



How to Understand Culture and Design in Economy?

**CULTURE AS INNOVATION – The search for creative
power in economies and societies, 6-8 June 2007, Turku**

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This talk

- ⌘ Culture, design, and innovation in economic analysis
 - | Innovation as a source of economic growth
- ⌘ Designers as innovators
- ⌘ Results of recent empirical studies
 - | Country level data
 - WEF competitiveness data
 - Statistics Finland data of IPR innovativeness
 - | Micro level data from Finland
 - Expert panel
 - Survey data (Finnish manufacturing firms)
- ⌘ Conclusions



Design and innovation in economic analysis

- ⌘ Intangible capital – design, R&D, IT, brand equity, human competencies – has become as important growth source in advanced economies as traditional tangible capital
- ⌘ Rather than distinct factor of production (like physical capital and labor), intangible capital is "glue" or "lubricant" ...
- ⌘ ...That creates value from other inputs
 - E.g., empirical evidence show that firms that intensively *both* design *and* R&D input gain more from design



What is design?

- ⌘ We see design in end products, in product shape, in production lines, in construction sites.
- ⌘ We see design in marketing and branding
- ⌘ We try to think of design here as widely as possible.



Design and innovation

- ⌘ We think that design and innovation are closely linked together.
- ⌘ Designers have a lot to give to the innovation process.



Designers as innovators

- ⌘ Challenge the present
- ⌘ Take risks
- ⌘ Accept uncertainty
- ⌘ Create a customer
- ⌘ Think differently
- ⌘ Be passionate and inspire others to be passionate
- ⌘ Question the status quo
- ⌘ Are risk takers
- ⌘ See the world differently
- ⌘ See possibilities everywhere



Findings of empirical studies



Policy perspective

- ¢ Policy perspective - What kind of questions policy makers and politicians ask?
 - How does design affect competitiveness or competitive advantages of nations/economies
 - Do we see any visible and concrete impacts from design inputs?
 - In exports, company growth and market valuation?



Some empirical results 1

Country-level data: WEF
competitiveness
Index (2004 data)



International competitiveness rankings data

© World Economic Forum (WEF)

10/2004

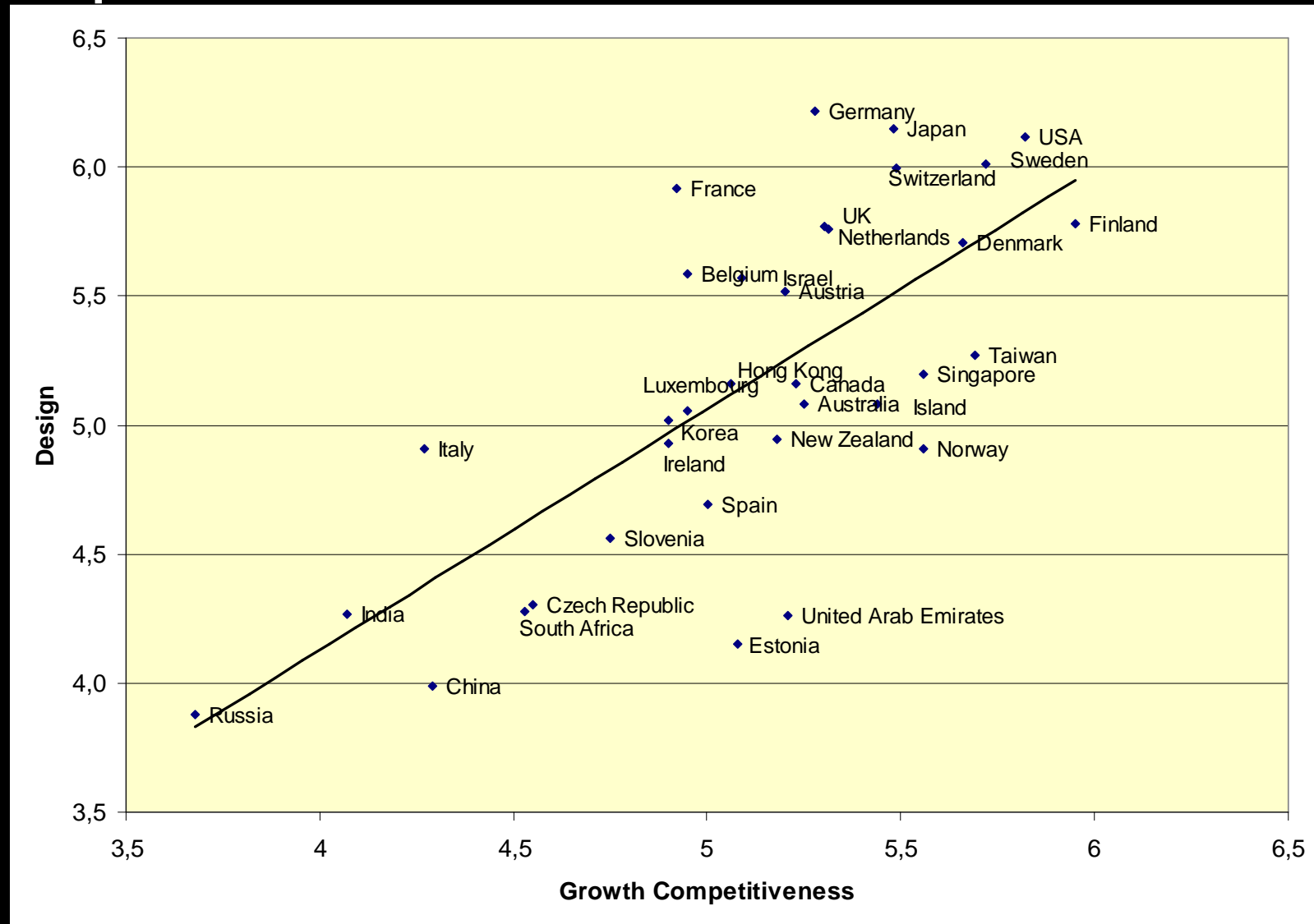
Growth competitiveness index:

- Represents country's economic growth from 5 to 10 years from now.

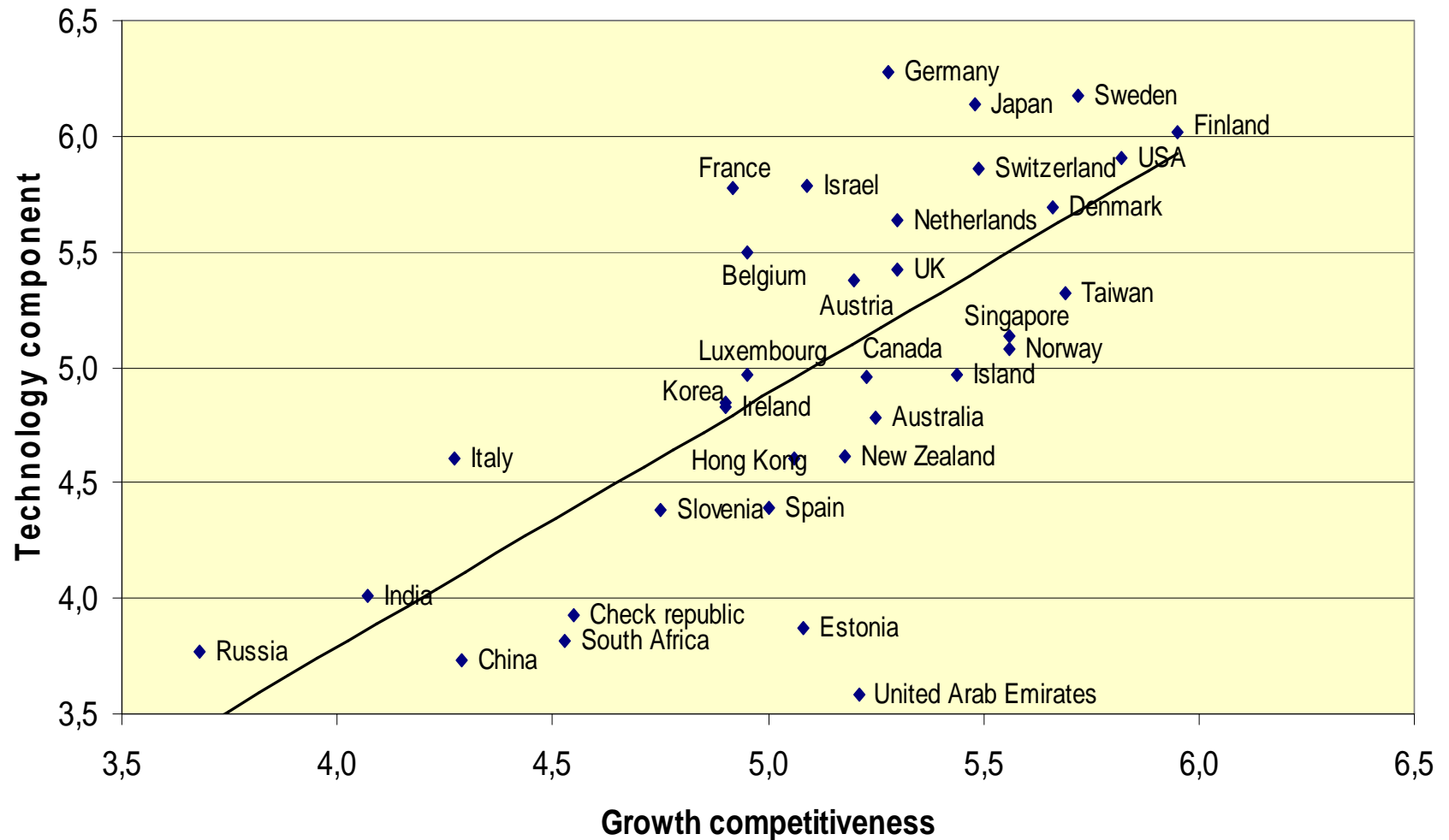
Design index:

- | Degree of customer orientation
- | Extent of marketing
- | Extent of branding
- | Capacity for innovation (technology)
- | Production process sophistication (technology)

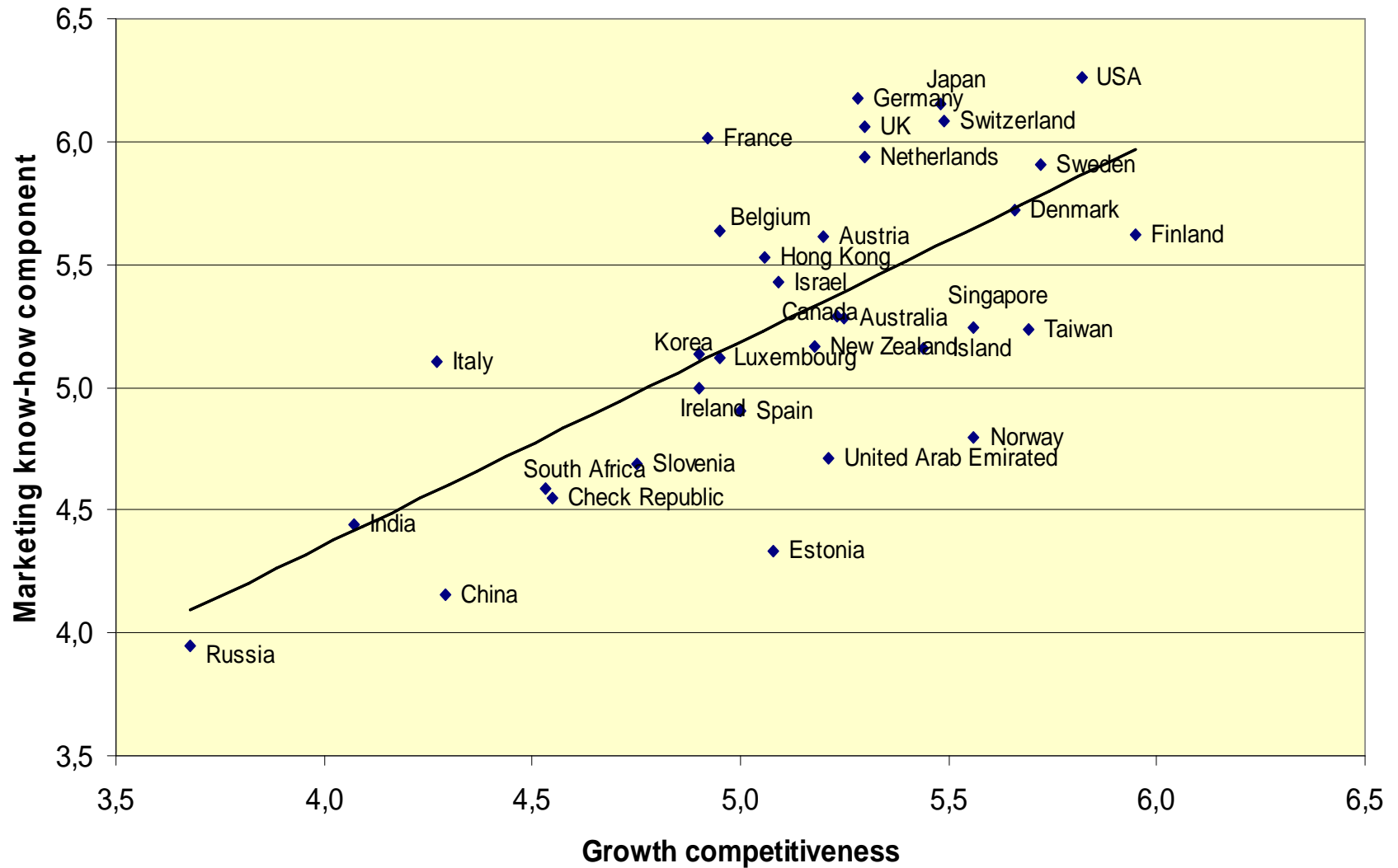
Relation between design index and growth competitiveness



Technological component and growth competitiveness

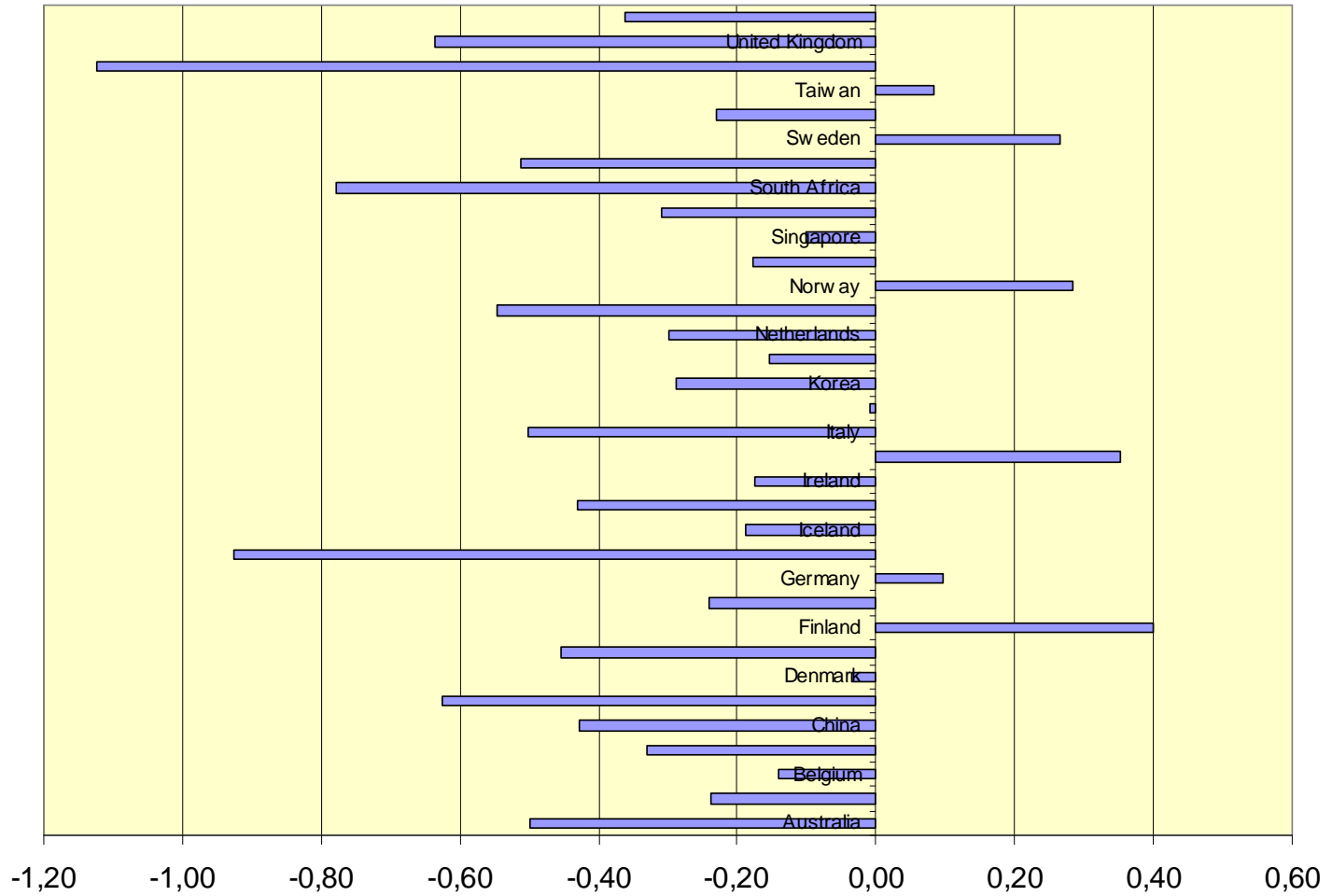


Marketing component and growth competitiveness





The difference between the technology and marketing component





Difference between technology component and marketing component?

- Ü The biggest difference between technology component and marketing component is for Finland
- Ü What does it mean?
- Ü That we are excellent with technology but not that good in marketing, branding and commercializing products and services?

Some empirical results 2



Statistics Finland international data base of IPRs (Patents, Trademarks, and Registration of Designs)



Ranking according to IPR innovativeness in Europe

	Patents	Trademarks	Registration of Designs	Total
Luxembourg	6	1	2	1
Denmark	5	4	1	2
Sweden	1	3	7	3
Germany	3	6	3	4
<u>Finland</u>	<u>2</u>	<u>8</u>	<u>10</u>	<u>5</u>
Austria	7	9	5	6
Netherlands	4	11	6	7
Spain	15	2	9	8
Italy	12	10	5	9
Great Britain	10	7	11	10
Belgium	8	12	8	11
Ireland	13	5	12	12
France	9	14	13	13
Norway	11	16	14	14
Portugal	16	13	15	15
Greece	15	15	16	16

Source: Statistics Finland 2005



Ranking according to IPR innovativeness in Europe, USA and Japan

	Triad patents	Trademarks	Registration of designs	Total
Sweden	2	2	3	1
Luxembourg	6	1	1	2
Denmark	5	3	2	3
Germany	3	6	6	4
Netherlands	4	4	4	5
<u>Finland</u>	<u>1</u>	<u>8</u>	<u>5</u>	<u>6</u>
Great Britain	10	5	10	7
Austria	9	10	7	8
France	7	9	11	9
Belgium	8	13	9	10
Italy	12	12	8	11
Ireland	13	7	14	12
Spain	14	11	13	13
Norway	11	14	12	14
Portugal	15	15	15	15
Greece	16	16	16	16

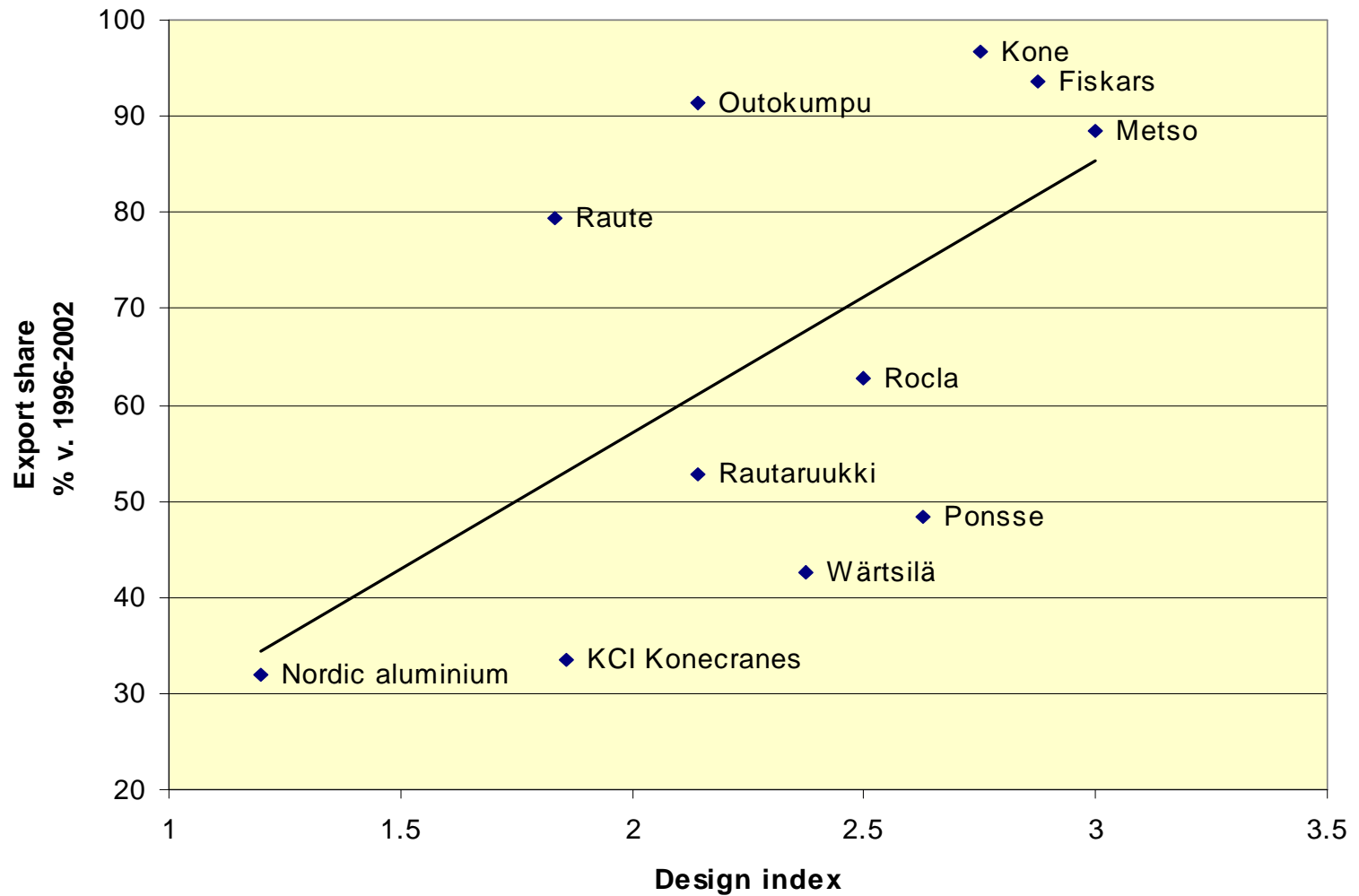
Source: Statistics Finland 2005

Some empirical results 3

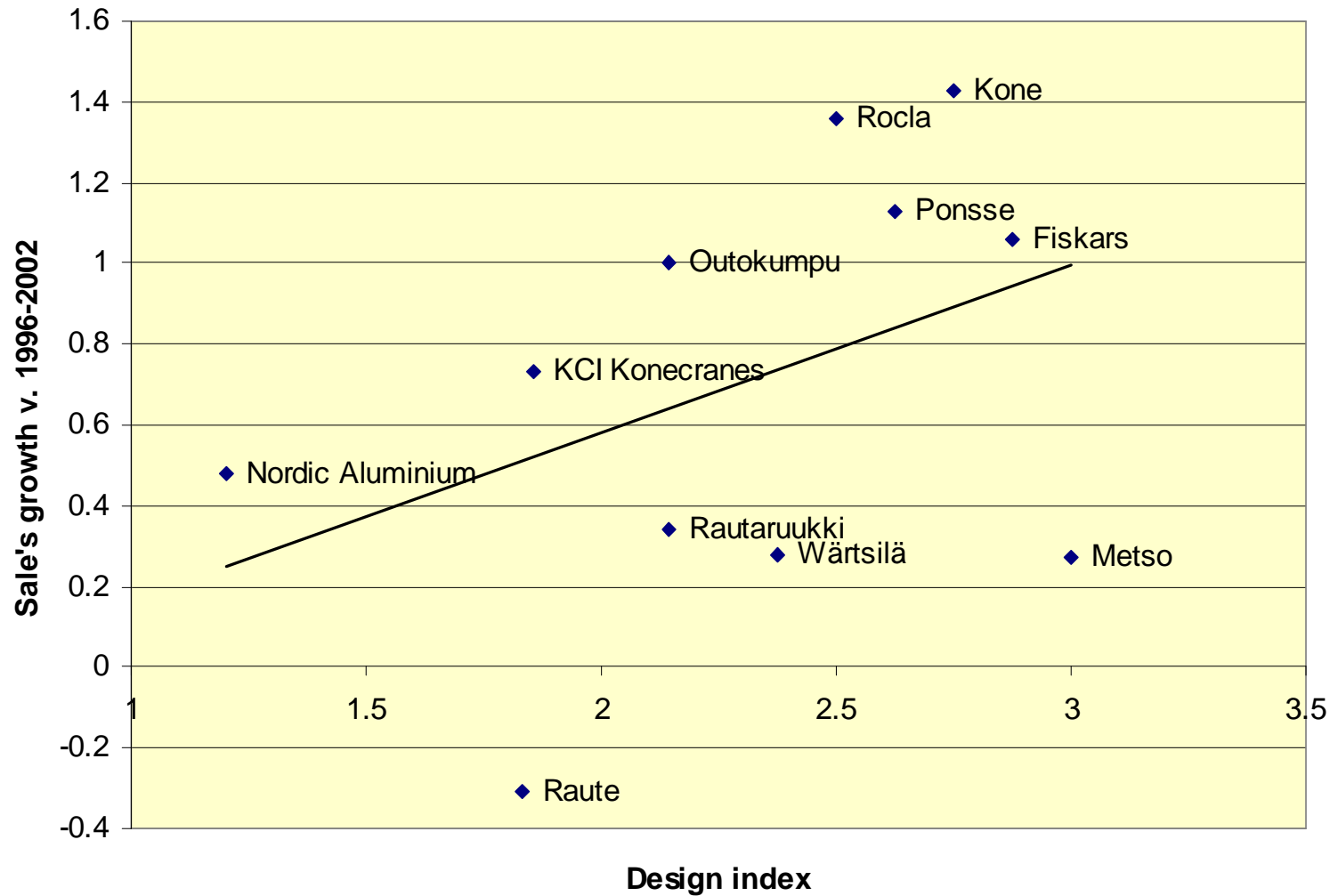
Expert panel and financial statement data :

20 experts' classification of Finnish listed firms according to their design intensity

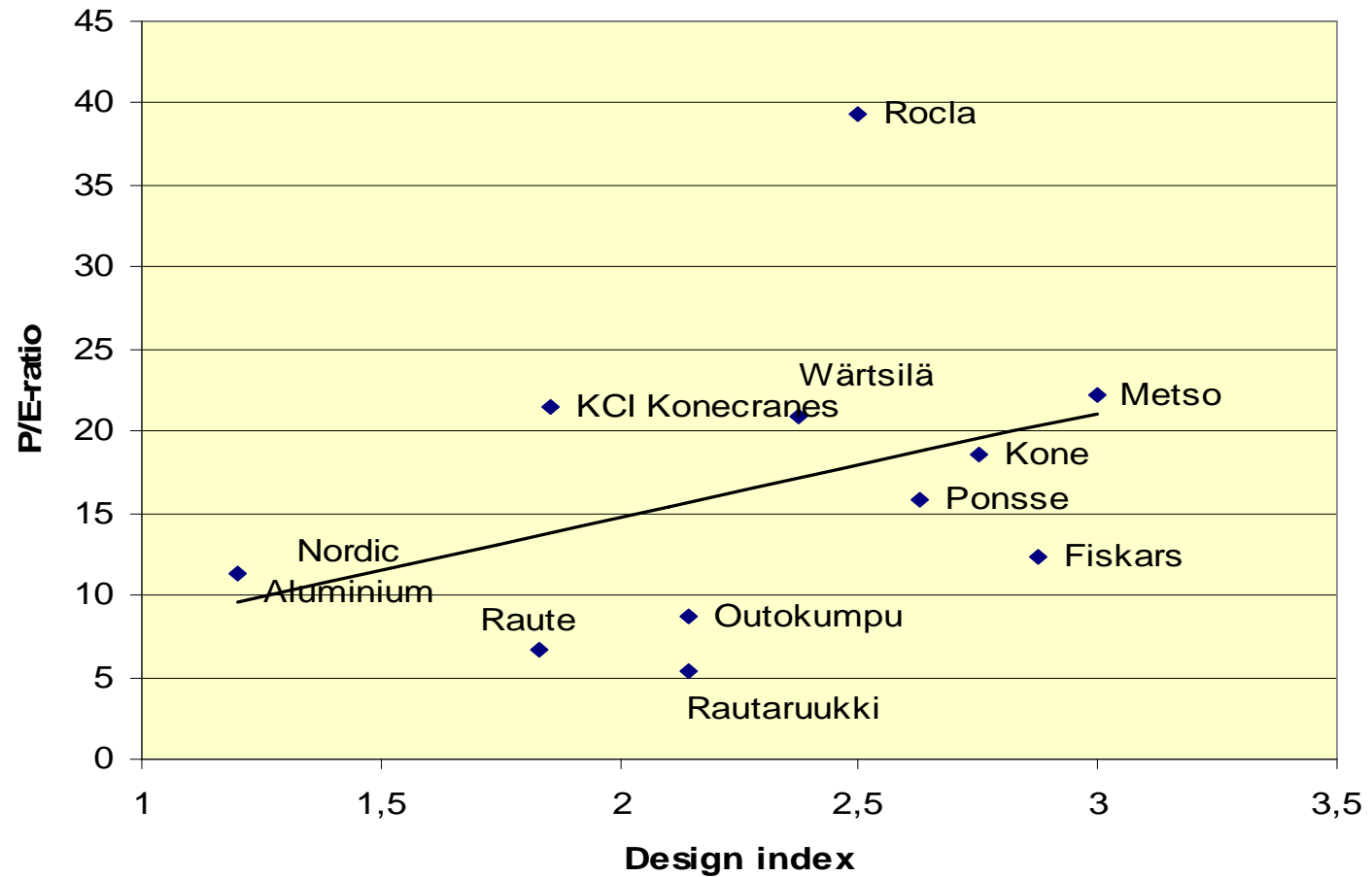
Metal and engineering industry: Design and share of export



Metal and engineering industry: Design and sale's growth



Metal and engineering industry: Design and market valuation



P/E-ratio: Market value / net revenue - 12 months; In how many years does the firm pay itself back with today's revenues



Some empirical results 4

Econometric analysis using survey data: Sample of Finnish manufacturing companies (~ 200 firms)



Key Findings I

- ⌘ 25 % of Finnish manufacturing firms use design regularly
- ⌘ Commitment to design goes hand in hand with the position of design in companies
 - | Companies that use design continuously have integrated design in corporate structure, i.e. with R&D, marketing, and overall strategy
- ⌘ Design inputs only a fraction of R&D expenditures



Key Findings II

- ⌘ The most important effects of design
 - | Ability to differentiate products and services from competitors
 - | Strengthening of brand, trademark, or company image
 - | Increased sales



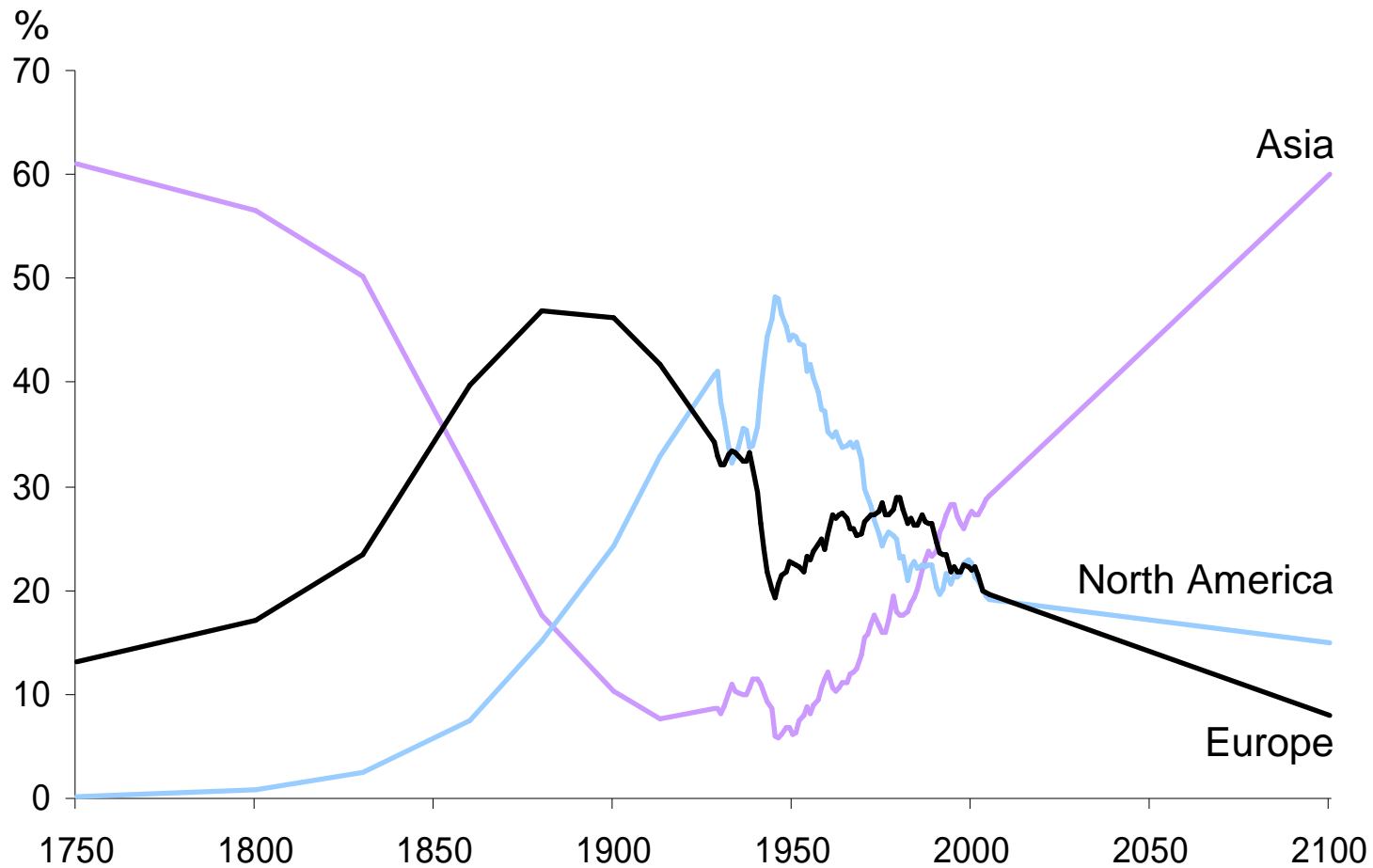
Key Findings III

- | The impact of design on firm performance depends on organization and management of design
 - The impacts of design on performance are more likely to positive
 - If design is used continuously in business
 - If design is integrated with R&D (and marketing)
 - If design is part of firm strategy
 - => It is the combination of design, R&D, and marketing inputs that matters, not any of these alone



Future Challenges

Changing global division of labor in manufacturing (...and later R&D and industrial design?)



Asia = China, Japan, India

North America = USA, Canada

Europe = Germany, UK, France, Italy, Spain, Sweden, Belgium, Switzerland

Sources: Bairoch (1982), ETLA.

Seuraavat sata vuotta/kuvio 3.6/2.3.2007



Conclusions 1(2)

- ⌘ Intangible capital – including structural capital (like culture and values), and design – are increasingly important source of economic growth and well-being.
- ⌘ *Lubricant* or *glue* rather than distinct production factor
- ⌘ Strong complementarities between intangibles and tangibles – and between different kind of intangible assets
 - | It not design alone that matters



Conclusions 2(2)

⌘ Design

- | There is some empirical evidence that design intensity/input affects positively competitiveness and economic performance
 - Country level – competitiveness
 - Firm level – expected sales growth, market valuation
- | Effects are likely to appear only in combination with other intangible inputs



References

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