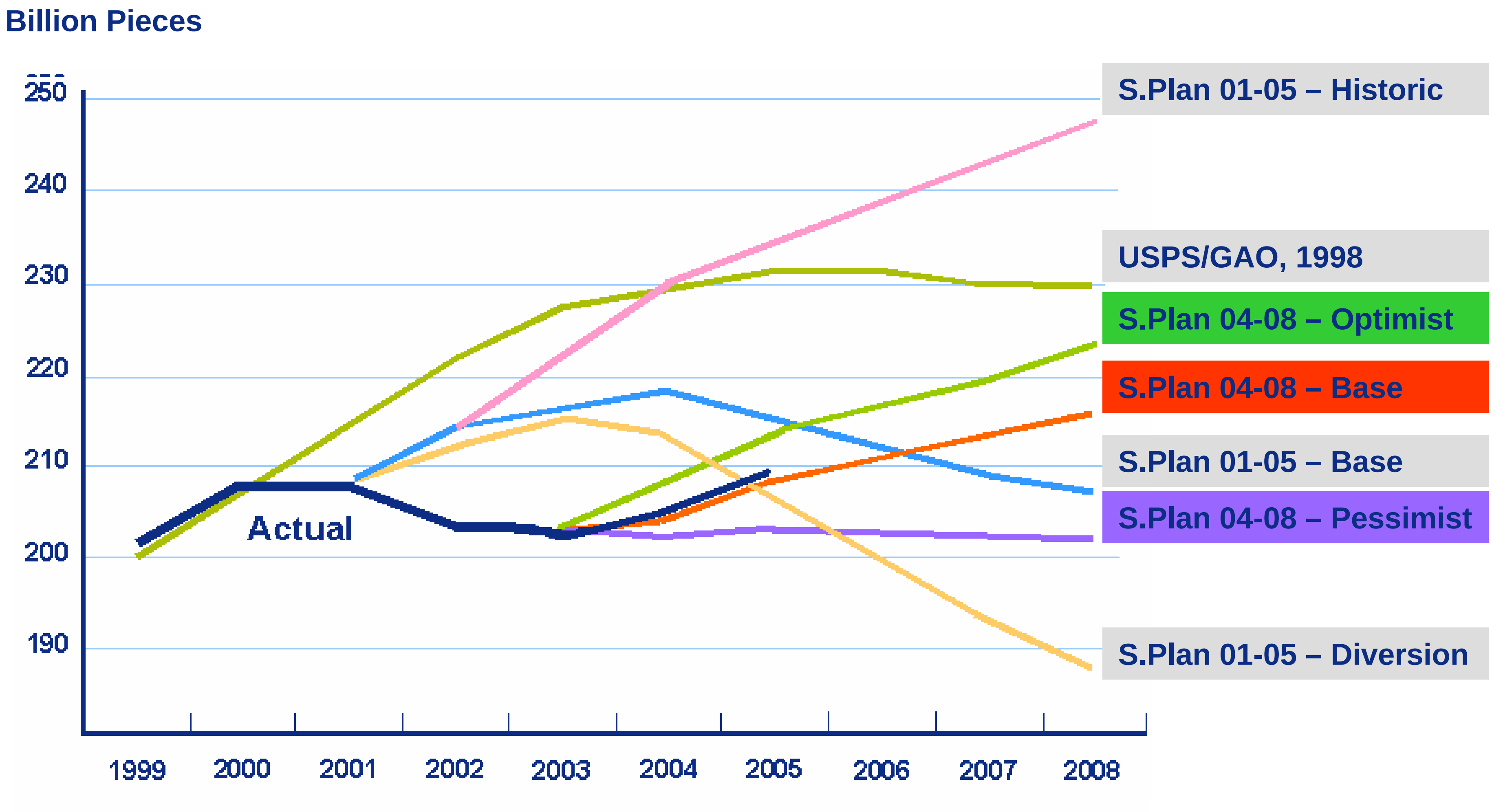
New Demand Created



Airplanes; email

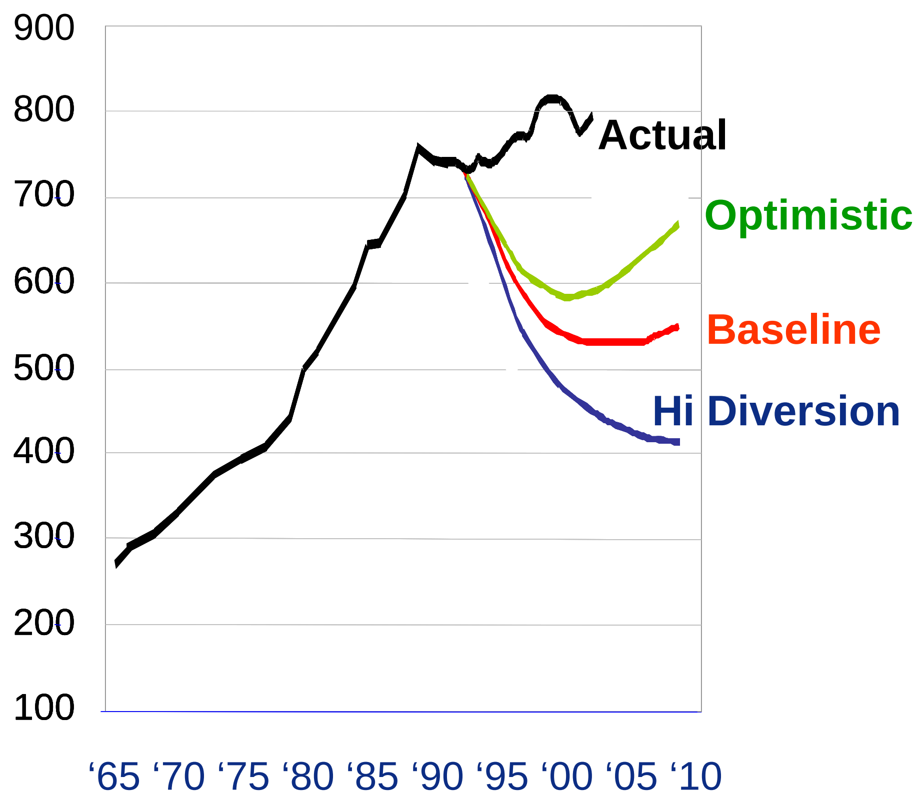
4. Forecasts

Reality: Forecasts have difficulty predicting the long term

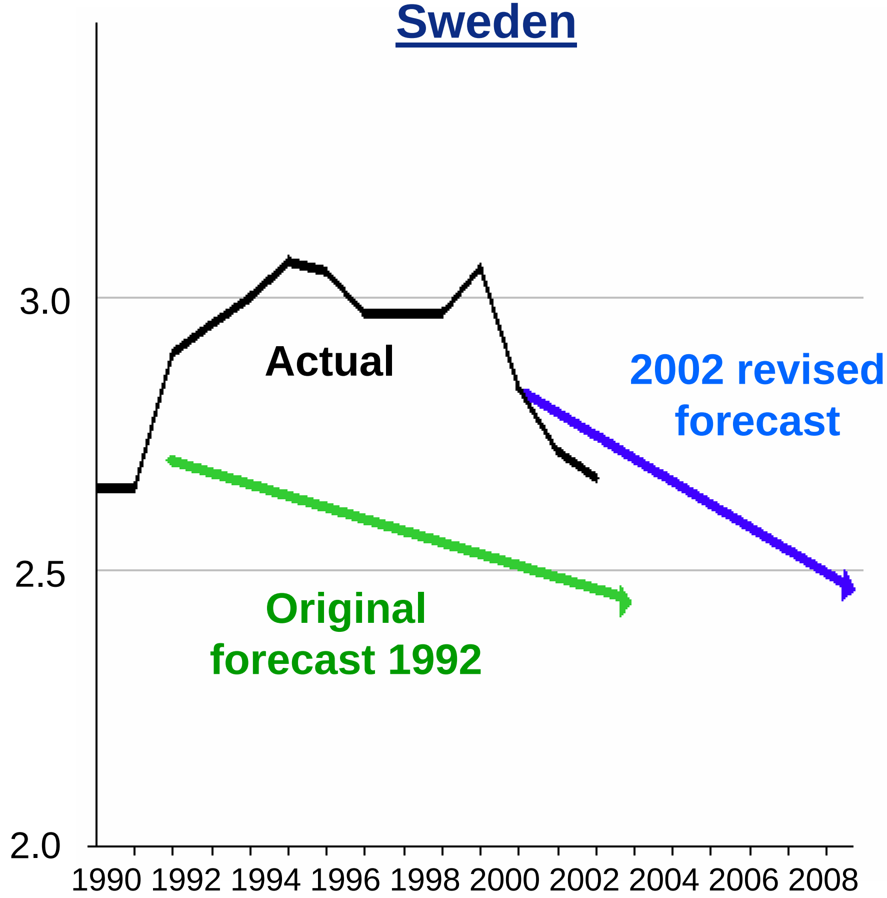


Reality: In contrast, European forecasters have tended to underestimate growth

Finland

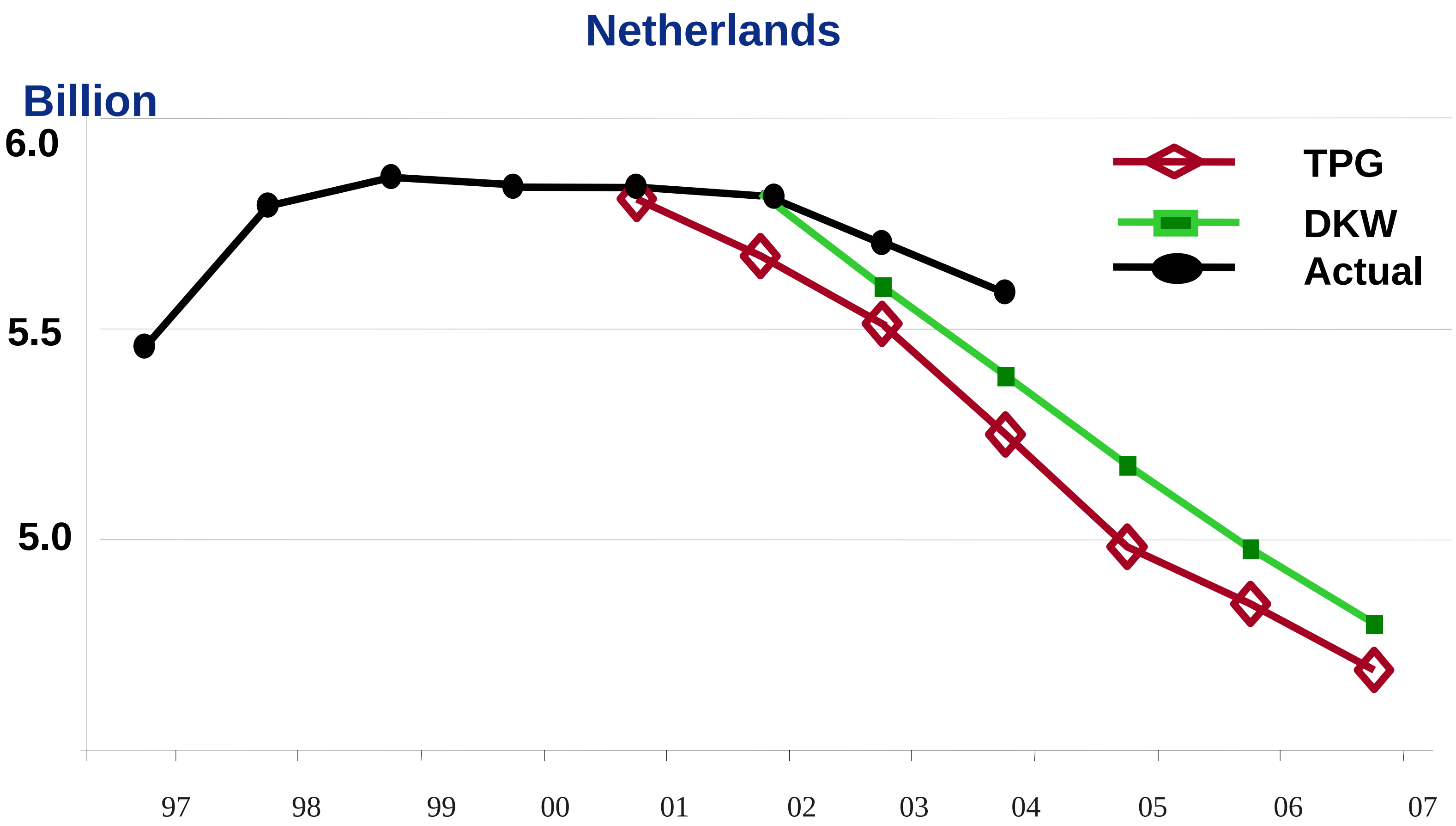


Sweden



Source: PB analysis

Reality: In contrast, European forecasters have tended to underestimate growth



Source: PB Analysis

Challenges to traditional volume forecasting

- Pessimistic forecasts have not come to pass
- Volumes are no longer explained by economic activity alone
- Current methods work best for short-term budgeting
- Little confidence that we can project the future accurately
- Many models start assuming that electronic substitution will occur and then build its effects directly into a diversion model
- Recognition is spreading that there are many factors that influence volumes:
  - Market liberalization/competition
  - Postage prices and total cost of mailing
  - Quality and product shift
  - Mailer rationalization

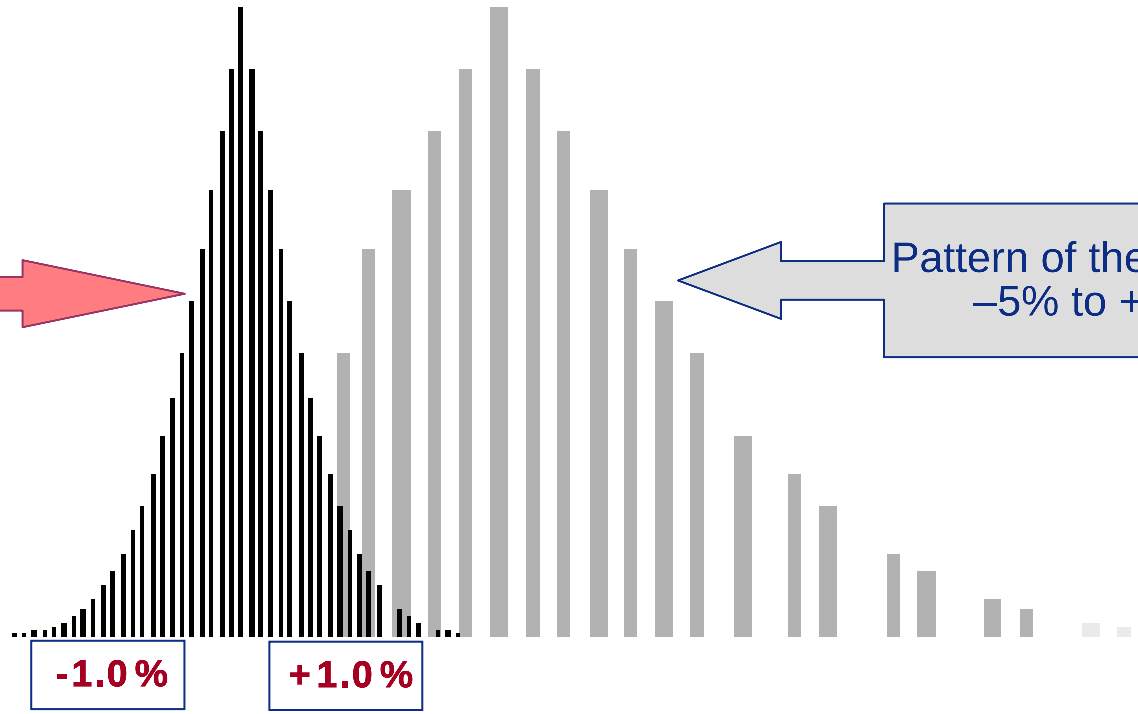
Reality: Pessimistic mail forecasts have influenced "political" decisions in the past

- Prepare labor force for downsizing
- Obtain new commercial freedoms to participate in non core businesses
- Prepare rate makers for price increases due to shrinking volume
- Oppose liberalization in a mature market to protect postal revenue
- Accelerate market opening and privatization in other markets

Our scenario for future growth potential

ICs

Pattern for 2000-2010:
“Slow Erosion,
Low Growth”



Pattern of the1990s:
–5% to +5%

Source: Jimenez, “Pochtovaya Troika” Scenario (2003)

5. Drivers

Reality: Many factors, not just technology, impact the Posts' mail volumes

Economic and Demographic
- Recession and expansion
- Personal consumption
- Advertising spending
- Customer acquisition spending
- Demographic shifts

Consumer Preferences
- Paper vs electronics
- Saturation with promotions
- Need for credit and refinancing
- New shopping habits
- Demographic and generational differences

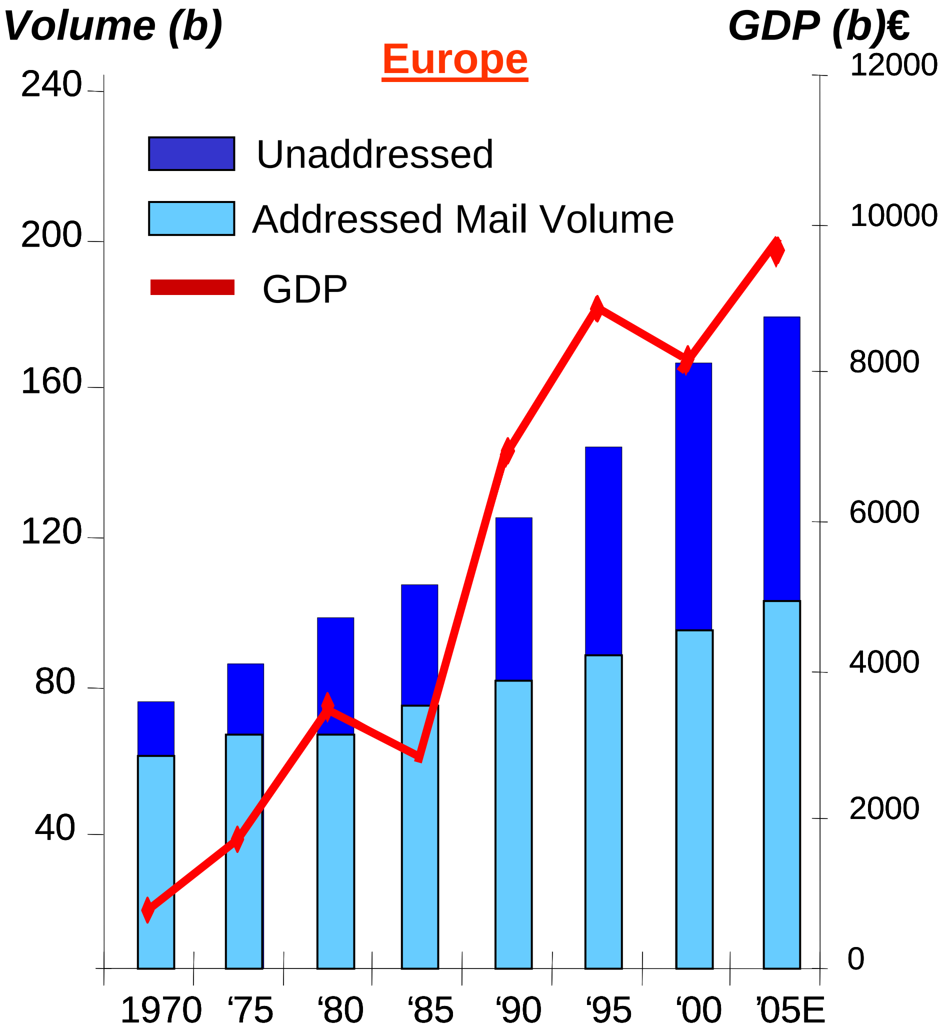
Electronic Alternatives
- Surge in inexpensive e-mail marketing
- Bill payment
- Remote commerce
- Variable digital printing

Competition
- Private Postal Operators
- Growth of unaddressed mail
- Posts setting up operations in each others' countries

Postal Products
- Price level
- Price changes
- Quality
- Differentiation
- Ease of Access
- Life cycle

Mailer Rationalization
- Total Cost of Mailing
- Frequency
- Customer Targeting
- Customer relationship management

GDP is no longer the most accurate indicator of mail growth, but economic activity remains a strong predictor of volume



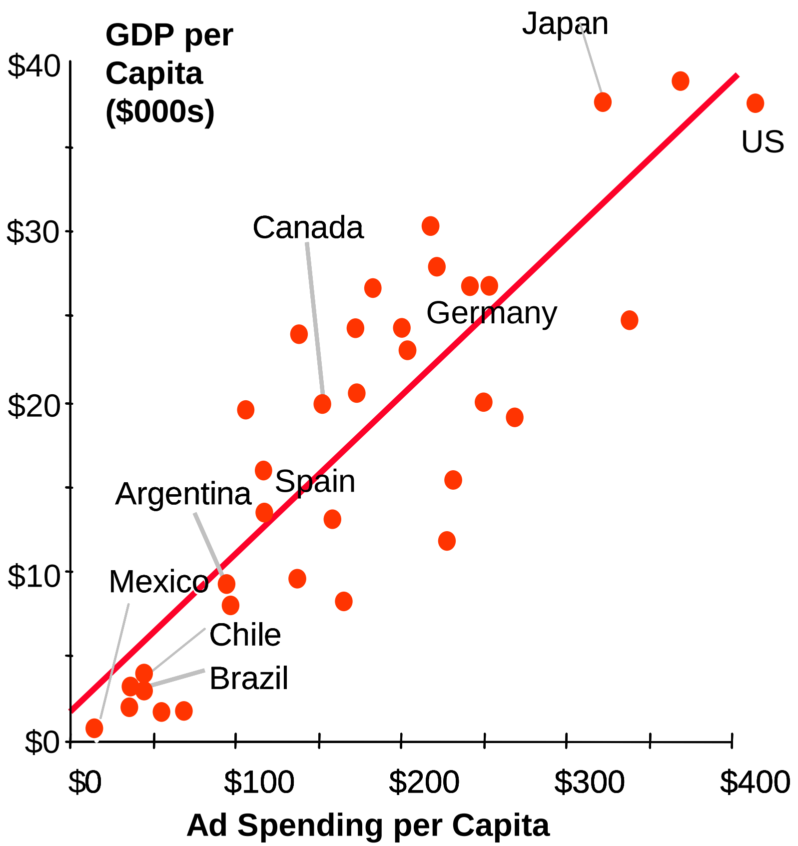
Economic Activity

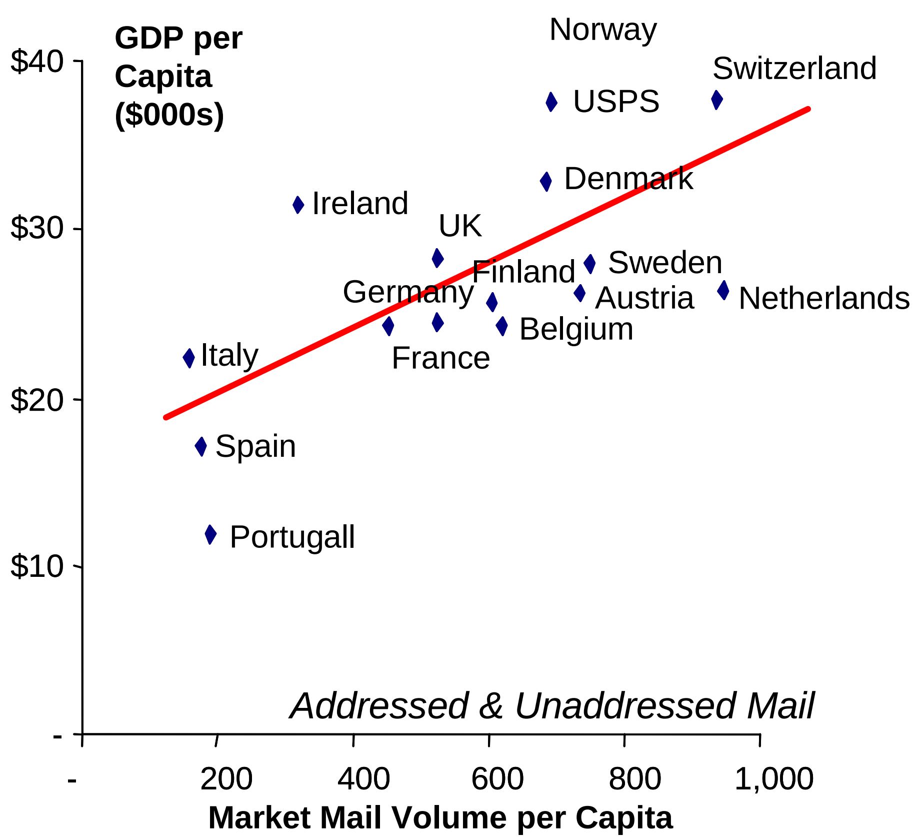
- GDP
- Expansion and recessions
- Business cycle
- Personal consumption
- New business formation
- Household formation
- Advertising Spending
- Customer acquisition spending

Demographic Shifts

- Population growth
- Age distribution
- Generational distribution
- Income distribution
- Internet penetration

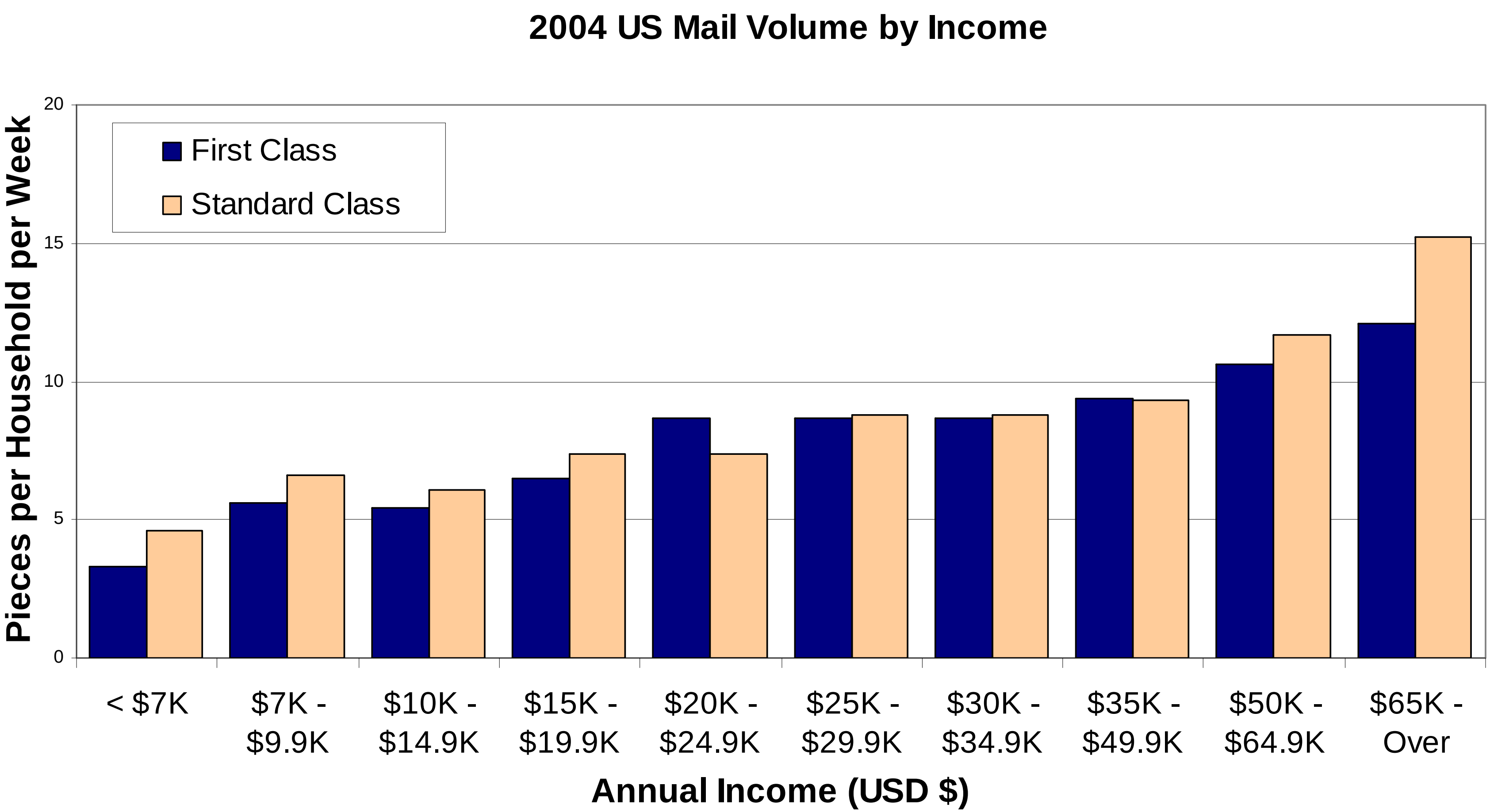
Reality: Ad spending and mail volumes per capita are directed related to GDP per capita in Europe and the Americas





Source: Mail Database (2004) based on Postal, Census, DMA and Advertising Association Data; see Diakova (2005)

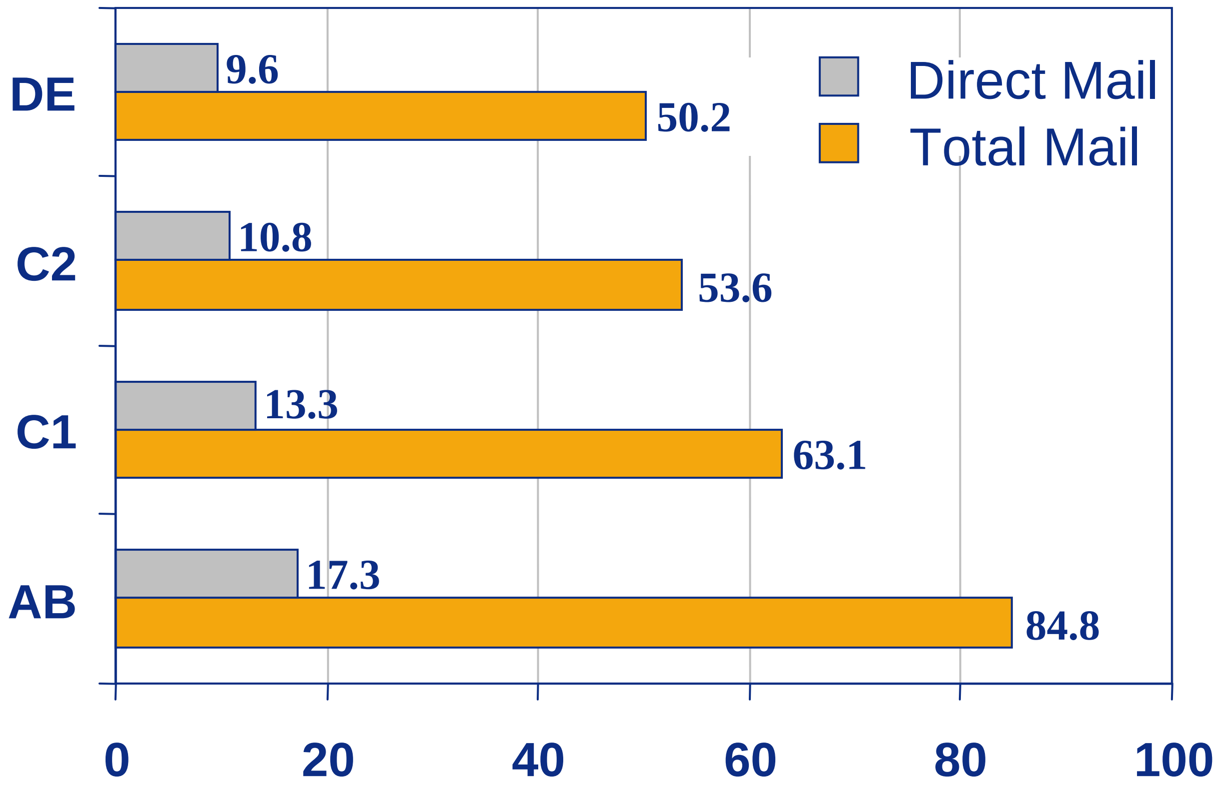
Reality: Household income is still the strongest predictor of mail volume



Source: US Household Diary 2004

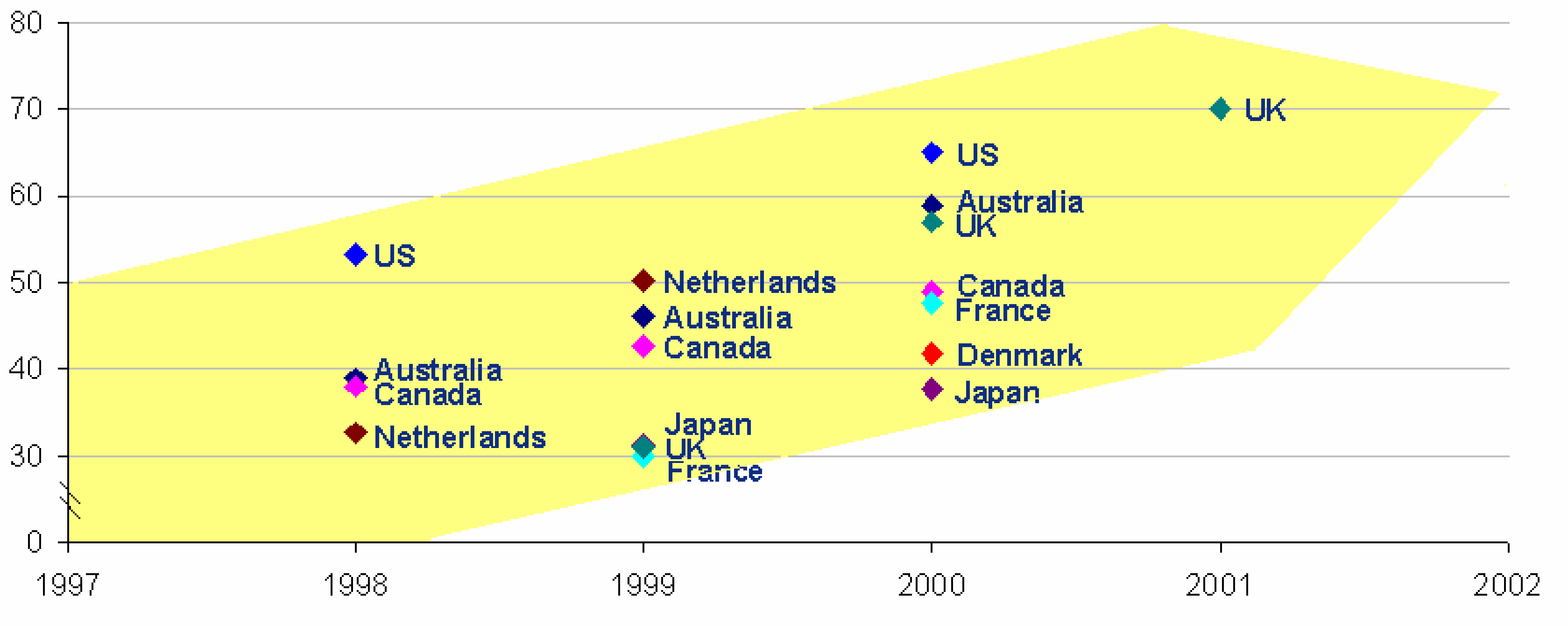
In the UK, higher income and better educated AB households receive 70% more mail than DE households

Royal Mail – Mail Received by Households

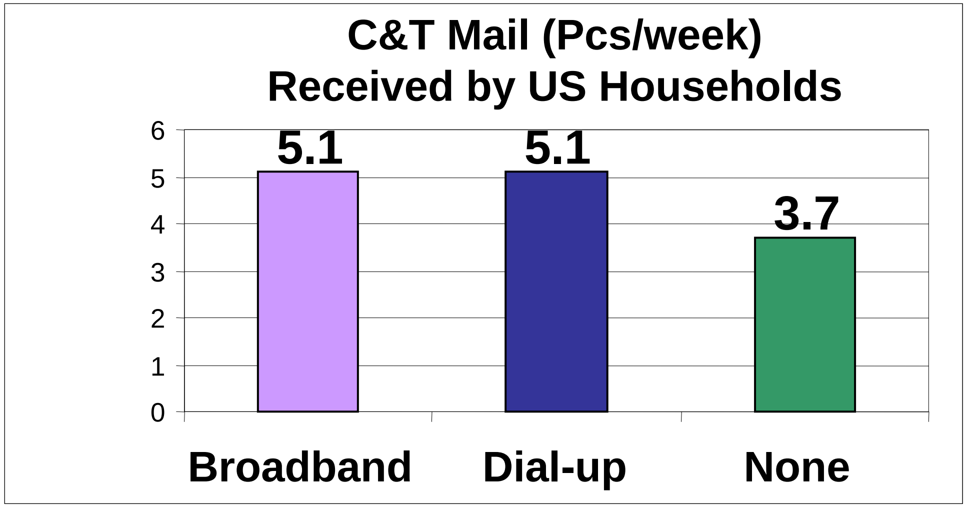


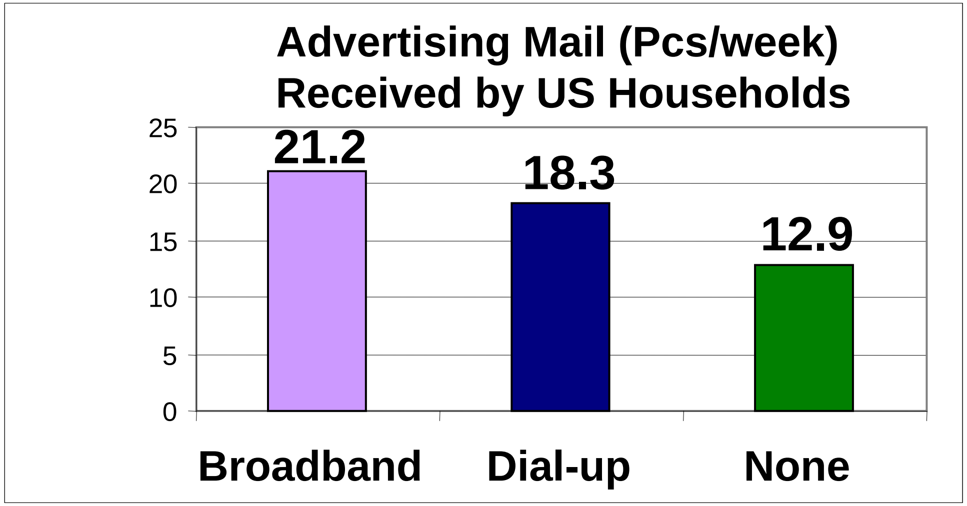
High-income groups are becoming more wired relative to low-income groups.

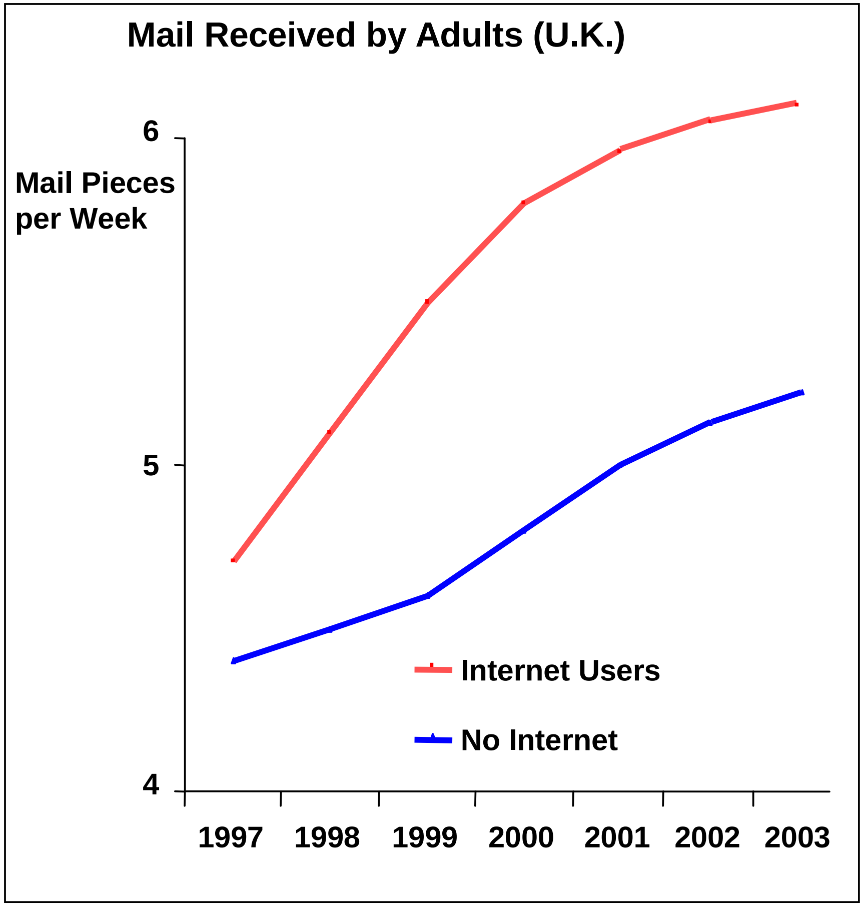
Internet Penetration:
Difference Between High vs Low Income Households



Reality: Internet users in the US and UK receive more mail than those without Internet access







Sources: USPS Household Diary 2004, Wright H. (2004) Royal Mail

How do consumers view the Internet?

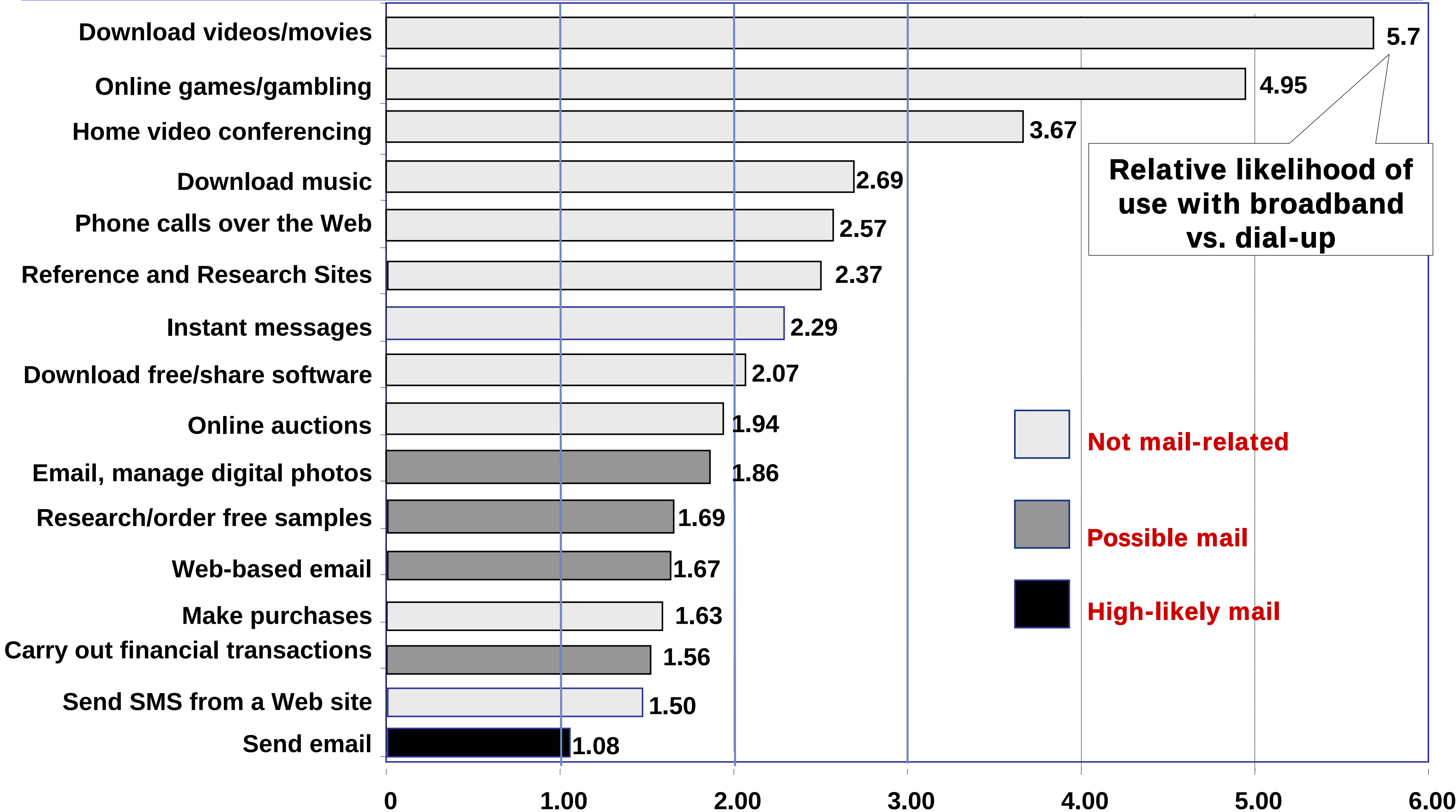
What do you think the Internet is like?

Metaphors for the Internet, asked of all Americans

	All Americans	*Internet Users*	*Non-Users*
Library	51%	61%	36%
Meeting Place	11	10	12
Shopping Mall	10	10	11
School	6	6	6
Peep Show	3	1	5
Party	2	2	3
Bank	1	1	2
All of the Above	5	4	5
Other/Don't Know	11	5	20

Source: Pew Internet & American Life Project March-May 2002 Survey. N=3,533. Margin of error is ±2%.

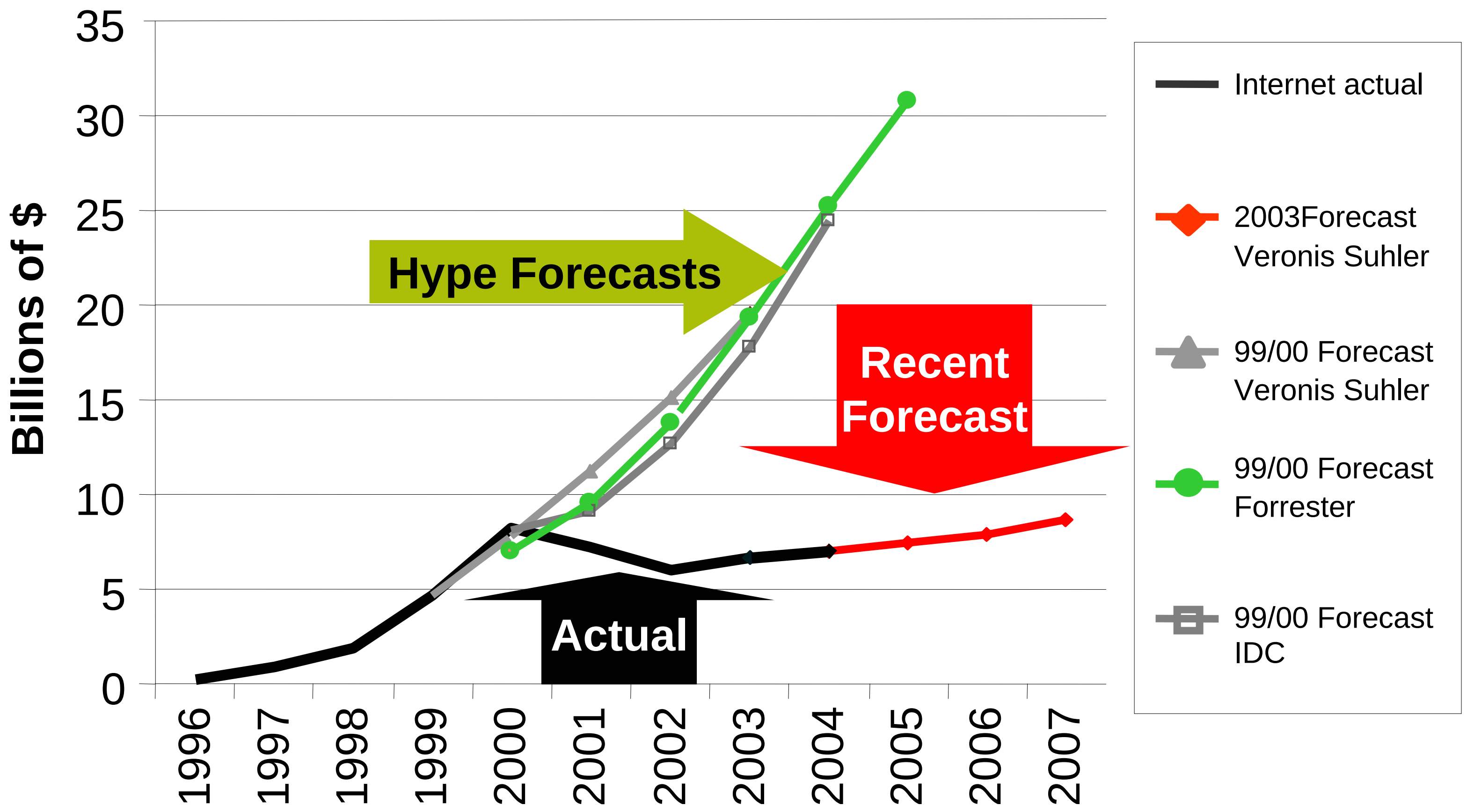
An analysis of activities performed with broadband vs dial up reveals that increased broadband has not impacted mail much



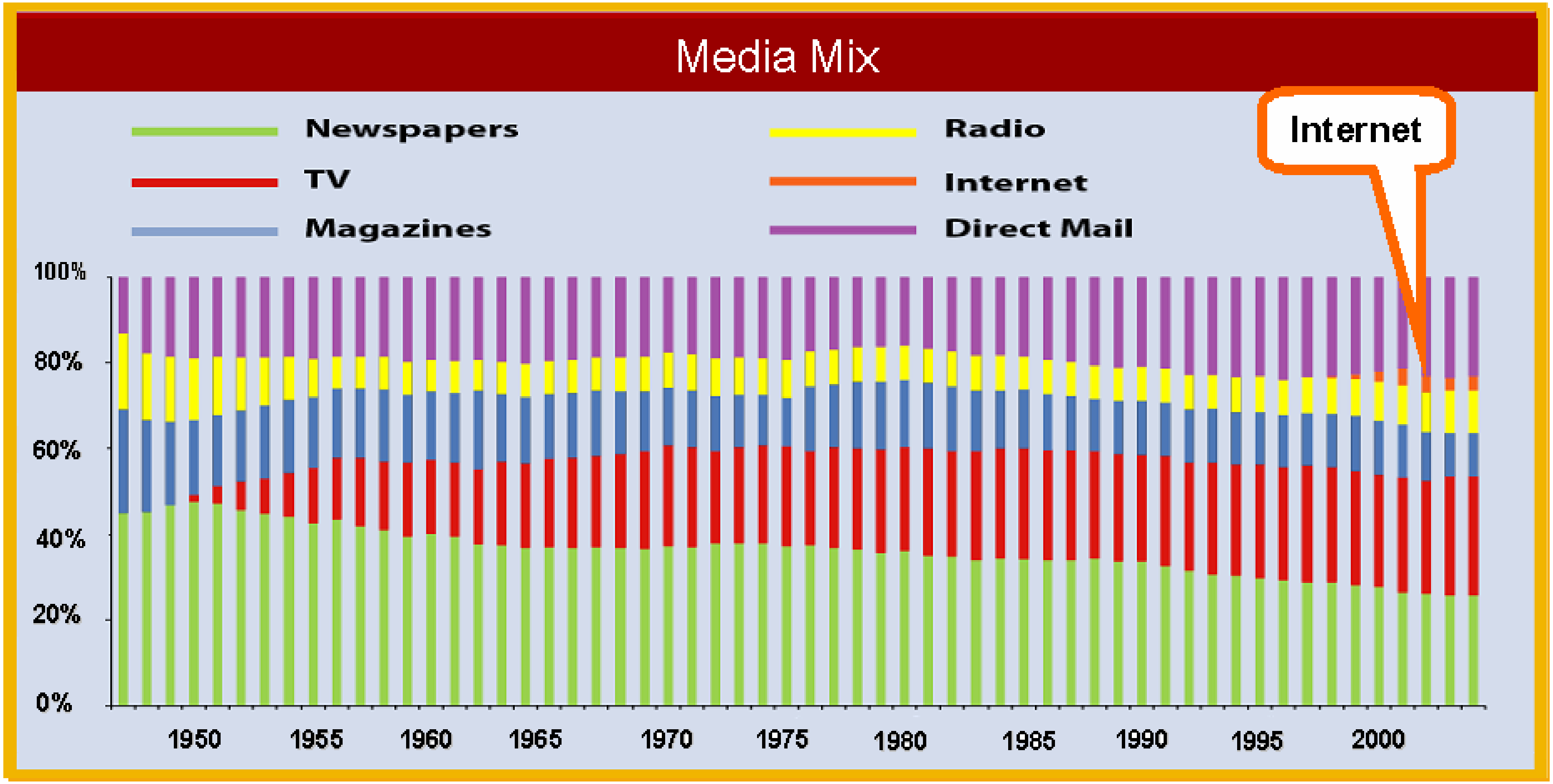
Source: Forrester, October 2003 (European Online Users)

6. Transactions

Reality: Forecasts of Internet advertising are no longer in the "hype" stage

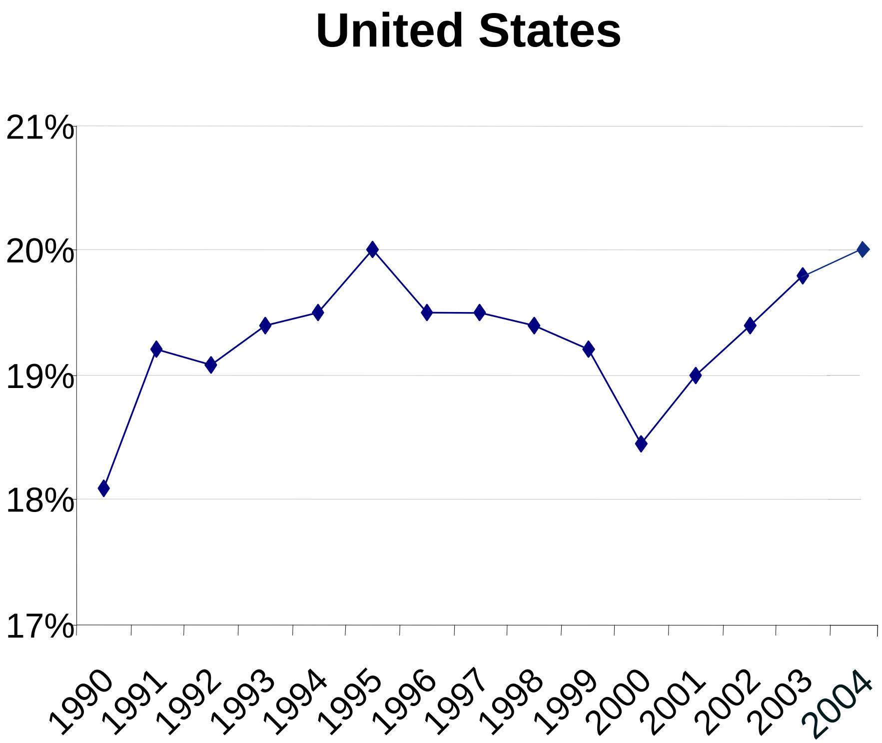


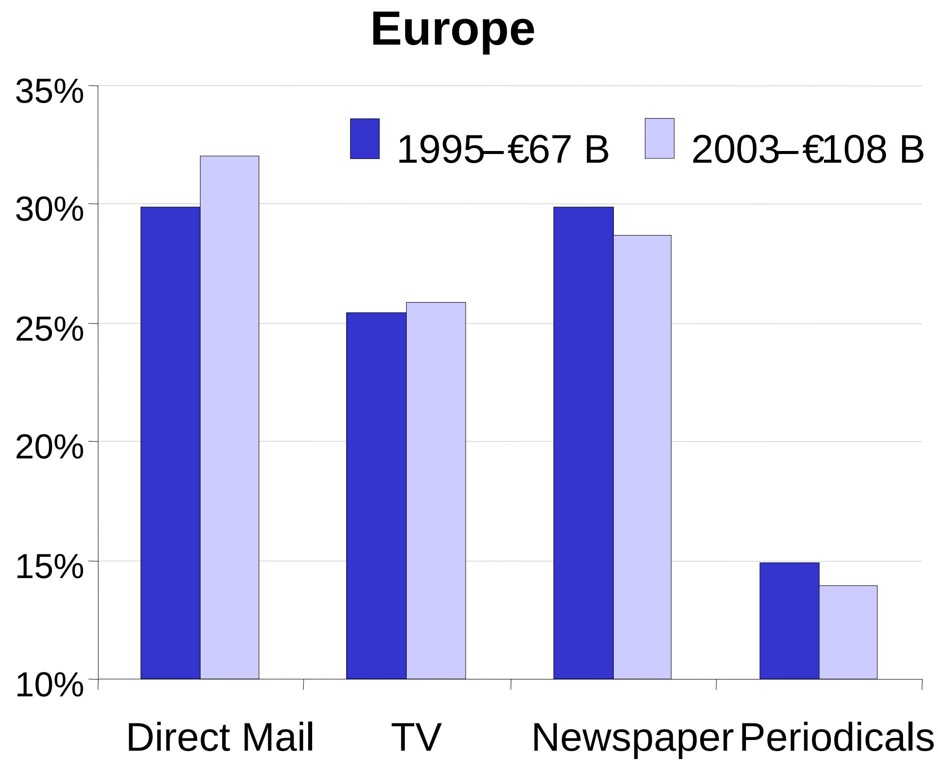
Reality: Media shares shift slowly over time. Direct Mail will maintain its share if its relative cost and ROI remain attractive



Source: Veronis Suhler, DMA, eMarketer

Reality: Direct Mail's share of advertising expenditures has not decreased

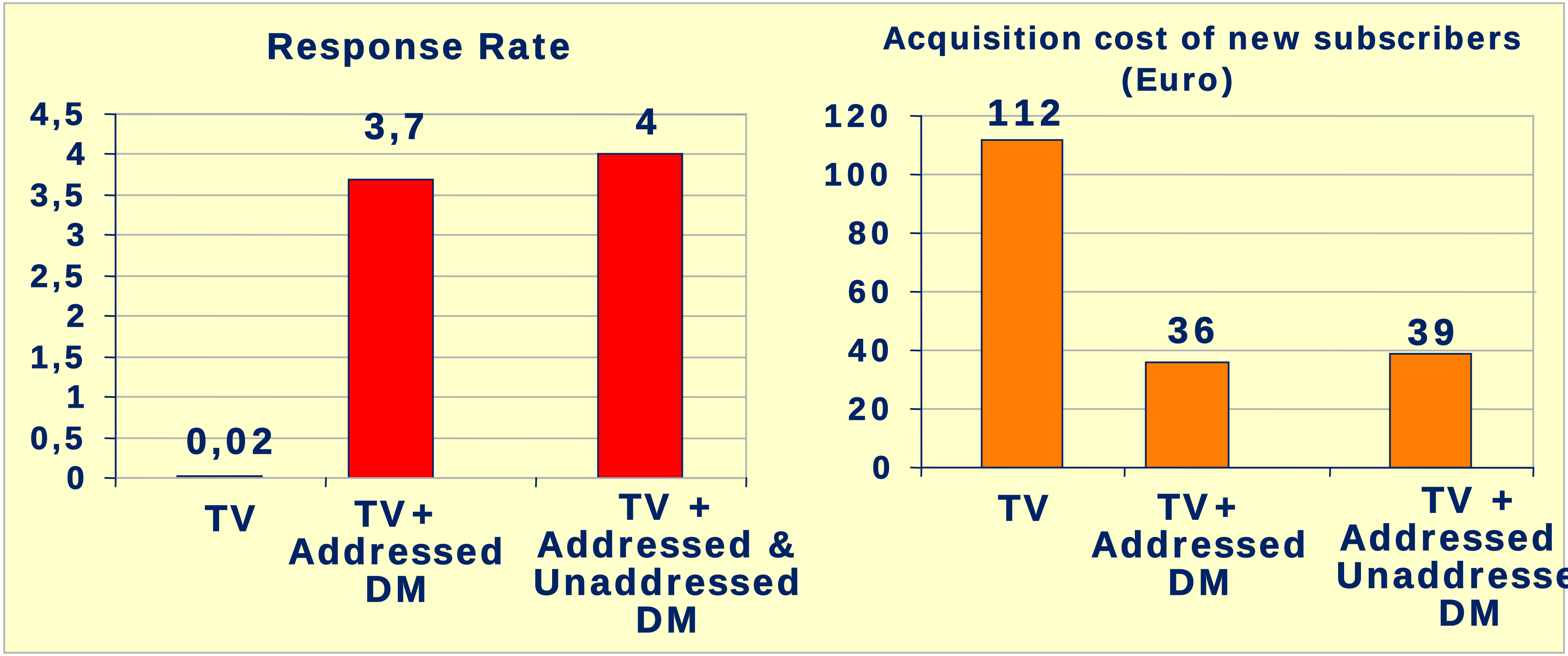




Sources: USPS Market Research and Analysis based on Coen-McCann Erickson and DMA; FEDMA.

Reality: In Belgium, Direct Mail increases response rate and decreases acquisition costs when combined with other media

Belgian Telecommunications Sector



Source: Dirk Oosterlinck, “The Mail Moment” Belgian Post presentation (2005)

Value of Direct Mail: Effective marketing generates increased sales and market share.

Deutsche Post uses direct marketing mail to target new purchasers,

as part of the launch of the new Ford *Focus*.

•They provide Ford with accurate

Address selection and

direct mail design

• In 2004, *Focus* Sales increased 12%

• Ford increased market share in 9.8%

Value of Direct Mail: growth strategy based on mail

<u>Kenko Kazoku</u>

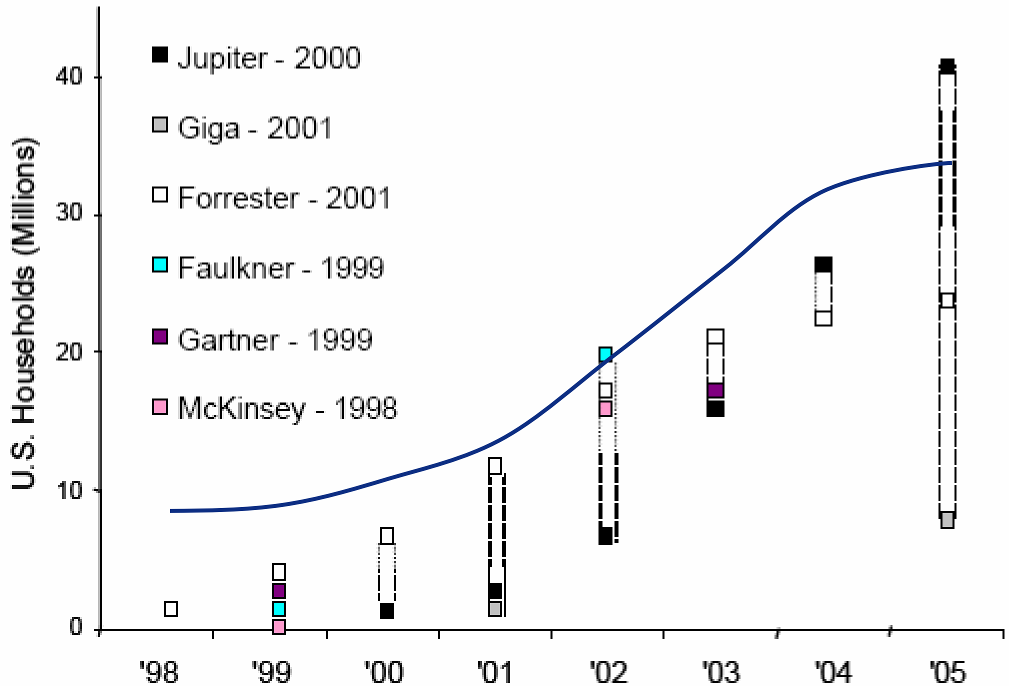
- Farm-grown organic products
- Growth strategy around the use of direct mail
- Regularly include samples

Attribute 40% growth

in annual revenue to mailstream

Myth: Up to one third of households would have switched all bills and payments to EBPP by 2005

Early EBPP Forecasts



Sources: "E-Data: Electronic Bill Payment and Presentment Adoption Finally Takes Hold: 40 Million Households in 2005," ITAA (October 2000); "Electronic Bill and Invoice Presentment: Move Over B2C, Here Comes B2B," Penny Gillespie, Giga Information Group (September 2001); "Bill Payment's Time Is Now," Kenneth Clemmer, Forrester Research (December 2001); "Projecting Electronic Diversion for First-Class Mail in the H.R. 22 Simulation Model," PricewaterhouseCoopers, (February 2000)

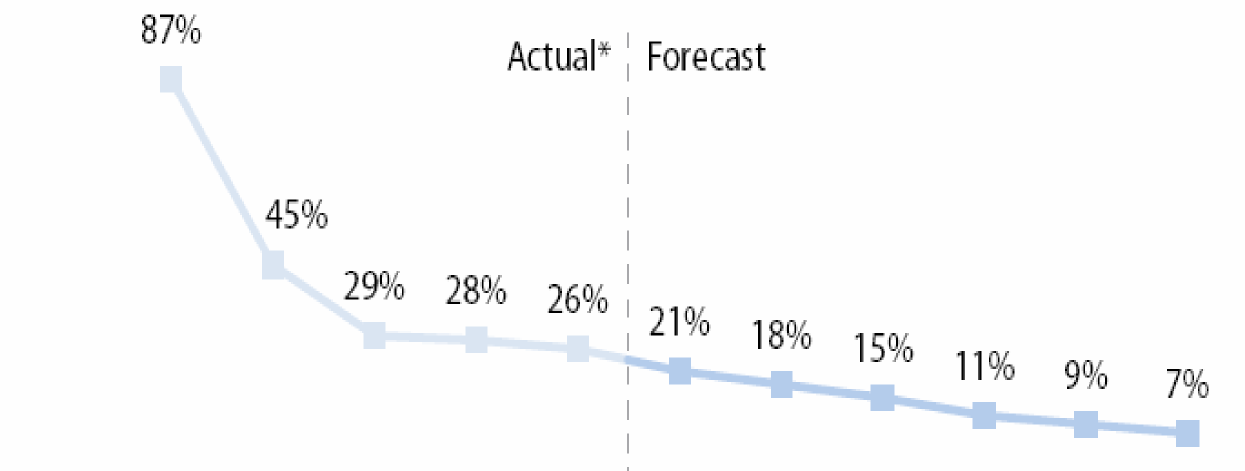
Reality: Current forecasts suggest EBPP will have a reduced effect on mail volume

	2003		2008
Total Households:	**110 m**		**118 m**
Households using EBPP:	**17 m**	79%	**31 m**
Households not using EBPP:	**93 m**		**87 m**
Net Households switching from mail to EBPP:			**6m of 93m**

The maximum erosion of mail/yr: 0.33%

Source: PB Analysis from Forrester, Jupiter, Giga, and USPS Household Diary

Reality: EBPP growth will continue to slow down



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Number of households paying bills online (M)	3.9	7.3	10.6	13.7	17.6	22.2	26.8	31.6	36.2	40.3	43.9	46.8
Annual growth rate	N/A	87%	45%	29%	28%	26%	21%	18%	15%	11%	9%	7%

Base: US online households that pay bills online

*Source: Forrester's Consumer Technographics® 2005 North American Benchmark Study

Reality: Barriers remain for further EBPP penetration

Barriers to greater EBPP penetration

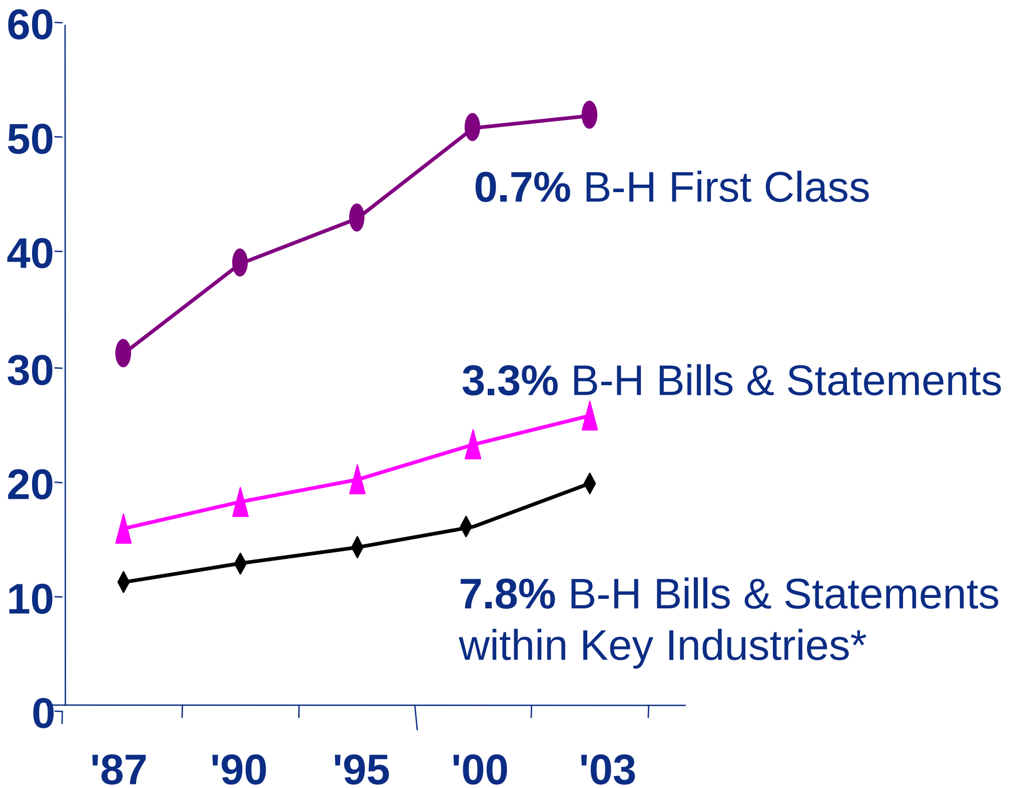
- Fees (37%)
- Security and Privacy (43-46%)
- Dislike for direct debit (30%)
- Easy to write checks (46%)

Source: PB Analysis from Forrester, Jupiter, Giga, and USPS Household Diary

Reality: Bills & statements are growing strongly in key industries

Business-Household Bills & Statements (b)

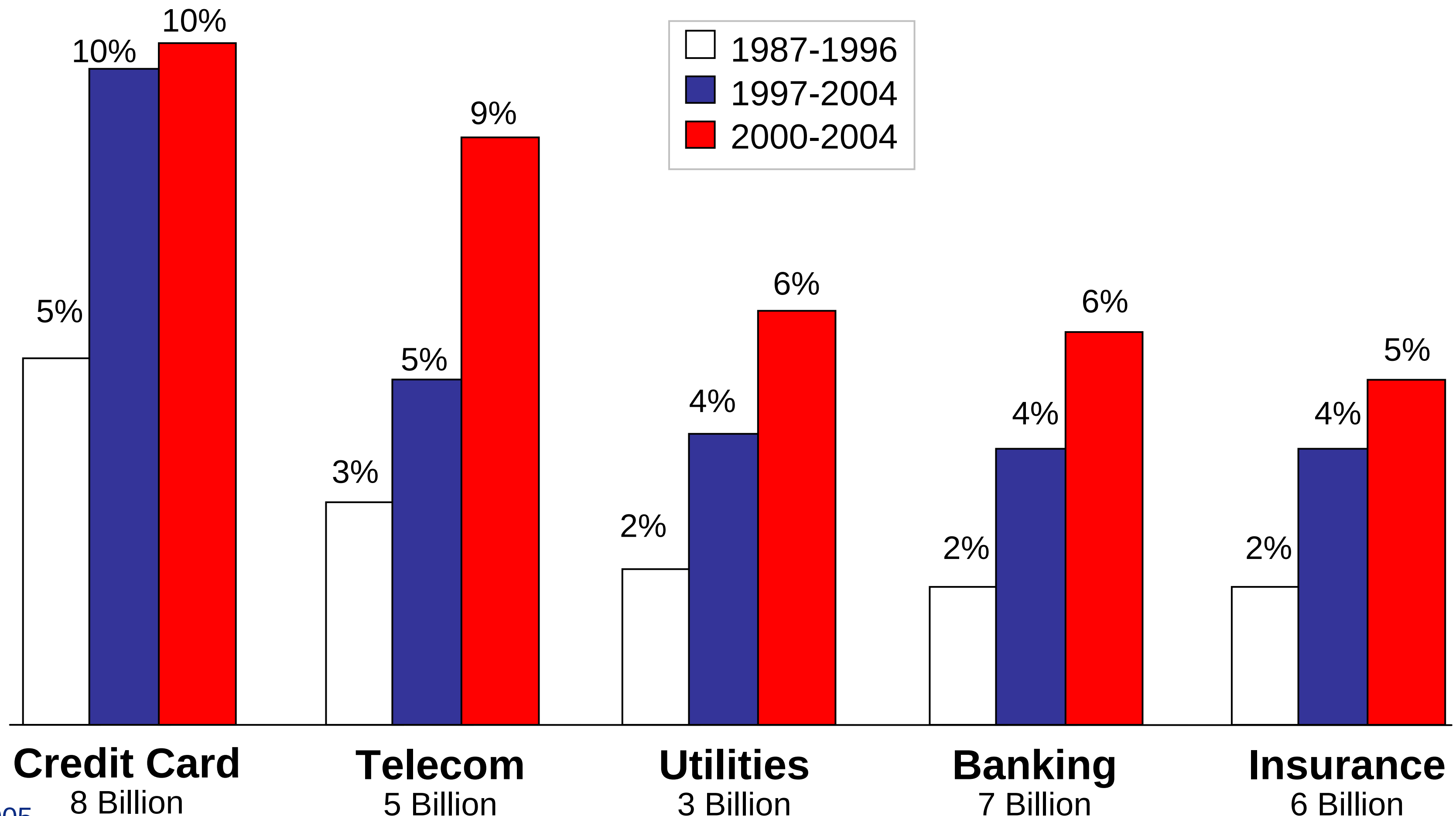
(2000-2003 CAGR)



*Industry segments include Banking, Brokerage, Insurance, Credit Card, Telecom, and Utilities.

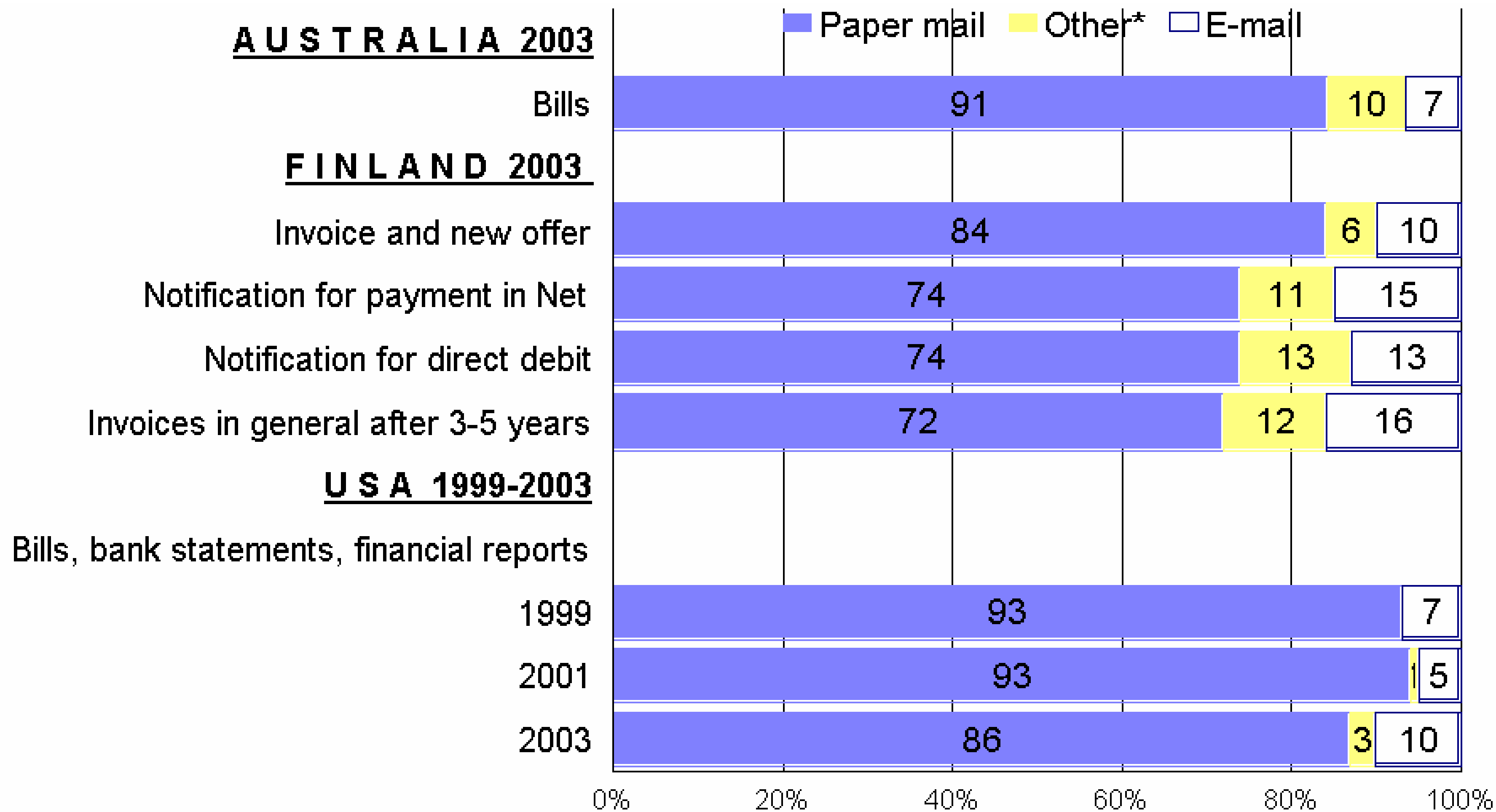
Reality: Bills & statements are growing strongly in key industries

Growth of Bills & Statements sent to Household (CAGR)



Nader, 2005

Reality: Paper is the overwhelmingly preferred reception channel for bills and invoices Australia, Finland and the U.S.



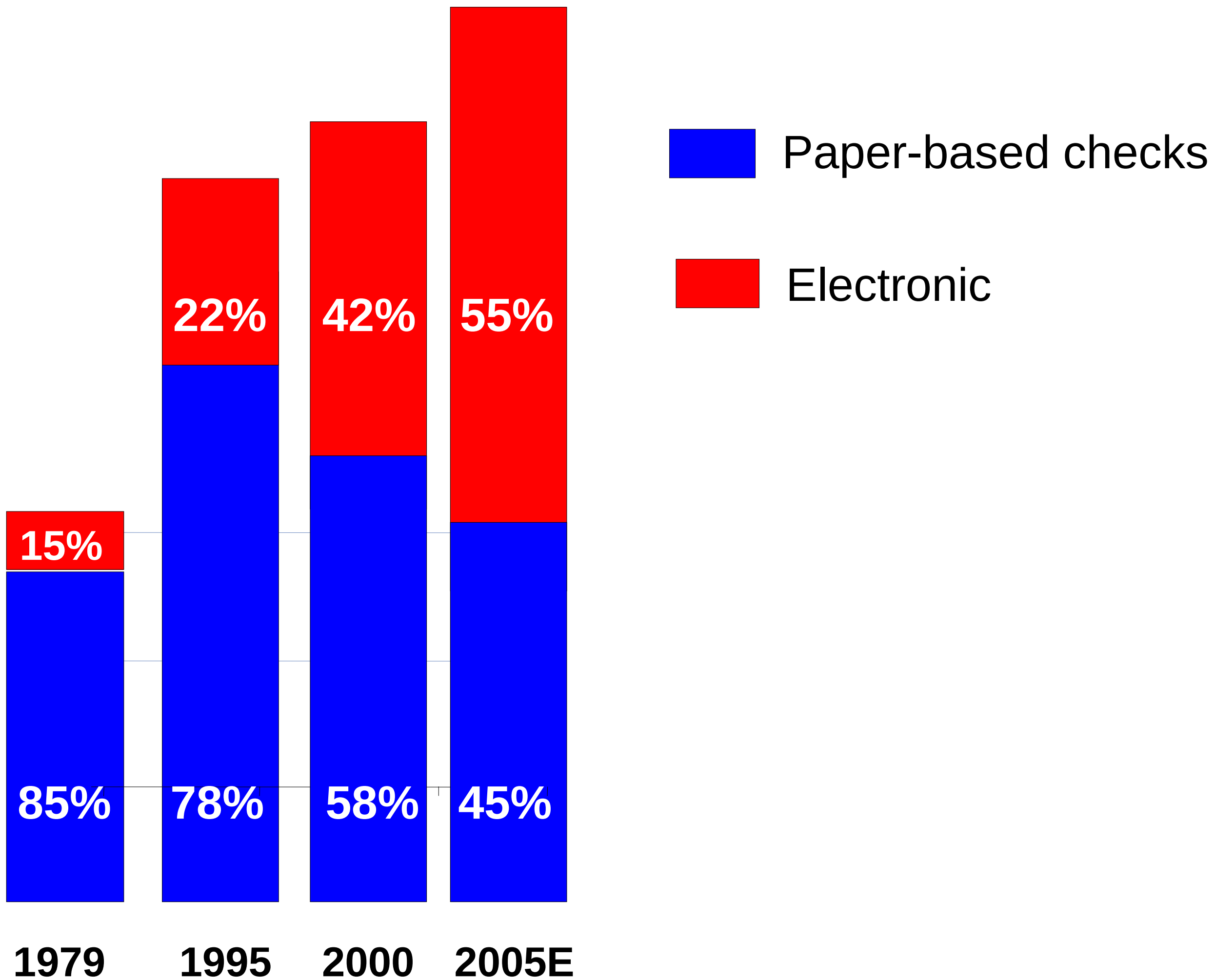
Source: Elkela, Finland Post 2005

France Telecom

Genric Mailer

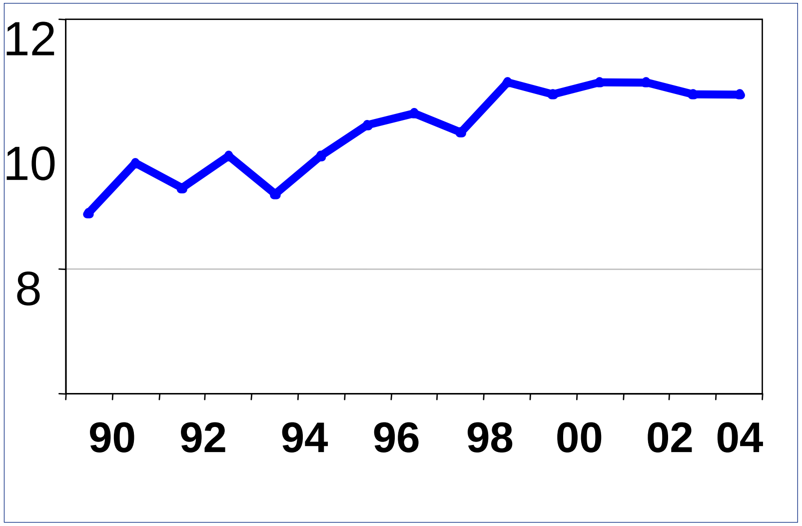
Personalized Mailer

Checks are losing their preponderance as the preference payment mechanism

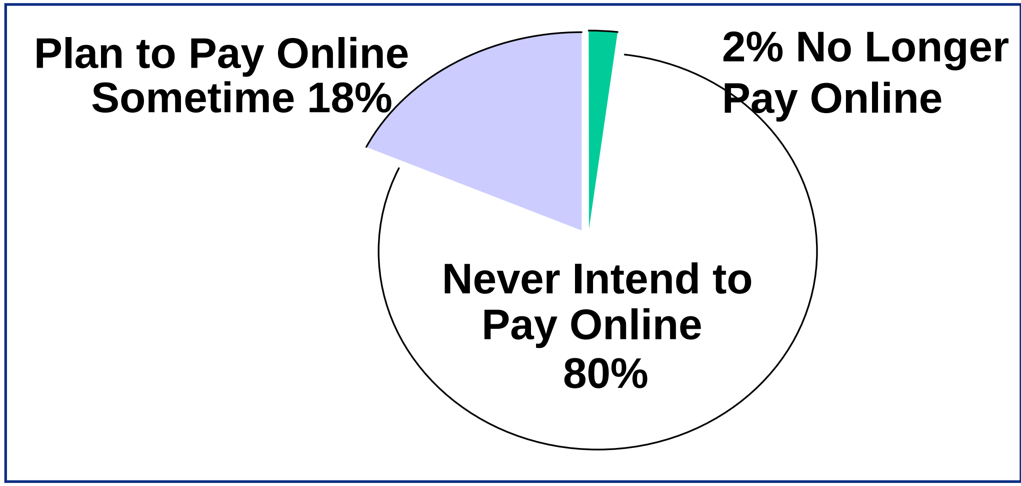


Reality: Households payments in the mail are declining more slowly than anticipated

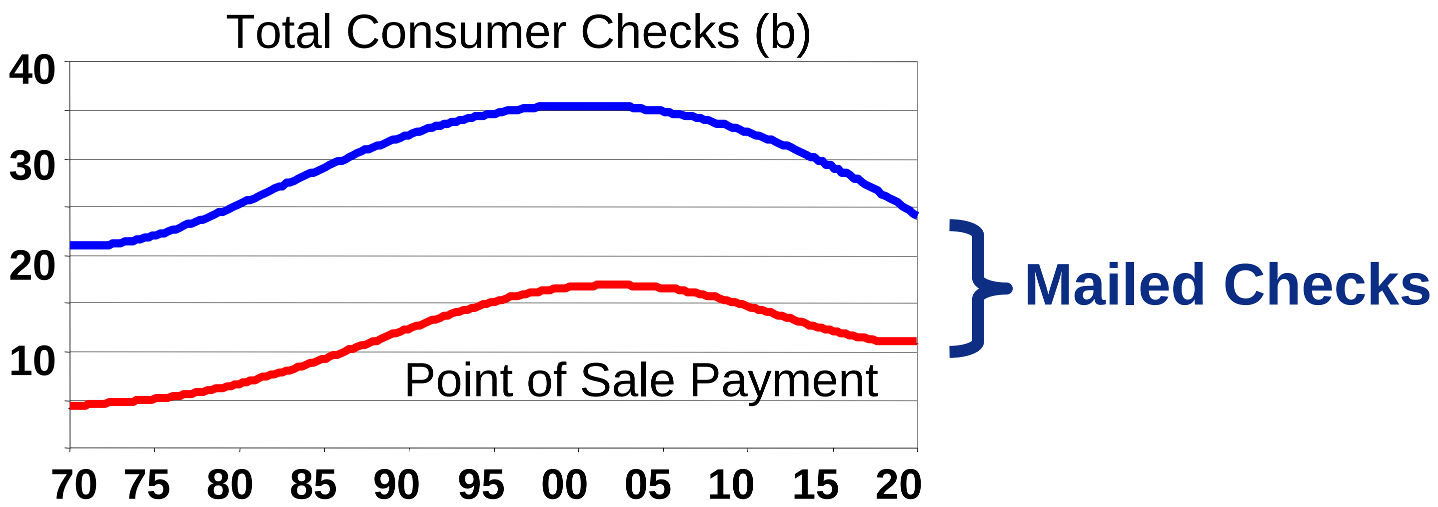
Households Mailed Bill Payments (Billions)



Plans for the 82% of Consumers that Do Not Pay Bills Online

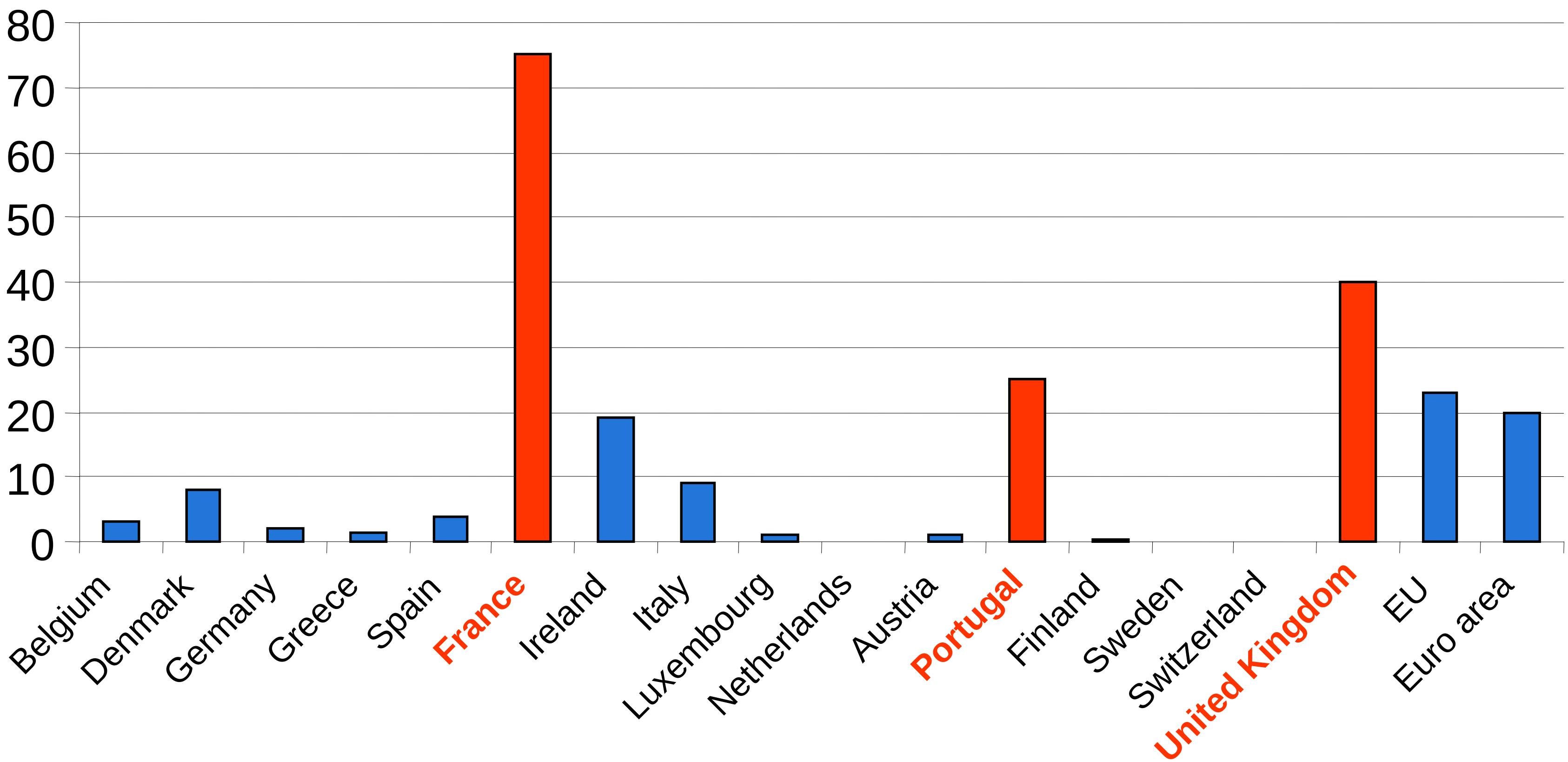


Myth: Checks are declining due to increase online bill payment by consumers



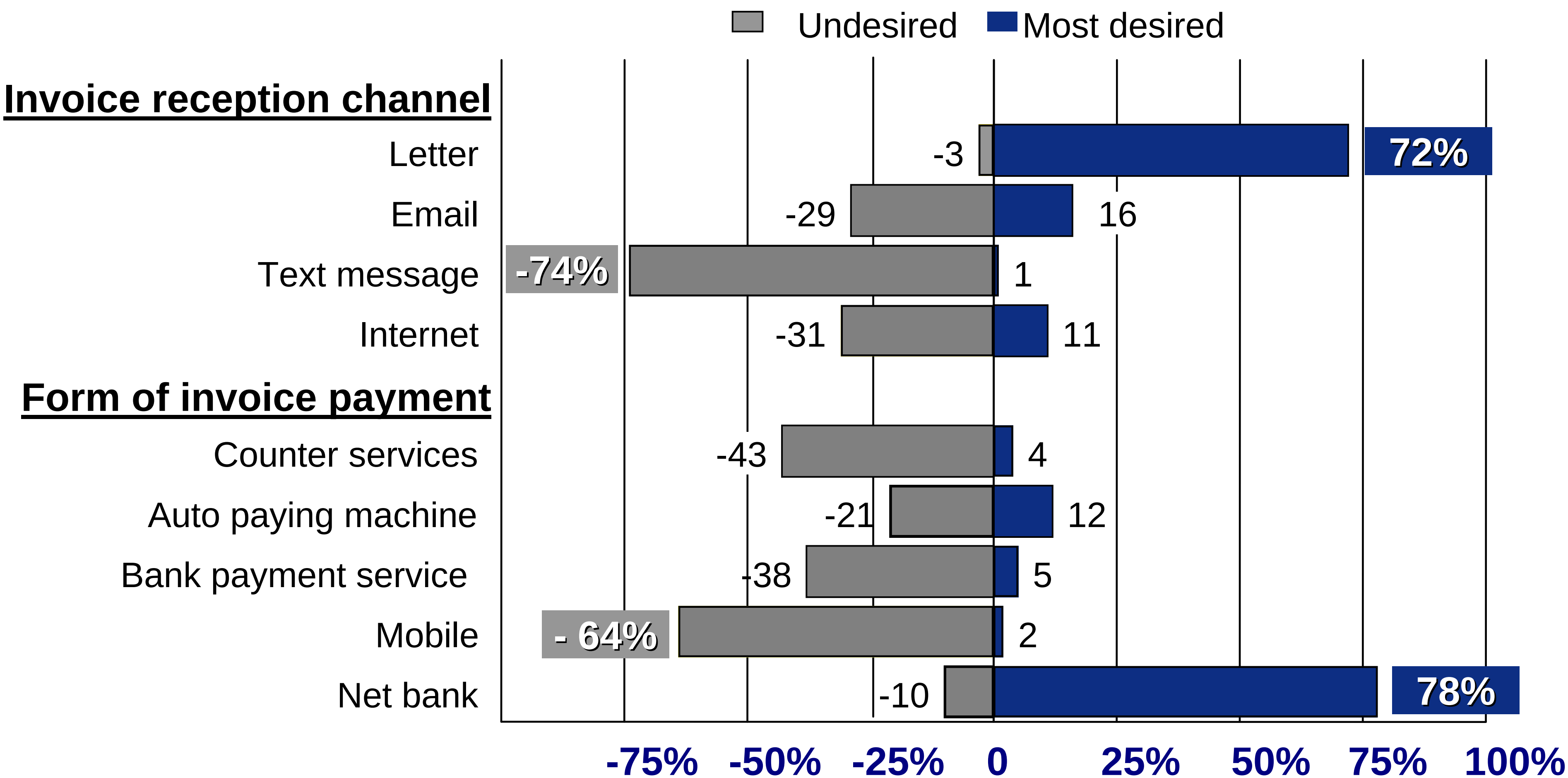
Reality: Check use is low in most European countries, so there is little threat of substitution

Number of checks per inhabitant per year (2002)



Source : European Central Bank

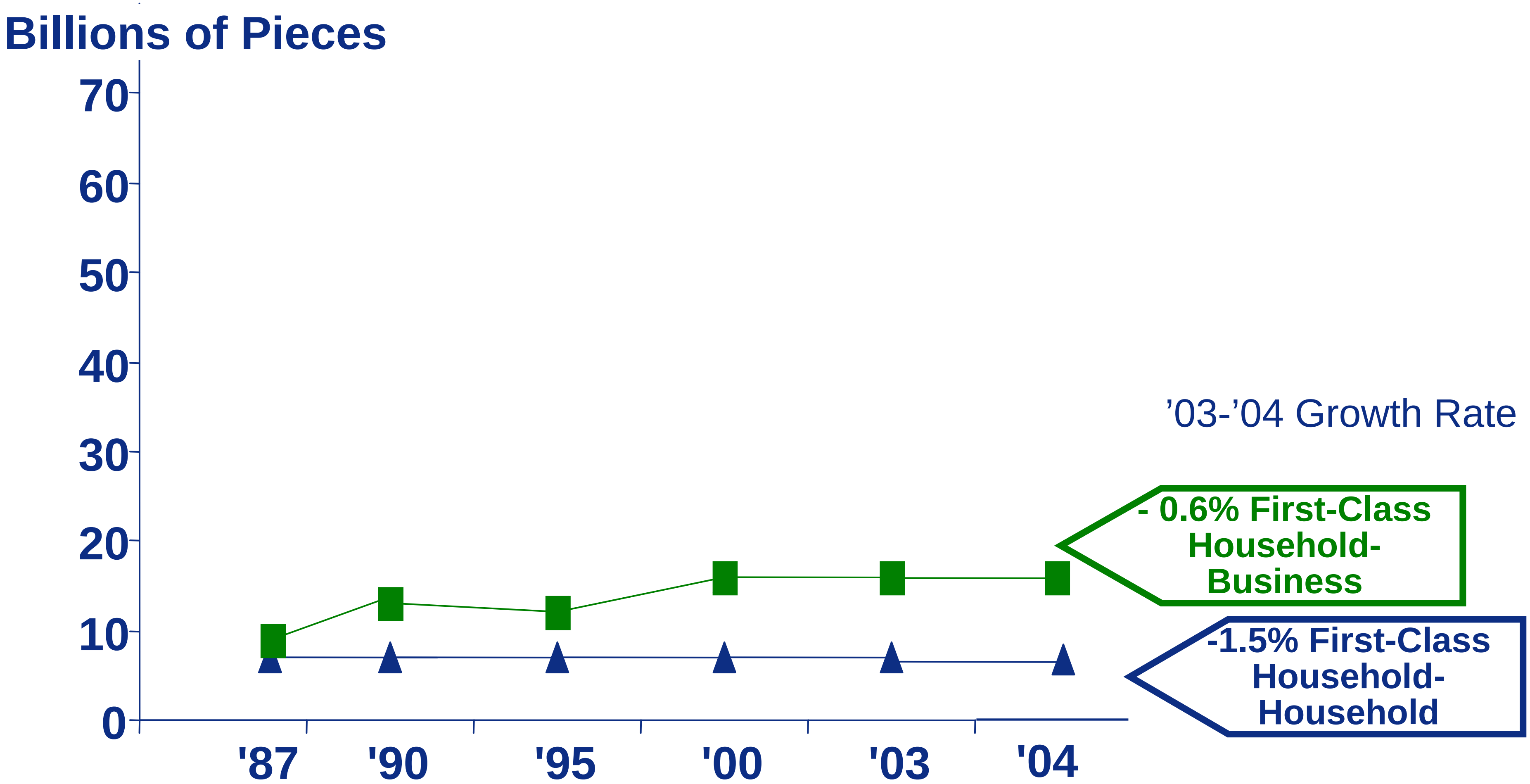
Reality: Consumers in technology-intensive countries still prefer to receive letter invoices but prefer to pay online



Source: Finland Post, 2003

7. Mail Flows

Reality: Household-originated mail has been relatively flat for years



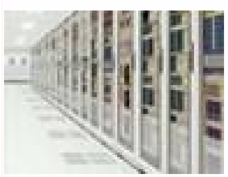
Source: USPS Household Diary Studies

Note: year distribution not proportional

Voting by mail for a Dutch trade union: Response increased 80 percent

CendrisVote/TPG Post

Data



Central members database

Media outgoing

Printing

Mail

TPGPOST

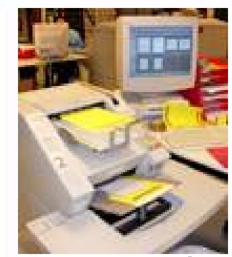
Media incoming

Response card

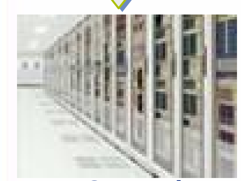
Phone / voice response

Website

Data

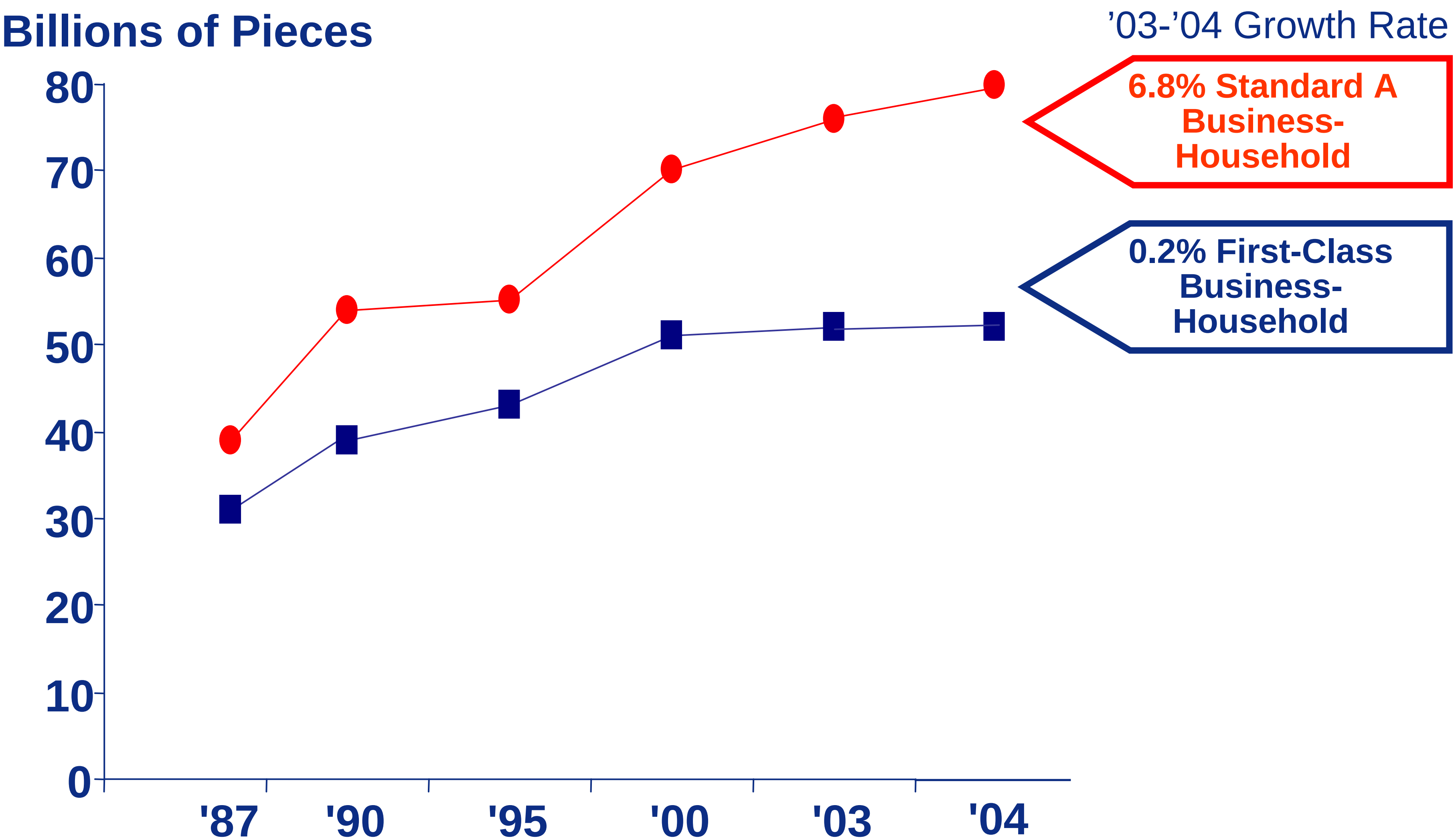


Scanning



Central database and result

Reality: Business-to-household mail is still growing slowly



Source: USPS Household Diary Studies

Note: year distribution not proportional

Date Certain Delivery

SWISS POST

Swiss Post – *OnTime Mail*

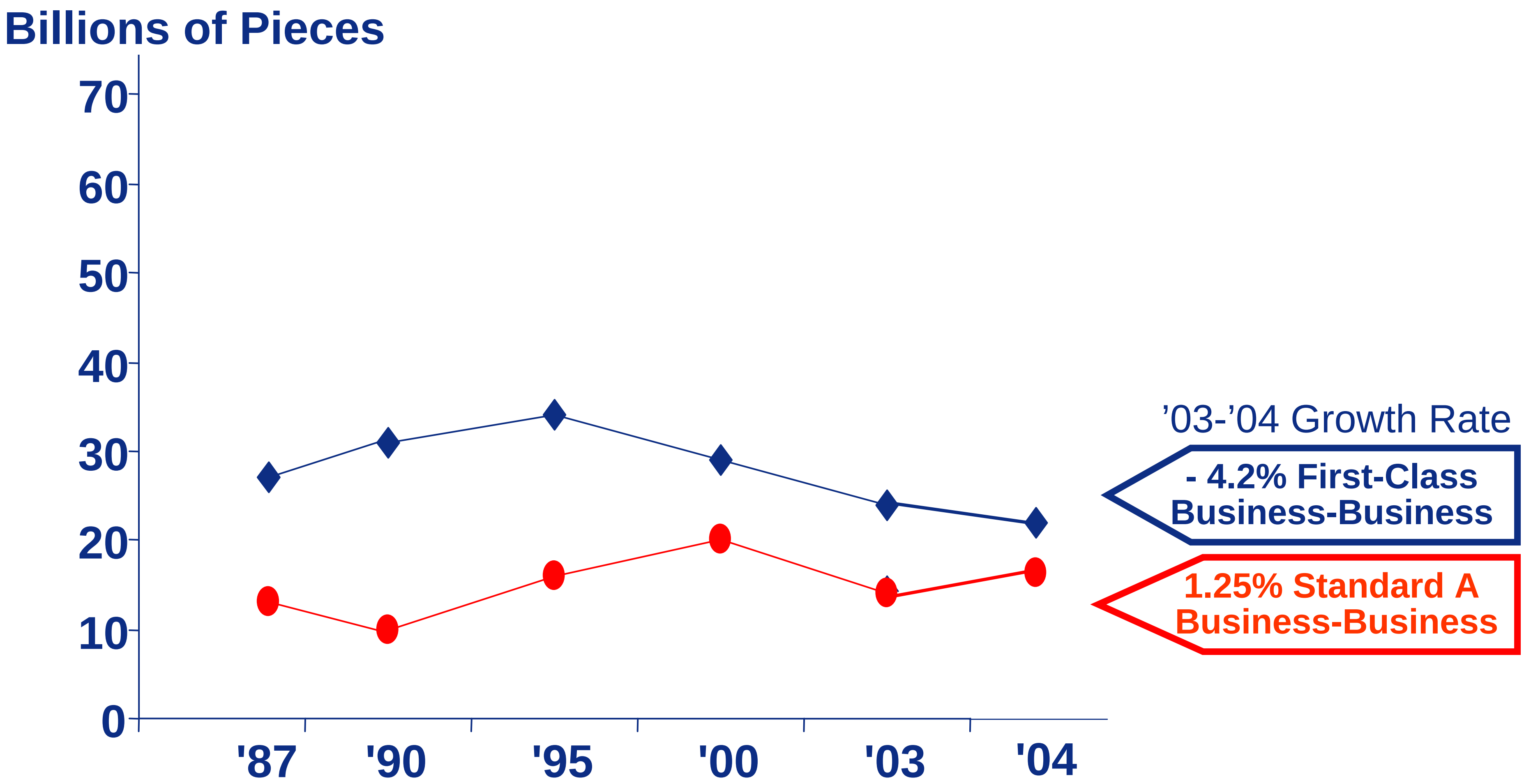
- Day specific mass mailings

  Three service levels

  - Day specific
  - Within 2 day range
  - Saturday delivery

  Opens up new uses for mail

B-B mail volumes vary by class



Source: USPS Household Diary Studies

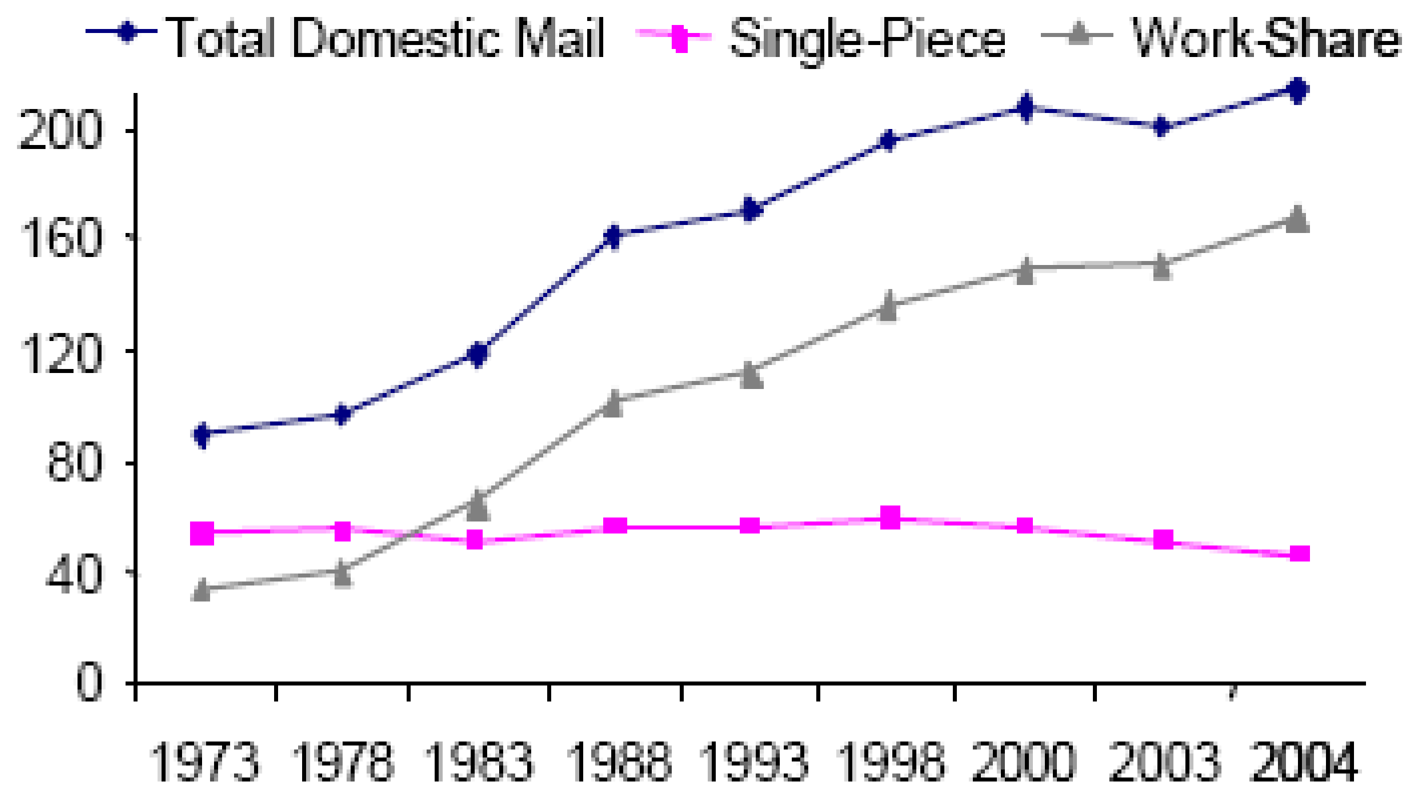
Note: year distribution not proportional

B-B mail volumes vary by class

- The decline in B-B mail has been relatively gradual since mid 1990s ('96-'04 CAGR of – 4%)
- Declines experienced in B-B flow have been concentrated in correspondence and business documents (i.e.. bills, statements)
- Many U.S. companies have instituted e-commerce requirements requiring other firms to interact with them electronically
- There is low interest in e-billing/e-invoicing among small and mid-market businesses
- B-B Standard A mail has seen a CAGR of 4% in the years 2001-2004

Source: Fouad Nader "Electronic Substitution for Mail: Business-to-Business Mail" (2005)

Worksharing discounts have increased total mail volume but at the expense of single piece business mail



Source: Fouad Nader, "Electronic Substitution for Mail: Share Shifts Across Postal Products" (2005)

8. Consumer Preferences

In Praise of a Snail's Pace

By Ellen Goodman

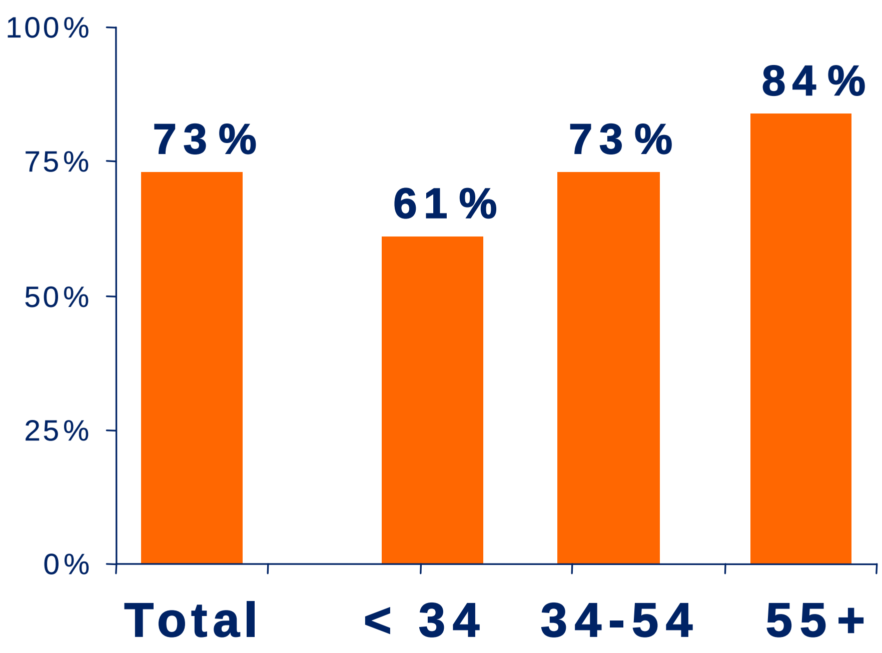
***The Washington Post* -- Saturday, August 13, 2005**

CASCO BAY, Maine -- I arrive at the island post office carrying an artifact from another age. It's a square envelope, handwritten, with a return address that can be found on a map. Inside is a condolence note …

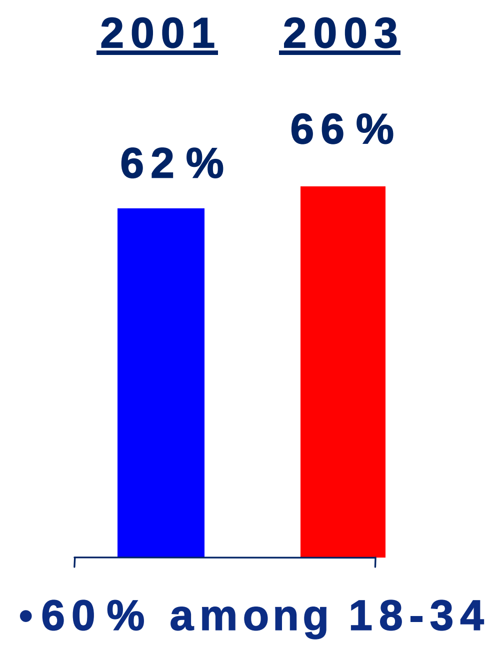
I would no more send an e-condolence than an e-thank you or an e-wedding invitation. There are rituals you cannot speed up without destroying them.

Reality: consumer preference for Mail vs. E-Mail for letters and documents

Belgium



USA



Source: *Enquête Belge*

Source: *Pitney Bowes*

Source: Dirk Oosterlinck, “The Mail Moment” presentation, 2005

Consumer Preferences for Communications Media

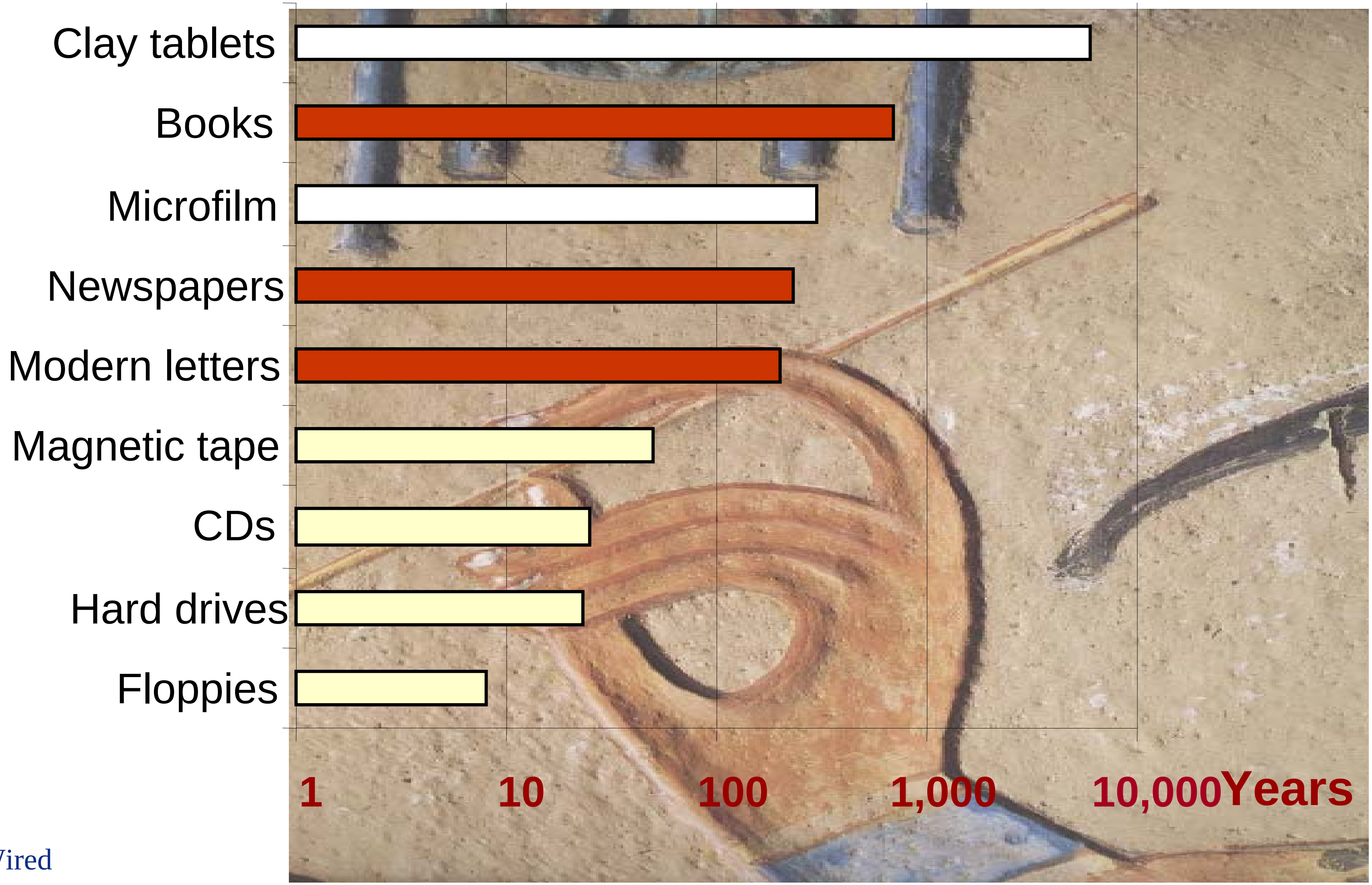
Chrystal Szeto and **Luis Jimenez** (Pitney Bowes)

Background Paper No. 4, April 7, 2005

Includes:

The Mystery of Paper, The Myth of Paperless

However, new media tend to lack the longevity of established media and are subject to accessibility



Source: Wired

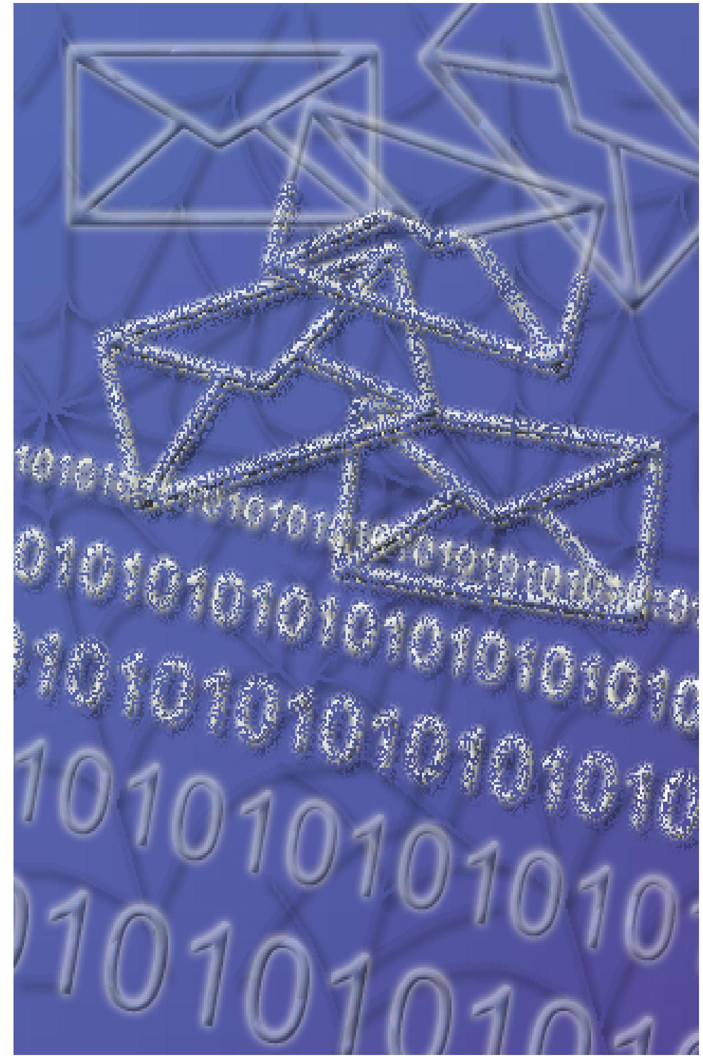
The 1085 Domesday Book contains records of 13,418 settlements in the English counties.

Source: Hartshorne.org

Consumer Preferences for Communications Media

Chrystal Szeto and **Luis Jimenez** (Pitney Bowes)

Background Paper No. 4, April 7, 2005



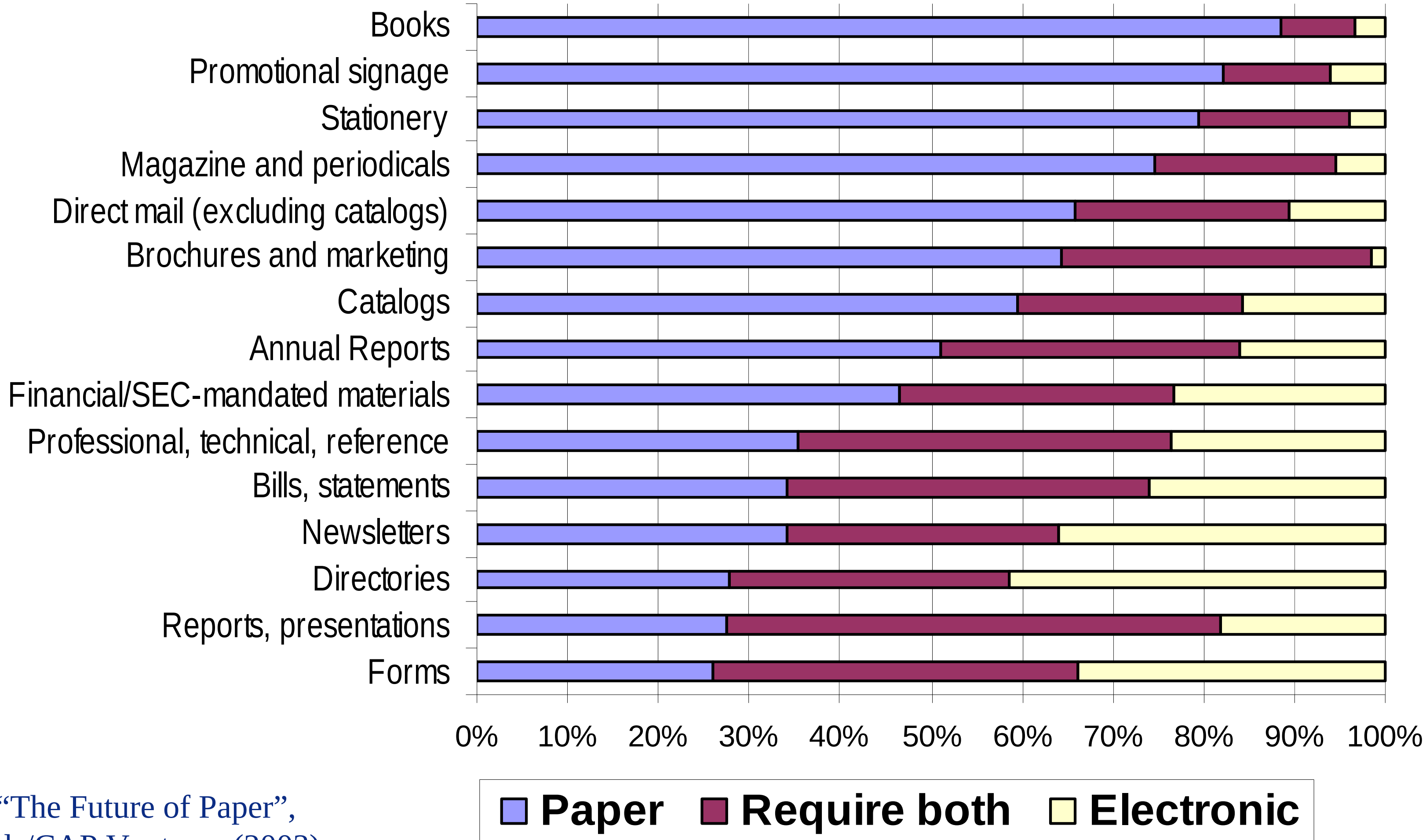
Includes:

The Digital Dark Age

Analog writing:

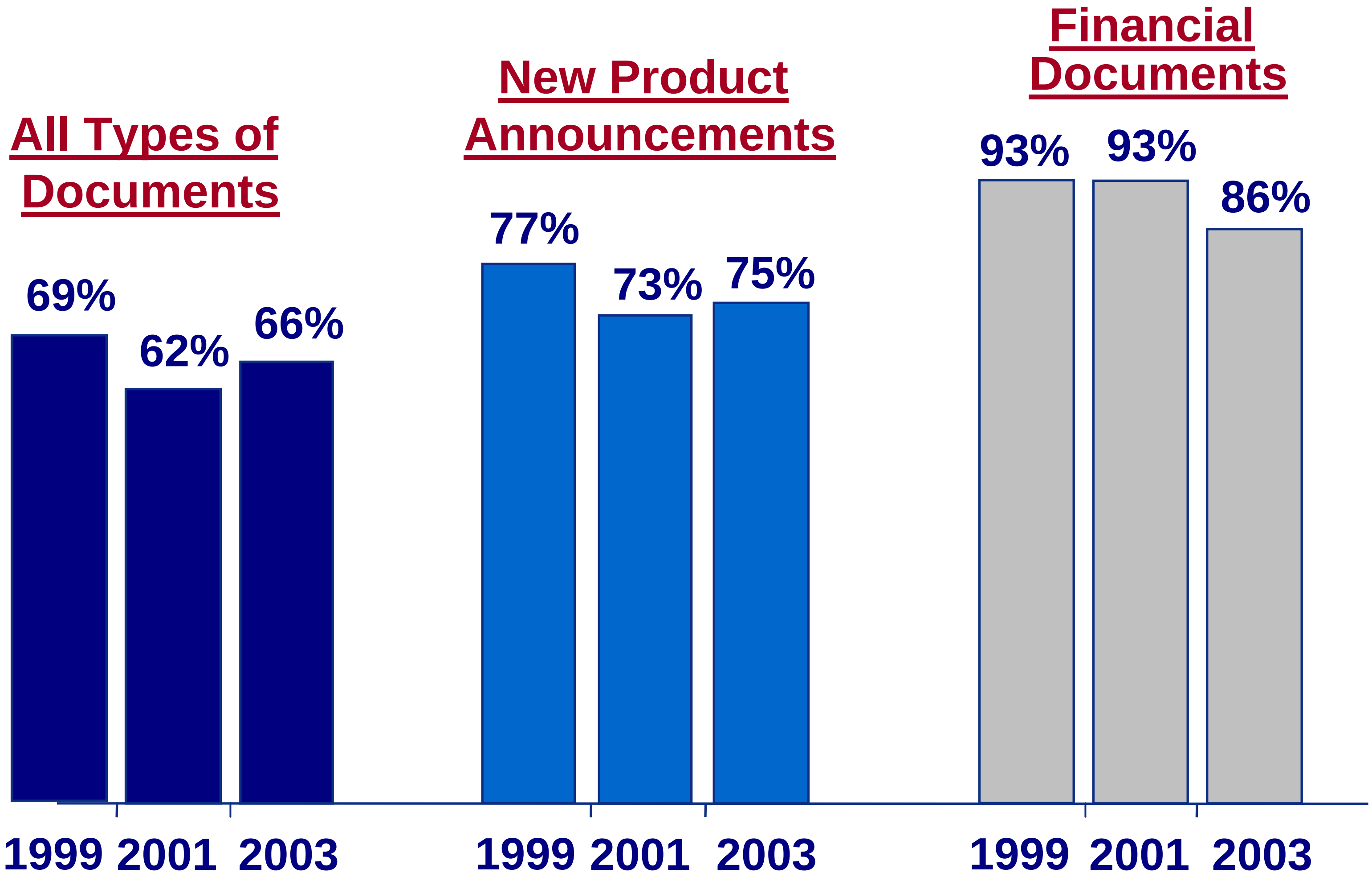
- Ingrained in civilization for thousands of years: “societal rites”
- Can survive deep into time on physical media

Reality: US consumers perceive paper to be an effective medium for many applications



Source: "The Future of Paper", InfoTrends/CAP Ventures (2003)

Reality: US consumers consistently prefer mail and paper for a wide range of documents

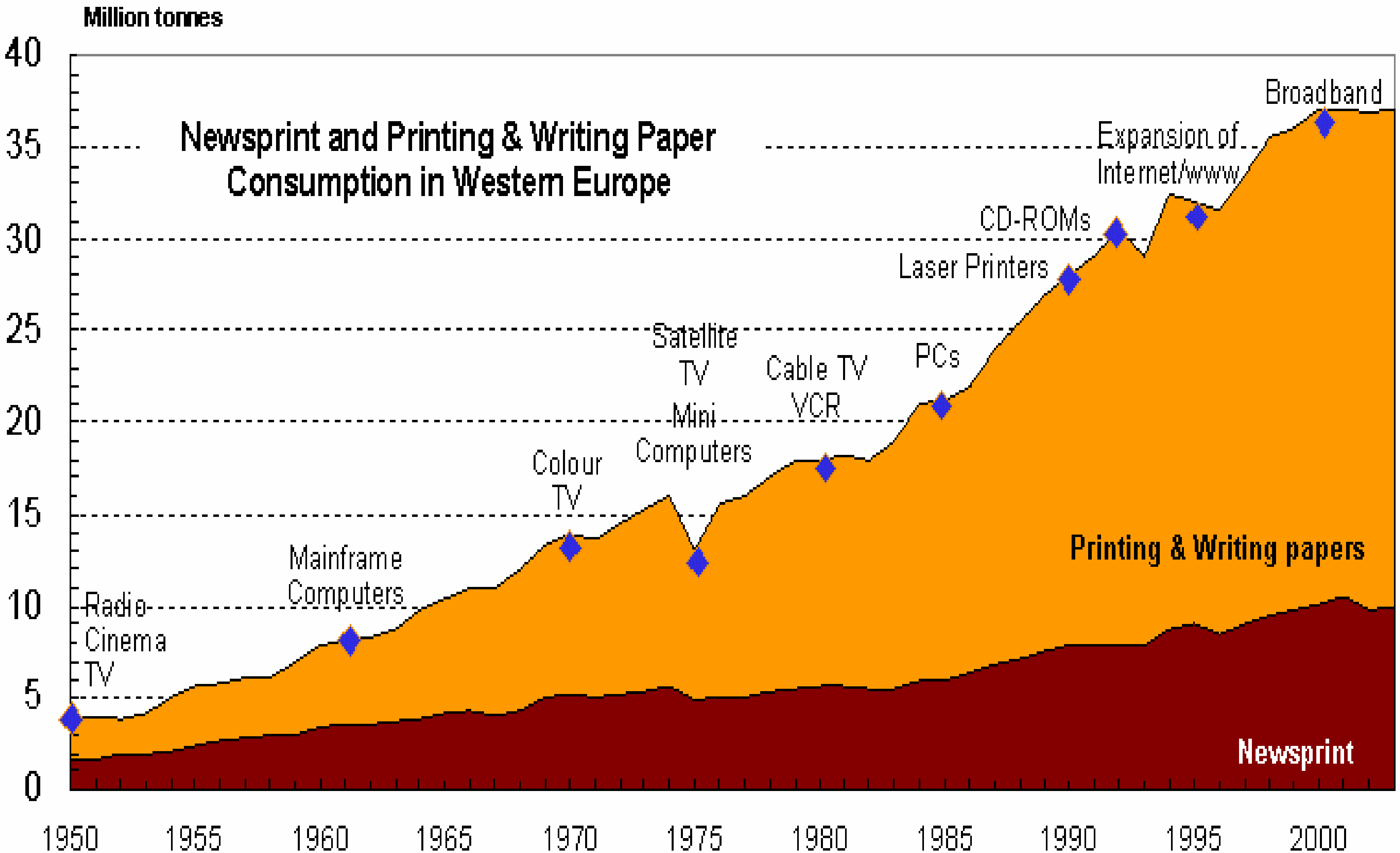


Source: ICR 1999, 2001 & 2003 Mail Preference Surveys

Numerous U.S. surveys indicate that paper usage has continued to grow in the electronic age

- The use of electronic mail increases the use of paper in offices by 40%
- In the first ten years after the introduction of the PC, paper use in offices doubled
- With the explosion of the Internet and web-based email, office printing grew 56% in 1996-2003 in the G5
- Half of small businesses have seen paper increase
- 72% of US companies “keep everything or many things” on paper

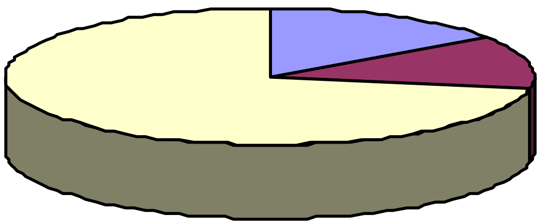
The introduction of electronic media have not threatened the growth of paper-based communication



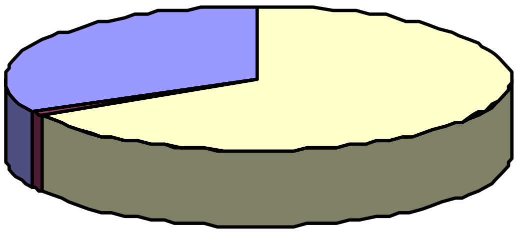
Source: Jaakko Poyry Consulting

Little change is expected in home and office printing in the US over the next 5 years

Expected change in office email printing over next 5 years



Expected change in home printing over next 12 months



Source: CAP Ventures

"I realized my competition was paper not the computer."

Jeff Hawkins, designer of the Palm Pilot

"We're still lurching into the paperless office future. That's a little bit of a surprise to me, but I didn't expect paper to disappear completely."

Paul Saffo, The Institute for the Future

"In 1993, advertising mogul Jay Chiat eliminated desks and filing cabinets. The attempt backfired: employees started storing paper in the trunks of their cars and hauling it around the office on toy wagons."

Matt Bradley, The Christian Science Monitor

Differences between paper and electronic monitors affect speed and ease of reading

Hardware Deficiencies

- Angle of reading material
- Character shape
- Resolution
- Intermittent vs. continuous light
- Interference from reflections
- Posture of reader

Software Deficiencies

- Contrast ratio
- Method for text advancement
- Characters per line
- Words per page
- Inter-line spacing
- Actual size of characters
- Inter-character spacing

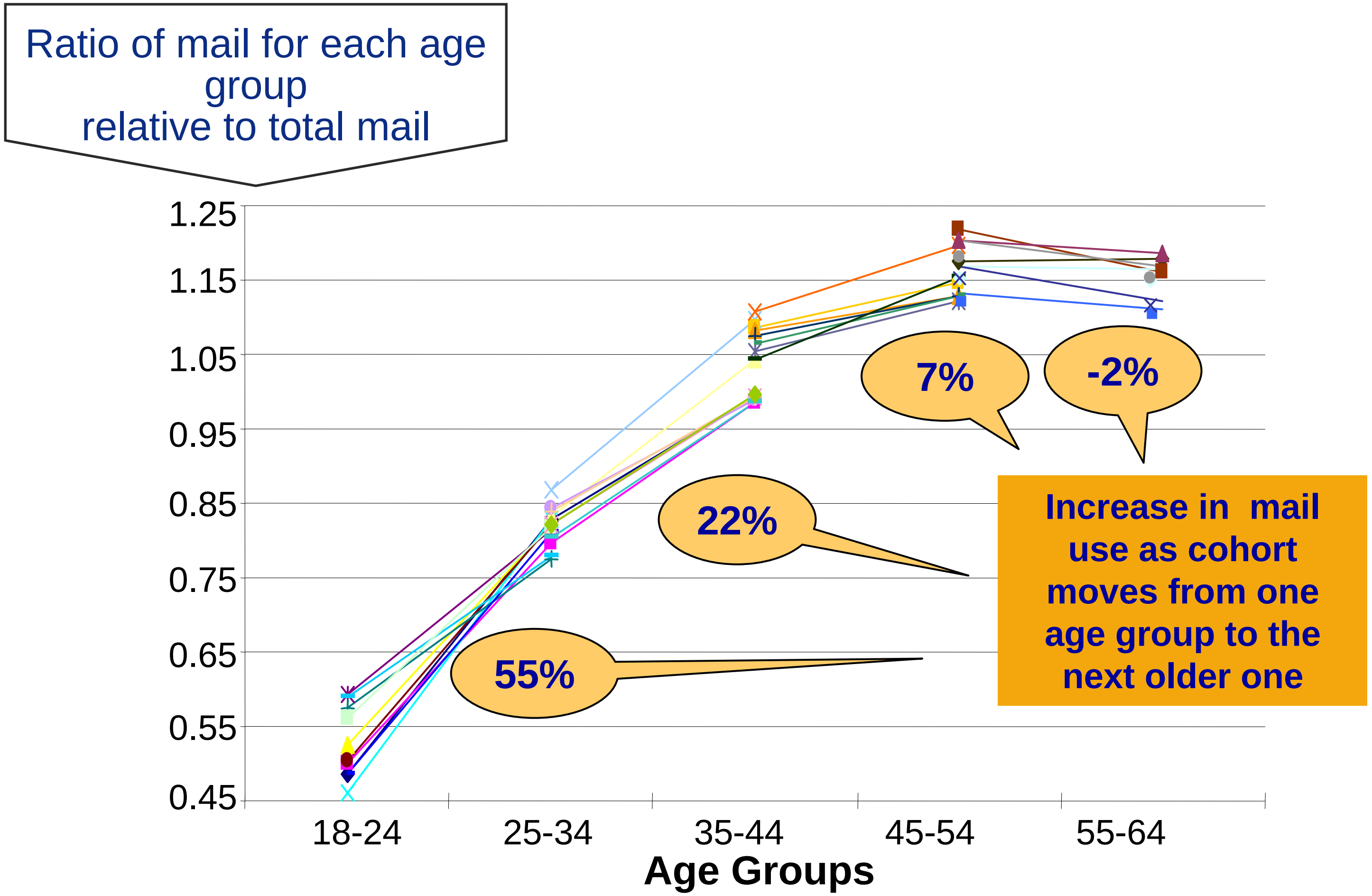
Source: Zaphiris, Kurniawan: Wayne State University

The mail "smoothes out" life: its interactional properties mediate social relationships

- Consumers are **pulled** to the mailbox by the **promise and expectation** of finding useful commercial and financial content
- Mail **connects the consumer with the market** by keeping the consumer informed about what's going on in the market
- **Bringing in the mail is a detour** that allows consumers to relax, unwind, and come back a little more refreshed
- The person who manages the household's mail is also the **principal shopper for the household**
- Mail provides essential **"hardcopy anchors"** that help the consumer to get their bearings

Source: USPS Mail Moment, Richard Harper

Reality: The long predicted "generational effect" has not materialized; all generations step up their mail use as they age



Source: Pitney Bowes cohort analysis from USPS Household Diary

9. Conclusions

We have observed 5 effects that the various drivers, enablers and barriers can have on mail volume

Direct Substitution

The new medium substitutes for the old one-for-one:

- Telephone, email for peer-to-peer correspondence (technology)
- Web-based tax forms (business practice)
- Electronic Signature on Faxes (regulation)

Indirect Substitution

A business process must change in order for substitution to begin:

- Tax Filing (regulation)

Complementarity

New demand is created; the new medium grows more quickly, but the old one neither declines nor is eliminated:

- Investment Statements (business practice)
- Marketing email (technology)

Indirectly more Mail

A new practice generates traditional mail:

- CAN SPAM Act (regulation)
- Online retail increases parcel mail (business practice, technology)

Directly more Mail

New businesses are created, which generate more mail:

- CRM and direct marketing mail (regulation)
- 1099 Dividend Form is mandated (regulation)
- Mail-intensive dot-com's: eBay, NetFlix, Dell (business practice)

Conclusions on Use of Paper and Mail

- Paper possesses an **unmatched combination** of transportability, longevity and accessibility.
- Many new **electronic media** face issues of **obsolescence**.
- The properties of paper **facilitate many socially - ingrained behaviors** and practices.
- **Letters are the preferred channel** for B-C communications: bills, statements, and unsolicited marketing mail.
- **Age and life stage, not generational identity**, affect mail consumption patterns as well as invoice channel preferences

We classify mail transactions into three categories with regard to the effects on substitution

1. Substitution has already happened for simple transactions where there is a direct substitute.
2. Substitution is evolving more gradually than generally assumed for selected transactions.
3. The long-term effects of substitution are still ill-understood for many transactions.

1. Substitution has already happened for simple transactions where there is a direct substitute

- **Telephone replaced much of peer-to-peer correspondence long ago; Email may increasingly take away most of the rest (1 % in the US).**
- **Fax eliminated many HH-B confirmation notices that used to be mailed.**
- **US tax forms are no longer mailed; half of US tax returns replaced by electronic submission..**
- **Mail orders for goods shifted to free telephone calls and comfort with credit cards; Internet shopping is just a second-order shift.**
- **Information requests (papers, reports) used to be fulfilled by mail. Internet self-service and email attachments are now preferred if the sender wishes to distribute an electronic copy.**

We do not expect significant further erosion of mail for transactions in this category. But we are examining all mail transactions …

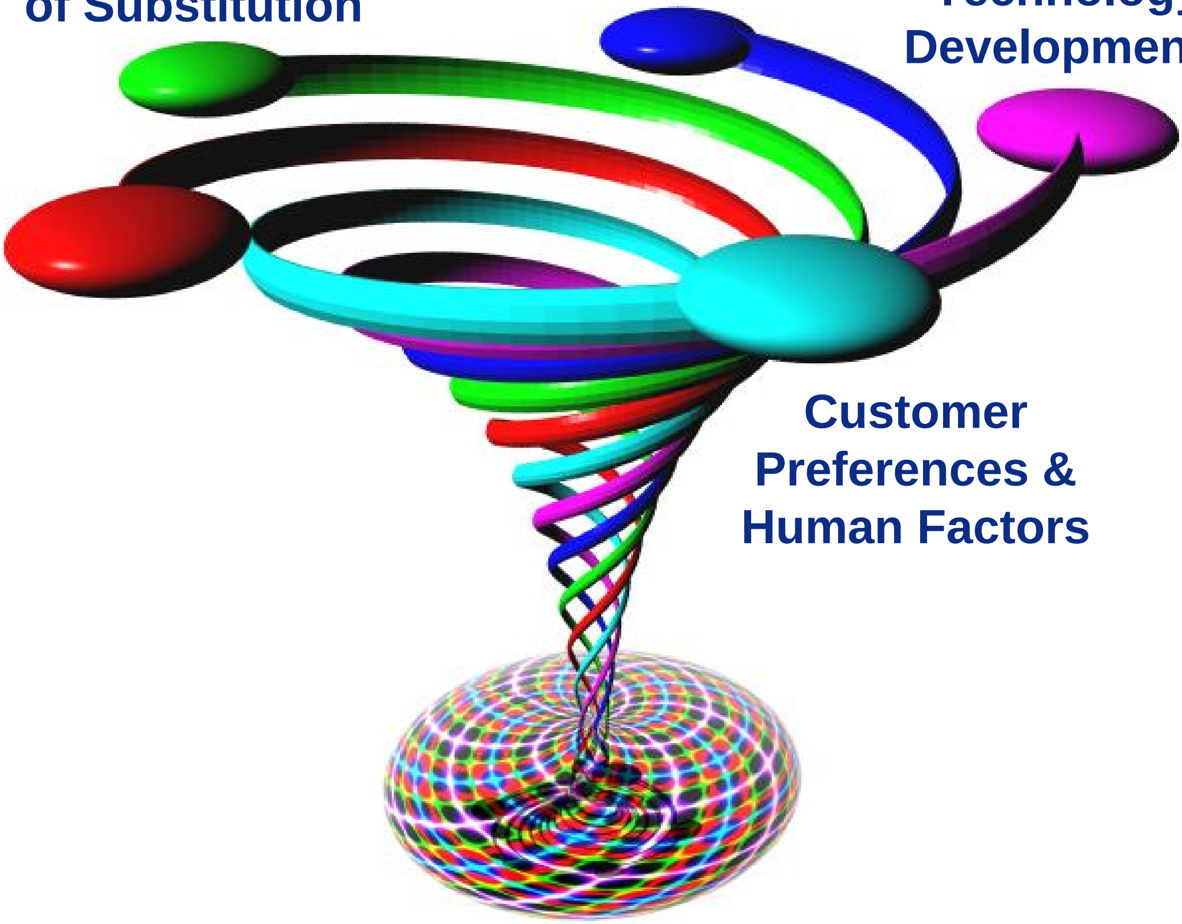
2. Substitution is evolving gradually for other transactions; it is still uncertain how much mail may be diverted or when

Many effects of technology are not living up to previous aggressive forecasts of sweeping mail diversion:

- **Electronic greeting cards** have remained a small niche
- **Internet advertising** is not reducing direct mail
- Most **EBPP** adopters are not discontinuing mail
- **Electronic payments from HH to B** are advancing more rapidly than "round trip" billing and payment
- B-B mail has shifted largely to electronic methods for companies where relationships are well established. **Yet many firms still send each other bills, correspondence and promotions via mail.**
- **Total B-B mail is now declining**.

3. Long term effects of substitution are still ill-understood for many mailed transactions

- **Experience and human factors** matter more than the technology used by mail recipients.
- **Business senders make decisions** based on their need for process efficiency, not on the availability of technology at the recipient's end. Business processes have to change significantly for mail to be eliminated.
- Consumers view the **Internet mainly as a tool for entertainment,** education and convenience in activities unrelated to mail.
- **Internet users** with high income are still **receiving more mail**.
- **Broadband** may not have much additional effect for simple mail transactions.
- The Internet has significant **vulnerabilities** that may caution some businesses from dismantling mailed-based communications.
- It is not obvious that there will be a **“generational”** effect.



Source: Pitney Bowes, adapted from a graphic by Dr. Reon Brand, Philips Design