

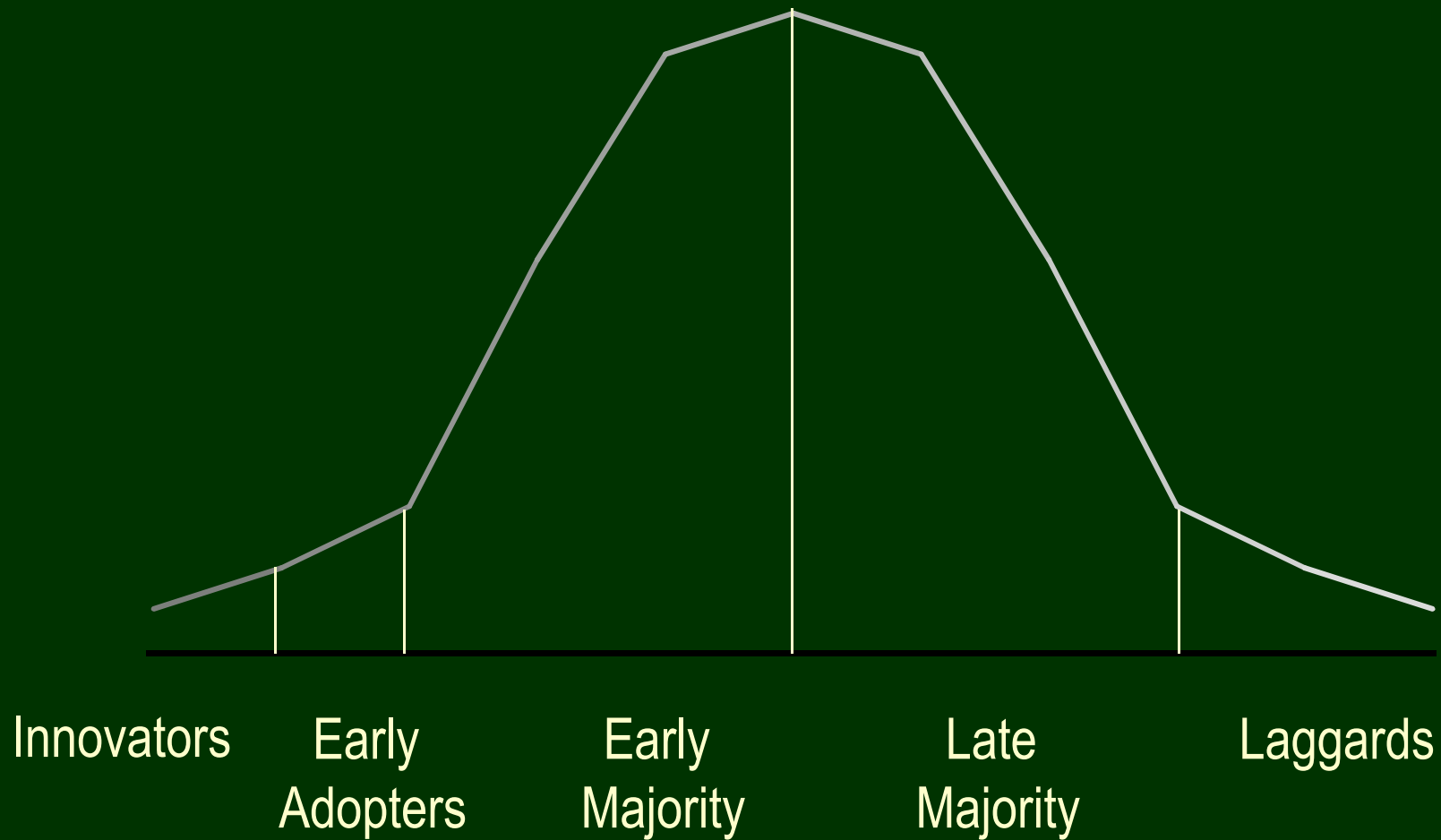
Adoption of New Media in the Digital Era

John Carey

Fordham University

New York City, USA

Rogers' Categorization of Adopters



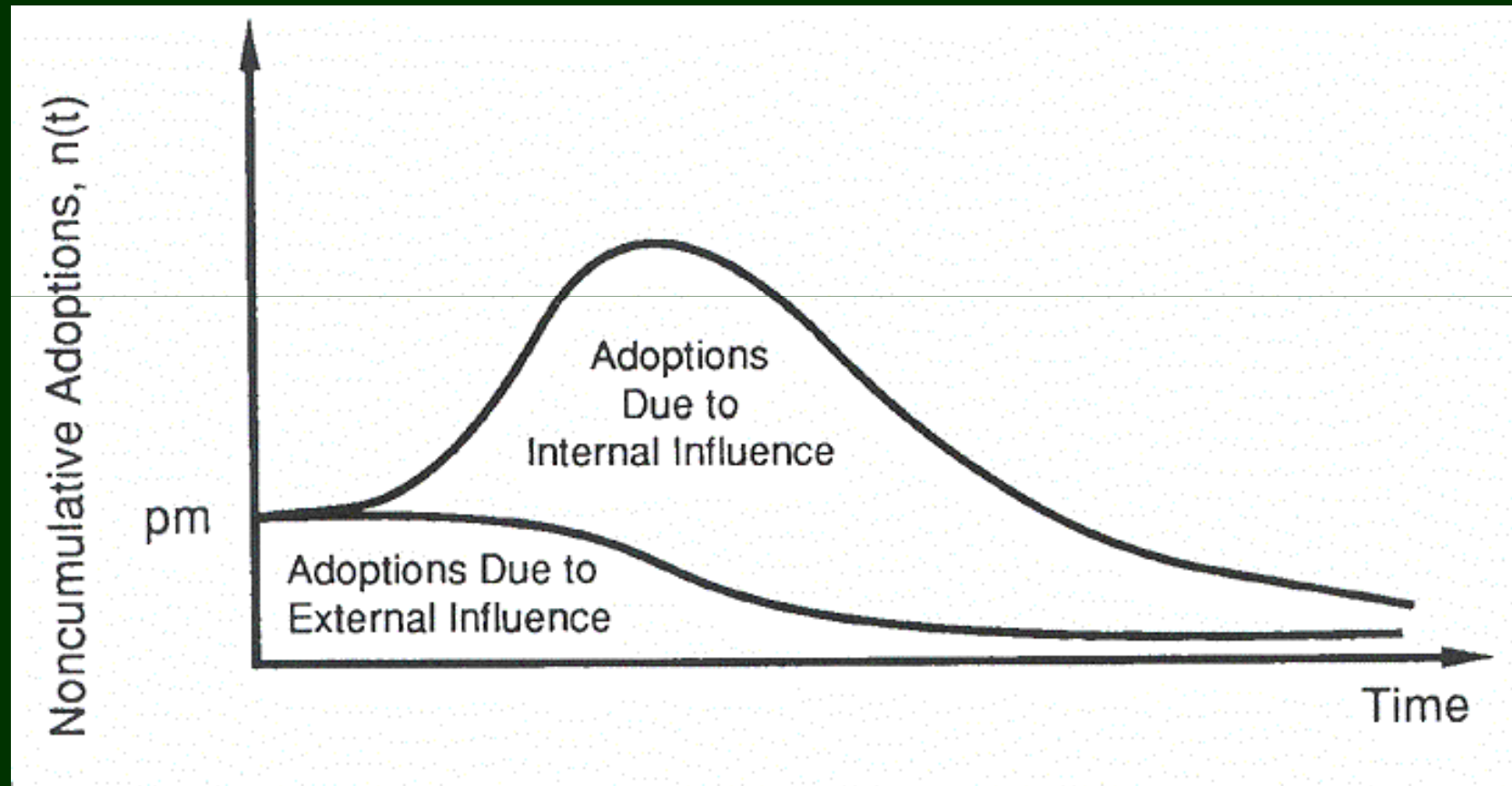
Source: Rogers

Adoption Groups

Early Adopters	12%	Adopt new technology as soon as available; willing to pay more for it
Mainstream Adopters	35	Wait till sure technology works and price has come down somewhat
Later Adopters	32	Wait till technology becomes mainstream and price drops more
Stragglers	21	Reluctant to adopt new technology; may get it if feel it is a necessity

Source: IBM multi-nation survey

Adoptions Due to External and Internal Influences

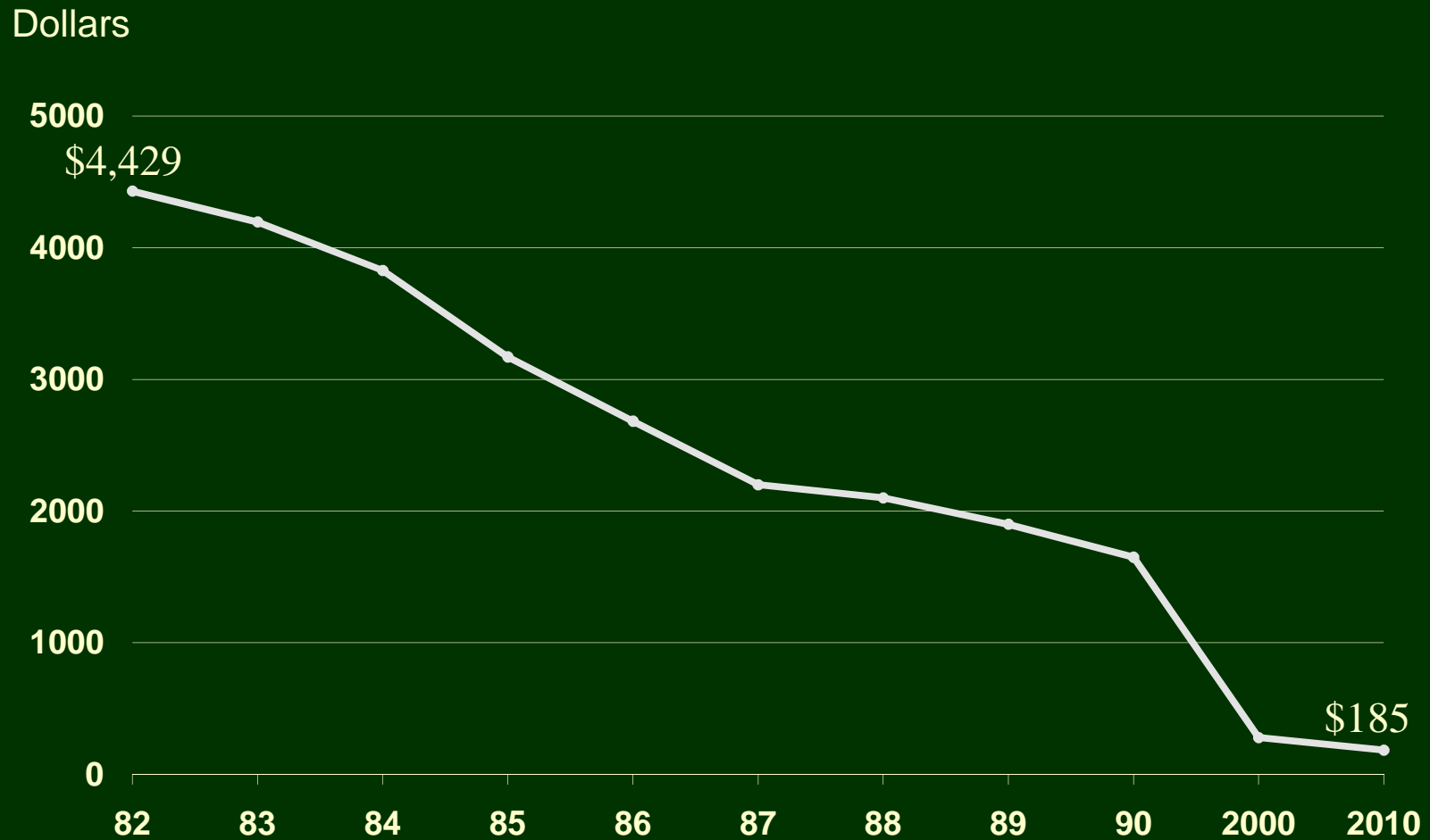


Average Price of Selected Electronic Products (Current Dollars)

Year	Radio Set	B&W TV	Color TV	VCR	CD Player
1925	\$ 83				
1930	78				
1935	55				
1940	38				
1945	40				
1947		\$ 279			
1950		190			
1955		138	\$ 500		
1960		132	392		
1965			356		
1970			317		
1975			341	\$ 1,140	
1980				1,122	
1983				572	\$ 733
1985				494	310
1987				414	206
1989				382	218

Source: EIA; Sterling and Haight: US Dept. of Commerce

Average Price Of Fax Machines

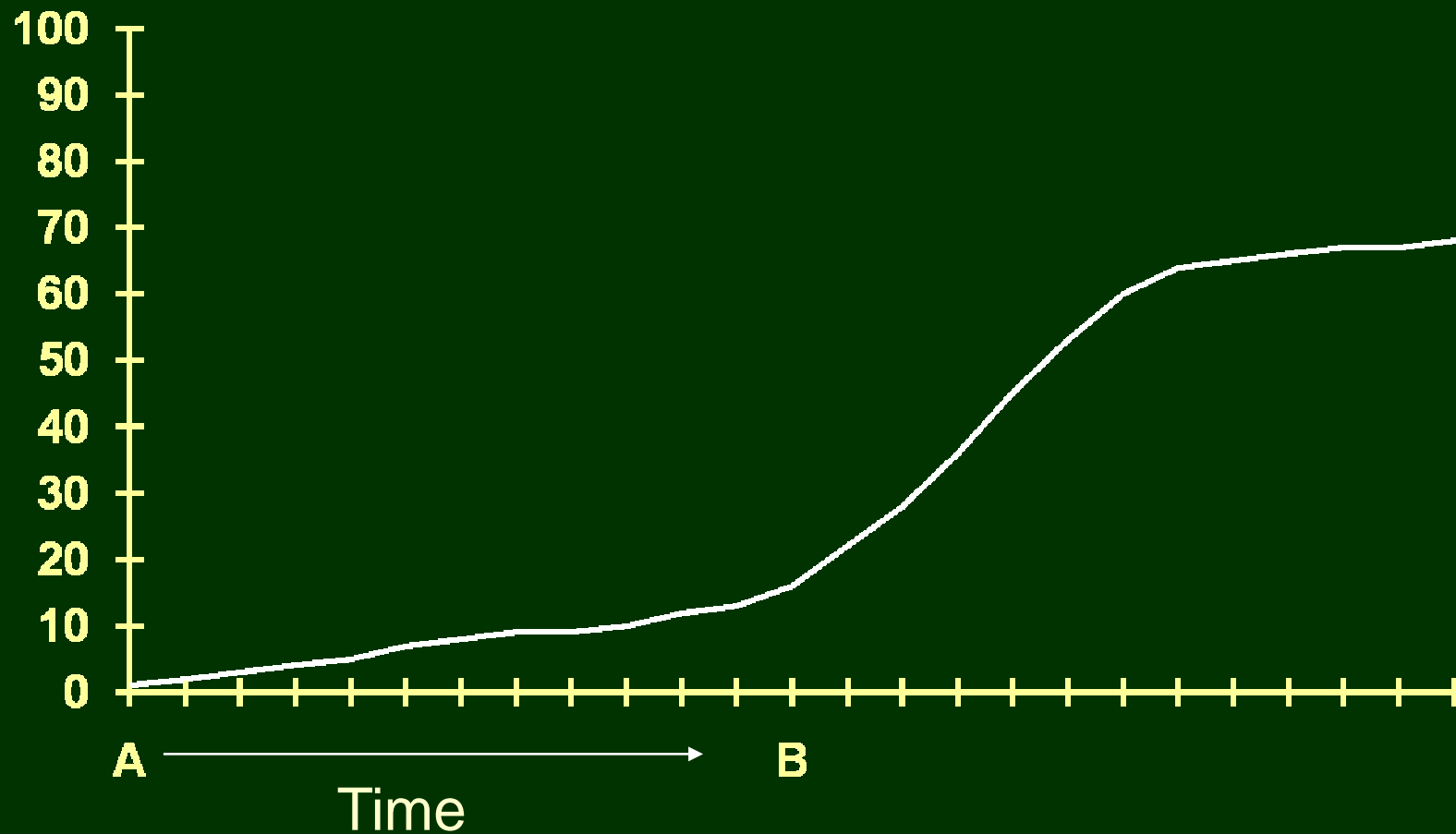


Sources: Dataquest; US Dept of Commerce; CEA

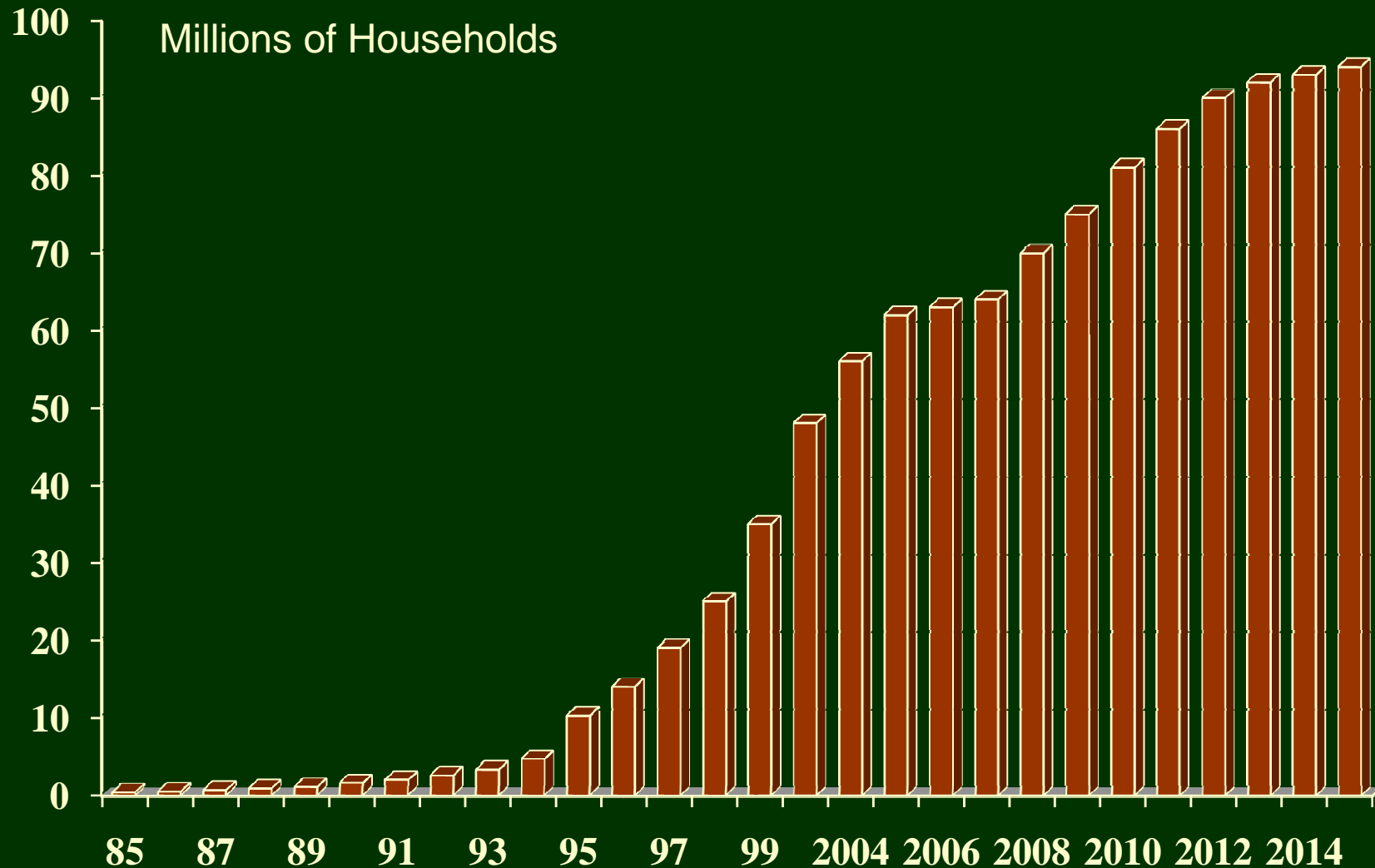
Services Where The Price Dropped or Did Not Drop Over Time

Price Dropped Over Time	Price Did Not Drop Over Time
Long Distance Telephone	Cable TV
Dial-Up Online	Satellite TV
Broadband DSL	Satellite Radio
Mobile Phone Service	Video-on-Demand

S-Curve Pattern of Adoption



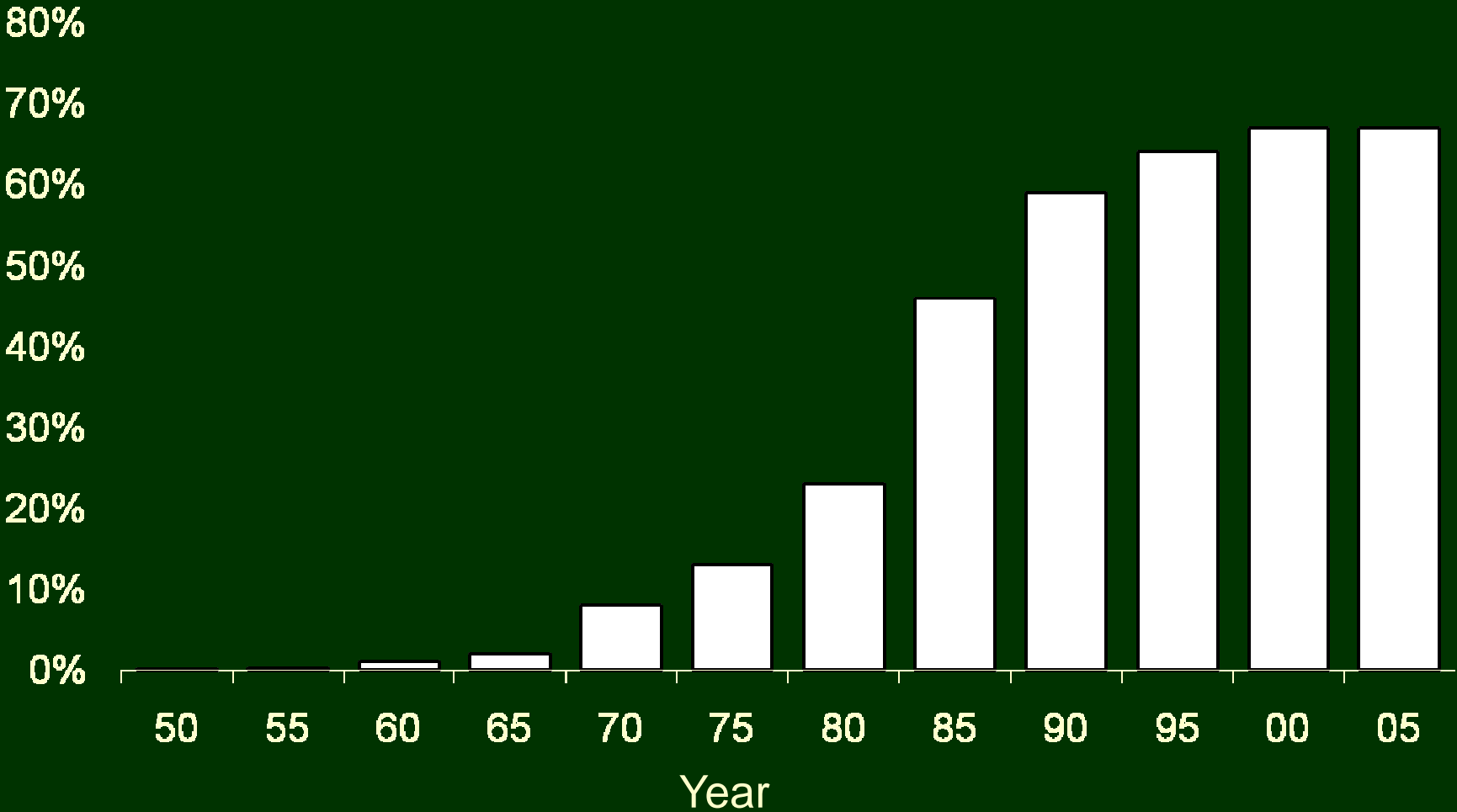
Number of US Households Subscribing To An Online/Internet Service Provider, 1985 – 2015



Source: Veronic & Suhler; Jupiter Communication, Decision Analysts

Cable Growth, 1950 – 2005

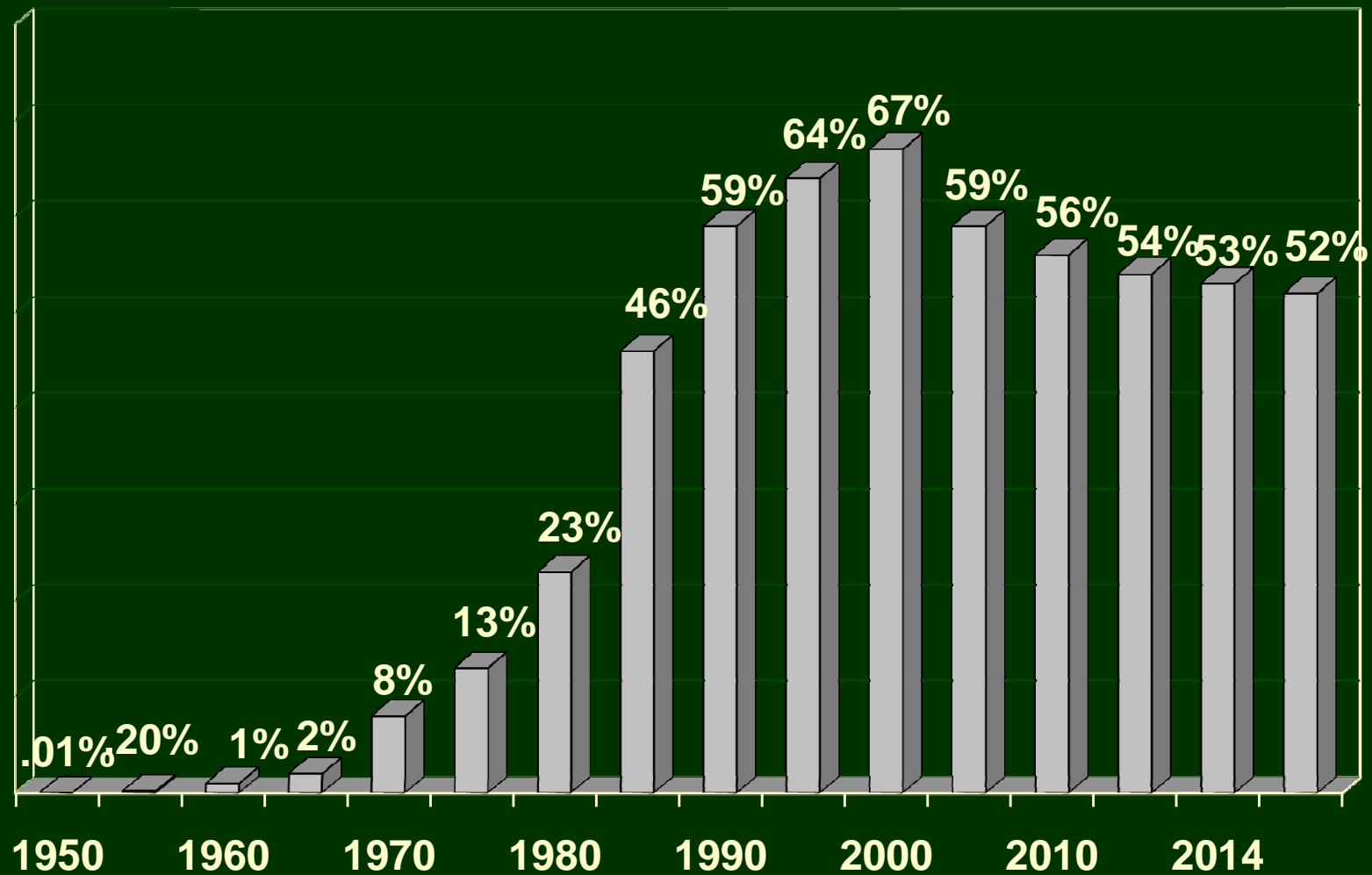
Percent of TV Households Subscribing to Cable



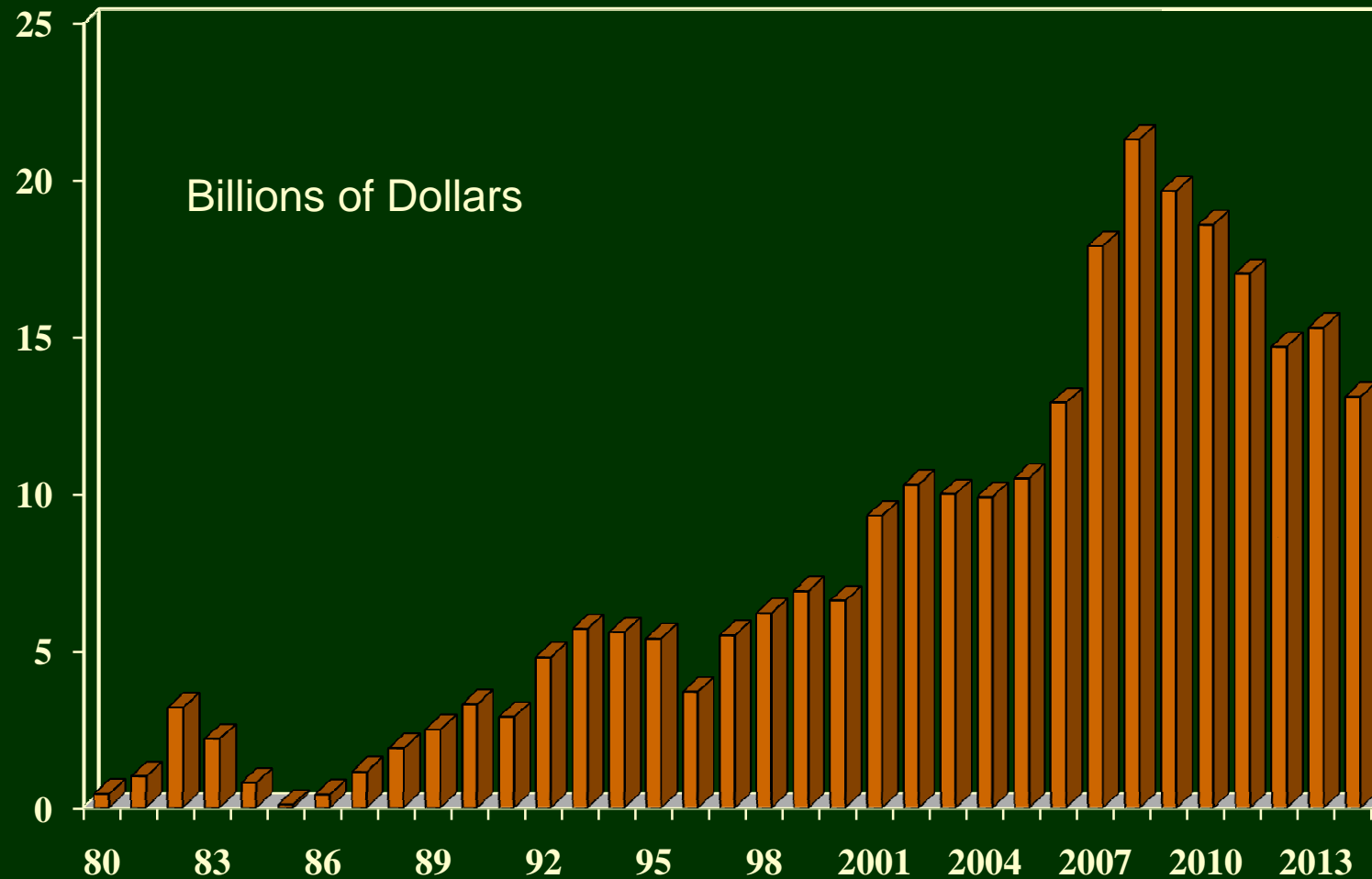
Sources: Sterling and Haight; US Dept of Commerce;

Cable Growth, 1950 - 2015

Percent of Households Subscribing to Cable



US Videogame Console Sales, 1980 to 2014

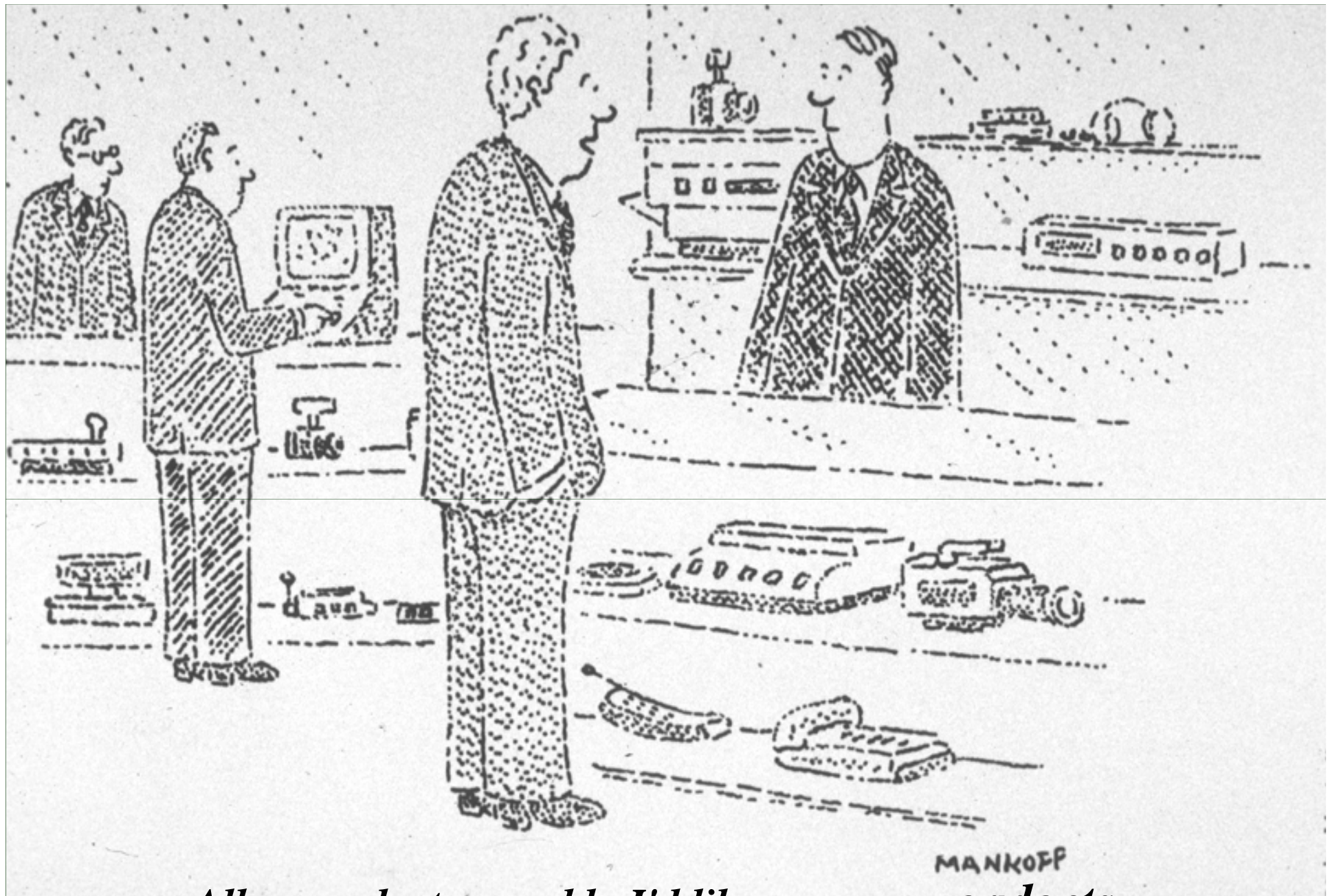


Source: NPD Group

Number of Years to Reach 50% Penetration of U.S. Households

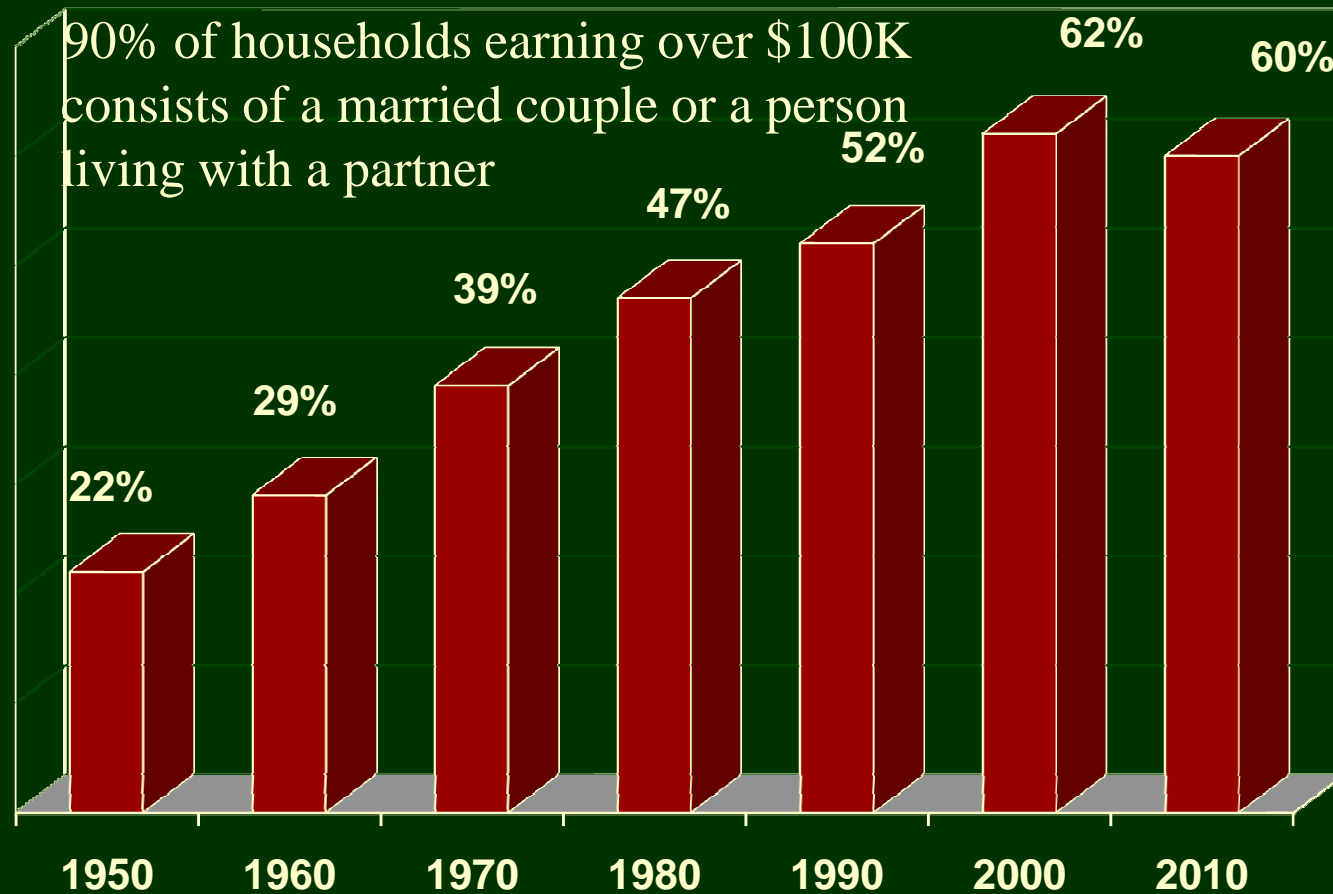
Newspapers	100+
Telephone	70
Phonograph	55
Electricity	43
Cable Television	39
FM Radio	30
Color Television	17
Personal Computer	17
Cell Phone	16
Compact Disk Player	15
VCR	10
AM Radio	9
Black & White Television	8
DVD	6

Sources: Electronic Industry Association;
US Dept. of Commerce; Dataquest



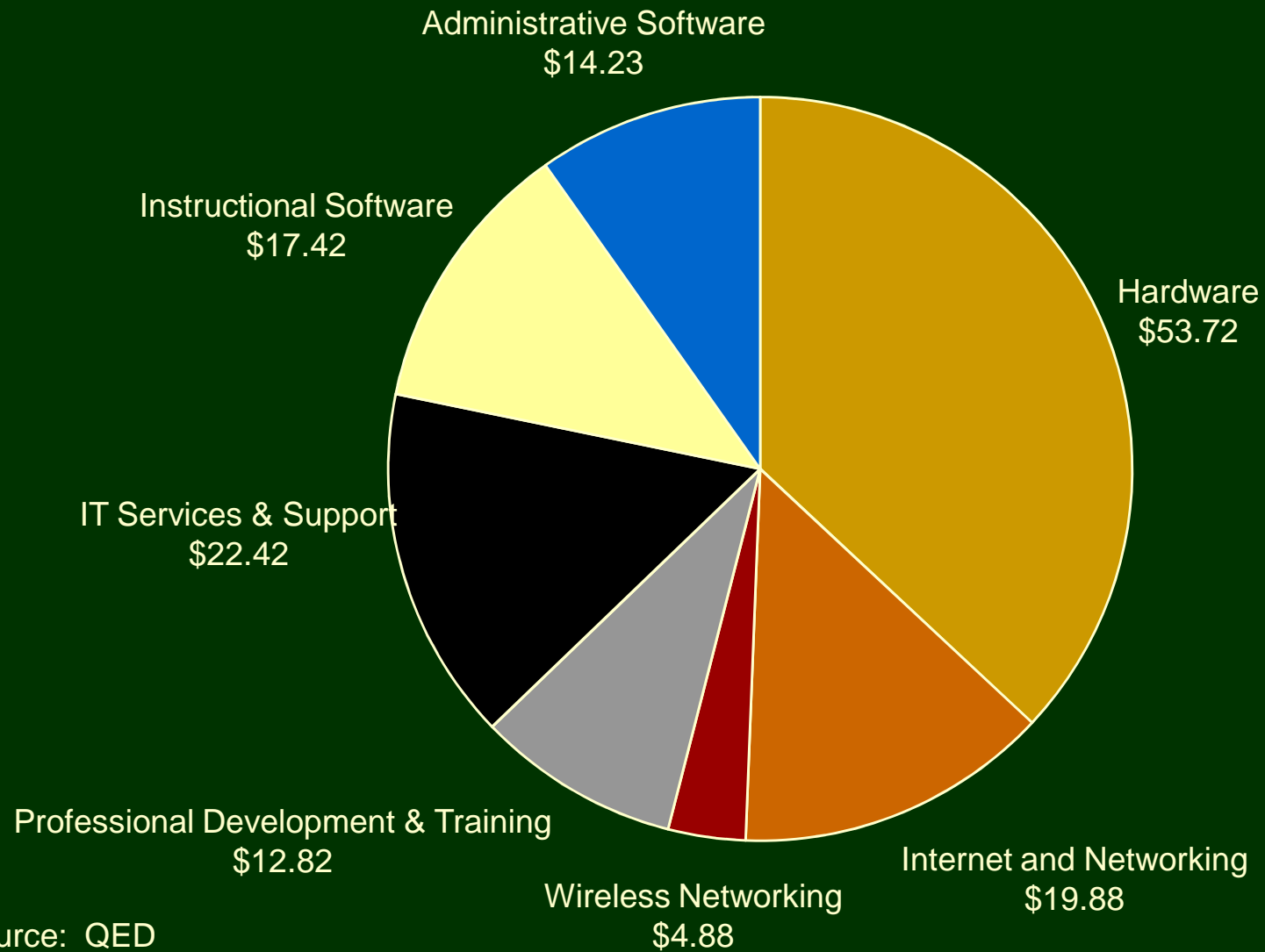
All my gadgets are old. I'd like some new gadgets

Two-Income Households: Percentage Of Married Couples With Both Spouses Working



Source: U.S. Department of Labor

K-12 Technology Spending



Source: QED

Replacement Cycles For Electronic Products

Product	Average Life Cycle
Cordless Telephone	10 years
TV Set	8
Camcorder	7
DVD Player	7
Digital Camera	3
Personal Computer	3
Mobile Phone	2

Product Mortality

“Of the 30,000 new consumer products launched each year, over 90% of them fail.”

The Wall Street Journal

Radio Fax
Newspaper
1938



THE BIZARRE In 1956, the Highway Hi-Fi went with you, went with you, went with you . . .

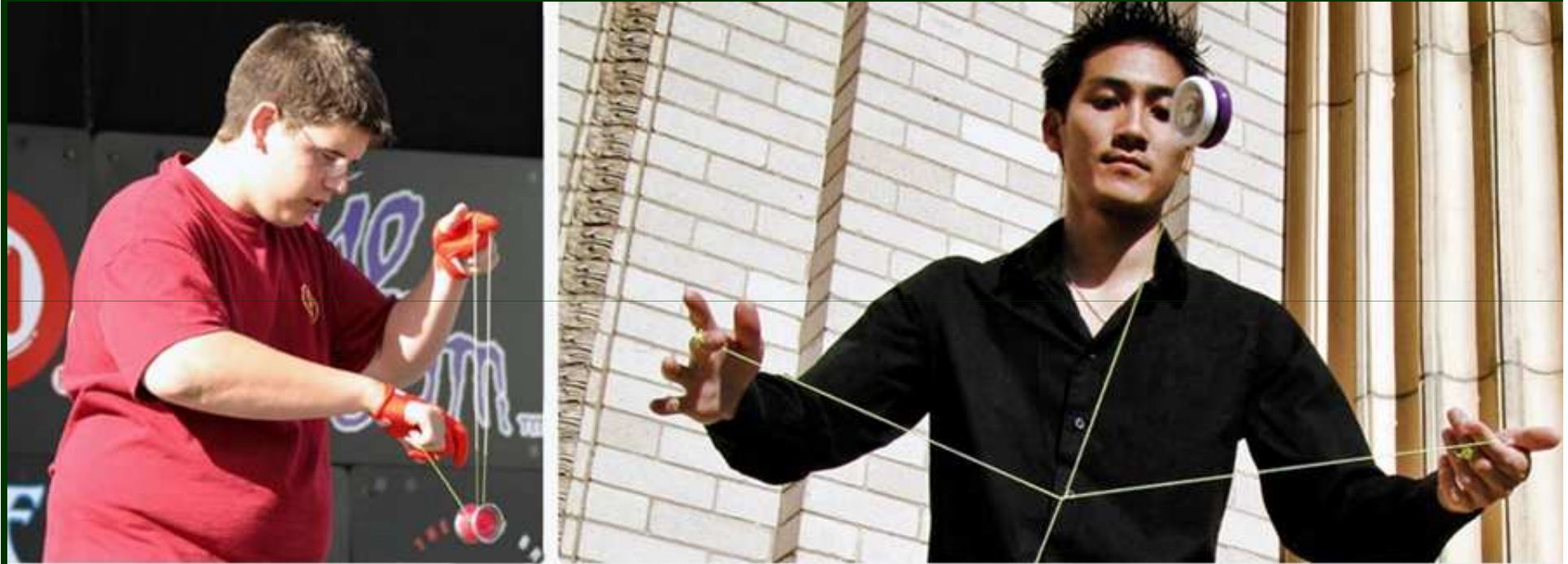




Fads



Hula Hoop



Yo-Yos

WATCH IT GROW!

Elvis Chia

**HOMEMADE
CELEBRITY
PLANTER**

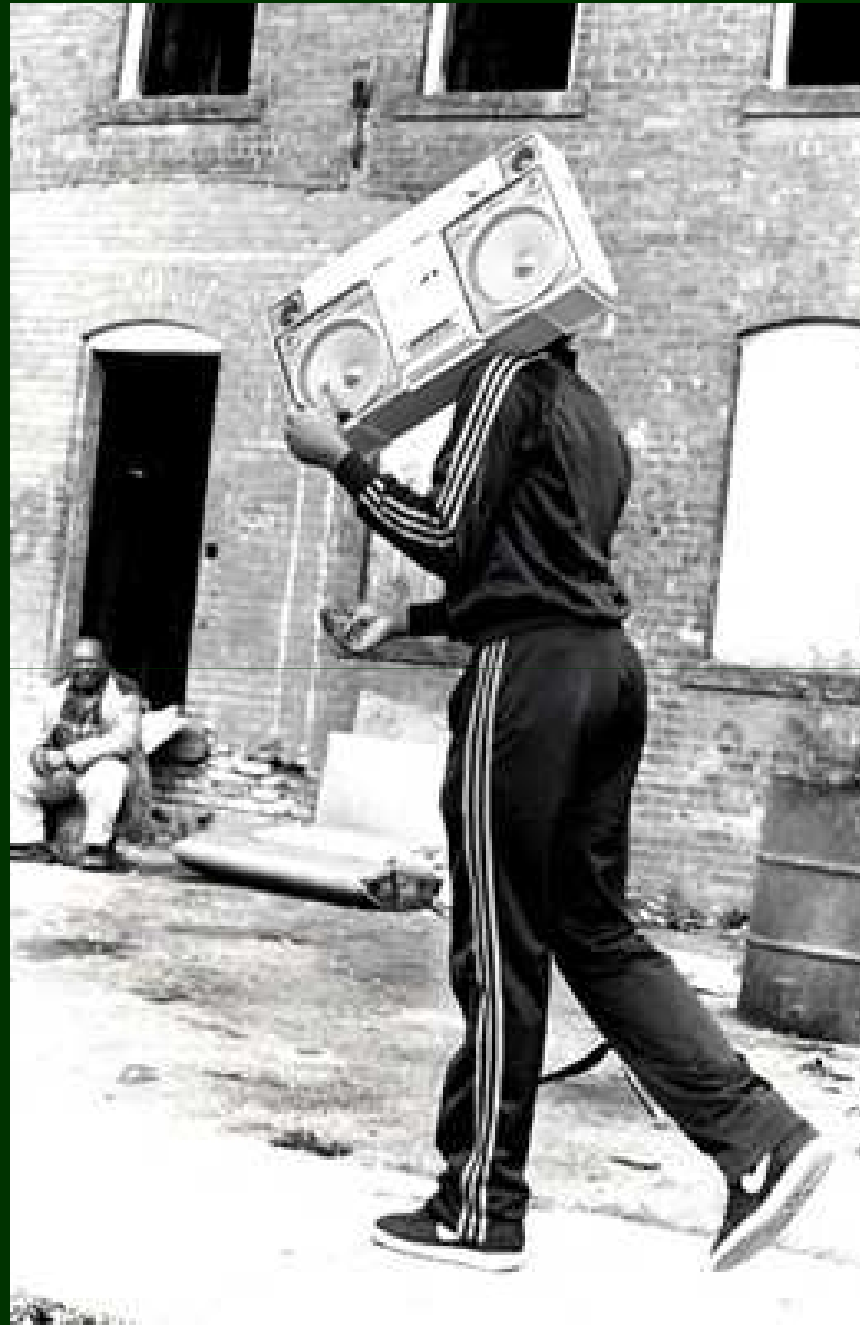
Elvis' Hair Actually Grows!
Contents: Handcrafted Elvis Head
One Packet of Hair Seeds
Note: May Take 6 months to a year
to grow a full head of hair.



Looks Just Like
Real Hair!

Chia Pet

Boom Box



Advantages and Pitfalls of Being First

“First In” Strategy...

- ▶ AM Radio
- ▶ HBO – Pay Cable Service
- ▶ Broadcast Networks

But...

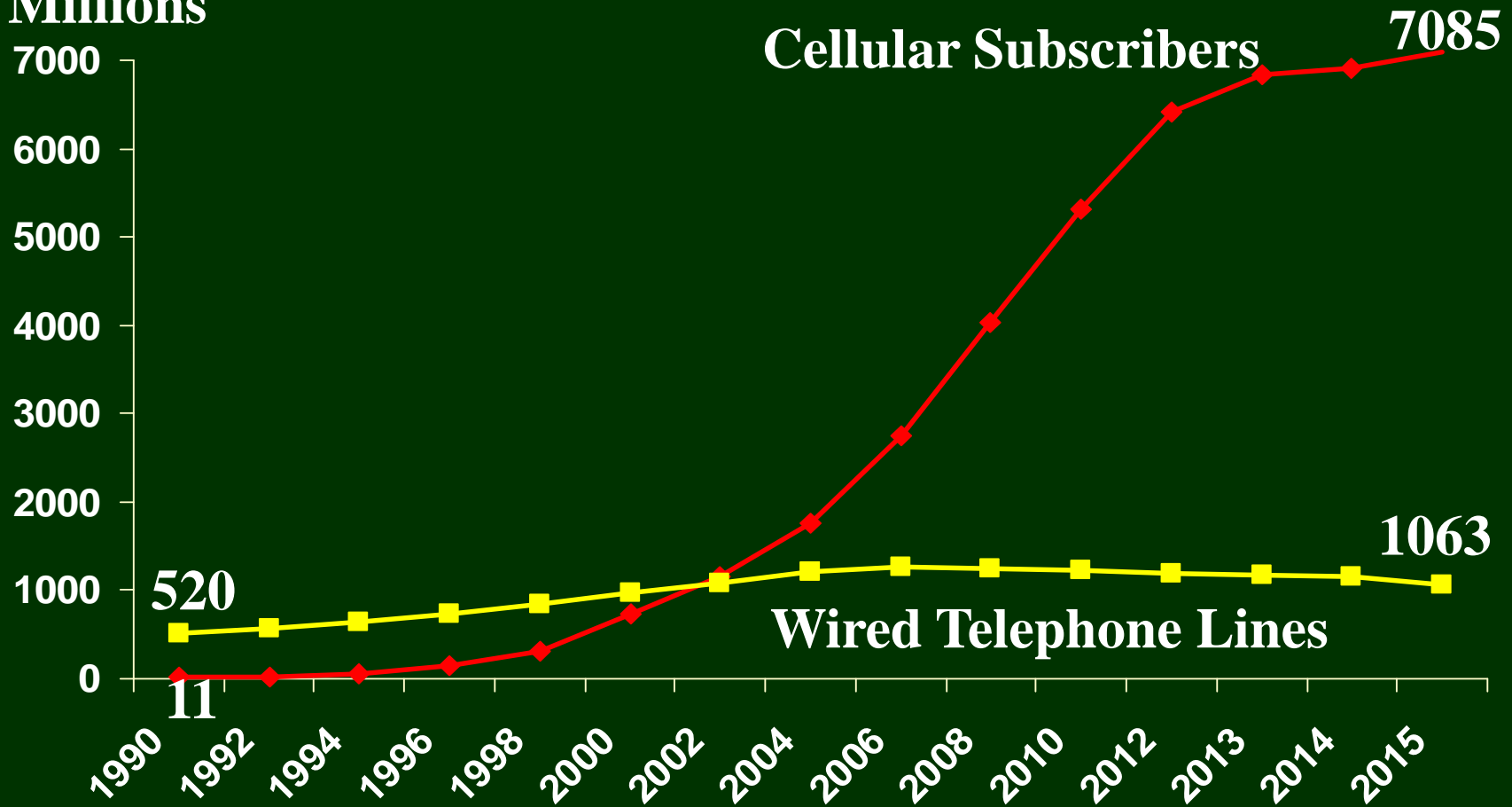
- ▶ HDTV in Japan
- ▶ Early Videoconferencing
- ▶ Early DBS
- ▶ Online media (videotex)

Digital Era Context

Rapid Pace of Change

Worldwide Growth of Telephone Service, 1990 - 2015

In Millions



Source: ITU

Percent of US Households with a Cell Phone and No Landline



45% have both
6% only landline
2% No phone at all

Source: Cellular Telecomm Assoc.

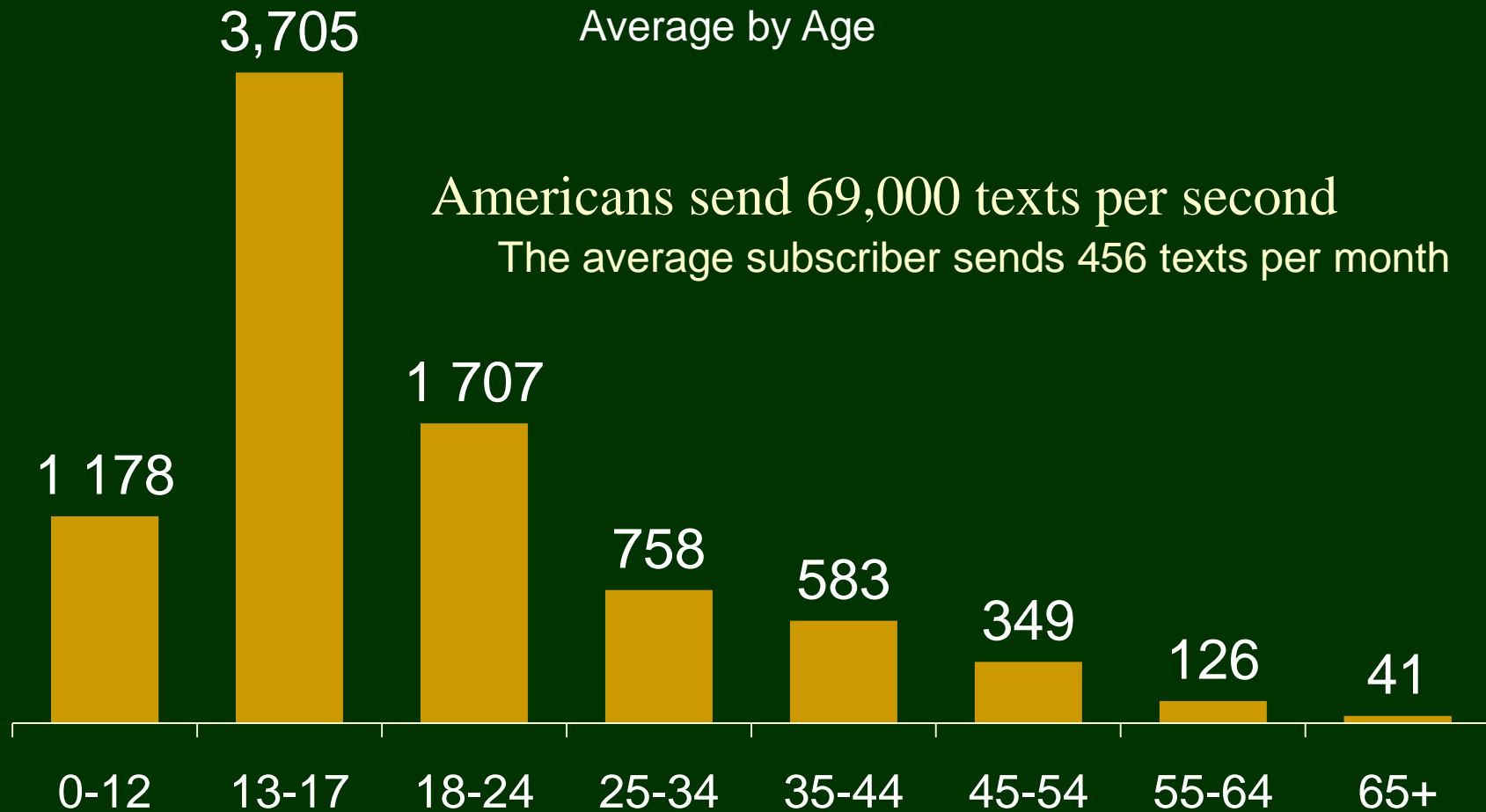




4K
ULTRA HD TV

SONY

Number of Text Messages Sent/Received per Month



Source: Nielsen

NETFLIX



Twitter



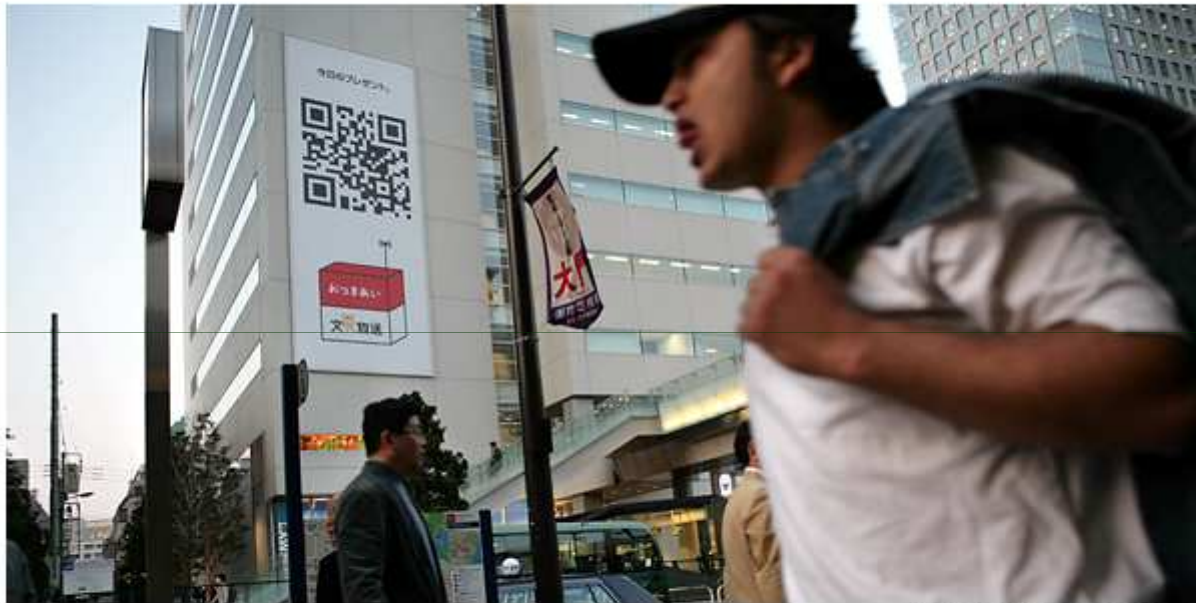


The Internet of Things

Samsung Hub Refrigerator



New Bar Codes Can Talk With Your Cellphone



Ko Sasaki for The New York Times

The pattern on a building in Tokyo is filled with information that can be read by a properly programmed cellphone with a camera. The technology can also be used for many other things, like buying airline tickets.

By LOUISE STORY

Published: April 1, 2007

EMAIL

Accessing Media in Public Locations





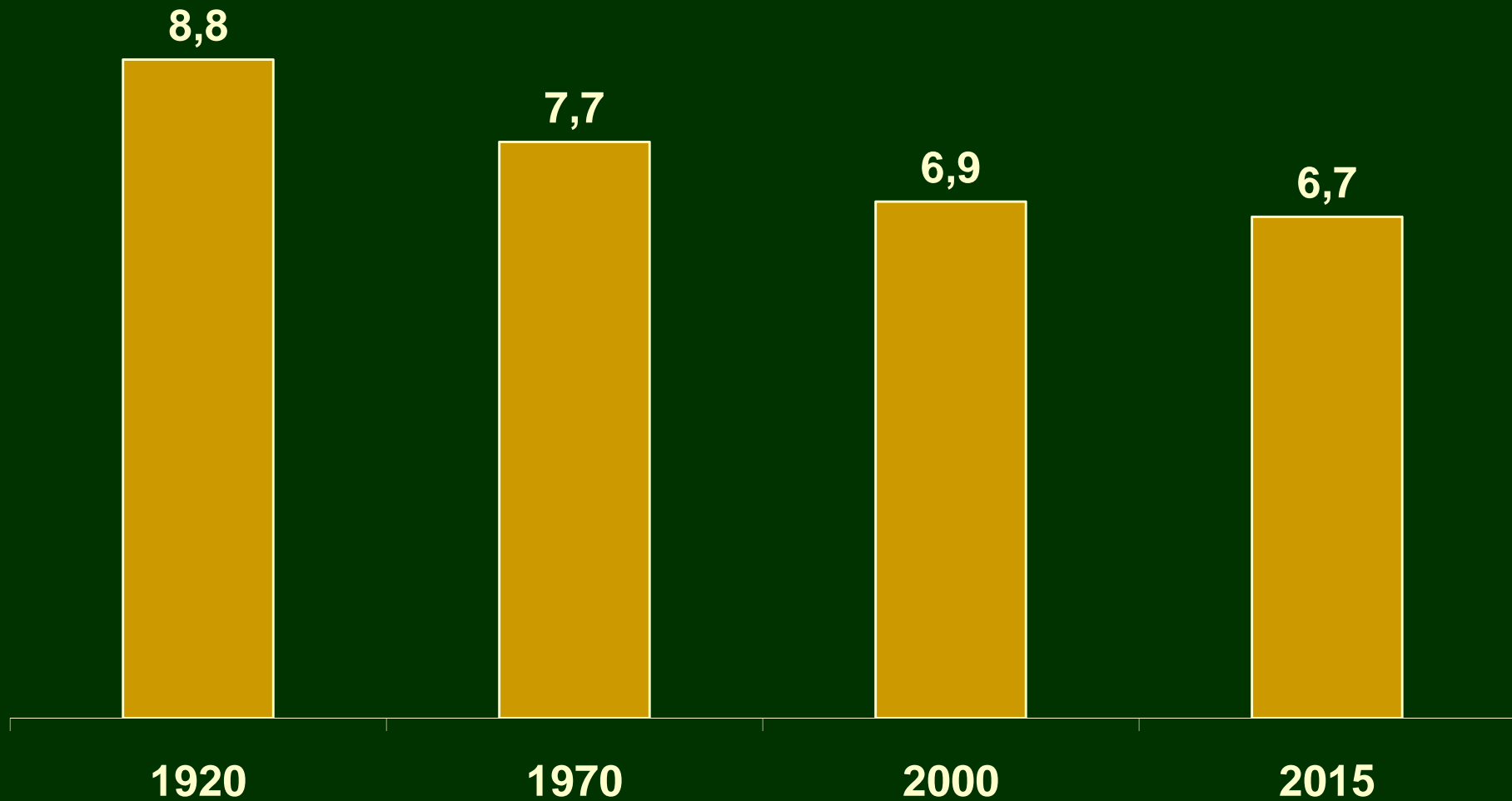


Wi-Fi Transmitter



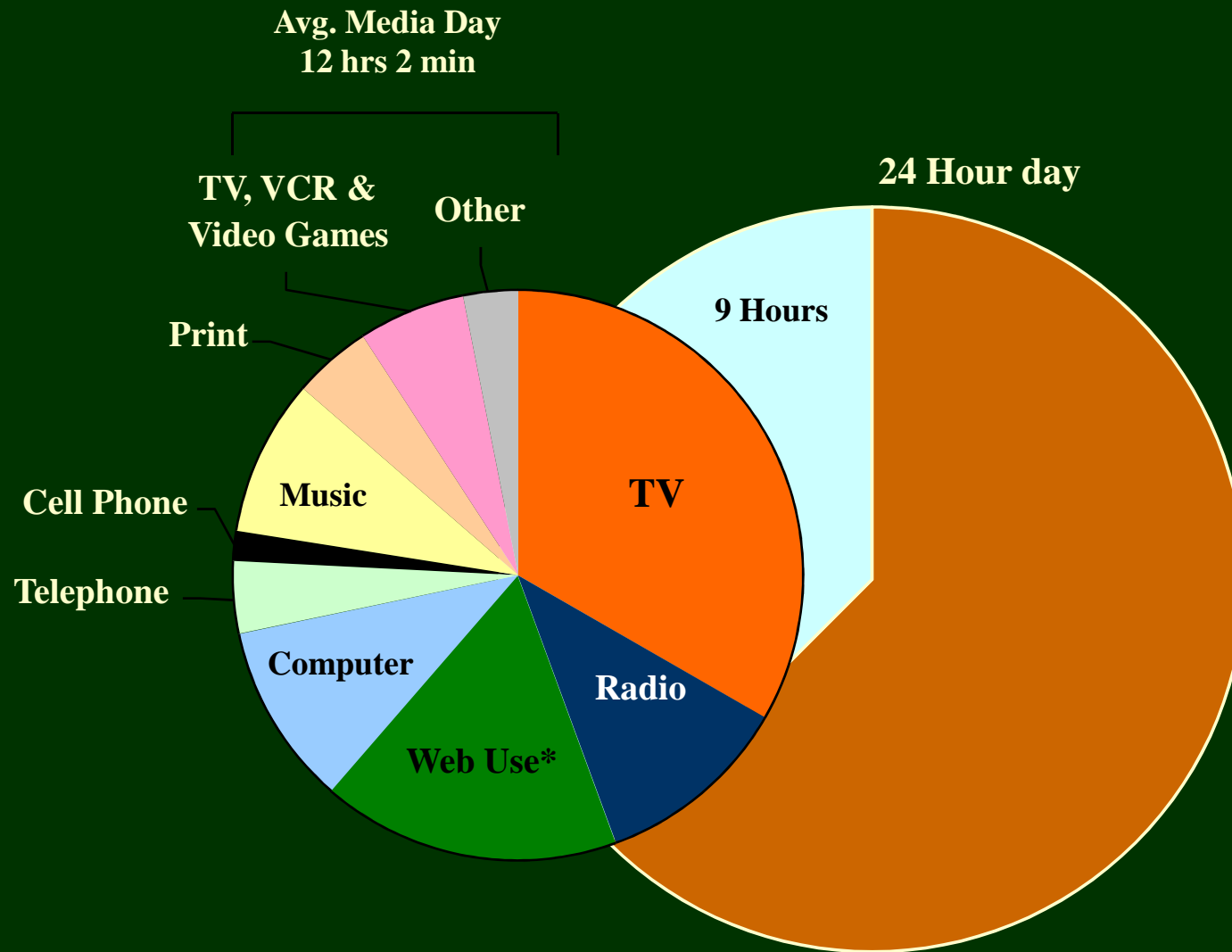
Sleep

Average Hours of Sleep



Source: NIH

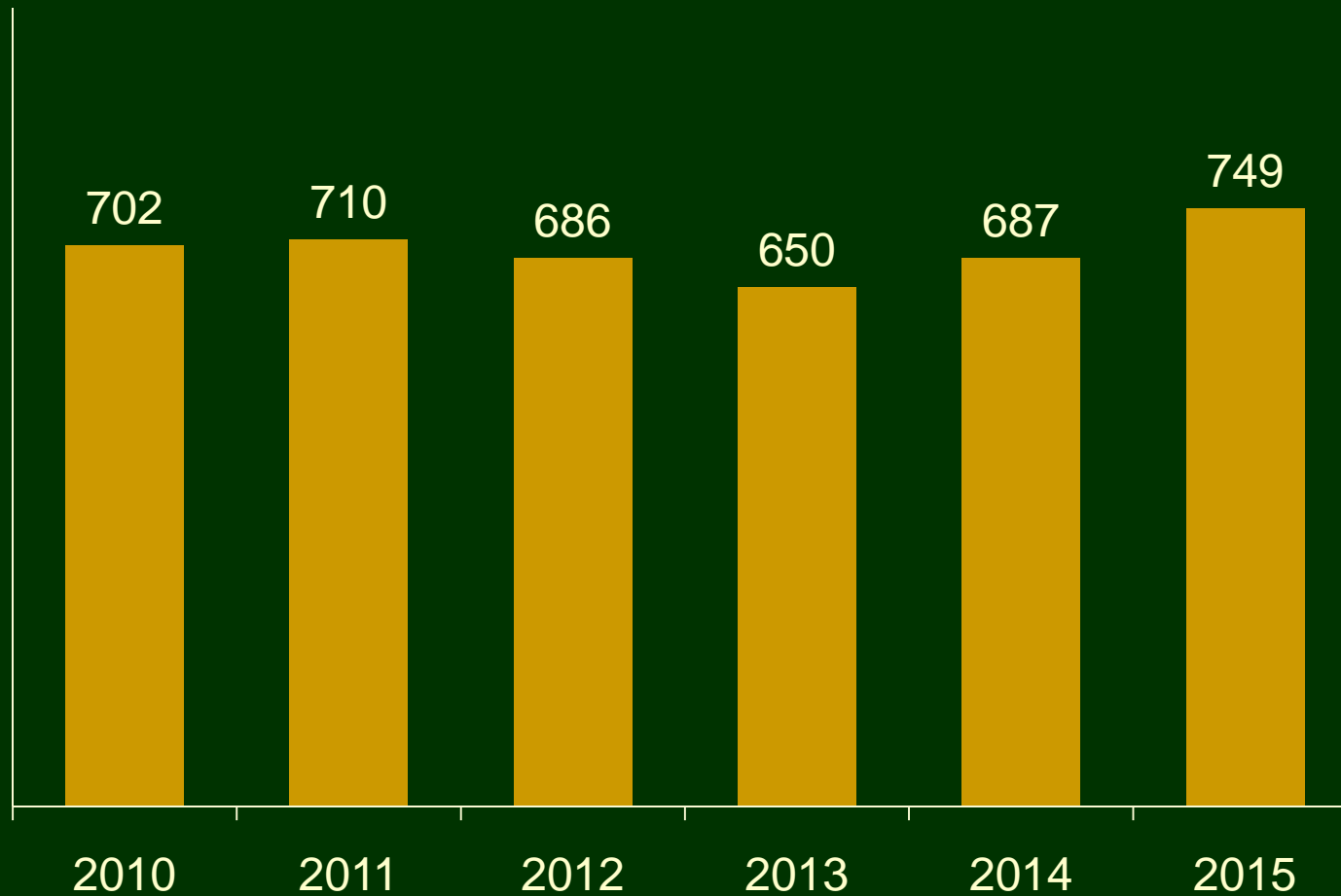
Multi Tasking Extends the Media Day



Source: Ball State Middletown Media Studies

What Company and Device Have Defied
Historical Patterns of Price Declines?

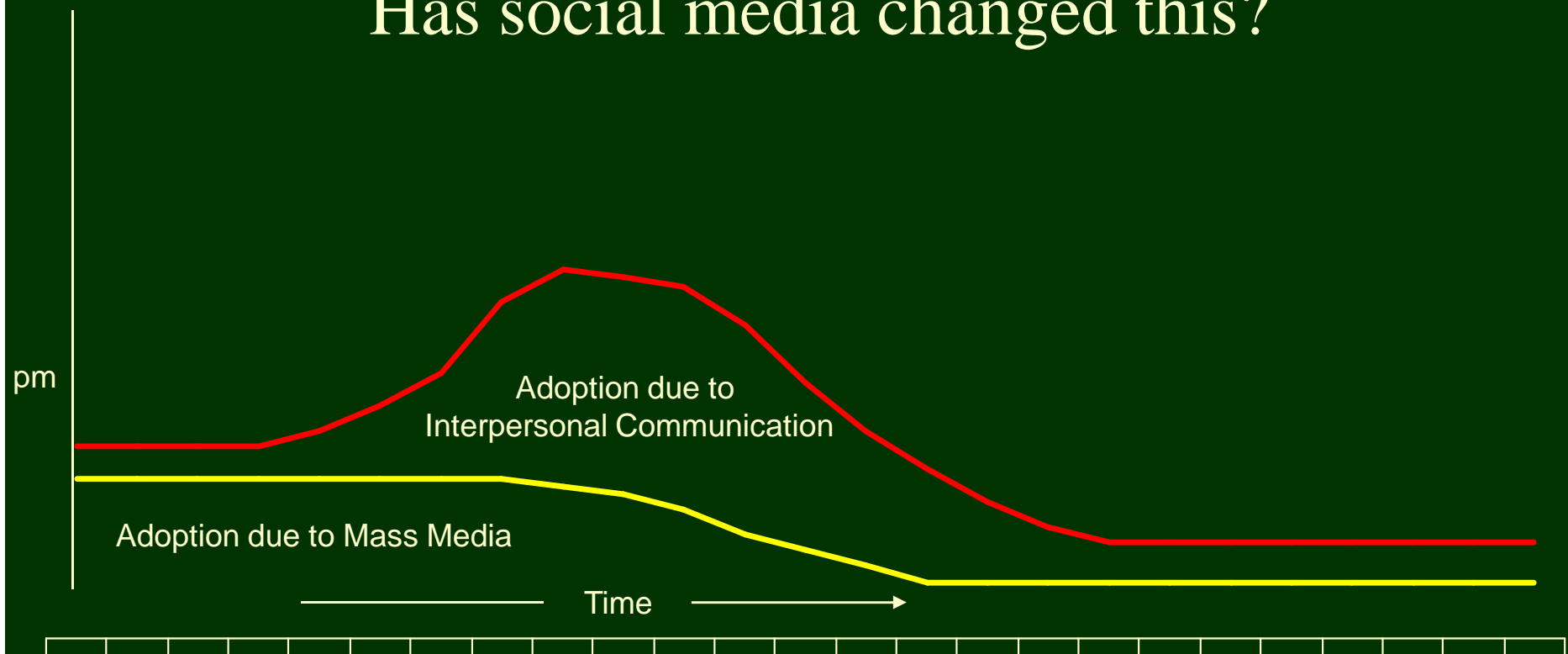
Average Retail Cost of iPhone

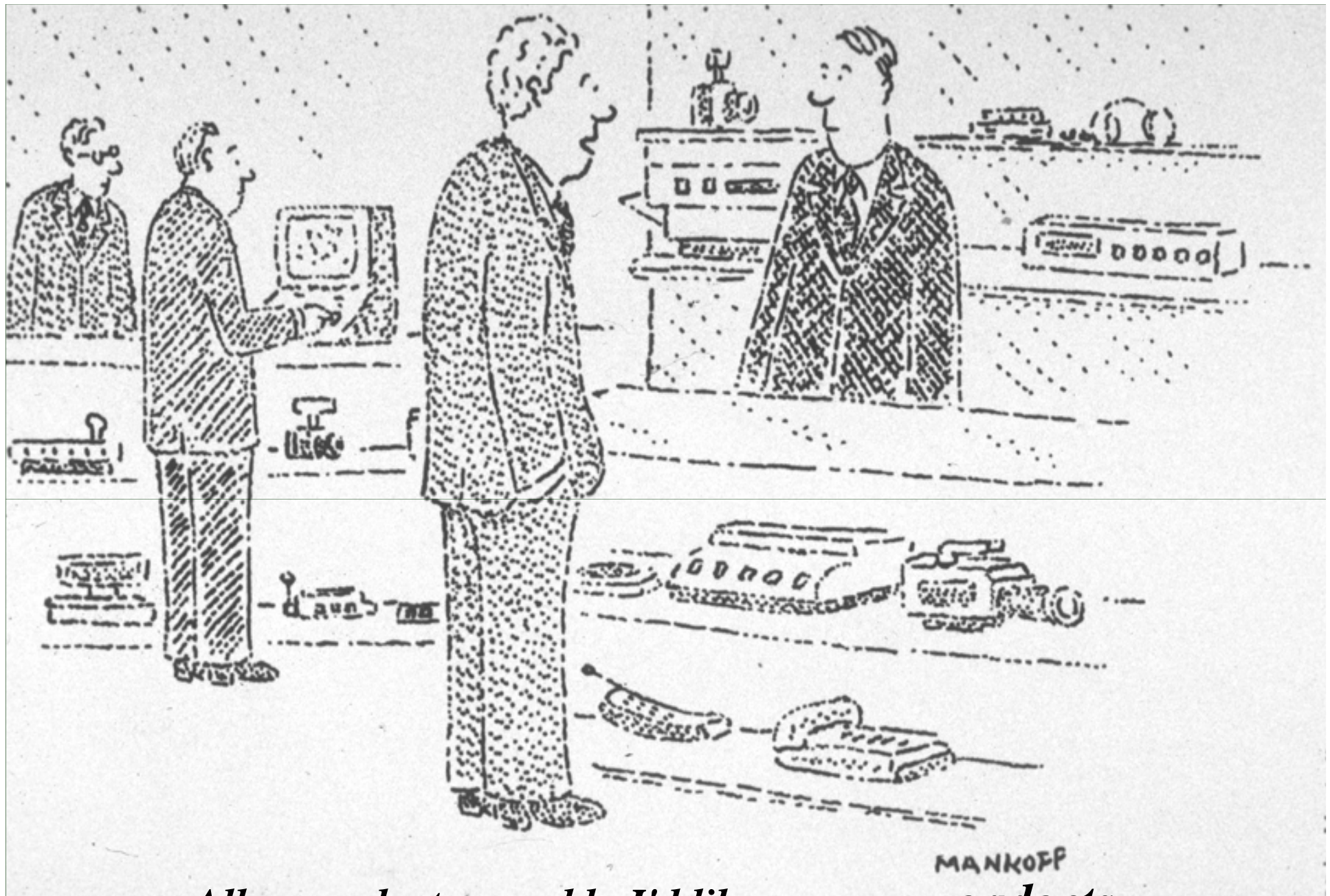


Source: Apple

External/Internal Influences on Adoption

Has social media changed this?





All my gadgets are old. I'd like some new gadgets



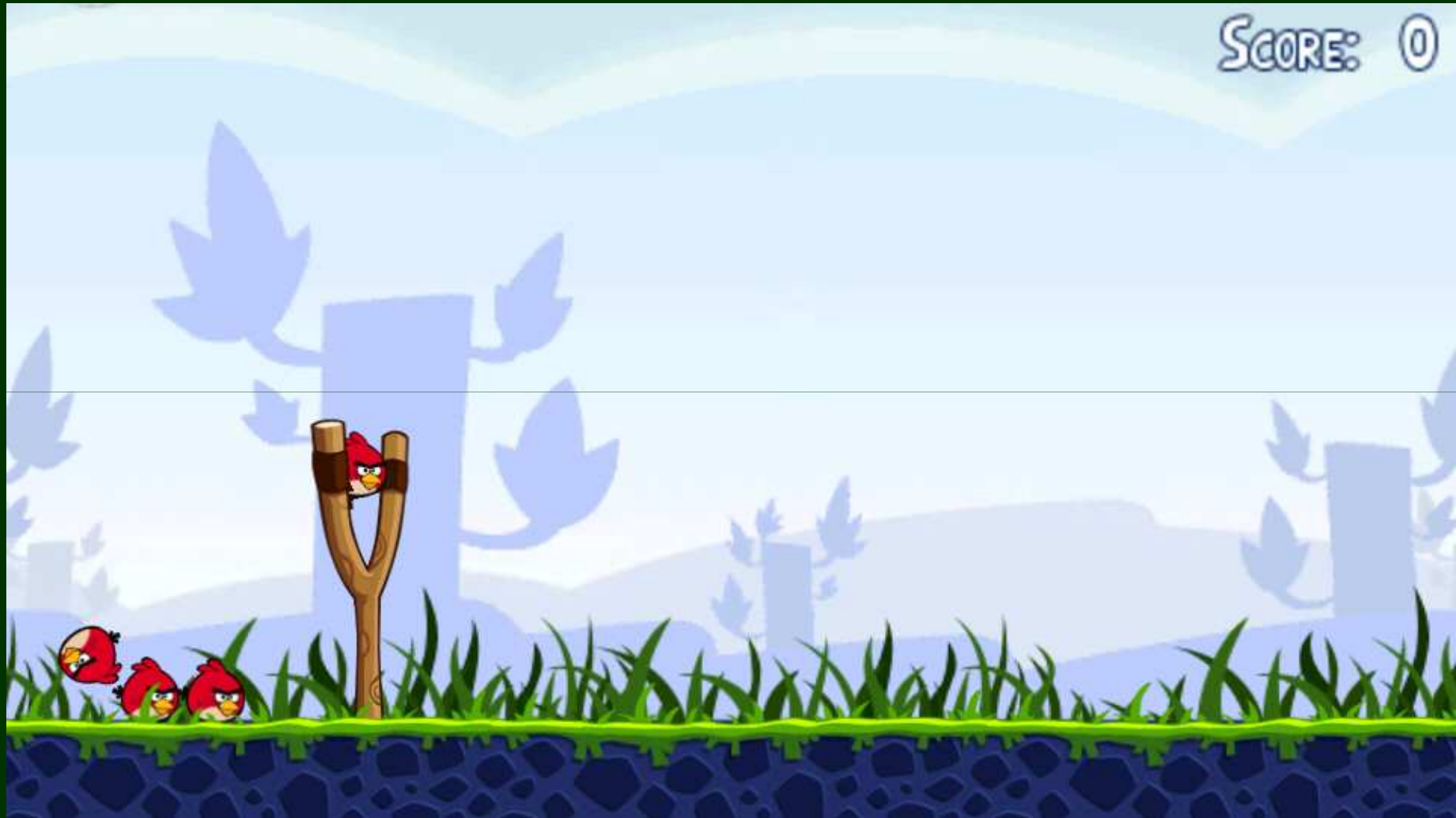
Mobile Phone Adoption and Gender

Percent of All US Cell Phone Subs

	Female	Male
1989	10	90
1993	39	61
1995	49	51
1997	52	48
2000	52	48
2015	52	48

- Some attribute early use by males to occupations that used it
- Females who adopted cell phones in the 90s were more likely to say they got it for “security”

Fads



Angry Birds



Get Awesome
RINGTONES

CHECK IT OUT NOW!

No Credit Card Required

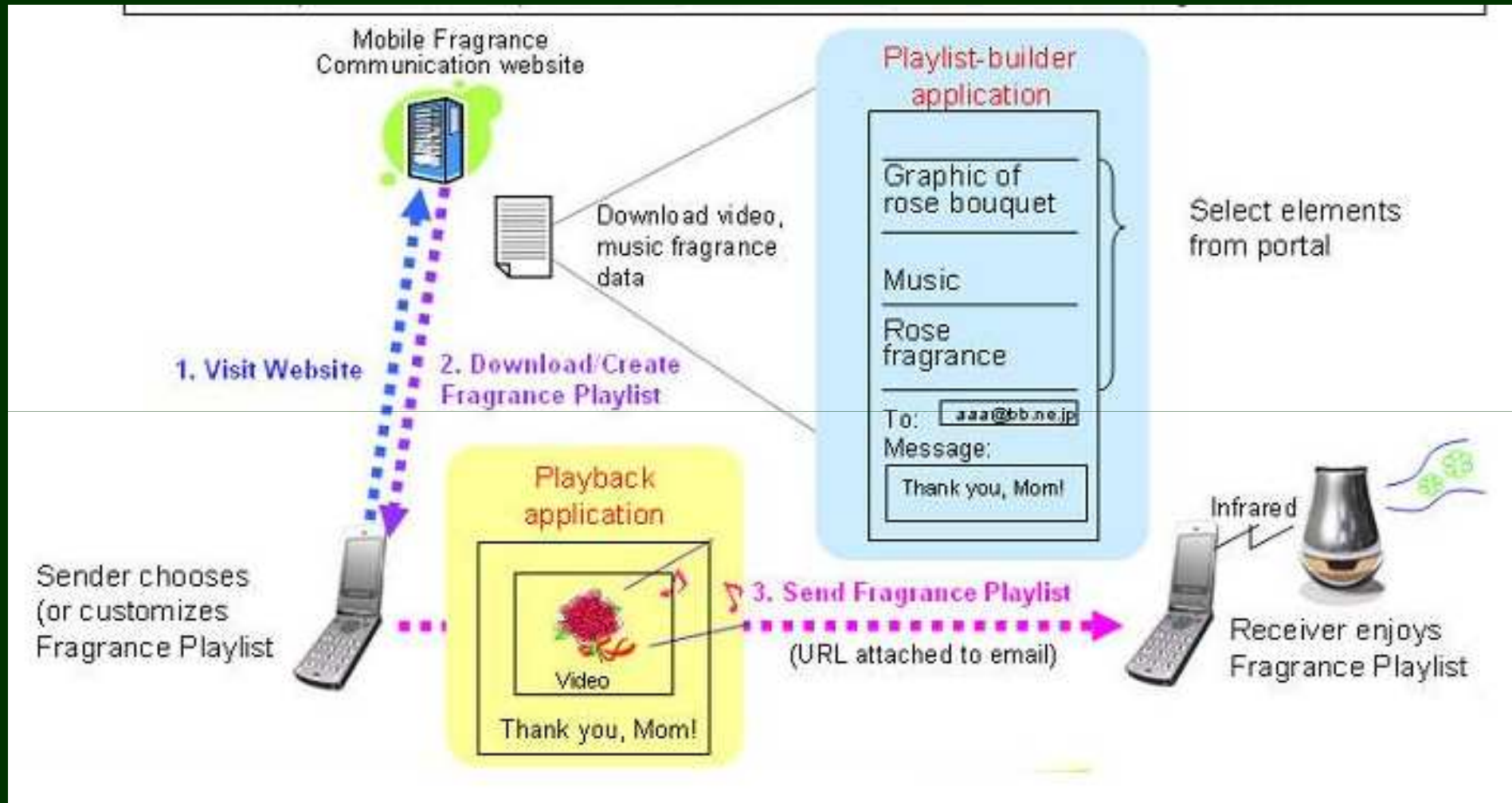
CLICK HERE FOR DETAILS

Ring Tone/Ring Back Sales (in Millions)



Source: BMI, RIAA

Failures?



Smell-O-Phones?

Decline as well as increase

What's Declining?

Technology	Service
Desktop PCs	Snail Mail
Over-the-air Broadcasting	Buying CDs and DVDs
Telephone Land Lines	Traditional Phone Calls
Dedicated Digital Cameras	Watching Network TV News
DVD Players	DVD Rentals
Dedicated Portable Game Players	Reading Print Newspapers
E-Readers	Reading Print Classified Ads
Non-HD TVs	AOL- IM
Non-Smart Cell Phones	Use of Browsers on Phones
Print Newspapers	Print Catalogues & Directories

Global Shipments of E-Readers

	Millions of Units
2010	10
2011	23
2012	15
2013	11
2014	9
2015	8

Source: IHS & WSJ


E-readers are being replaced by tablets and smartphones

Time to Succeed

Number of Years to Reach 50% Penetration of U.S. Households

Newspapers	100+
Telephone	70
Phonograph	55
Electricity	43
Cable Television	39
FM Radio	30
Color Television	17
Personal Computer	17
Cell Phone	16
Compact Disk Player	15
VCR	10
AM Radio	9
Black & White Television	8
DVD	6

Sources: Electronic Industry Association;
US Dept. of Commerce; Dataquest



MISTER GUTENBERG, I KNOW THIS IS A BREAKTHROUGH, BUT IT'S BEEN LAUNCHED NEARLY TWO QUARTERS NOW AND WE HAVEN'T MADE A PROFIT YET!

YEAH, I GUESS IT'S TIME TO KILL IT...

Advantages and Pitfalls of Being First



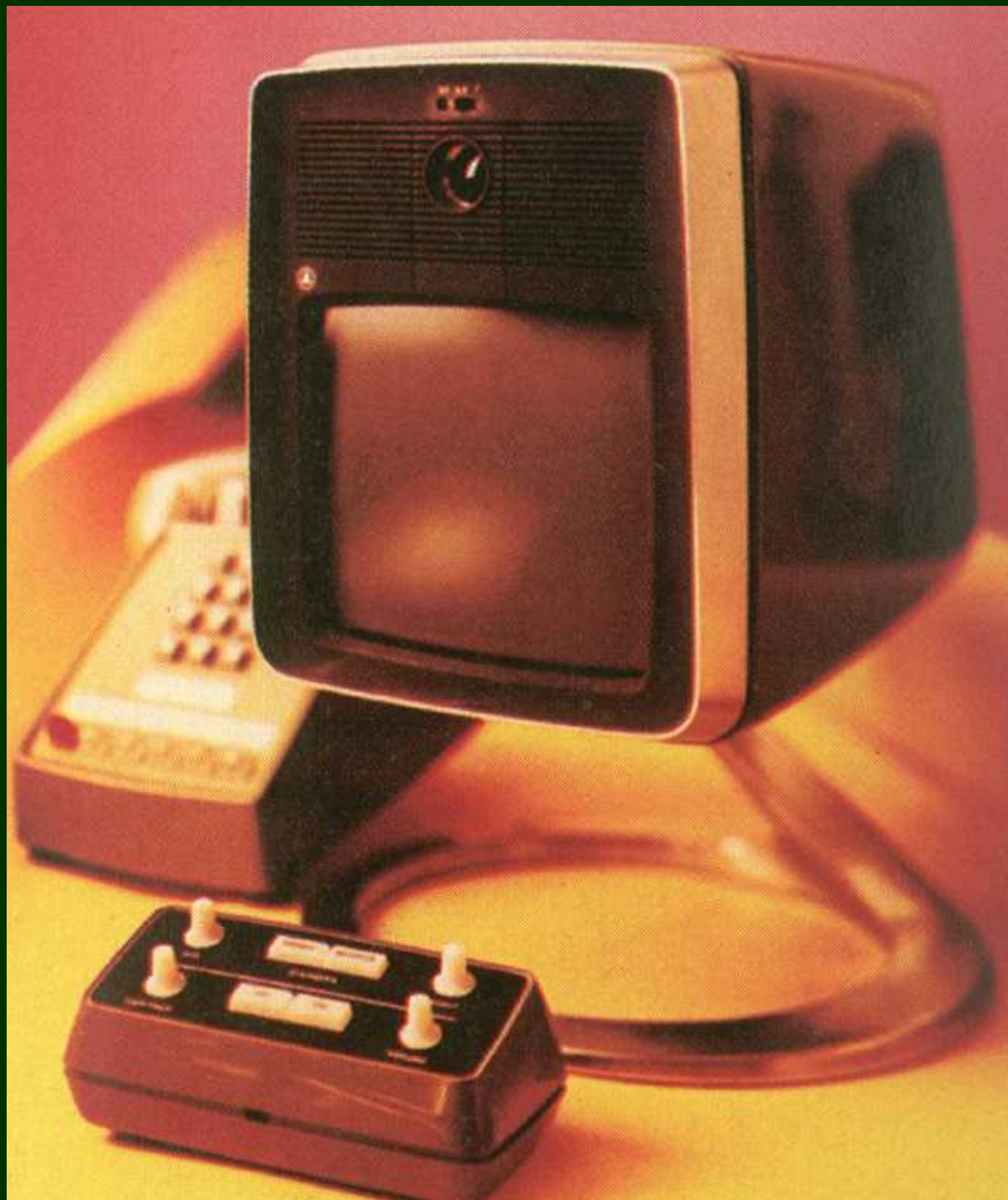


Failure Followed By Success



1950s

1960s
Picturephone

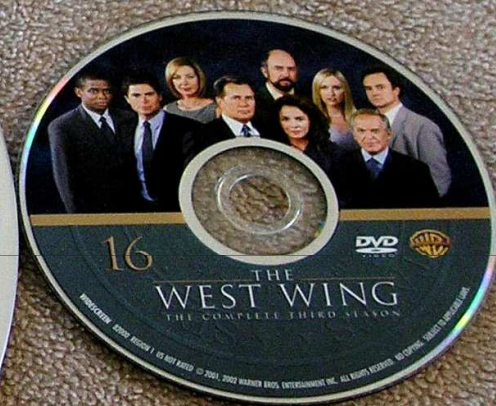




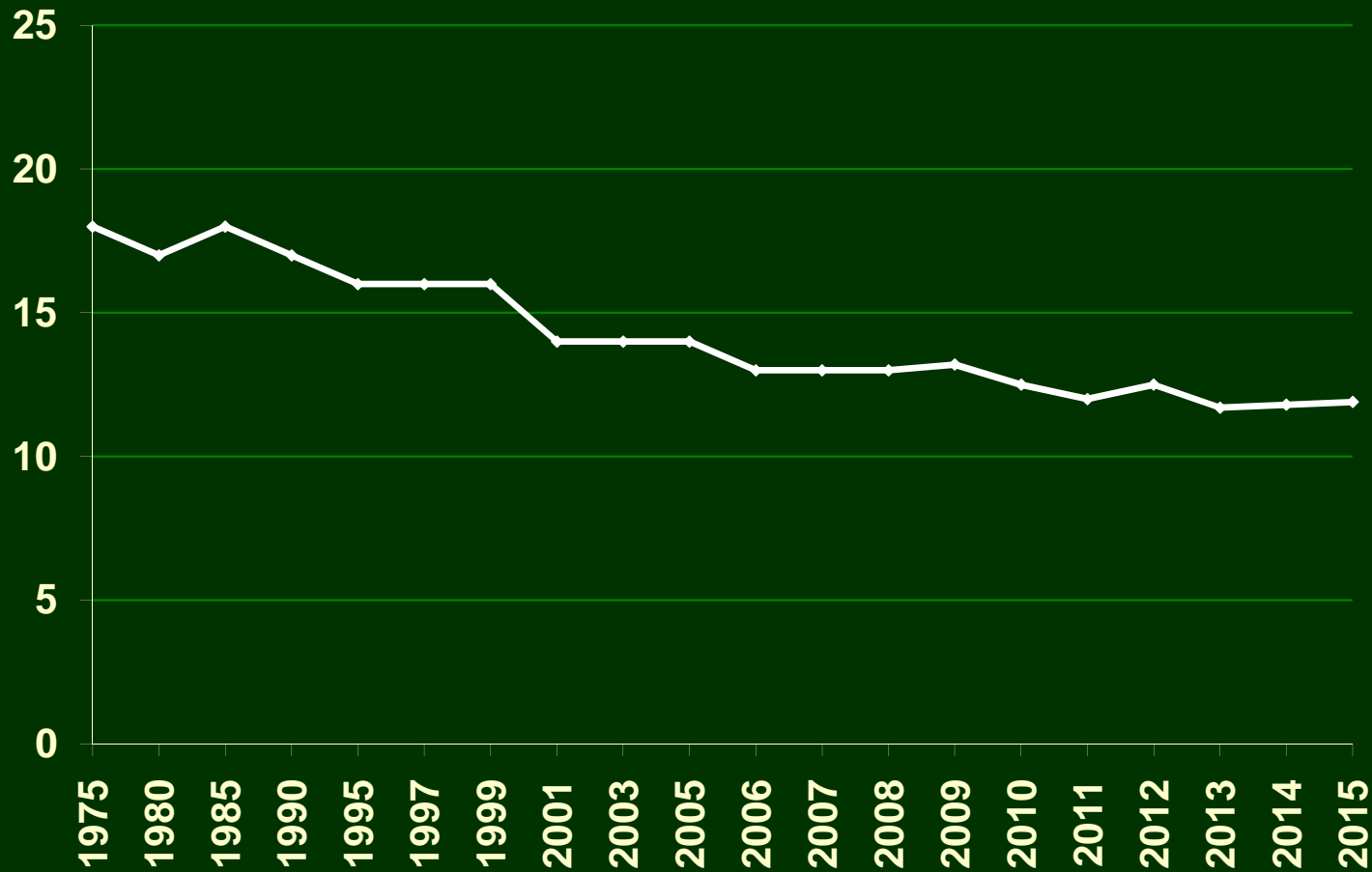
Skype

3M

Scotch Laser
Videodisc

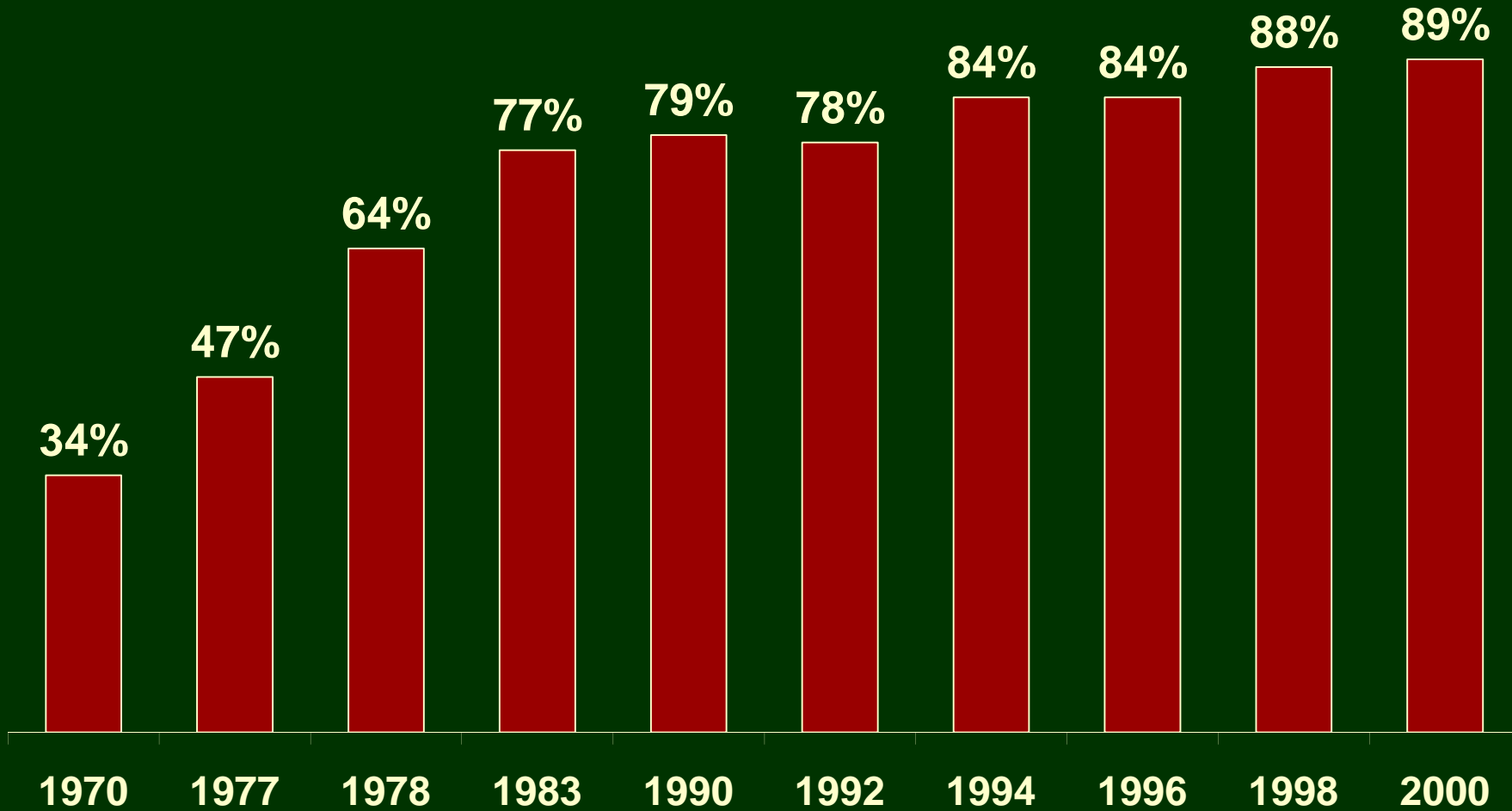


Mobility: Percentage of U.S. Households That Move Each Year



Source: U.S. Department of Labor

Privacy Concerns: Percentage of People Who Say They Are Concerned About Privacy



Source: Louis Harris Assoc./SNET/Equifax

1994

On the Internet, nobody knows you're a dog.



"On the Internet, nobody knows you're a dog."

2016

On the Internet, everybody knows you're a dog.



KPCB

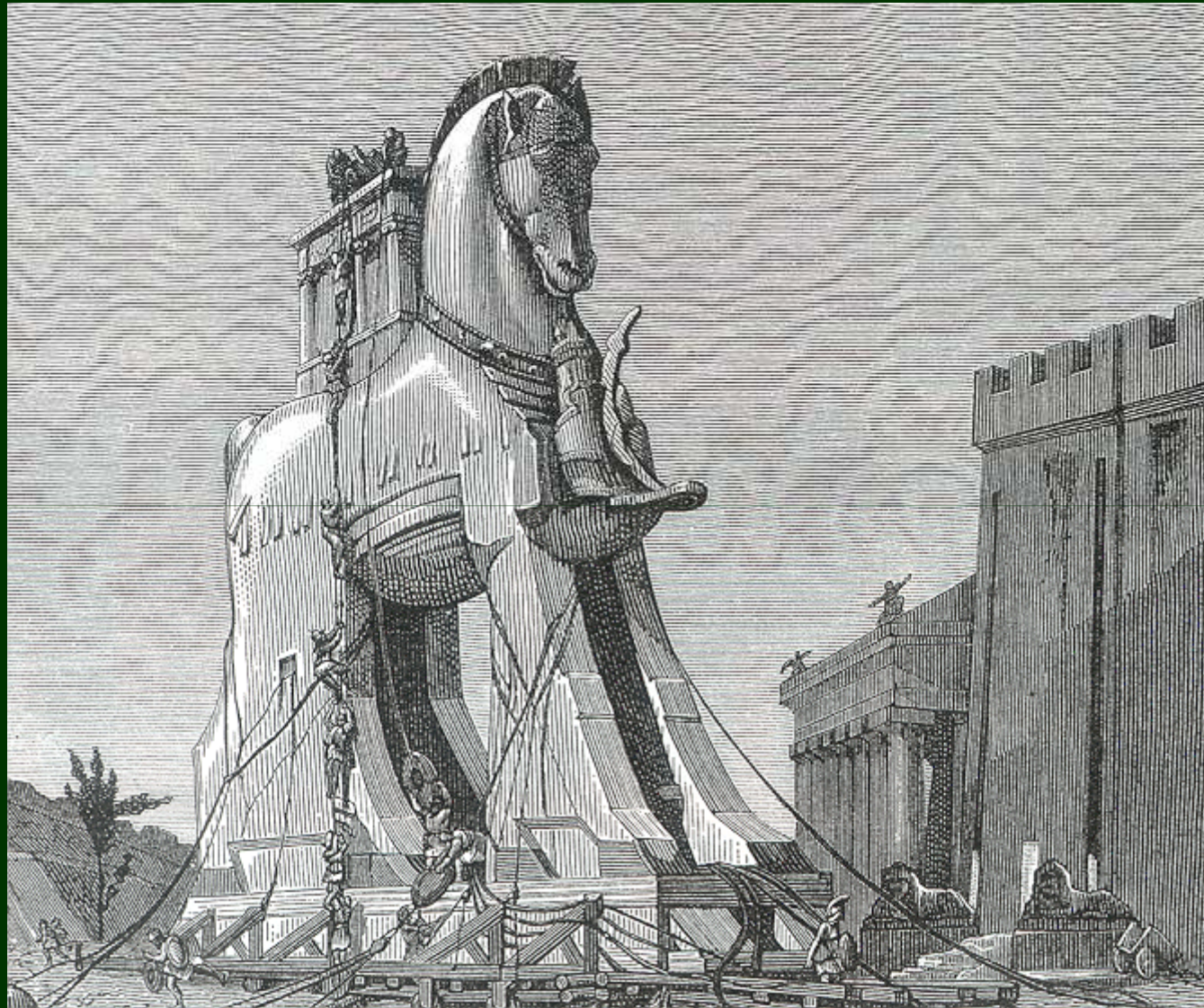
Source: Quote – Joe Louis (American heavyweight boxer), 1946. Left image – Peter Steiner, cartoonbank.com, The New Yorker, 1993. Right image – Tumblr user cachorro no computador.

Change Model

Information → Knowledge → Attitudes → Behavior

Killers Apps
versus
Confluence

Technology Push
versus
User Demand



Trojan Horse Model of Change

Other Patterns.....

- Failures
- Fads
- Cyclical Technologies
- Replacement
- Piggybacking
- False Starts

NOW...another exclusive from Chrysler Corporation



HIGHWAY HI-FI PHONOGRAPH

... provides the music you want wherever you go

It's another Chrysler Corporation first

Highway Hi-Fi gives you the finest tone reproduction... gives you superb sound, a special chrome-plated pick-up arm and shock-mount tone-arm suspension system. Conveniently located under the instrument panel... the Highway Hi-Fi record player allows you to see and

and can be operated without taking your eyes off the road.

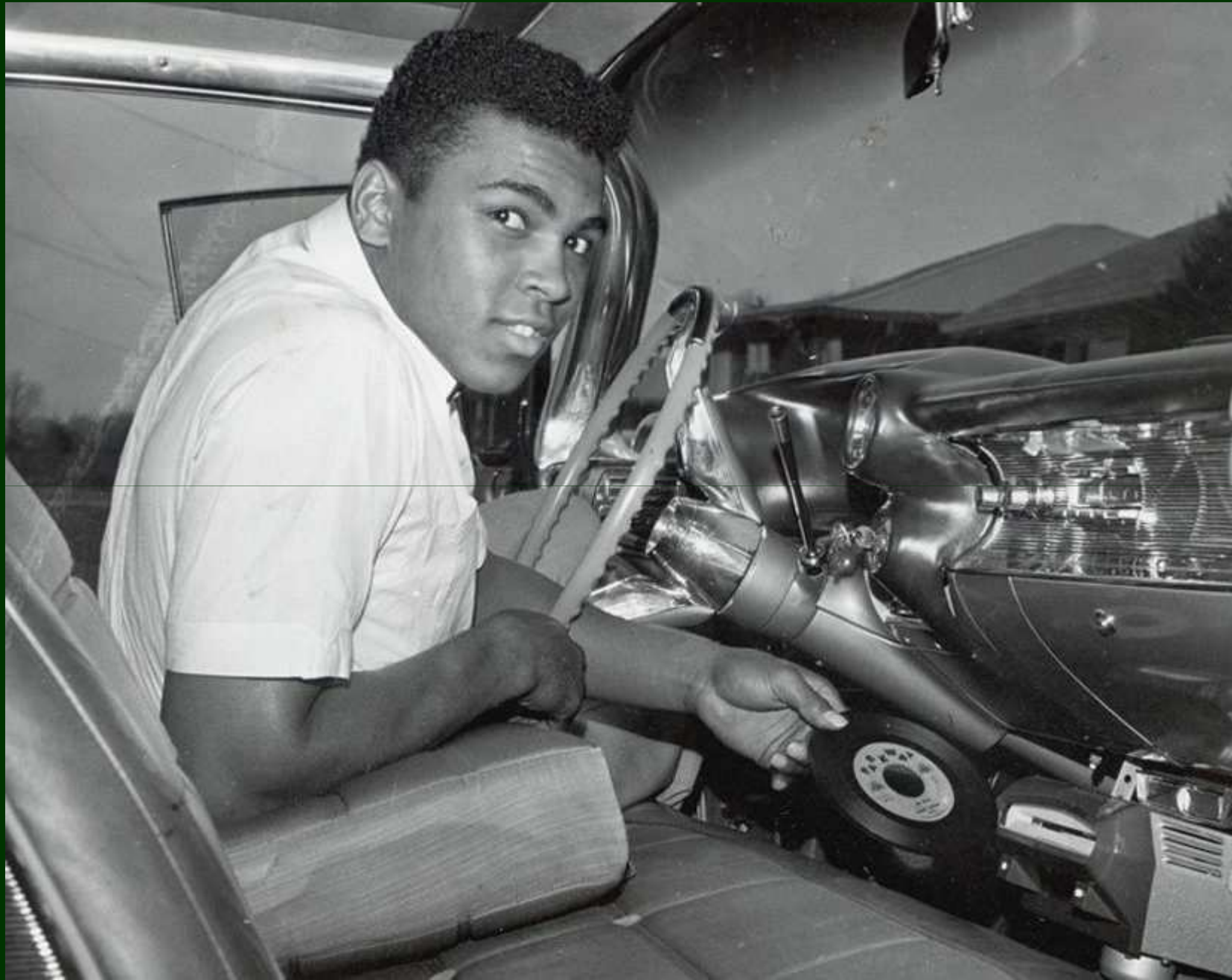
The 12-2/3 rpm turntable plays back 45 records, or one hour on each 45, and is available in a wide variety of beautiful vinyl finishes. Chrome, metallic finishes, custom jet finishes, custom finishes available... to make a complete modern record library in a flash.

Highway Hi-Fi is just one of many exclusive new and exclusive features that are available on all the cars of CHRYSLER CORPORATION. There's the new Imperial, the new Dodge, the new Plymouth, the new Chrysler... all with FLIGHT-SWEEP styling. See all of these new features at your dealer's store!

CHRYSLER CORPORATION > THE FORWARD LOOK
PLYMOUTH • DODGE • DE SOTO • CHRYSLER • IMPERIAL

See Chrysler Corporation Road '67 Show, "Chrysler of '67" and "Chrysler of Tomorrow" at your dealer's store.





The International Scene

Much is happening outside the U.S.

Advanced Technology Ranking

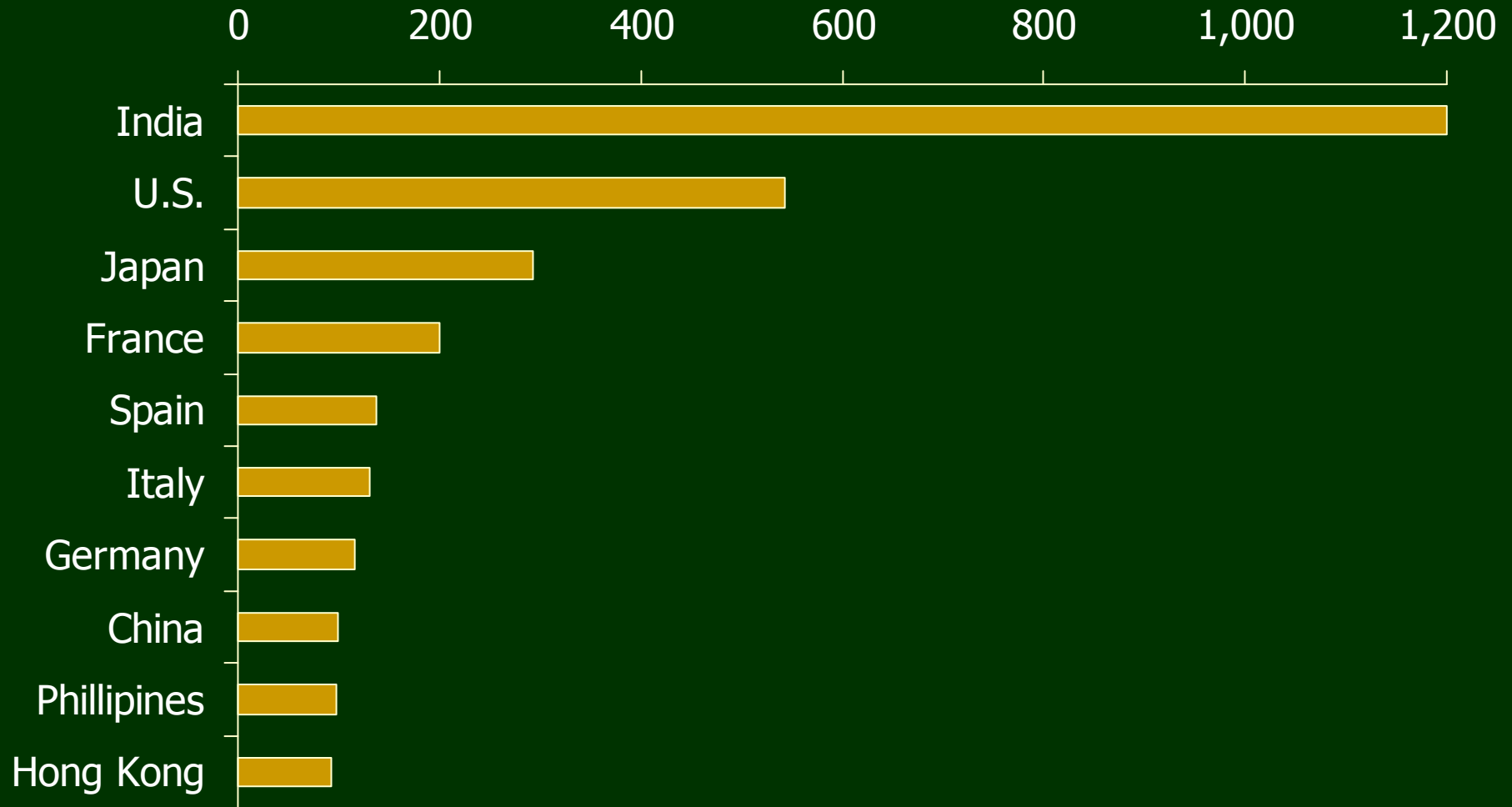
1	Singapore
2	Iceland
3	Finland
4	Denmark
5	United States
6	Sweden
7	Hong Kong
8	Japan
9	Switzerland
10	Canada

Economist Ranking of E-Friendly Countries

	Rank
Denmark	1
United States	2
Sweden	3
Switzerland	4
Britain	5
Hong Kong	6
Australia	10
France	19
Italy	24
Russia	52
Indonesia	60

Source: The Economist Intelligence Unit

Top 10 Film Producing Nations



Source: Screen Digest

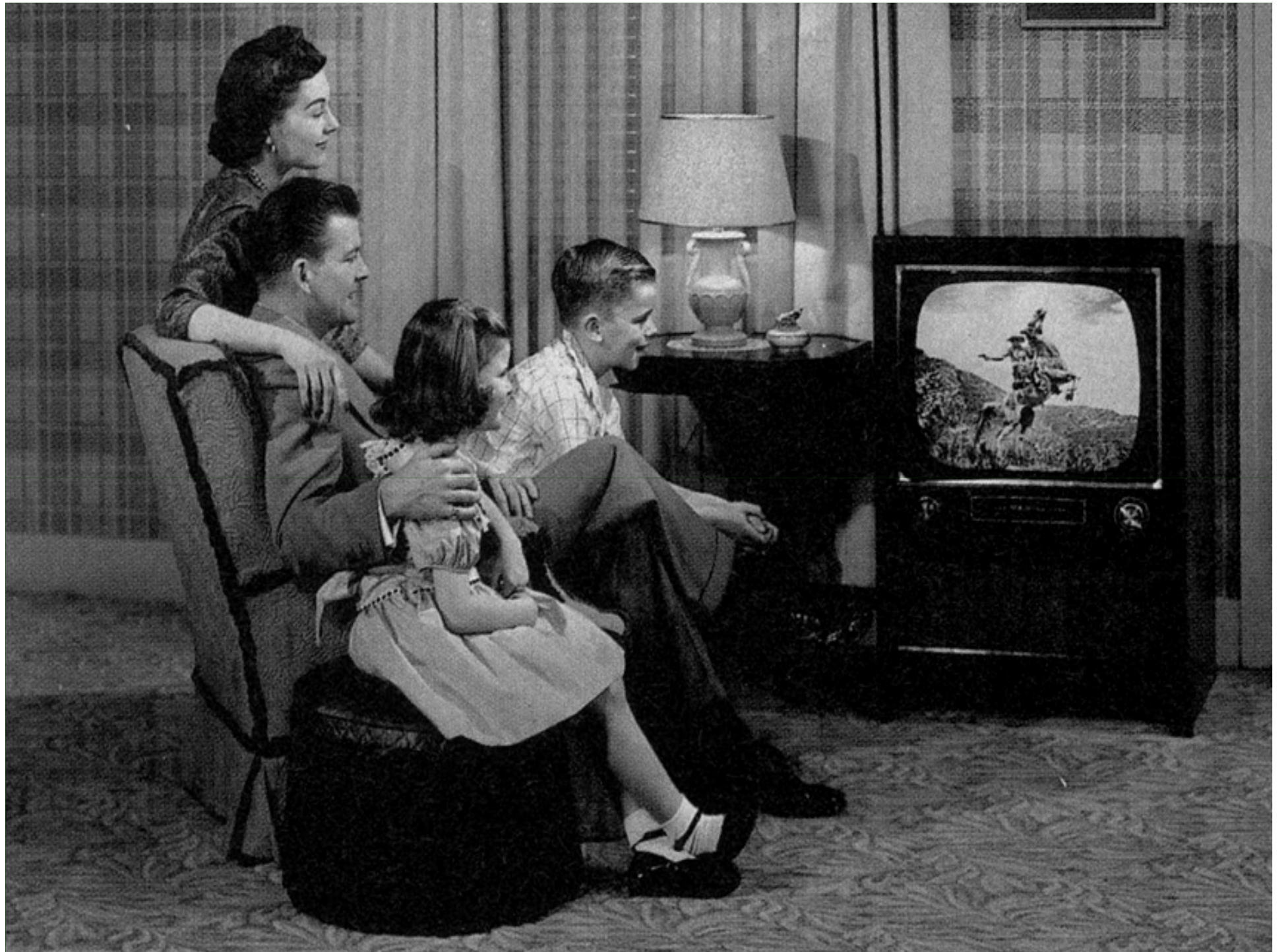
Countries With Fastest Broadband

1. South Korea
2. Japan
3. Hong Kong
4. Latvia
5. Switzerland
6. The Netherlands
7. Czech Republic
8. USA
9. Sweden
10. Finland

Source: Forbes

Enhancements vs New Services

Changes in Household Use of Media



Complexity





TV INPUTS
 • Video - Surround receiver
 • Video 2 - Main Inputs
 • DVD - DVD direct

RECEIVER INPUTS
 • DVD - DVD
 • Video 1 - VCR
 • Video 2 - SAT
 • Video 3 - TV (used only for surround receiver)
 • Video 4 - Music SAT (audio only)
 • FM - FM
 • AM - AM
 • CD - CD

AUTO ACCESS KEYPADS
 Press: Press & Hold
 FM: Press Up: AMP/PA switch
 CD: Press Stop: Next/Prev
 SAT: Channel Up: Channel Down

To get sound from Family Room Receiver into Keypad Rooms (London, Brighton, Hovey, Paris, Irving) Press "Video" button

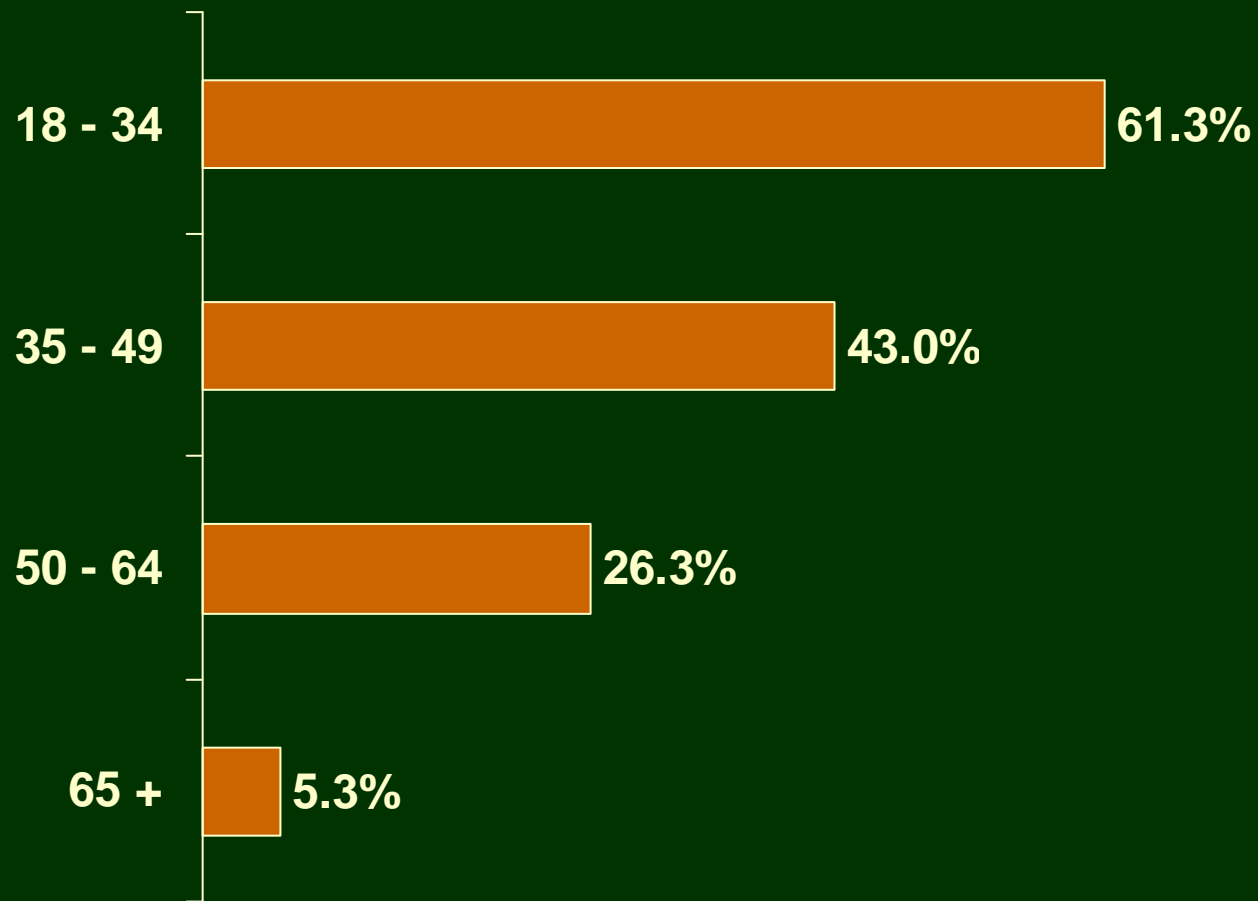
NOTE: THAT RECEIVER ON TOP OF OUR MUST BE ON TO USE SATELLITE TV

TO WATCH TV THROUGH THE SURROUND SYSTEM

1. Turn TV on to "Receiver" input
2. Turn receiver (through surround) to corresponding input (DVD, Video 1, Video 2 etc.)
3. Turn on corresponding source
4. Control through the source's remote
5. Volume is operated with the Surround Receiver remote



Video Game Console Ownership by Age



Source: MultiChannel News

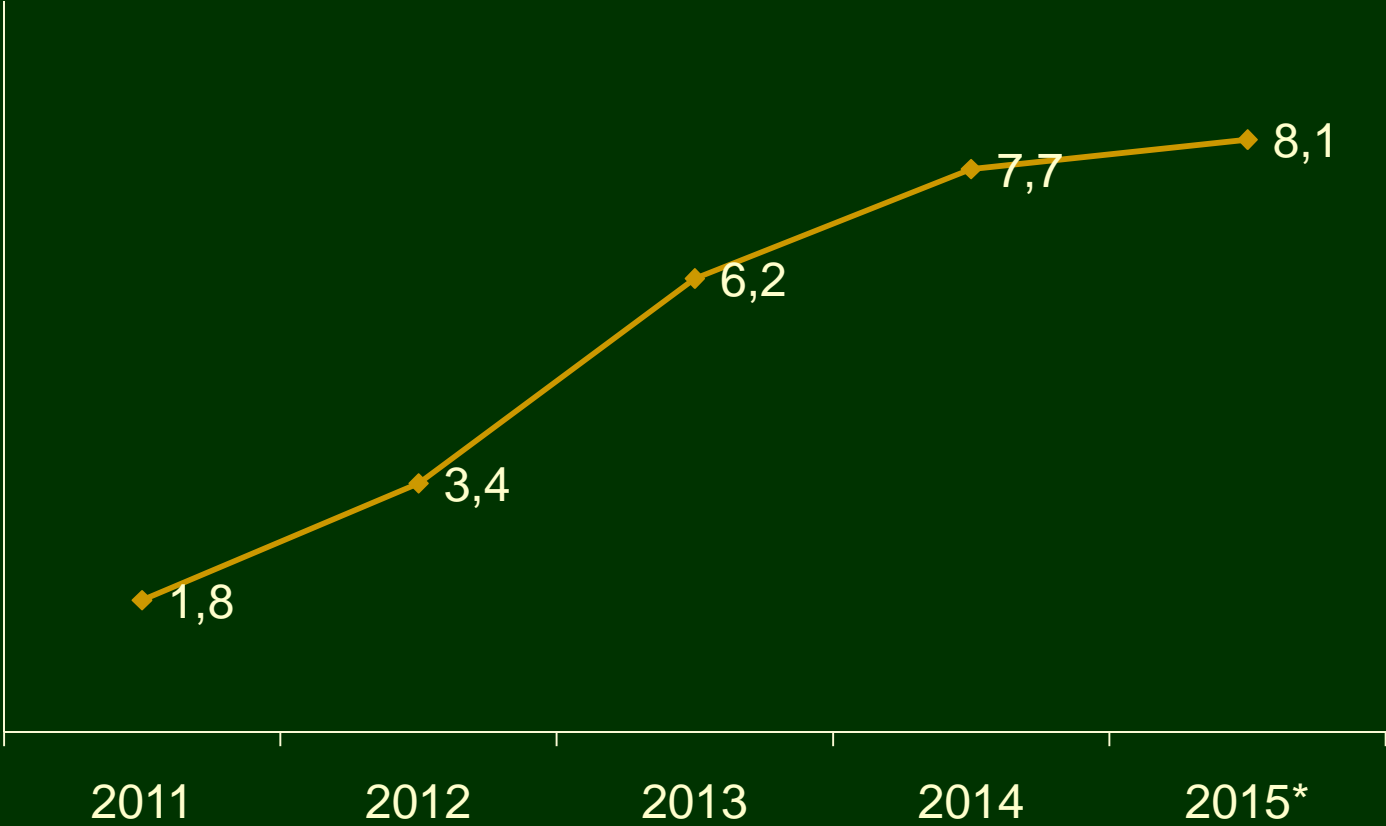
Information Overload?

Content returns as king



Paid Subscriptions to Streaming Music Services

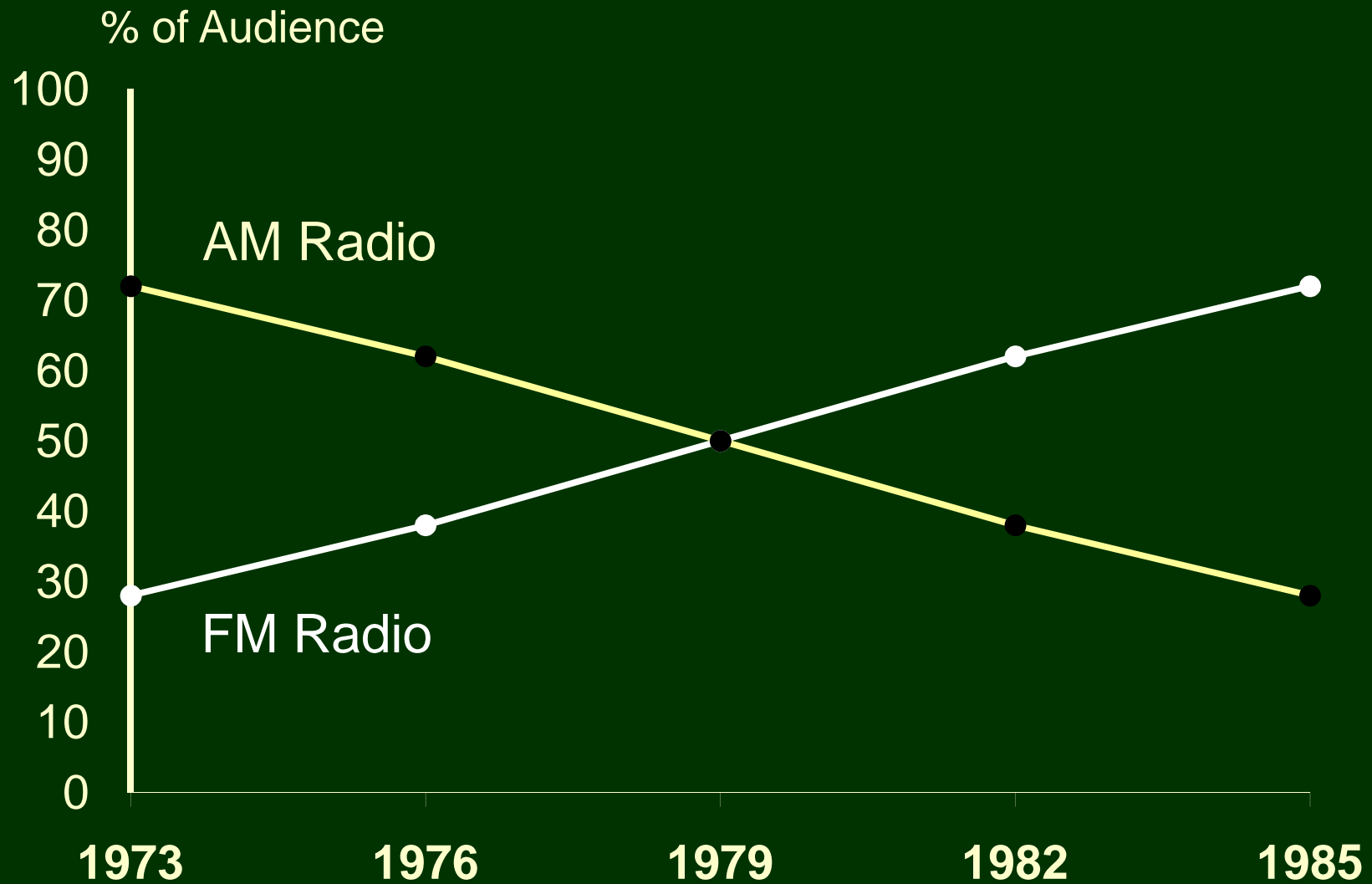
Millions of Paid Subscriptions



Source: RIA

*Q-2

Share of Radio Audience



Source: Statistical Research

Price of Selected Electronic Products In Terms of Weekly Household Income Number Of Weeks Income To Pay For Product

Year	Radio Set	B&W TV	Color TV	VCR	CD Player
1929	1.8*				
1947		5.3			
1950		3.3			
1955		1.8*	6.6		
1960			4.1		
1965			3.1		
1970			1.9*		
1975				6.2	
1980				3.3	
1983				1.4	1.8
1985				1.1*	.7
1987				.8	.4
1989				.7	.4

* Year Technology Entered Half of US Households

S Curve Pattern of Adoption

