

Economic Effects of Digital Transition on the Entertainment Industry

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Expert data collection/presentation by Sangyong Han

Economics of the Digital TV Transition

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CITI

Columbia University

(slight modifications, 12/22/08)



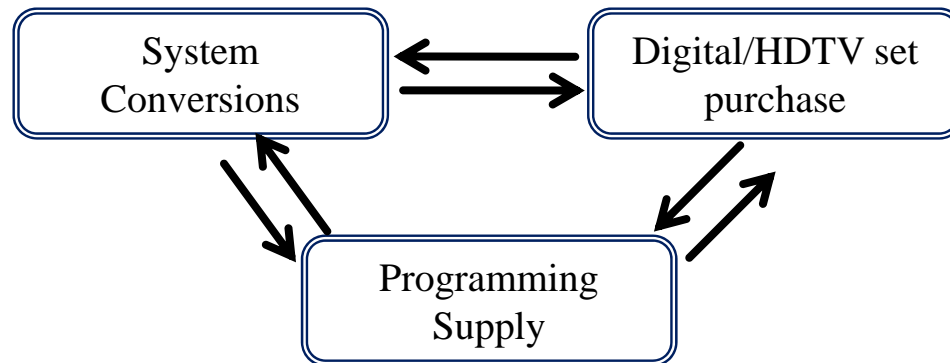
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A Broad Perspective

- ❑ Transition to Digital/HDTV broadcast intertwined with cable, DBS, DVD/Blu-ray, digital theaters, IPTV
 - Delivery system competition
 - Vertical relationships



- ❑ I focus mostly on **Broadcast/Cable/DBS/other MVPD** industries, especially effects on **programming**



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Three Questions I address

How has (or will) digital transition affect.....

1. Industry revenues, sources of revenues (ad vs. pay support), programming investments?

2. Movie windows

...Will the video window collapse?

3. Program content

.....Will HDTV favor action and violence?

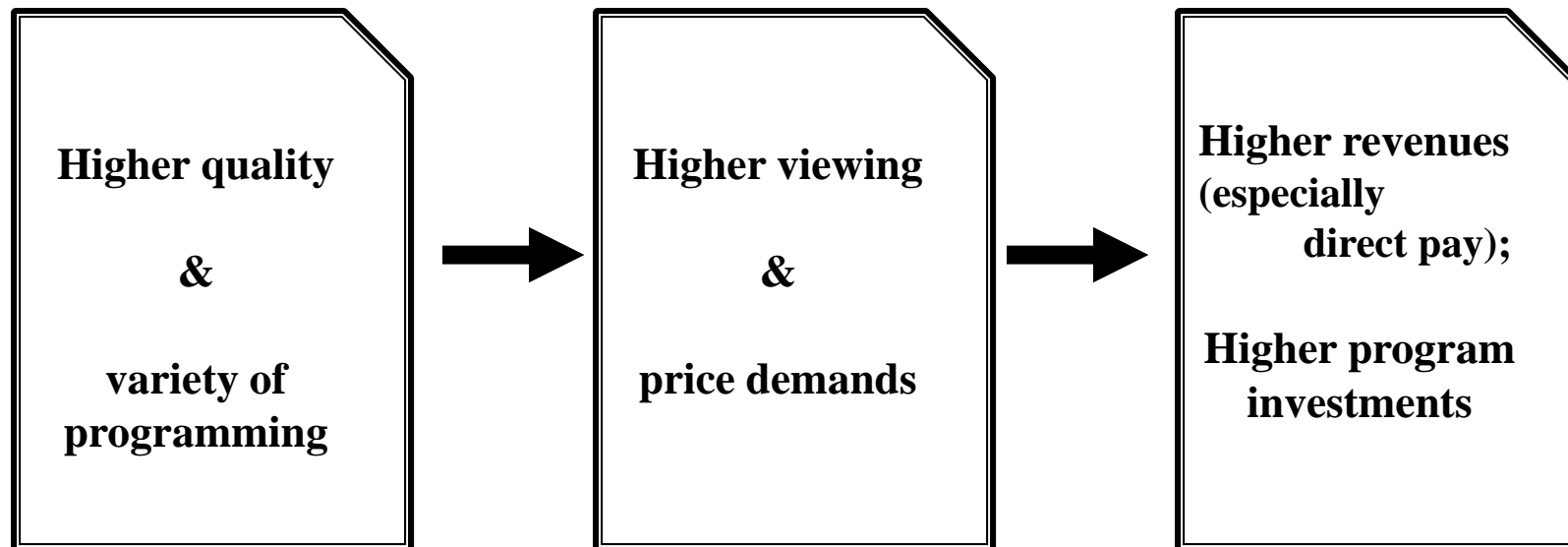
Hey, a lot of this is speculation



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Question 1: Economic effects on industry revenues, sources of revenues, and programming investments?

General idea.....





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Perspective: Economic Effects of Color TV Transition (1950s to 1970s)

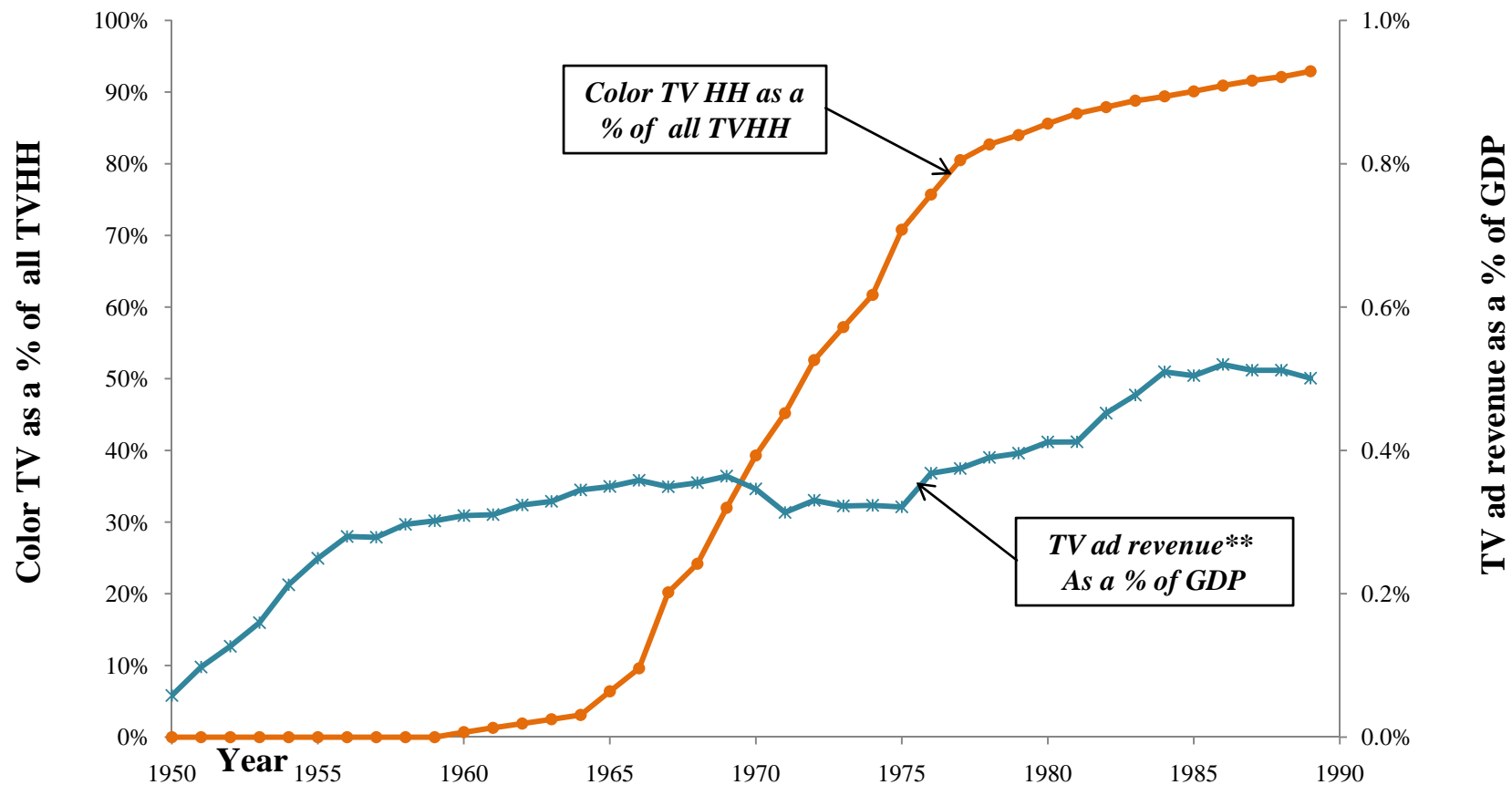
A vastly simpler, ad supported TV world...

- ☐ **Probably minor positive effects** on TV ad revenues due to some increase in viewing (24.0-26.5 hrs/viewer from '60s to '80s) and ad effectiveness.
- ☐ In long term, probably increased quality and variety of TV Programs



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Figure 1: Color TV diffusion vs. TV Ad Revenue/GDP



**includes all broadcast plus cable

Source: Bureau of Economic Analysis, TVB, GMID-Global Market Information Database, Int'l Television Almanac 1970,1973,1984; some years interpolated.



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Perspective: Economic Effects of Color TV Transition (1950s to 1970s)

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Economic Effects of Digital Transition on Revenues and Program Investments (since 1990s)

❑ *Like Color TV.....*

- **Higher quality: HDTV**

❑ *Unlike Color TV.....*

- **Digital is cheaper:** 1 analog channel = 6-plus digital
→ Much greater variety
(cable/DBS compression; broadcast multi-casting)
- **Direct pricing opportunities**
→ Programs, including HDTV, can be sold directly
- **Market segmentation opportunities**
→ HDTV owners and digital cable subs have higher price demands
and stronger quality preferences



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Cable TV Channel Structure: *Bloomington, Indiana*

		Channel Offerings		
		1997	2004	2008
Analog	Basic		48	62
	Premium	40	5	--
Digital	Basic	--	38	63
	Premium	--	33	103
	HD	--	13	32
	PPV/VOD	--	N/A	25

**DBS (2008): 130 HD channels, most on higher tiers,
all at least \$9.99 extra**

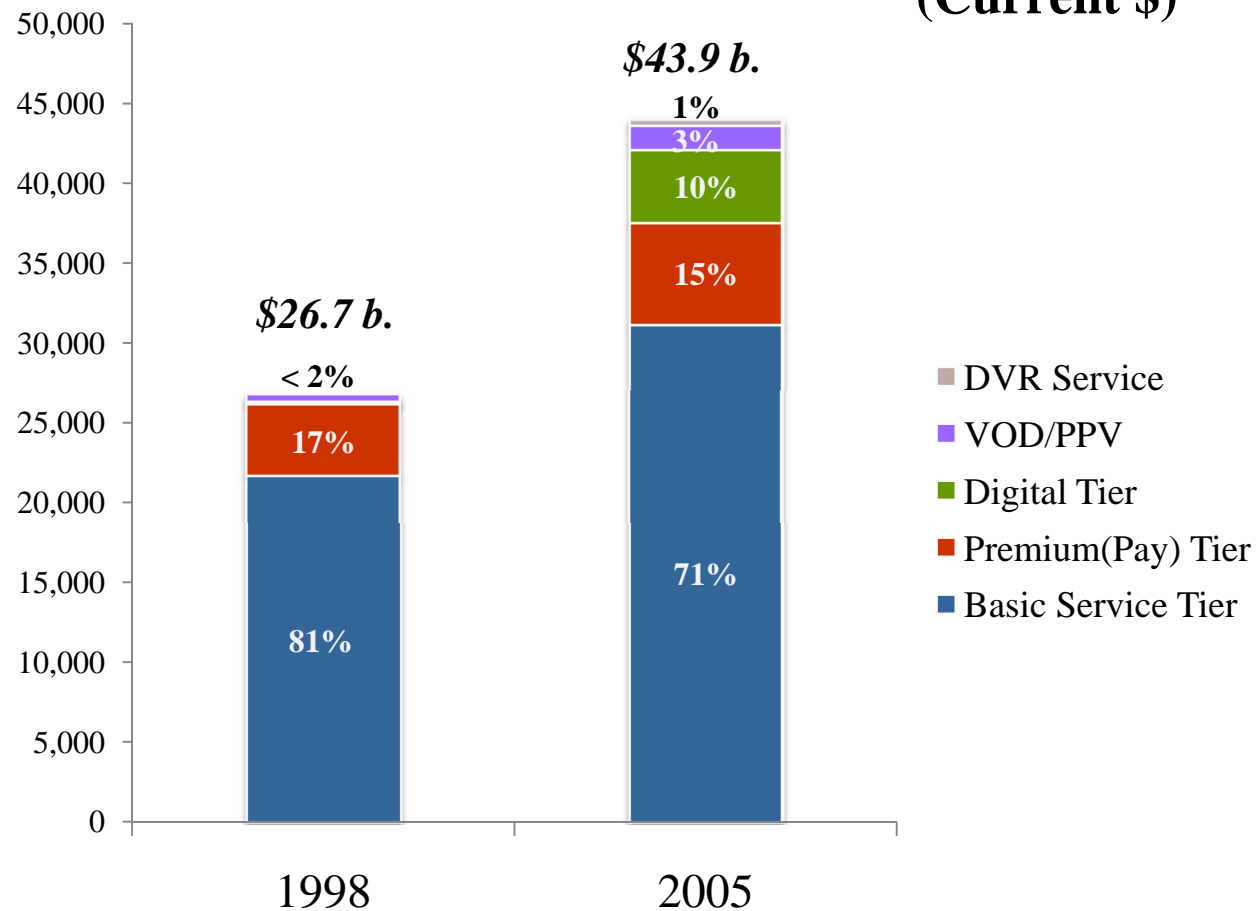
Source: Author's compilation from www.comcast.com

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**Figure 2-1: Cable Operator Revenue for TV Services* by Type
(Current \$)**



* Not including cable modem and related service

Source: 1998, Compilations based on Paul Kagan Associates, Adams Media Research, FCC

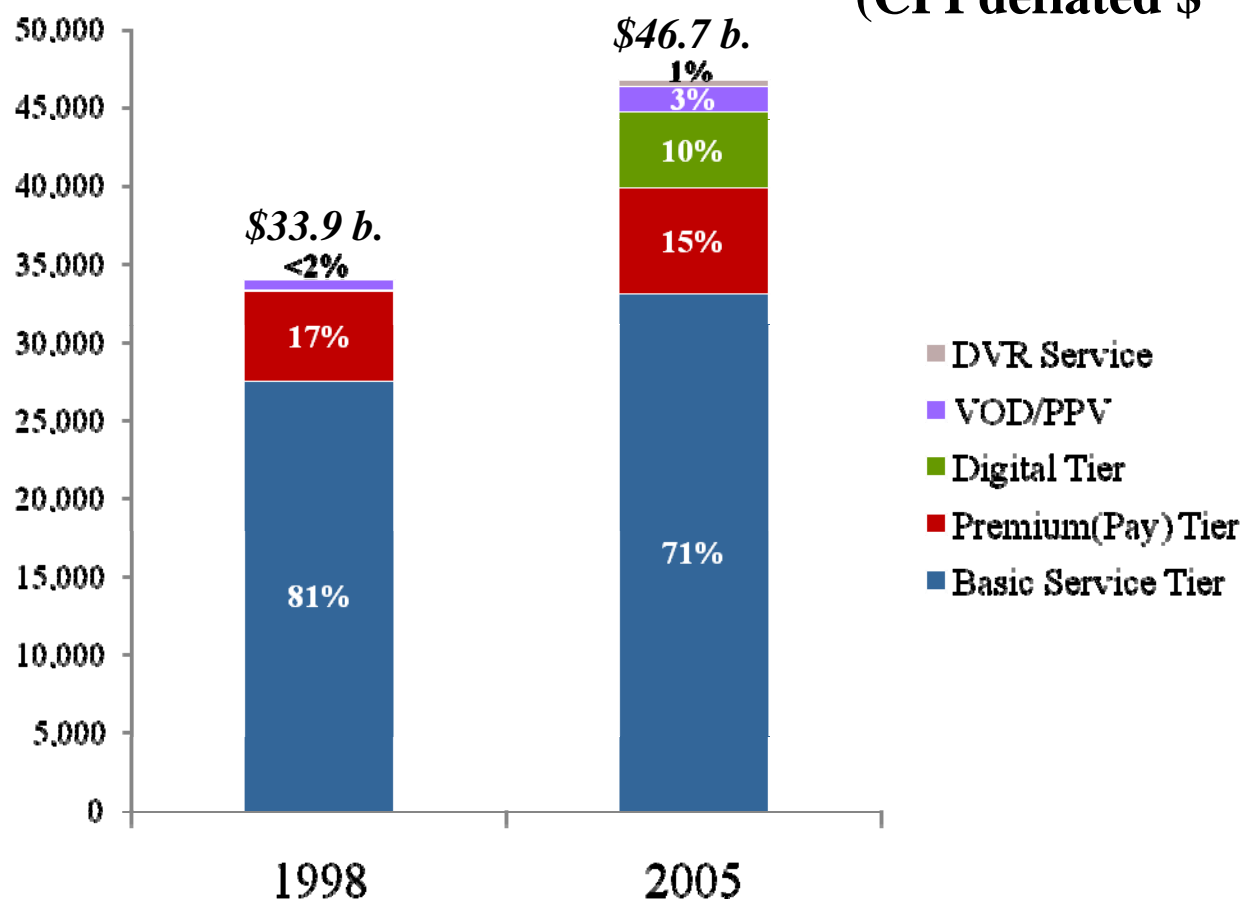
2005, Federal Communications Commission, Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Twelve Annual Report, p. 19, Table 4: Cable Industry Revenue and Cash Flow: 2003 – 2005

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Figure 2-2: Cable Operator Revenue for TV Services* by Type
(CPI deflated \$**)



* Not including cable modem and related service, ** Based year; 2007 = 100

Source: 1998, Compilations based on Paul Kagan Associates, Adams Media Research, FCC

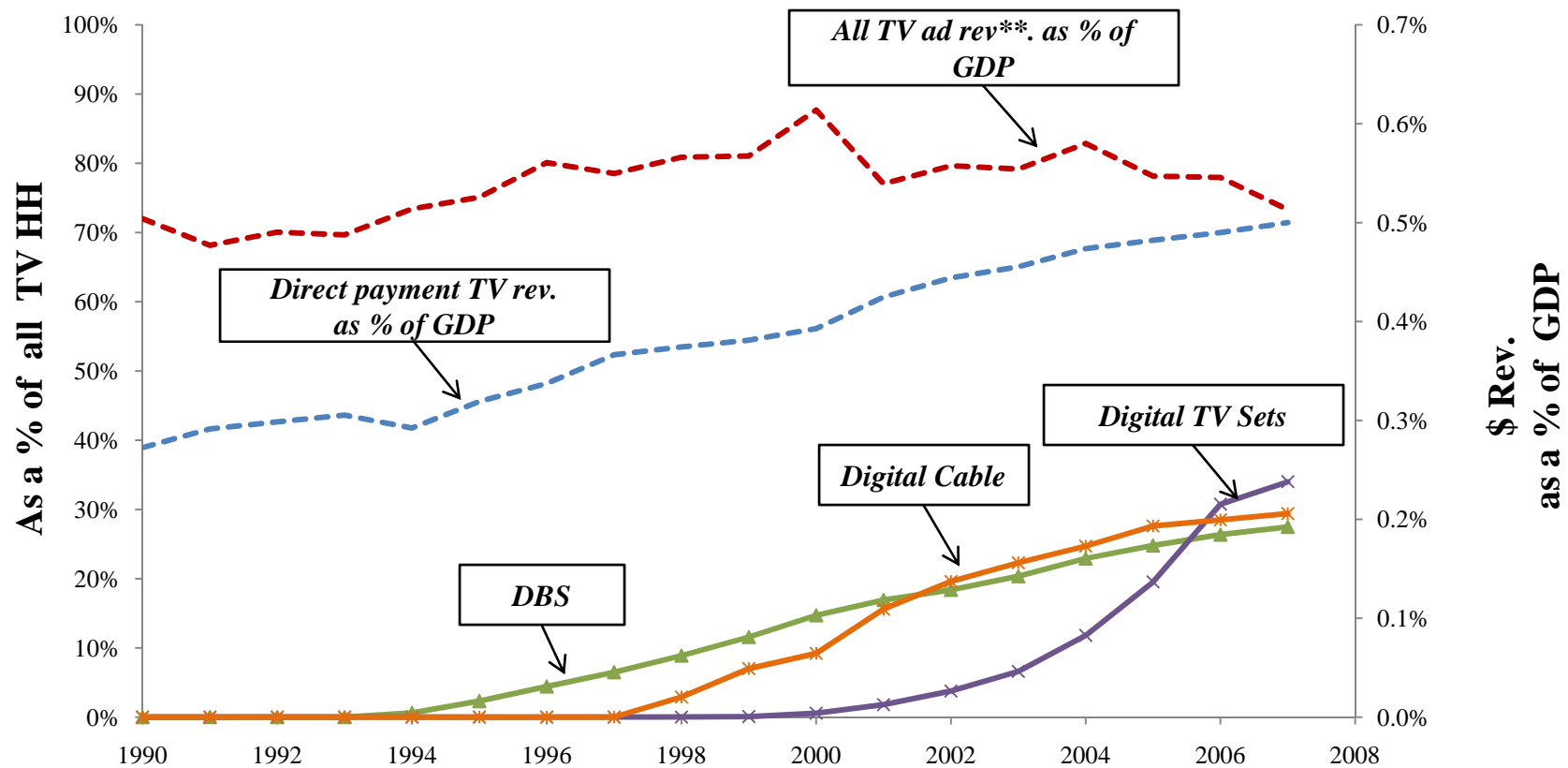
2005, Federal Communications Commission, Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Twelve Annual Report, p. 19, Table 4: Cable Industry Revenue and Cash Flow: 2003 – 2005

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**Figure 3: Digital Diffusion vs.
TV Adv/GDP & Direct payment TV*/GDP (1990-2007)**



*DBS + cable TV subscriber payments

**includes all broadcast + cable advertising

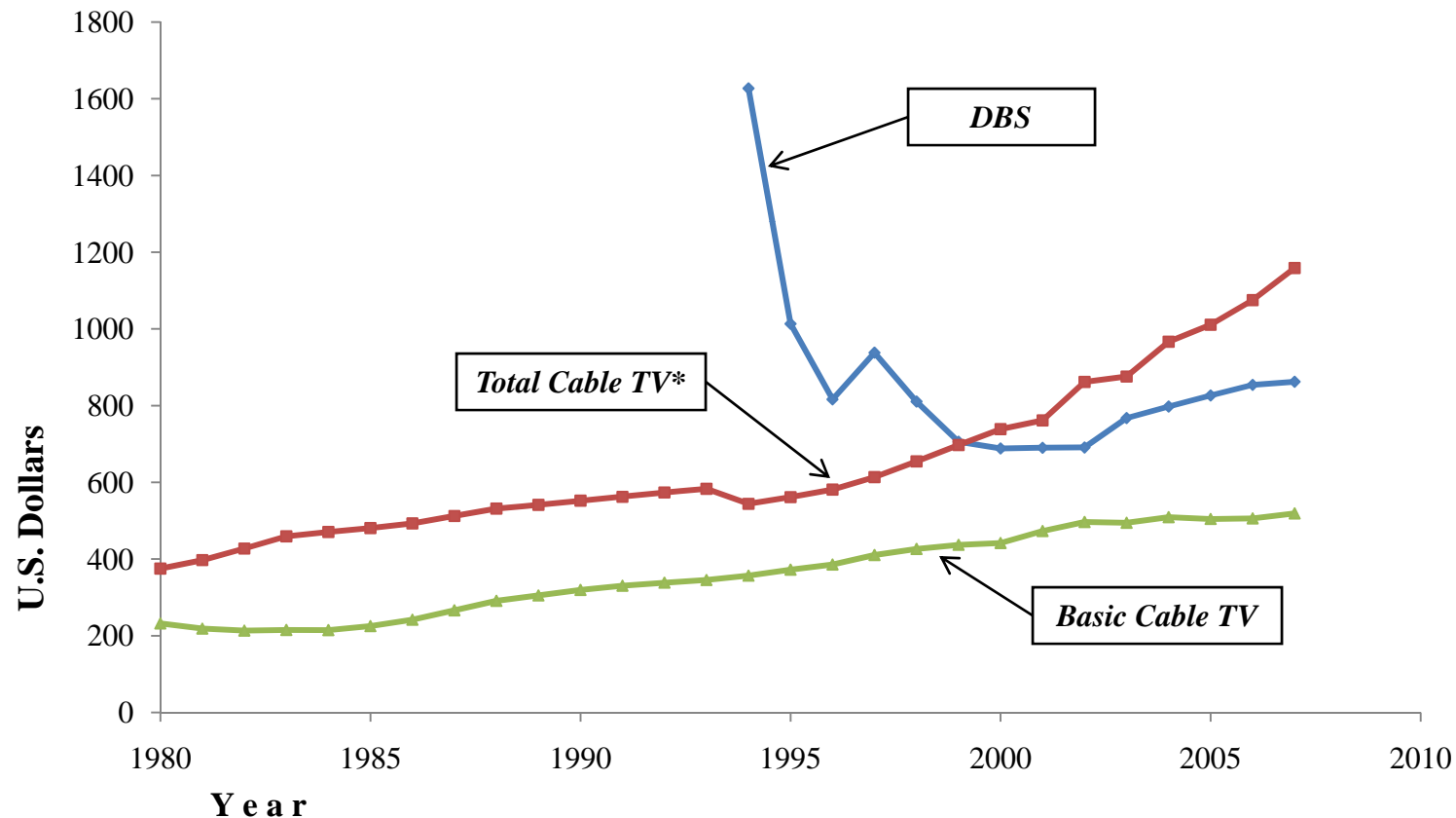
Source: Calculations based on Satellite Broadcasting and Communication Association (SBCA), TVB, GMID-Global Market Information Database, MPAA: Entertainment Industry Market Statistics 2007, NCTA: Cable Industry section statistics. SNL Kagan: Broadband Cable Financial Databook, 2007

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Figure 4: Cable TV and DBS Revenues per Subscriber for TV Services, 1980-2007 (CPI deflated \$)**



*** Not including cable modem and related service, ** Base year; 2007 = 100**

Source: Calculation by author based on FCC, Office of Plans and Policy, NCTA; DirecTV and Dish Network Annual Reports.

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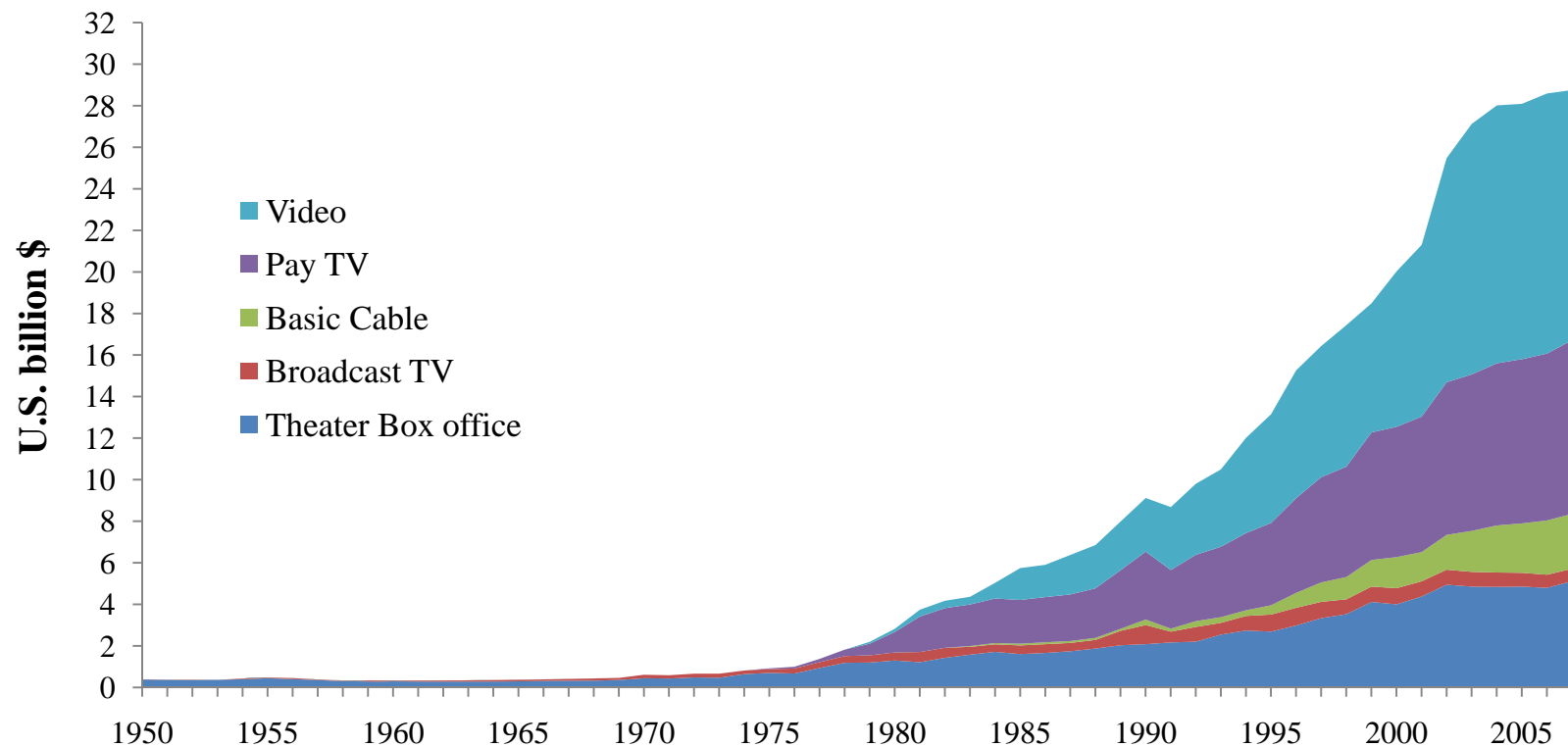
Digital Outcome:

- ❑ Enhanced **shift toward direct pay support**
- ❑ **Higher revenues** for MVPDs and program providers,
 - (Presumably) **higher program investments**, including movies



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Figure 5: US Movie Studio Domestic Revenue by Source, 1950-2006 (Current \$)



Source: : Waterman(2005), Hollywood Roads to Riches, Appendix C1; updated from Kagan Research, Motion Picture Investor

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Digital Outcome:

- ❑ Enhanced **shift toward direct pay support**
- ❑ **Higher revenues** for MVPDs and program providers,
 - (Presumably) **higher program investments**, including movies
- ❑ Effects of “Digital Must Carry” likely to be minor



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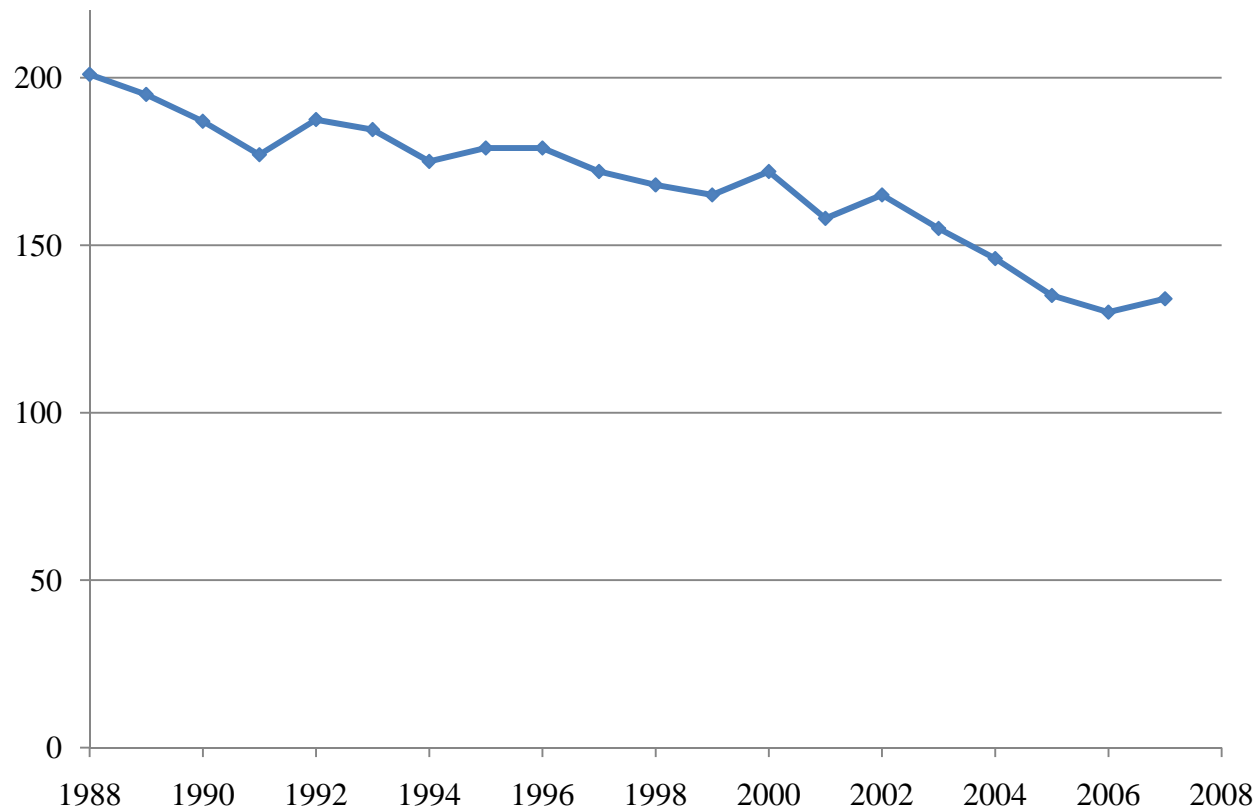
Question 2: How will Home HDTV Systems Affect the Video Window?

- ☐ **Decline** over time in video window, especially since 2002



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Figure 6: Trends in the Average Video Window, 1988-2007
(Days between Theater and Video release)



Source: : Waterman(2005), Hollywood Roads to Riches, Appendix E, Motion Picture Investor, Kagan Research

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Question 2: How will Home HDTV Systems Affect the Video Window?

- ☐ **Decline** over time in video window, especially since 2002
- ☐ The desire of movie studios to **preserve the window for market segmentation**
- ☐ Can digital projection, 3-D (and IMAX) stay far enough ahead of home theater systems?



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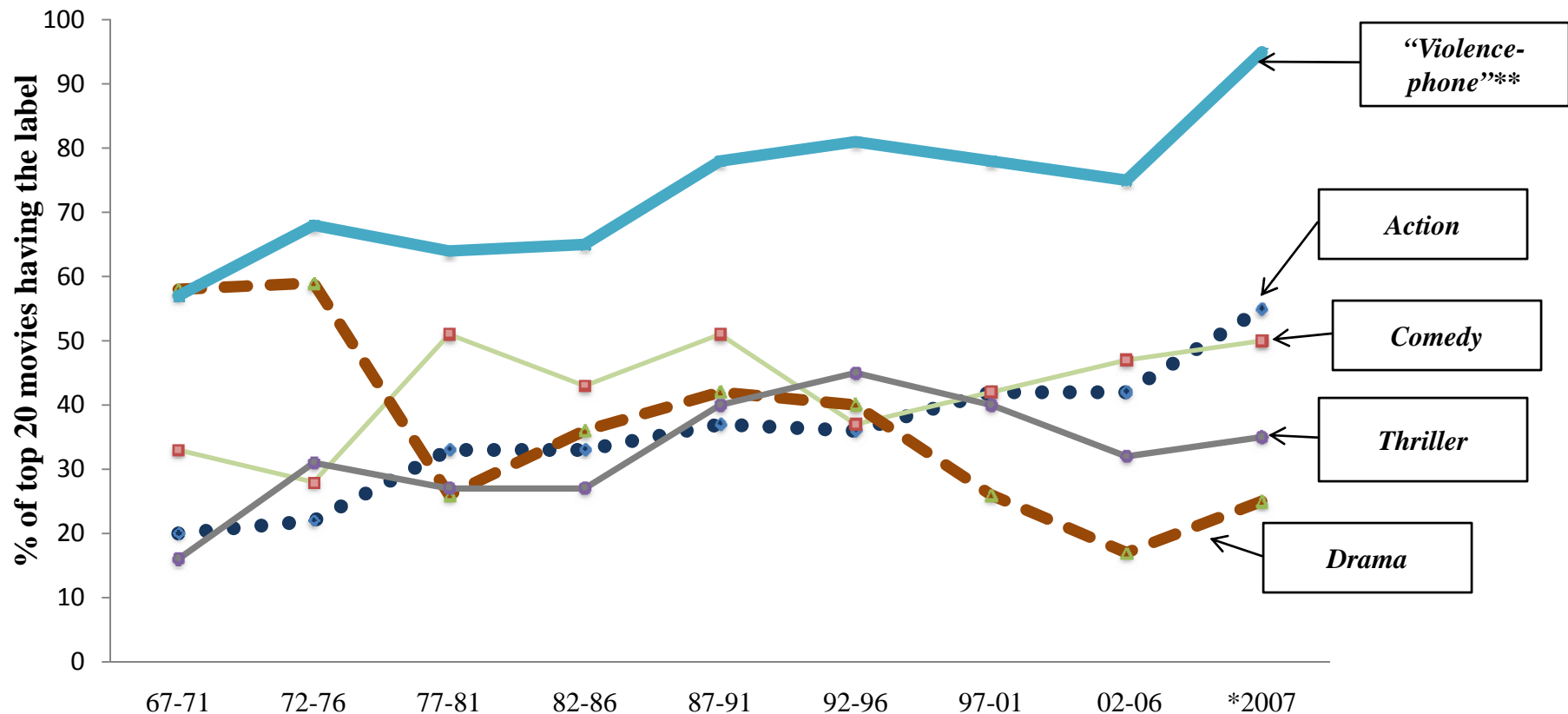


Photo #35 from www.imdb.com for the movie "300" (Warner, 2006)



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Figure 7: Genre Trends in Top 20 U. S. movies, 1967-2007



****action, adventure, thriller, horror, sci-fi, war, crime, animation, or western**

Source: Weiting Lu, D. Waterman, and M.Z. Yan (2005), Changing Markets, New Technology, and Violent Content: An Economic Study of Motion Picture Genre Trends, 2005 TPRC conference; updated 11/08



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Question 3: Effects of HDTV on Types of Programming Produced

- ❑ Will HDTV (and digital theaters) **favor action and violence?**
- ❑ Our study of movie content trends since the 1960s suggests it will



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Figure 8: Technology-Intensiveness of Top 20 Movies Genres Having Significant Time Trends, 1967-2004

	All Genres with statistically significant trends from 1967-2004	“Technology intensiveness” of the genres having statistically significant trends from 1967 – 2004*
Drama	Fall	Below average
Action	Rise	Above average
Thriller	Rise	Above average
Adventure	Rise	Above average
Fantasy	Rise	Above average
Musical	Fall	***
Western	Fall	***

*based on the % of end credits that were in the categories of “stunts,” “special effects,” and “visual effects”

** statistically insignificant difference from the mean; animation not included

Source: : Weiting Lu, D. Waterman, and M.Z. Yan (2005), Changing Markets, New Technology, and Violent Content: An Economic Study of Motion Picture Genre Trends, 2005 TPRC conference; revisions in progress



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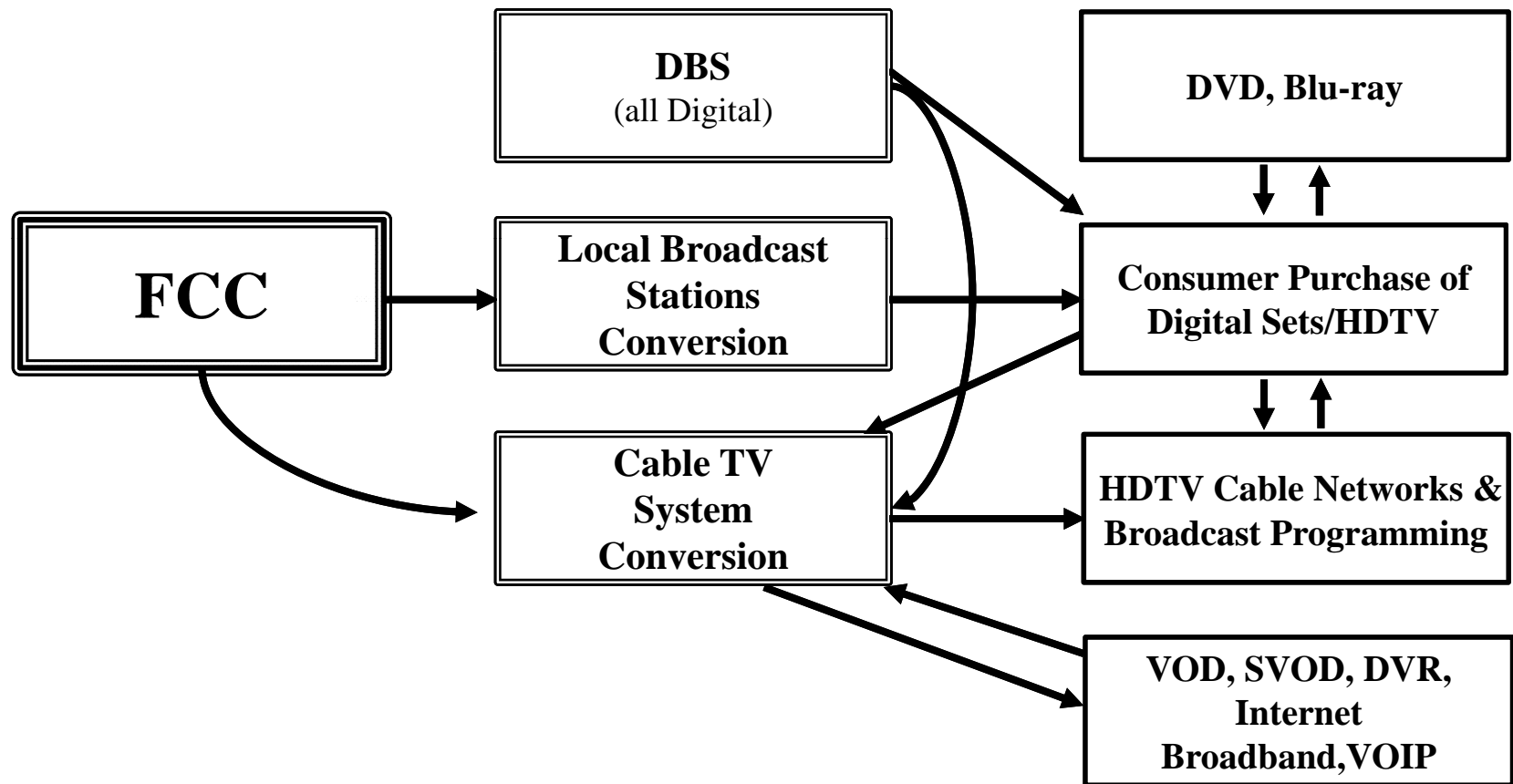
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- ❑ Will HDTV (and digital theaters) **favor action and violence?**
- ❑ Our study of movie content trends since the 1960s suggests it will
- ❑ Of first 49 channels to convert to HD (1998-2006), 42 were pay supported, 15 were movie channels



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Forces behind US Digital TV Conversion



Government

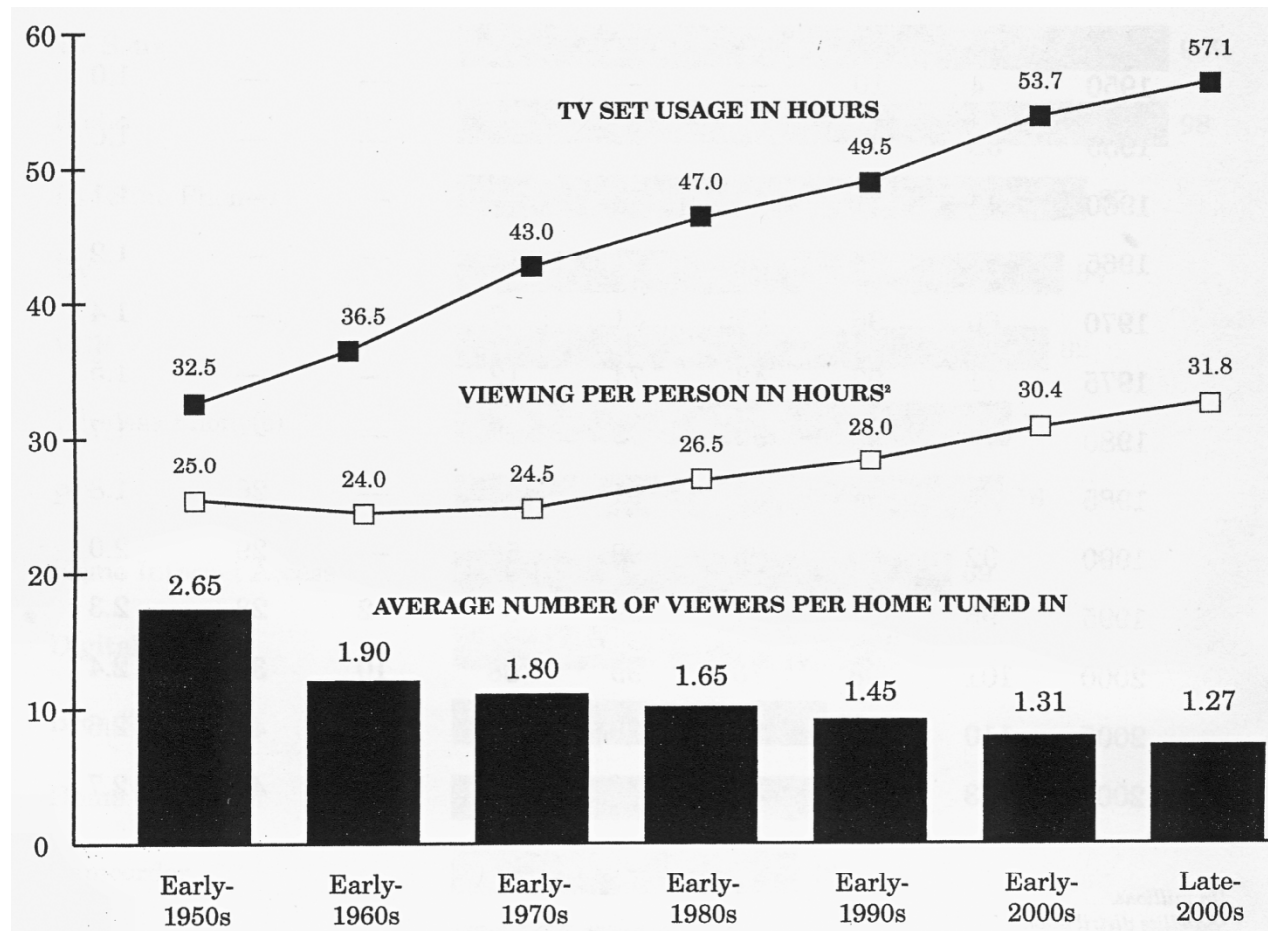
TV Industry

Demand & Technology



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**Figure 9: Trends in Weekly Set Usage and Personal Viewing
(Early-1950s to Late-2000s)**



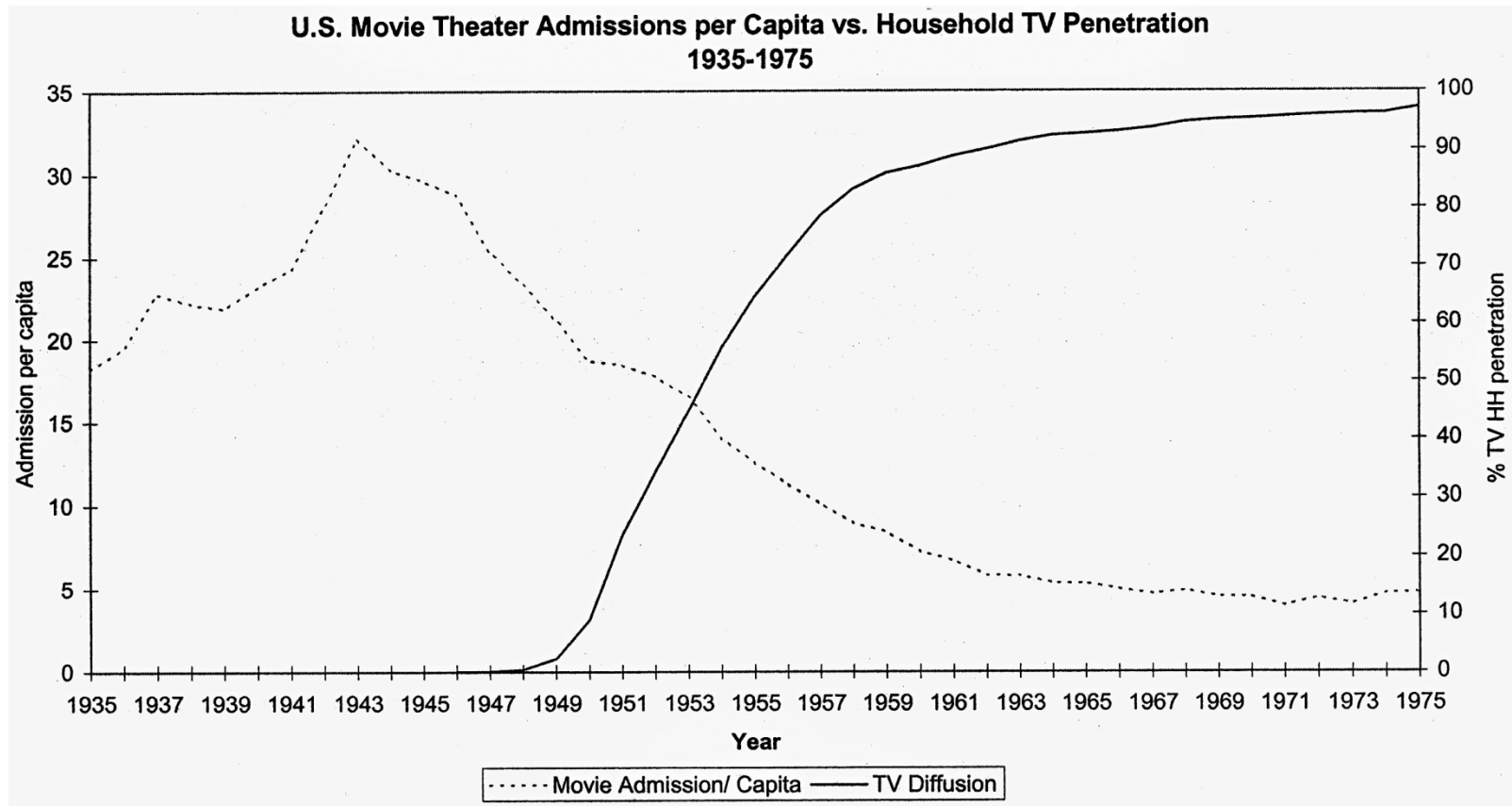
Source: TV Dimensions 2008, Media Dynamics, Ins., based on Nielsen and Arbitron data.

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Figure 10: Movie Theater Admission vs. TV Diffusion

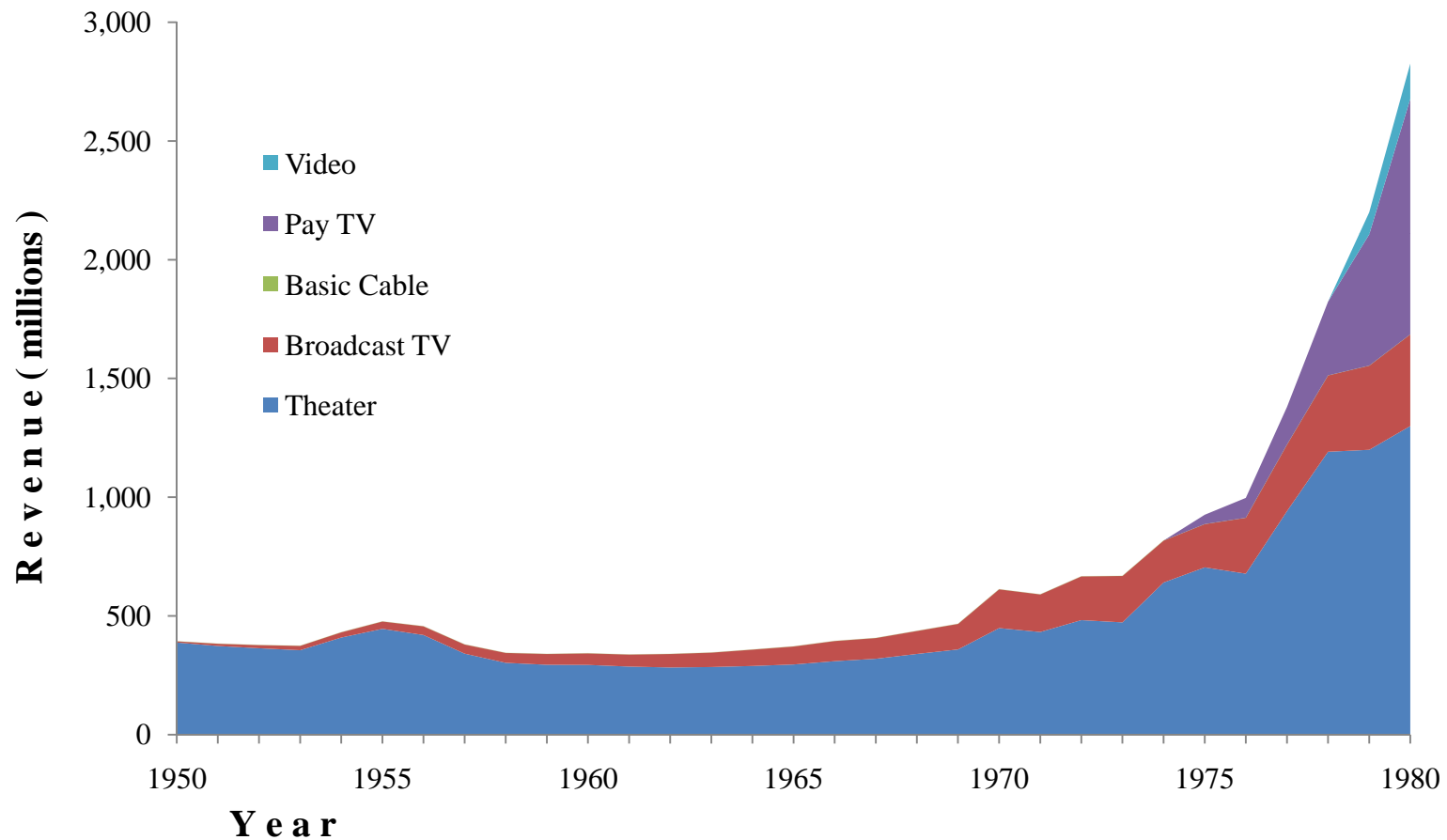


Source: Weiting Lu. 12-10-2003, Sterling (1984); Statistical Abstract of the United States, International Motion Picture Almanac, MPAA



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**Figure 11: Movie Revenue by Source, 1950-1980
(Current \$)**

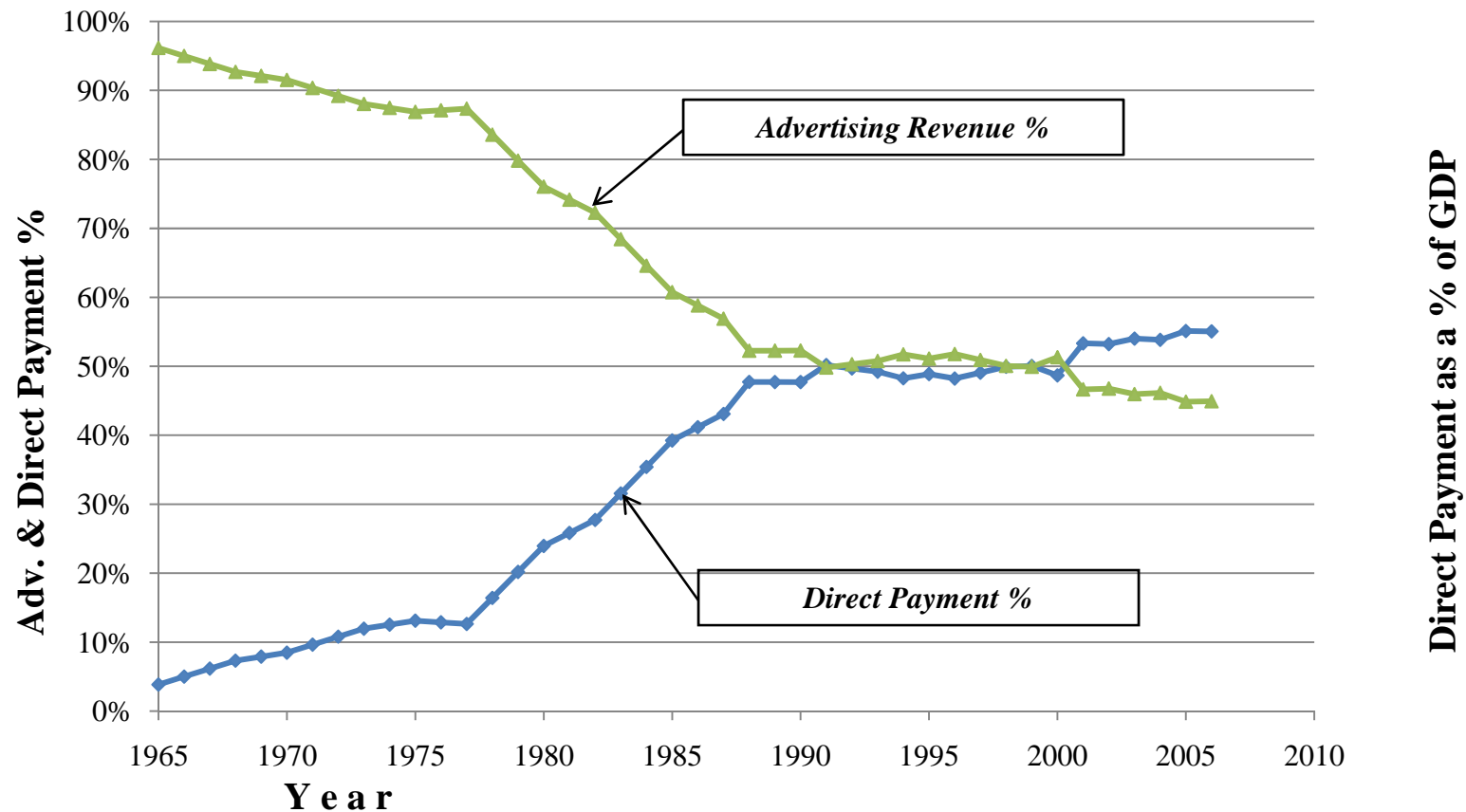


Source: Waterman (2005), Hollywood Roads to Riches, Appendix C1



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**Figure 12: Trends in Advertising vs. Direct Payment Support
TV services, 1965-2007**



Source: : Calculations by author based on Motion Picture Investor, Cable Program Investor, Kagan Research, US Census Bureau: The 2008 Statistical Abstract, FCC: Office of Plans and Policy, OPP Working paper series, TVB: Universal McCann, NCTA

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