



Competitiveness – some lessons
from Germany
By: Siegfried Herzog

Competitiveness translates into trade

- Germany recovered after WW II by becoming an exporter
- Germany has maintained its status as a top export nation
- Much of this is based on a strong manufacturing sector that is larger than that of most industrialized countries

Development of German foreign trade

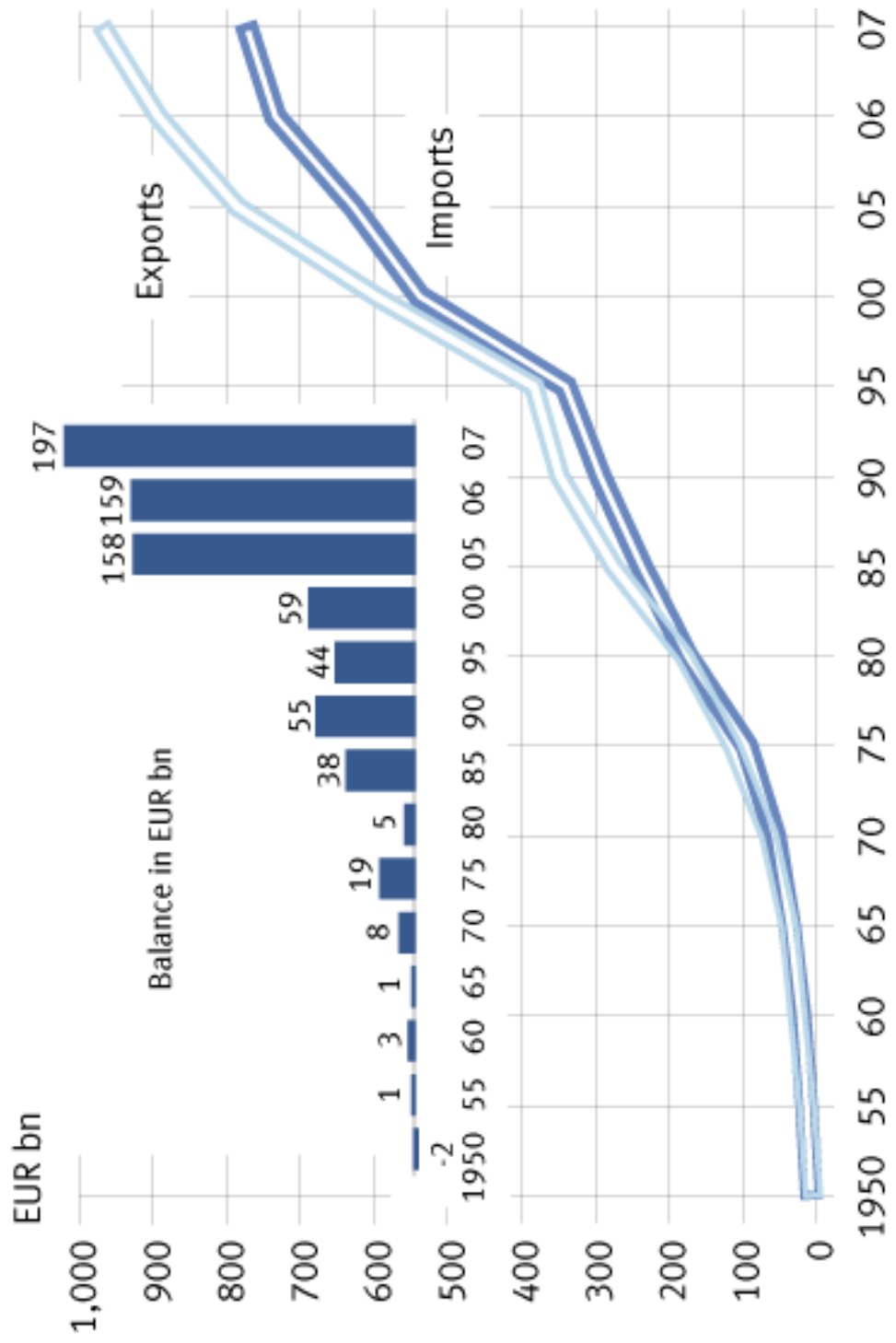


Table I.8

Leading exporters and importers in world merchandise trade, 2007

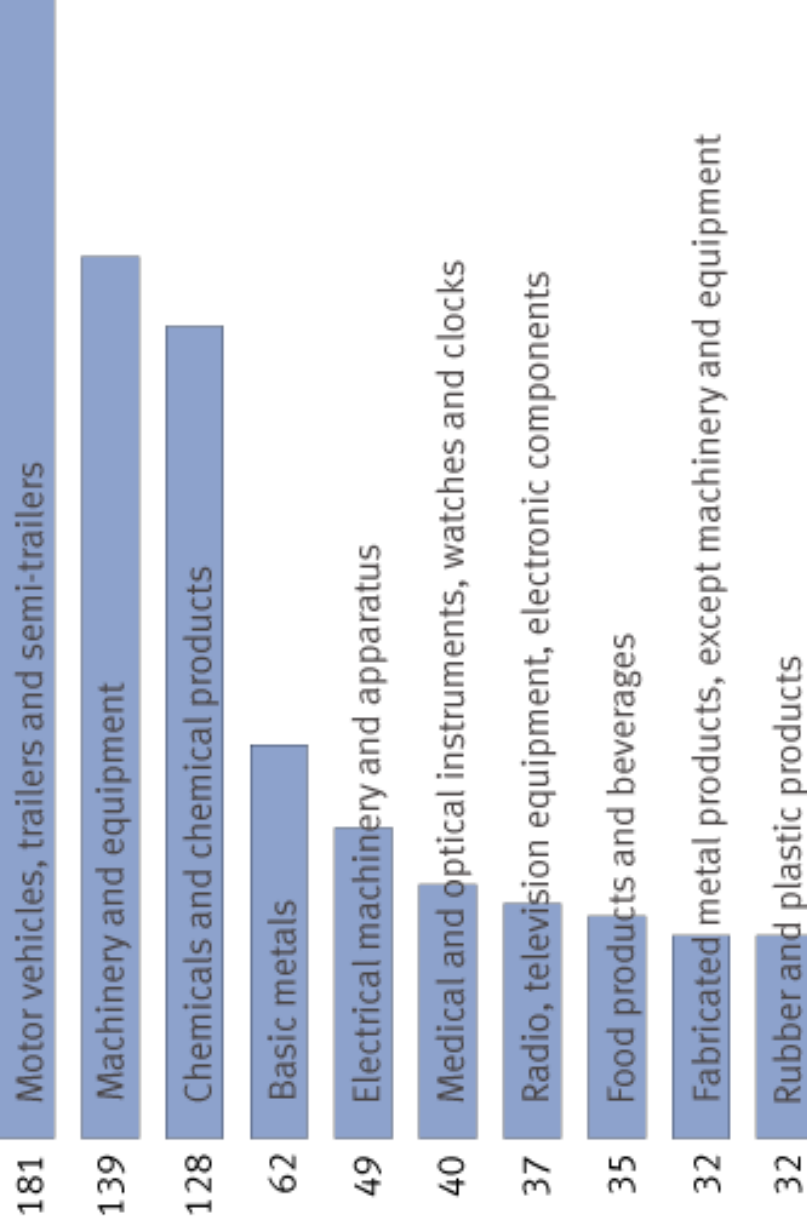
| Rank | Exporters | Value | Share | Annual percentage change | Rank | Importers | Value | Share | Annual percentage change |
|------|------------------------|--------|-------|--------------------------|------|----------------------|--------|-------|--------------------------|
| 1 | Germany | 1326.4 | 9.5 | 20 | 1 | United States | 2020.4 | 14.2 | 5 |
| 2 | China | 1217.8 | 8.7 | 26 | 2 | Germany | 1058.6 | 7.4 | 17 |
| 3 | United States | 1162.5 | 8.3 | 12 | 3 | China | 956.0 | 6.7 | 21 |
| 4 | Japan | 712.8 | 5.1 | 10 | 4 | Japan | 621.1 | 4.4 | 7 |
| 5 | France | 553.4 | 4.0 | 12 | 5 | United Kingdom | 619.6 | 4.4 | 3 |
| 6 | Netherlands | 551.3 | 4.0 | 19 | 6 | France | 615.2 | 4.3 | 14 |
| 7 | Italy | 491.5 | 3.5 | 18 | 7 | Italy | 504.5 | 3.5 | 14 |
| 8 | United Kingdom | 437.8 | 3.1 | -2 | 8 | Netherlands | 491.6 | 3.5 | 18 |
| 9 | Belgium | 430.8 | 3.1 | 17 | 9 | Belgium | 413.2 | 2.9 | 17 |
| 10 | Canada | 419.0 | 3.0 | 8 | 10 | Canada | 389.6 | 2.7 | 9 |
| 11 | Korea, Republic of | 371.5 | 2.7 | 14 | 11 | Spain | 372.6 | 2.6 | 13 |
| 12 | Russian Federation | 355.2 | 2.5 | 17 | 12 | Hong Kong, China | 370.1 | 2.6 | 10 |
| | | | | | | retained imports | 93.3 | 0.7 | 8 |
| 13 | Hong Kong, China | 349.4 | 2.5 | 8 | 13 | Korea, Republic of | 356.8 | 2.5 | 15 |
| | domestic exports | 18.1 | 0.1 | -20 | | | | | |
| | re-exports | 331.3 | 2.4 | 10 | | | | | |
| 14 | Singapore | 299.3 | 2.1 | 10 | 14 | Mexico a | 296.3 | 2.1 | 11 |
| | domestic exports | 156.0 | 1.1 | 9 | | | | | |
| | re-exports | 143.3 | 1.0 | 11 | | | | | |
| 15 | Mexico | 272.0 | 2.0 | 9 | 15 | Singapore | 263.2 | 1.8 | 10 |
| | | | | | | retained imports | 119.9 | 0.8 | 9 |
| 16 | Taipei, Chinese | 246.4 | 1.8 | 10 | 16 | Russian Federation a | 223.4 | 1.6 | 36 |
| 17 | Spain | 241.0 | 1.7 | 13 | 17 | Taipei, Chinese | 219.6 | 1.5 | 8 |
| 18 | Saudi Arabia b | 234.2 | 1.7 | 11 | 18 | India | 216.6 | 1.5 | 24 |
| 19 | Malaysia | 176.2 | 1.3 | 10 | 19 | Turkey | 170.1 | 1.2 | 22 |
| 20 | United Arab Emirates b | 173.0 | 1.2 | 19 | 20 | Australia | 165.3 | 1.2 | 19 |

Source: World Trade Developments (http://www.wto.org/english/res_e/statis_e/its2008_e/its08_world_trade_dev_e.pdf)

The main German goods for resale, 2007

Exports

in EUR bn



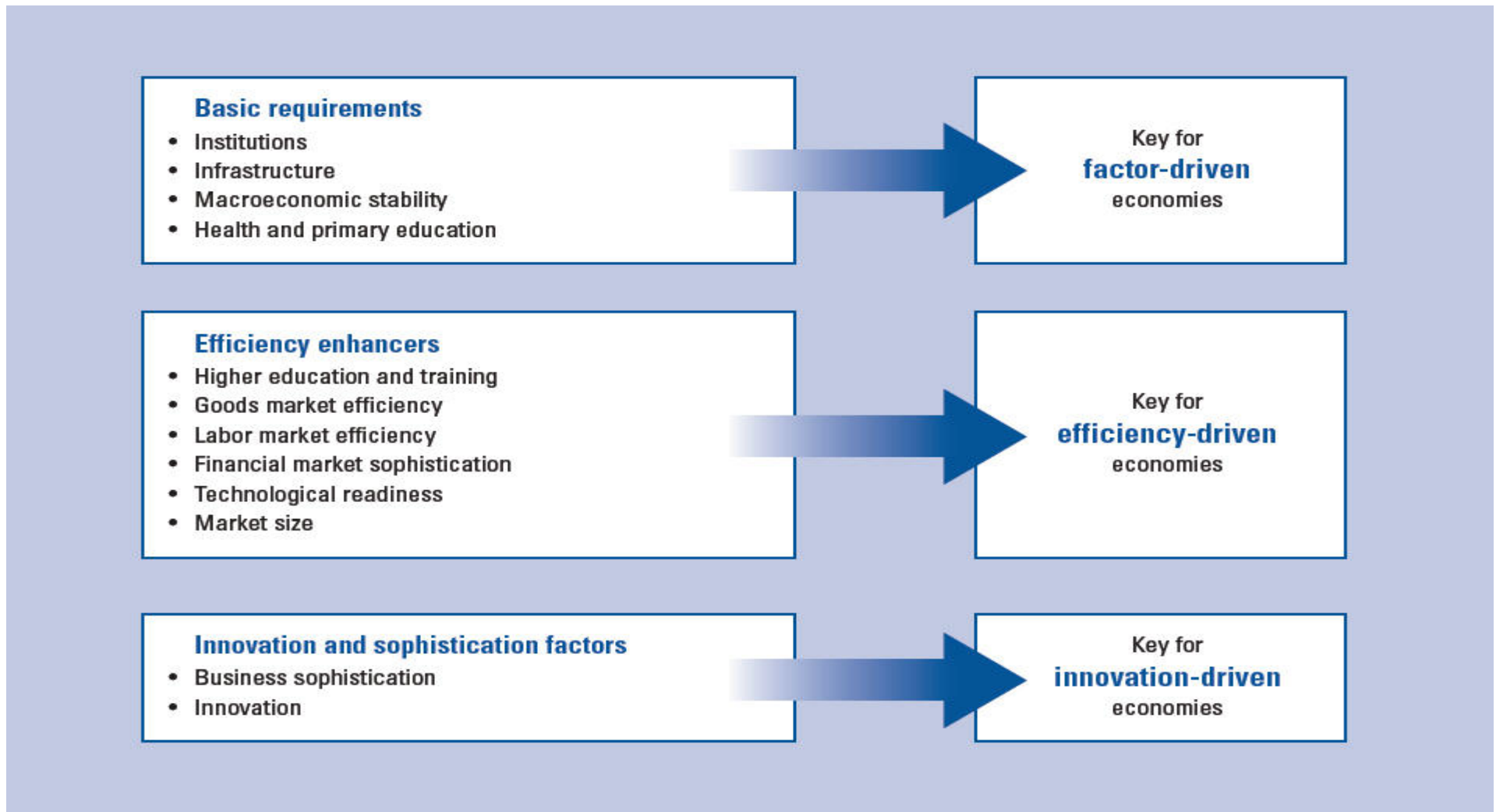
Some peculiarities of German exporters

- There is a strong presence of SMEs; they produce more than 20% of German exports
- Overall, SMEs produce around 45% of net value added and employ 2/3 of all employees
- Germany has around 1.100 “Hidden Champions,” relatively small companies that dominate their niche market via quality and innovation

Competitiveness by definition

- The set of institutions, policies and factors that determine the level of productivity of a country (World Economic Forum)
- There is no single overriding element but a complex interplay

The twelve pillars of competitiveness



Global Competitiveness Index rankings and 2007–2008 comparisons

| Country/Economy | GCI 2008–2009 | | GCI 2008–2009 rank (among 2007 countries)* | GCI 2007–2008 rank |
|-----------------|---------------|-------|---|-----------------------|
| | Rank | Score | | |
| United States | 1 | 5.74 | 1 | 1 |
| Switzerland | 2 | 5.61 | 2 | 2 |
| Denmark | 3 | 5.58 | 3 | 3 |
| Sweden | 4 | 5.53 | 4 | 4 |
| Singapore | 5 | 5.53 | 5 | 7 |
| Finland | 6 | 5.50 | 6 | 6 |
| Germany | 7 | 5.46 | 7 | 5 |
| Netherlands | 8 | 5.41 | 8 | 10 |
| Japan | 9 | 5.38 | 9 | 8 |
| Canada | 10 | 5.37 | 10 | 13 |
| Hong Kong SAR | 11 | 5.33 | 11 | 12 |
| United Kingdom | 12 | 5.30 | 12 | 9 |
| Korea, Rep. | 13 | 5.28 | 13 | 11 |
| Austria | 14 | 5.23 | 14 | 15 |
| Norway | 15 | 5.22 | 15 | 16 |
| France | 16 | 5.22 | 16 | 18 |
| Taiwan, China | 17 | 5.22 | 17 | 14 |
| Australia | 18 | 5.20 | 18 | 19 |
| Belgium | 19 | 5.14 | 19 | 20 |
| Iceland | 20 | 5.05 | 20 | 23 |
| Malaysia | 21 | 5.04 | 21 | 21 |
| Ireland | 22 | 4.99 | 22 | 22 |
| Israel | 23 | 4.97 | 23 | 17 |
| New Zealand | 24 | 4.93 | 24 | 24 |
| Luxembourg | 25 | 4.85 | 25 | 25 |
| Qatar | 26 | 4.83 | 26 | 31 |
| Saudi Arabia | 27 | 4.72 | 27 | 35 |
| Chile | 28 | 4.72 | 28 | 26 |
| Spain | 29 | 4.72 | 29 | 29 |
| China | 30 | 4.70 | 30 | 34 |

* One country that was included last year is not shown because of the lack of Survey data (Uzbekistan). This explains why the lowest rank in this column

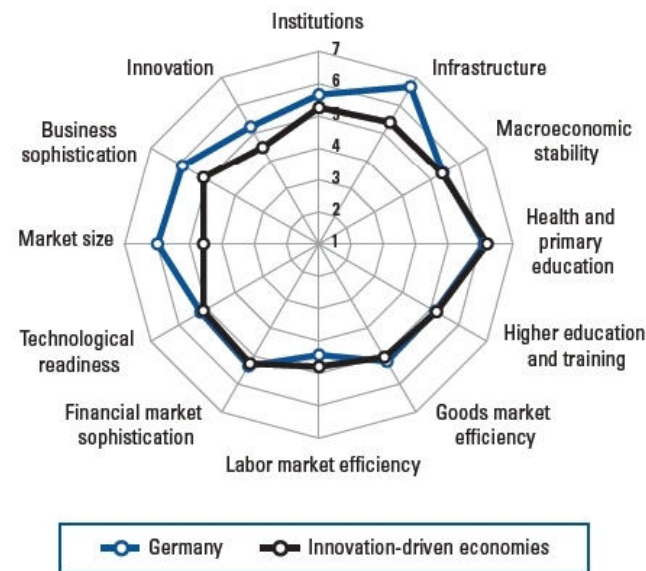
Source: World Economic Forum: Global Competitiveness Report 2008-2009

How is Germany doing exactly?

Global Competitiveness Index

| | Rank (out of 134) | Score (1-7) |
|--|----------------------|----------------|
| GCI 2008–2009 | 7 | 5.5 |
| GCI 2007–2008 (out of 131)..... | 5 | 5.5 |
| GCI 2006–2007 (out of 122)..... | 7 | 5.5 |
| Basic requirements | 7 | 6.0 |
| 1st pillar: Institutions | 14 | 5.7 |
| 2nd pillar: Infrastructure..... | 1 | 6.6 |
| 3rd pillar: Macroeconomic stability..... | 40 | 5.4 |
| 4th pillar: Health and primary education | 24 | 6.1 |
| Efficiency enhancers | 11 | 5.2 |
| 5th pillar: Higher education and training..... | 21 | 5.2 |
| 6th pillar: Goods market efficiency..... | 15 | 5.2 |
| 7th pillar: Labor market efficiency | 58 | 4.4 |
| 8th pillar: Financial market sophistication..... | 19 | 5.3 |
| 9th pillar: Technological readiness..... | 18 | 5.2 |
| 10th pillar: Market size..... | 4 | 6.0 |
| Innovation and sophistication factors | 4 | 5.5 |
| 11th pillar: Business sophistication | 1 | 5.9 |
| 12th pillar: Innovation..... | 8 | 5.2 |

Stage of development



Institutions: some insights

- These developed over a long period of time
- efficient property rights administration started to develop in the middle ages
- an independent judiciary and a professional bureaucracy in the early 19th century
- Key institutions were in place before the industrial revolution started
- Strong public support for independent institutions

Infrastructure: some insights

- Early use of Public-private partnership
- Internalized as key government task at all levels, esp. Municipalities
- Strong public demand
- Aided by clean bureaucracy and a strong tradition of spatial planning

Higher education and training: some insights

- A key factor in Germany's development
- Still a key ingredient in innovative character of German exporters
- An area where the country is seriously slipping

Goods market efficiency: some insights

- Competition breeds Competitiveness
- The intensity of competition reflects market openness and a strong competition policy
- Germany has a strong anti-monopoly law and an activist independent anti-monopolies office
- This developed after WWII, partly as a reaction to the great depression
- Ordo-Liberalism sees maintenance of competition as a public task; pure laissez-faire harbours a danger of cartelization

Labor market efficiency: some insights

- The biggest drag on competitiveness
- A key factor for high unemployment in East Germany
- Bright spot: cooperative tradition between labour and management; one of the lowest strike rates in the world

Business sophistication: some insights

- Family firms with long-term commitment play a big role
- Cluster development important: precision engineering in Black Forest, dating from clocks; medical instruments in Tuttlingen; jewellery in Pforzheim...

What's missing: Vocational training

- Evolved from medieval guilds: apprenticeship
- Apprentices are employed by companies for a stipend, mostly in SMEs
- One day a week is reserved for public vocational school
- Curricula are developed with Chambers of Commerce
- Chambers of commerce award diplomas

Effects of Vocational training

- Source of cheap labor, esp. for SMEs
- keeps youth unemployment low
- Companies' need dictate content of training
- Non-academic workforce is highly trained to uniform standards
- Inculcates pride of workmanship, boosting quality and innovativeness

Conclusions

- Back to basics: Institutions, Infrastructure, macroeconomic stability, basic health and education
- Labor costs are not the only determinant of competitiveness and they are not a problem as long as they come with high productivity
- Provision of quality infrastructure will allow industry to emerge all over the place, leading to balanced growth
- Private-sector-driven vocational training has potentially huge benefits, both economic and social

Appendix: Details on Germany's competitiveness

The Global Competitiveness Index in detail

■ Competitive Advantage ■ Competitive Disadvantage

| INDICATOR | RANK/134 | |
|--|----------|---|
| 1st pillar: Institutions | | |
| 1.01 Property rights | 6 | ■ |
| 1.02 Intellectual property protection..... | 6 | ■ |
| 1.03 Diversion of public funds | 13 | ■ |
| 1.04 Public trust of politicians..... | 21 | ■ |
| 1.05 Judicial independence | 4 | ■ |
| 1.06 Favoritism in decisions of government officials | 11 | ■ |
| 1.07 Wastefulness of government spending..... | 27 | ■ |
| 1.08 Burden of government regulation..... | 77 | ■ |
| 1.09 Efficiency of legal framework | 4 | ■ |
| 1.10 Transparency of government policymaking | 22 | ■ |
| 1.11 Business costs of terrorism..... | 62 | ■ |
| 1.12 Business costs of crime and violence | 19 | ■ |
| 1.13 Organized crime..... | 31 | ■ |
| 1.14 Reliability of police services..... | 4 | ■ |
| 1.15 Ethical behavior of firms | 15 | ■ |
| 1.16 Strength of auditing and reporting standards | 14 | ■ |
| 1.17 Efficacy of corporate boards..... | 13 | ■ |
| 1.18 Protection of minority shareholders' interests | 5 | ■ |

| INDICATOR | RANK/134 | |
|---|----------|---|
| 2nd pillar: Infrastructure | | |
| 2.01 Quality of overall infrastructure..... | 3 | ■ |
| 2.02 Quality of roads..... | 4 | ■ |
| 2.03 Quality of railroad infrastructure | 4 | ■ |
| 2.04 Quality of port infrastructure..... | 4 | ■ |
| 2.05 Quality of air transport infrastructure..... | 3 | ■ |
| 2.06 Available seat kilometers* | 5 | ■ |
| 2.07 Quality of electricity supply | 8 | ■ |
| 2.08 Telephone lines* | 2 | ■ |
| 3rd pillar: Macroeconomic stability | | |
| 3.01 Government surplus/deficit* | 58 | ■ |
| 3.02 National savings rate* | 60 | ■ |
| 3.03 Inflation* | 32 | ■ |
| 3.04 Interest rate spread* | 10 | ■ |
| 3.05 Government debt* | 105 | ■ |

* Hard data

Note: For further details and explanation, please refer to the section "How to Read the Country/Economy Profiles" at the beginning of this chapter.

The Global Competitiveness Index in detail

■ Competitive Advantage ■ Competitive Disadvantage

| INDICATOR | RANK/134 | |
|---|----------|---|
| 4th pillar: Health and primary education | | |
| 4.01 Business impact of malaria..... | 16 | ■ |
| 4.02 Malaria incidence* | 1 | ■ |
| 4.03 Business impact of tuberculosis..... | 23 | ■ |
| 4.04 Tuberculosis incidence* | 8 | ■ |
| 4.05 Business impact of HIV/AIDS | 16 | ■ |
| 4.06 HIV prevalence* | 23 | ■ |
| 4.07 Infant mortality* | 10 | ■ |
| 4.08 Life expectancy* | 12 | ■ |
| 4.09 Quality of primary education..... | 36 | ■ |
| 4.10 Primary enrollment* | 17 | ■ |
| 4.11 Education expenditure* | 52 | ■ |
| 5th pillar: Higher education and training | | |
| 5.01 Secondary enrollment* | 25 | ■ |
| 5.02 Tertiary enrollment* | 43 | ■ |
| 5.03 Quality of the educational system | 23 | ■ |
| 5.04 Quality of math and science education | 44 | ■ |
| 5.05 Quality of management schools | 21 | ■ |
| 5.06 Internet access in schools | 30 | ■ |
| 5.07 Local availability of research and training services | 5 | ■ |
| 5.08 Extent of staff training | 12 | ■ |

| INDICATOR | RANK/134 | |
|--|----------|---|
| 6th pillar: Goods market efficiency | | |
| 6.01 Intensity of local competition | 1 | ■ |
| 6.02 Extent of market dominance | 1 | ■ |
| 6.03 Effectiveness of anti-monopoly policy | 2 | ■ |
| 6.04 Extent and effect of taxation | 105 | ■ |
| 6.05 Total tax rate* | 89 | ■ |
| 6.06 No. of procedures required to start a business* | 58 | ■ |
| 6.07 Time required to start a business* | 38 | ■ |
| 6.08 Agricultural policy costs | 84 | ■ |
| 6.09 Prevalence of trade barriers..... | 31 | ■ |
| 6.10 Trade-weighted tariff rate* | 5 | ■ |
| 6.11 Prevalence of foreign ownership..... | 31 | ■ |
| 6.12 Business impact of rules on FDI | 46 | ■ |
| 6.13 Burden of customs procedures | 21 | ■ |
| 6.14 Degree of customer orientation | 14 | ■ |
| 6.15 Buyer sophistication | 16 | ■ |

* Hard data

Note: For further details and explanation, please refer to the section "How to Read the Country/Economy Profiles" at the beginning of this chapter.

Source: World Economic Forum: Global Competitiveness Report 2008-2009

The Global Competitiveness Index in detail

■ Competitive Advantage ■ Competitive Disadvantage

| INDICATOR | RANK/134 |
|--|------------|
| 7th pillar: Labor market efficiency | |
| 7.01 Cooperation in labor-employer relations | 27■ |
| 7.02 Flexibility of wage determination..... | 131■ |
| 7.03 Non-wage labor costs* | 80■ |
| 7.04 Rigidity of employment*..... | 87■ |
| 7.05 Hiring and firing practices | 130■ |
| 7.06 Firing costs* | 93■ |
| 7.07 Pay and productivity..... | 51■ |
| 7.08 Reliance on professional management | 9■ |
| 7.09 Brain drain..... | 26■ |
| 7.10 Female participation in labor force* | 34■ |

| INDICATOR | RANK/134 |
|--|-----------|
| 8th pillar: Financial market sophistication | |
| 8.01 Financial market sophistication..... | 14■ |
| 8.02 Financing through local equity market..... | 50■ |
| 8.03 Ease of access to loans | 46■ |
| 8.04 Venture capital availability | 33■ |
| 8.05 Restriction on capital flows | 8■ |
| 8.06 Strength of investor protection* | 67■ |
| 8.07 Soundness of banks | 39■ |
| 8.08 Regulation of securities exchanges | 15■ |
| 8.09 Legal rights index* | 8■ |

* Hard data

Note: For further details and explanation, please refer to the section "How to Read the Country/Economy Profiles" at the beginning of this chapter.

The Global Competitiveness Index in detail

■ Competitive Advantage ■ Competitive Disadvantage

| INDICATOR | RANK/134 |
|---|------------|
| 9th pillar: Technological readiness | |
| 9.01 Availability of latest technologies..... | 8 ■ |
| 9.02 Firm-level technology absorption..... | 12 ■ |
| 9.03 Laws relating to ICT..... | 13 ■ |
| 9.04 FDI and technology transfer | 61 ■ |
| 9.05 Mobile telephone subscribers* | 26 ■ |
| 9.06 Internet users* | 30 ■ |
| 9.07 Personal computers* | 12 ■ |
| 9.08 Broadband Internet subscribers* | 23 ■ |
| 10th pillar: Market size | |
| 10.01 Domestic market size* | 5 ■ |
| 10.02 Foreign market size* | 3 ■ |

| INDICATOR | RANK/134 |
|--|------------|
| 11th pillar: Business sophistication | |
| 11.01 Local supplier quantity | 2 ■ |
| 11.02 Local supplier quality | 2 ■ |
| 11.03 State of cluster development | 10 ■ |
| 11.04 Nature of competitive advantage | 1 ■ |
| 11.05 Value chain breadth..... | 4 ■ |
| 11.06 Control of international distribution | 2 ■ |
| 11.07 Production process sophistication | 3 ■ |
| 11.08 Extent of marketing | 4 ■ |
| 11.09 Willingness to delegate authority | 10 ■ |
| 12th pillar: Innovation | |
| 12.01 Capacity for innovation | 1 ■ |
| 12.02 Quality of scientific research institutions..... | 6 ■ |
| 12.03 Company spending on R&D | 5 ■ |
| 12.04 University-industry research collaboration | 6 ■ |
| 12.05 Gov't procurement of advanced tech products..... | 34 ■ |
| 12.06 Availability of scientists and engineers..... | 26 ■ |
| 12.07 Utility patents* | 9 ■ |

* Hard data

Note: For further details and explanation, please refer to the section "How to Read the Country/Economy Profiles" at the beginning of this chapter.