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Zentrum für Europäische
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Centre for European
Economic Research

Brand Equity as Intangible Asset and its Contribution to Economic Growth - Evidence for Germany

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ZEW Centre for European Economic Research, Mannheim, Germany

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Structure

- Intangible assets
- Measuring brand equity
 - Robustness and sensitivity checks through alternative German data sources
 - Comparison and synthesis
- Contribution of brand equity to economic growth
- Outlook



Intangible Assets (Corrado et al. 2006)

Computerized information

- Computer software
- Computerized databases

Innovative property

- Scientific R&D
- Mineral exploration
- Copyright and license costs
- Other product development, design and research
- New product development costs in the financial industry
- New architectural and engineering designs
- R&D in social science and humanities

Economic competencies

- Brand equity
 - Advertising expenditure
 - Market research
- Firm-specific human capital
- Organizational structure
 - Purchased
 - Own account



Intangible Assets (Corrado et al. 2006)

Computerized information

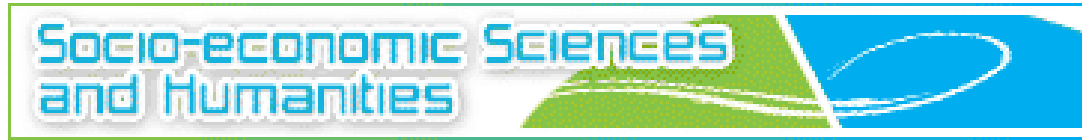
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Measuring Brand Equity



Measuring Brand Equity

- Alternative German data sources

Turnover tax statistics

■ *Advantages:*

- Publicly available time series data
- Annual data since 1996 (before that on a biennial basis)
- Census from the data of the tax authorities that covers nearly all economic sectors with high quality. It is not based on a sample survey such as the structural business statistics used in Hao et al. (2008).
- Disaggregated data on advertising (74.4), market research (74.13.1) and opinion research (74.13.2) available

■ *Disadvantages:*

- The dataset does not provide information about non-taxable transactions like in-house marketing activities
- Industry assignments are based on the product or service generating the majority of turnover. Hence, firms with minor marketing-related activities may be assigned to other industries (those with the majority of turnover) and vice versa.



Measuring Brand Equity

- Alternative German data sources:

Central Association of the German Advertising Industry (ZAW)

■ *Advantages:*

- Publicly available time series data since the mid eighties.
- Broad coverage of all advertising activities and media channels.
- Allows a distinction between net advertising expenditure (media revenues) and gross advertising expenditures (includes also expenditures for the design/production of advertising content and material).
- Primary industries commissioning advertising (Top 25) can be identified.
- Weights of different advertising channels (e.g. TV, newspapers, direct mail) can be identified.

■ *Disadvantages:*

- No information on market research
- No information on the size or scope of marketing activities within non-advertising firms (e.g. in-house market research, packaging, design).



Measuring Brand Equity

□ Alternative German data sources

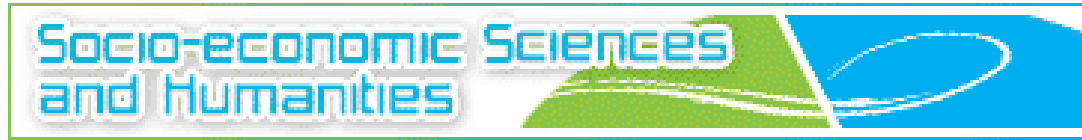
Mannheimer Innovation Panel (MIP)

■ *Advantages:*

- Covers marketing expenditures beyond advertising
- Definition: sum of internal and external advertising expenditures, conceptual design of marketing strategies, market and consumer demand research and establishment of new distribution channels.
- Provides information on an industry level which is especially relevant for sectors that are traditionally not as active in public advertising or mass media commercials such as business to business marketing.

■ *Disadvantages:*

- The retail industry is not surveyed. Hence, one of the largest advertising sectors is missing.
- Data is currently only available for the year 2006. The question was not part of earlier surveys.



Measuring Brand Equity - Market Research



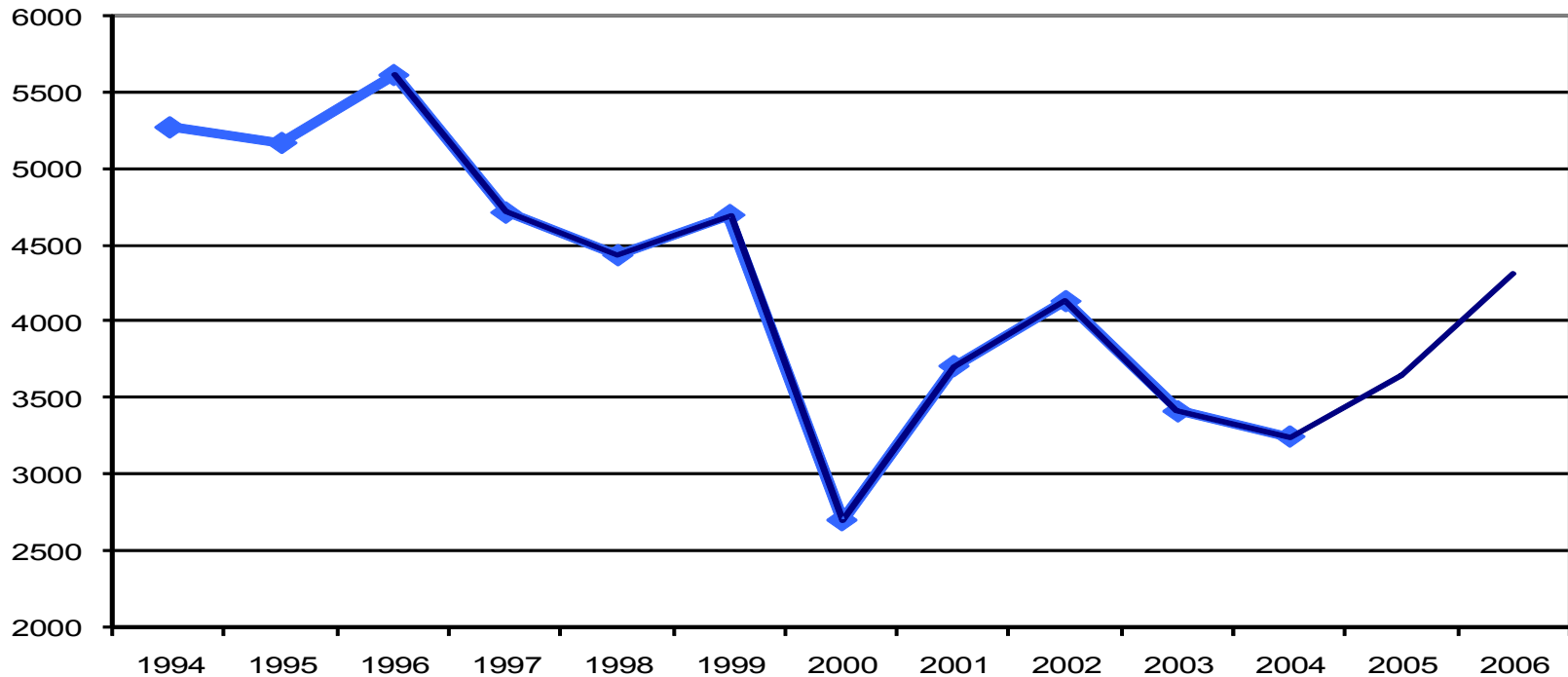
Market Research Expenditures (mn EUR)

<i>Year</i>	<i>Market research expenditures (original data)</i>			
	<i>SBS - Eurostat (74.13)</i>	<i>Turnover tax statistics: Market and opinion research (74.13)</i>	<i>Turnover tax statistics: Market research (74.13.1)</i>	<i>Turnover tax statistics: Opinion research (74.13.2)</i>
1994		3052	2994	58
1995				
1996	2812	2745	2604	141
1997	2360	2370	2216	154
1998	2220	2235	2030	205
1999	2352	2352	2120	232
2000	1350	2183	1885	297
2001	1856	2215	1920	294
2002	2069	2282	2001	281
2003	1707	2446	2105	341
2004	1624	3107	2652	455
2005	1828	2637	2261	376
2006	2158	2716	2311	405
2007		2833	2413	420

Source: SBS Eurostat, German turnover tax statistics



Investments in Market Research (mn EUR)

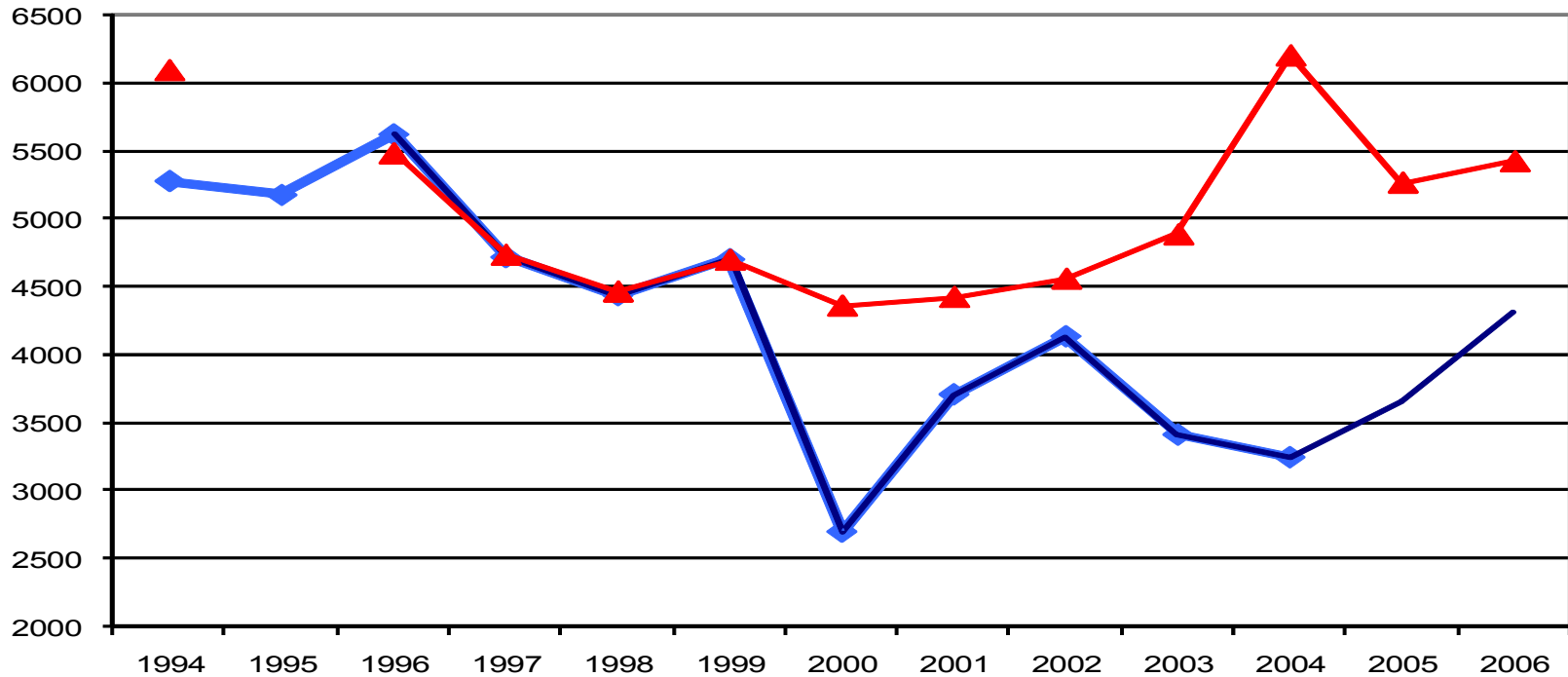


Starting point HMA (2008)*

SBS - Eurostat (74.13)



Investments in Market Research (mn EUR)



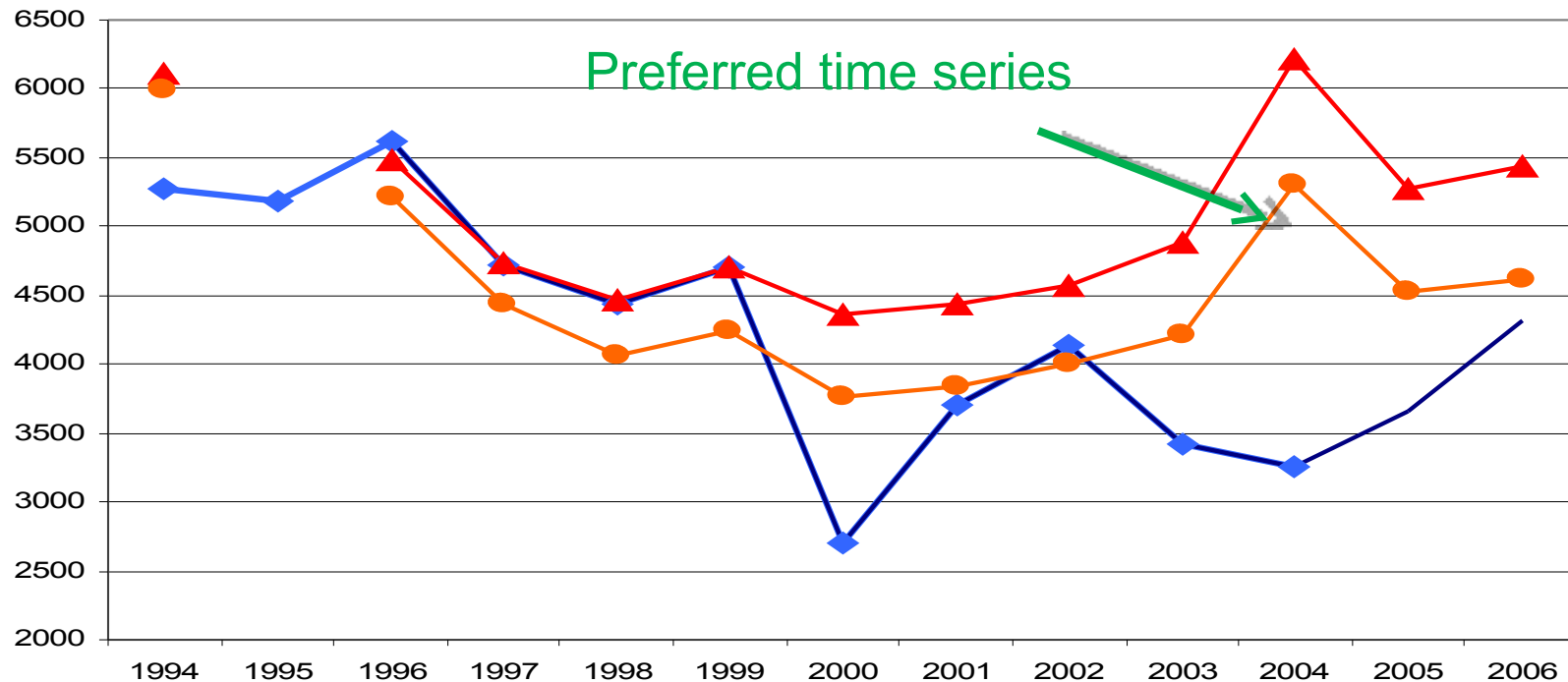
◆ Starting point HMA (2008)*

■ SBS - Eurostat (74.13)

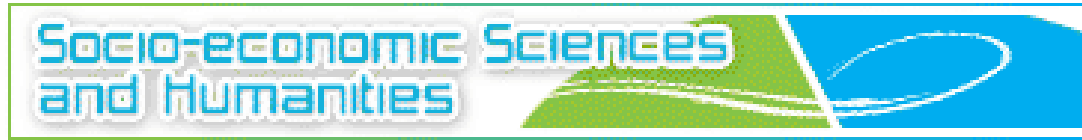
▲ Turnover tax statistics: Market and opinion research (74.13)



Investments in Market Research (mn EUR)



- Starting point HMA (2008)*
- SBS - Eurostat (74.13)
- Turnover tax statistics: Market and opinion research (74.13)
- Turnover tax statistics: Market research (74.13.1)



Measuring Brand Equity - Advertising



Advertising expenditures, altern. data sources (mn EUR)

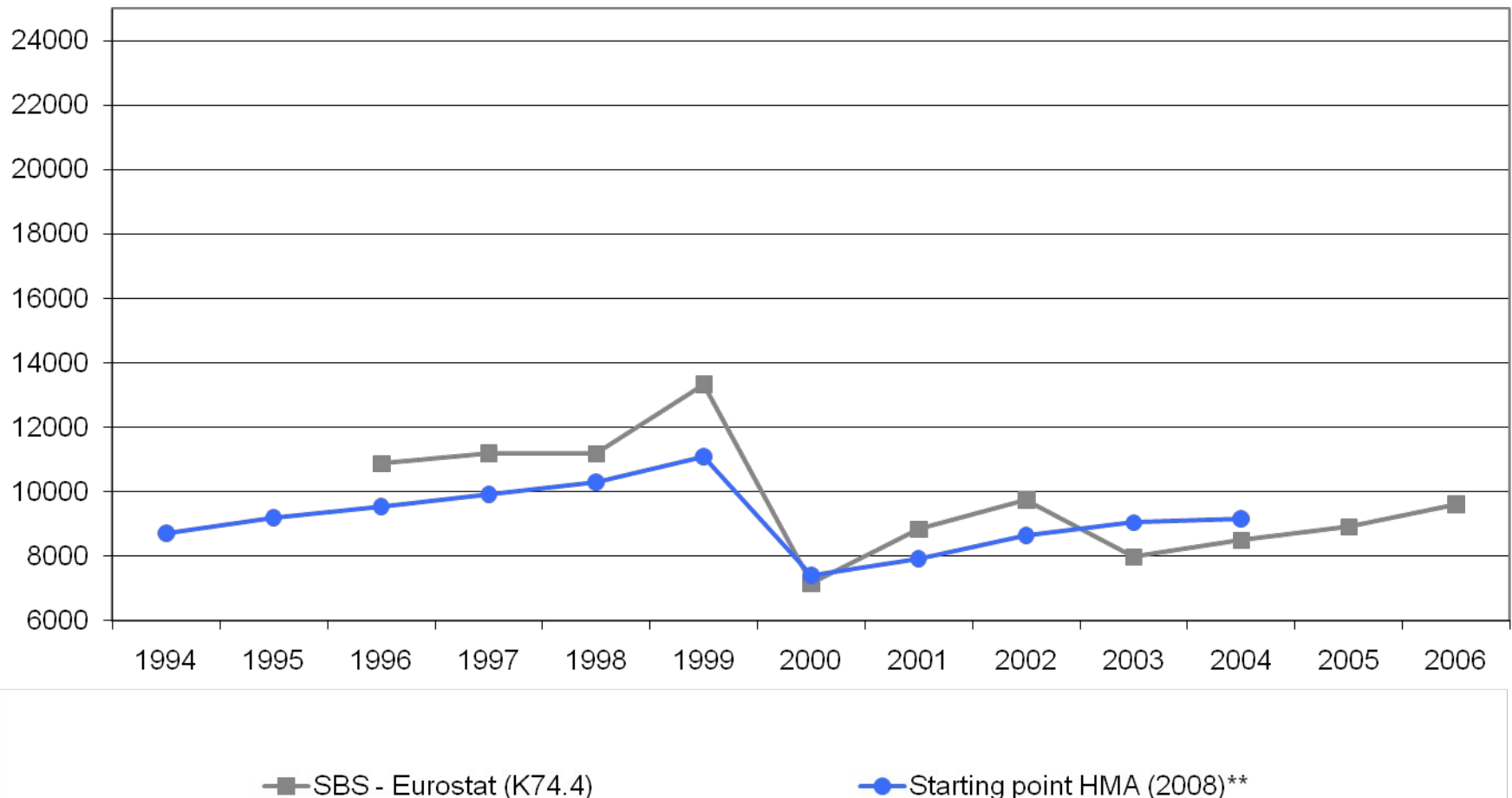
Year	<i>Advertising expenditures (original data)</i>				
	<i>Turnover tax statistics: Advertising (74.4)</i>	<i>SBS - Eurostat (K74.4)</i>	<i>Gross advertising expenditures (ZAW)</i>	<i>Advertising net revenues of the media (ZAW)</i>	<i>Advertising net revenues of newspapers (ZAW)</i>
1991			22190	14495	4753
1992			24031	15983	5126
1993			25360	16320	5059*
1994	19261		25974	17348	5300
1995			27405	18580	5481
1996	20369	20863	28070	19066	5460
1997	21532	21439	28939	19780	5557
1998	21735	21588	30170	20790	5868
1999	25309	25309	31440	21820	6142*
2000	27646	15235	33210	23380	6560
2001	25895	17568	31460	21720	5640
2002	22995	18747	29620	20140	4940
2003	22839	15545	28910	19280	4450
2004	23347	16431	29220	19580	4500
2005	24025	17102	29600	19833	4480
2006	25797	18308	30230	20350	4530
2007	27214		30780	20812	4570
2008			30670	20357	4373

*) own estimation

Source: SBS Eurostat, German turnover tax statistics, ZAW (1991-2008), own calculations.

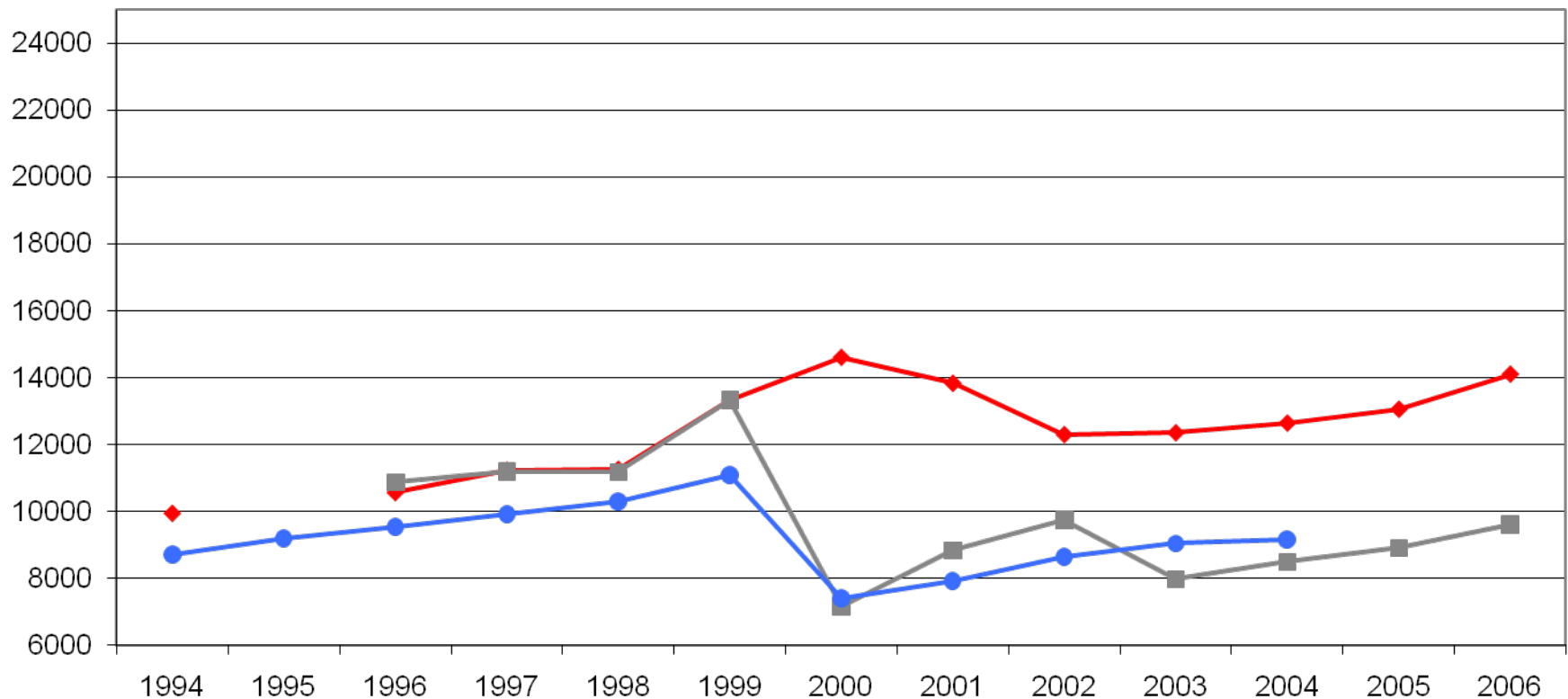


Advertising Investments (mn EUR)





Advertising Investments (mn EUR)



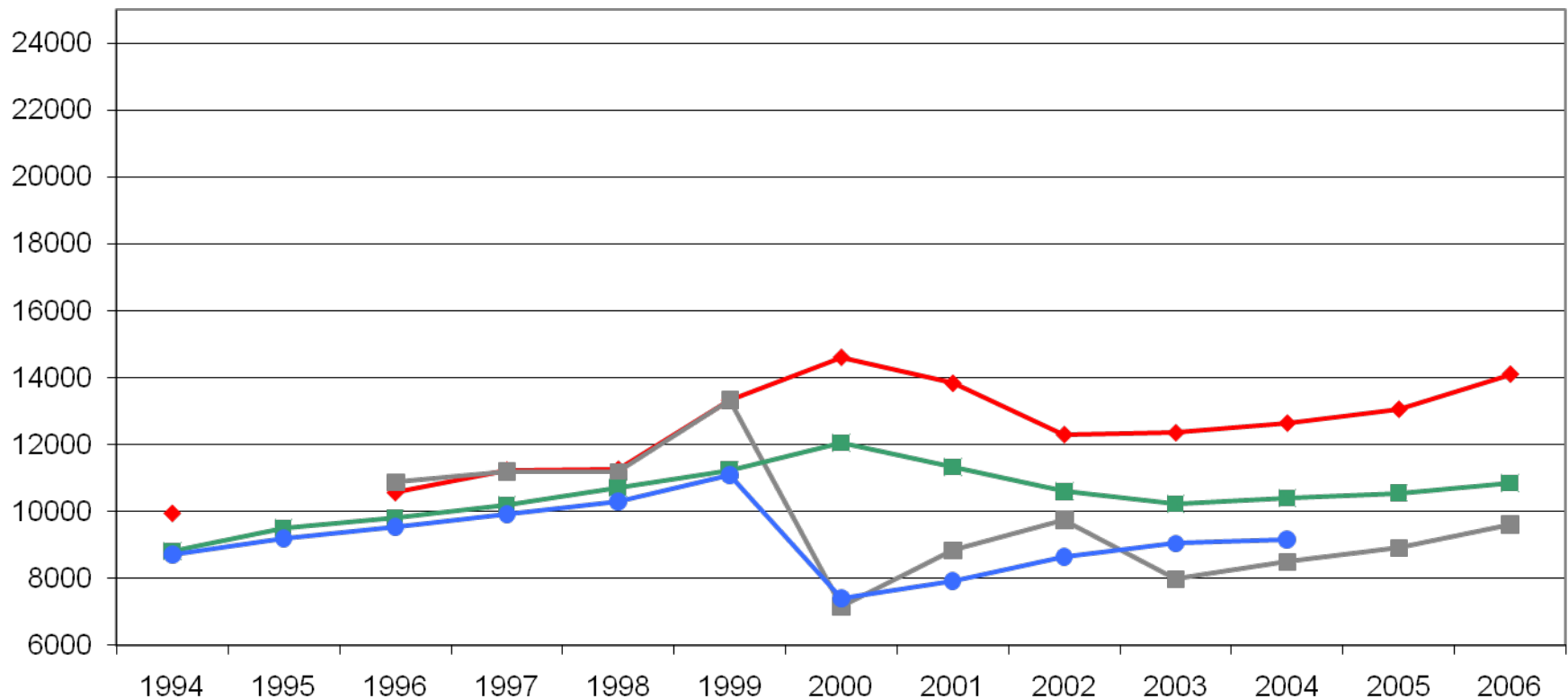
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● Starting point HMA (2008)**



Advertising Investments (mn EUR)



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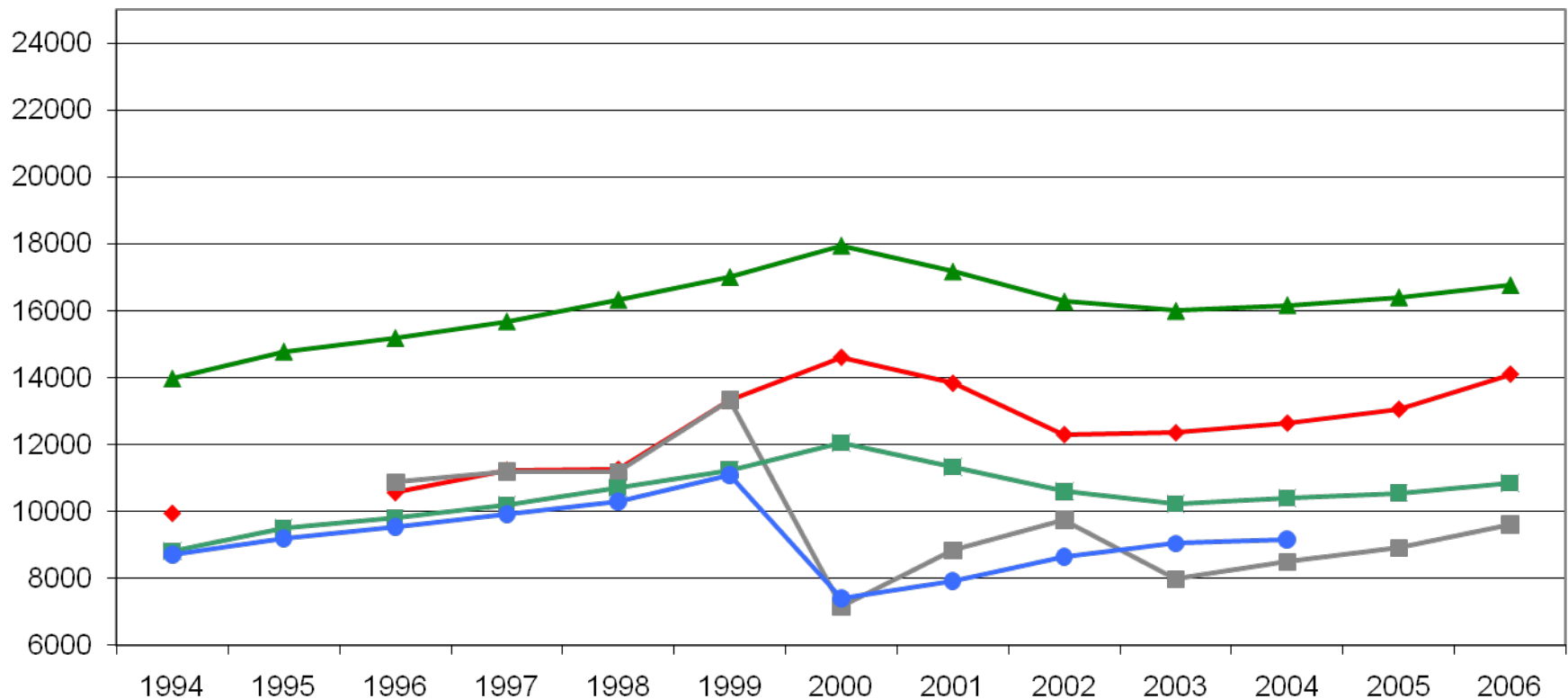
■ SBS - Eurostat (K74.4)

■ Advertising net revenues of the media (ZAW)

● Starting point HMA (2008)**



Advertising Investments (mn EUR)



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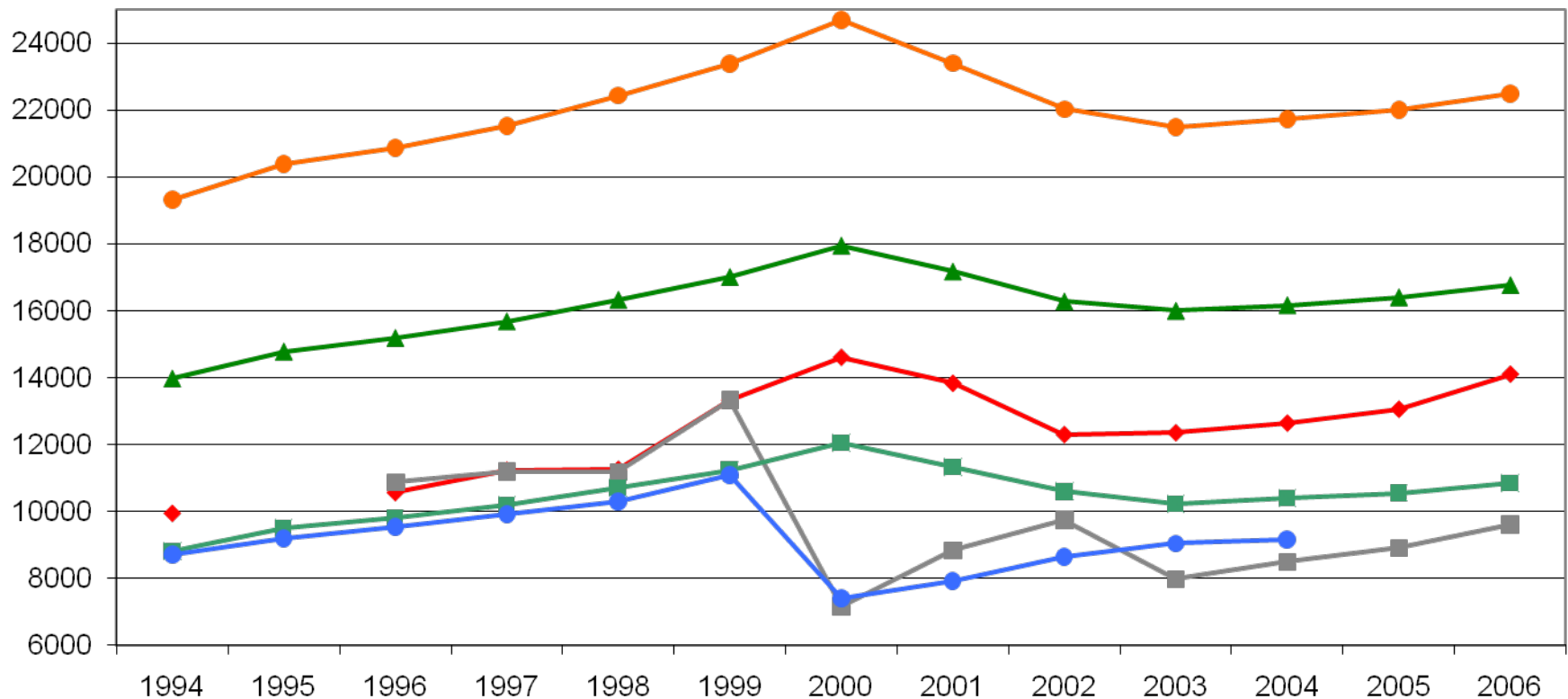
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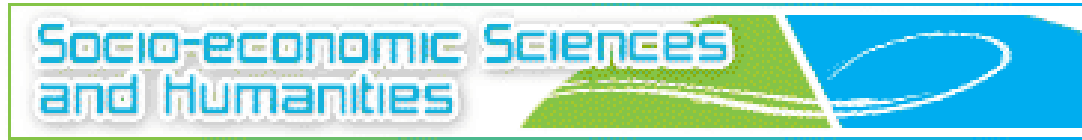
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Advertising Investments (mn EUR)



- ◆ Turnover tax statistics: Advertising (74.4)
- SBS - Eurostat (K74.4)
- ▲ Advertising investments (ZAW)
- Advertising net revenues of the media (ZAW)
- Starting point HMA (2008)**
- Internal & external Advertising investments (ZAW+MIP-Premium)



Contribution of Brand Equity to Economic Growth



Decomposition of Labour Productivity Growth

Time Period: 1995-2004	0	1	2	3	4	5
Labour productivity growth	1,855	1,886	1,949	1,872	1,875	1,863
ICT tangible capital deepening (ex. Software)	0,300	0,300	0,305	0,298	0,300	0,297
Non-ICT tangible capital deepening	0,519	0,518	0,478	0,515	0,518	0,512
Intangible Capital deepening	0,534	0,590	0,544	0,566	0,563	0,565
Labour Quality	0,093	0,092	0,095	0,092	0,093	0,092
TFP	0,410	0,386	0,389	0,400	0,401	0,398
Software	0,091	0,091	0,091	0,091	0,091	0,090
Innovative Property	0,347	0,346	0,332	0,344	0,346	0,342
Economic Competency	0,097	0,153	0,121	0,131	0,126	0,132

Source: EU KLEMS, Hao et al. (2008), German turnover tax statistics, ZAW (1991-2008), own calculations.

0: Benchmark (Hao et al. 2008)

1: Turnover tax statistics

2: SBS – Eurostat

3: Gross advertising investments (ZAW)

4: Net advertising investments (ZAW)

5: Internal & external gross advertising investments (ZAW+MIP)



Decomposition of Labour Productivity Growth

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Time Period: 2000-2004	0	1	2	3	4	5
Labour productivity growth	1,440	1,383	1,449	1,382	1,391	1,354
ICT tangible capital deepening (ex. Software)	0,241	0,240	0,241	0,239	0,240	0,238
Non-ICT tangible capital deepening	0,478	0,476	0,478	0,474	0,477	0,471
Intangible Capital deepening	0,504	0,493	0,504	0,490	0,493	0,471
Labour Quality	0,257	0,256	0,257	0,256	0,257	0,255
TFP	-0,041	-0,082	-0,031	-0,077	-0,076	-0,080
Software	0,086	0,085	0,086	0,085	0,086	0,085
Innovative Property	0,312	0,310	0,311	0,309	0,311	0,307
Economic Competency	0,107	0,097	0,107	0,096	0,096	0,079
Time Period: 1996-2000	0	1	2	3	4	5
Labour productivity growth	2,188	2,289	2,348	2,263	2,263	2,271
ICT tangible capital deepening (ex. Software)	0,347	0,347	0,369	0,346	0,348	0,344
Non-ICT tangible capital deepening	0,551	0,552	0,479	0,548	0,551	0,545
Intangible Capital deepening	0,559	0,668	0,583	0,626	0,620	0,640
Labour Quality	-0,039	-0,039	-0,067	-0,039	-0,039	-0,038
TFP	0,770	0,760	0,828	0,782	0,783	0,781
Software	0,096	0,095	0,097	0,095	0,096	0,095
Innovative Property	0,375	0,375	0,352	0,373	0,375	0,371
Economic Competency	0,089	0,198	0,135	0,158	0,150	0,175

Source: EU KLEMS, Hao et al. (2008), German turnover tax statistics, ZAW (1991-2008), own calculations.



Decomposition of Labour Productivity Growth

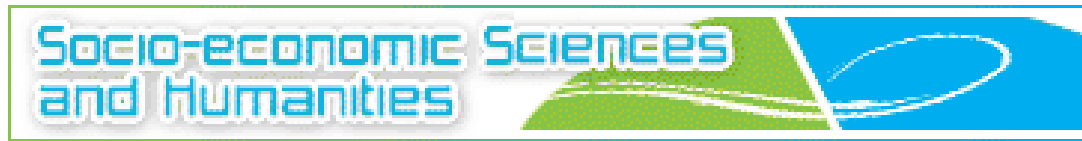
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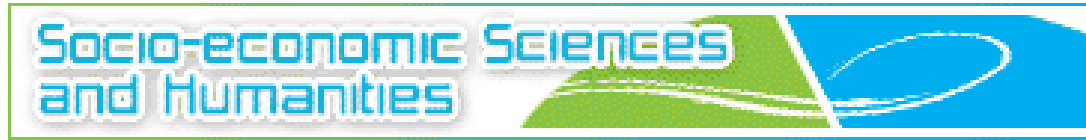
Conclusion and Discussion

- Problem of structural break in year 2000 in SBS data (EU KLEMS) in Germany due to introduction of service statistics
- ZAW data and turnover tax statistics more similar and stable over time
- Accounting for gross or net advertising expenditures (production costs, etc.)? → estimate of 30%
- Subtracting opinion research from market research (7413)? → problem: increasing share over time
- Accounting for internal marketing expenditures in definition? → estimate of 24%



Outlook

- Explore alternative data sources for training expenditure and licensing costs and their contributions to economic growth



Thank you for your attention.



Intangible Assets

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Brand equity: Definitions

- Value arises from consumer perspective
 - “added value endowed by the brand to the product **as perceived by a consumer**” (Park, Srinivasan;1994)
 - “the marketing effects or outcomes that accrue to a product with its brand name compared with those that would not accrue if the same product did not have that brand name” (Alawadi, Lehmann; 2003)
 - “Brand equity is the **customer's subjective assessment** of a branded offering's worth above and beyond its objectively perceived value” (Rust, Lemon, Zeithaml; 2004)
 - “the equity of a brand is the meaning that it holds for the consumer” (Gürhan-Canli, Ahluwalia; 1999)
 - “relational market-based asset because it arises from the **relationships that consumers have with brands**” (Delgado-Ballester, Munuera-Alemán; 2005)
 - “brand equity = the **set of associations and behavior** on the part of a brand's customers, channel members and parent corporation that permits the brand to earn greater volume or greater margins than it could without the brand name” (Chaudhuri; 2002)
- Financial asset based on customer preferences
 - “value added by the brand name to a product” (Siriram, Balachander, Kalwani; 2007)
 - “customer-based definition: brand equity represents the biased behavior a consumer has for a branded product versus an unbranded equivalent; brand equity = both a financial asset and a **set of favorable associations and behaviors**” (Faircloth, Capella, Alford; 2001)
 - “brand equity = value endowed by the brand to the product” (Anselmsson, Johansson, Persson; 2007)
- Relative perspective as additional revenues compared to unbranded almost identical competing, unbranded product
 - “brand equity is defined as the incremental contribution (\$) per year obtained by the brand in comparison to the underlying product (or service) with **no brand-building efforts**” (Srinivasan, Park, Chang; 2005)
 - “incremental cash flows which accrue to branded products over unbranded products” (Simon, Sullivan; 1993)
 - “it appears when consumers **willingly pay more for the same level of quality** due to the attractiveness of the name attached to the product” (Yasin, Noor, Mohamad; 2007)
- Separate from other marketing activities (price, product, packaging, channel)
 - “the marketing effects **uniquely attributable** to the brand” (Silverman, Sprott, Pascal; 1999)
- Influences effectiveness of marketing
 - “customer-based brand equity = differential effect of brand knowledge on consumer response to the marketing of the brand” (Keller; 1993)
 - “intrapersonal construct that **moderates the impact of marketing activities**” (Raggio, Leone; 2007)



Brand equity: Measurement

- Predominantly consumer surveys
- Strong focus on consumer products
 - Often frequently purchased products
 - Toothpaste, soap, cell phones, beverages, televisions, air-conditioning, deodorants, jeans, shoes, cars



Brand equity: Building blocks

- Multidimensional construct, emphasis on awareness
 - “4 cognitive “components”: global brand attitude, strength of preference, brand knowledge, and brand heuristic” (Punj, Girish; Hillyer, Clayton; 2004)
 - “combination of brand awareness, brand associations, perceived quality and attitudinal brand loyalty” (Pappu, Quester, Cooksey; 2006)
- Importance of consistency
 - “brand equity and image are built up by the **consistency** among the various elements of a marketing program” (Buchanan, Simmons, Bickart; 1999)
 - **Continuity of marketing investments** important; excessive promotion and price discounting can dilute brand equity (Kish, Risky, Kerin; 2001)
- Development
 - building a strong brand with the consumer: a positive brand evaluation, an accessible brand attitude, and a consistent brand image; 3 ways to get brand equity: **build it, borrow it, or buy it** (Farquhar; 1990)
 - Potential for leverage across **brand portfolio** (Simmons, Bickart, Buchanan; 2000)
 - Value accrues from **uniqueness** (Anselmsson, Johansson, Persson; 2007)
 - Value depends upon market decisions and conditions (Simon, Sullivan; 1993)



Brand equity: Synthesis

- Brand equity is inherently a relative construct
- Asset arises outside of firm
 - Customer perspective
- Strong focus on consumer products
- Literature stresses continuity
 - Hardly any links to expenditures