

Gerhard Bosch

Financing investment in productive capabilities

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Strong occupational labour marktes in DE

World-wide same technologies but different skill structures

- Assembling of Airbus by skilled workers in DE and with on-the-job-trained in UK, FR, ES (*Bremer 2008*)
- Retail trade trains apprentices in DE in FR, UK, USA mostly unskilled employees (*Carré u.a. 2010*)
- Broad brick-layer training in DE + DK (3 to 3,5 years), short training (1 year) in IT und UK (*Clarke/Winch 2014*)
- Middle managers coming from the shop floor via promotional training (*Hippach-Schneider 2011*)

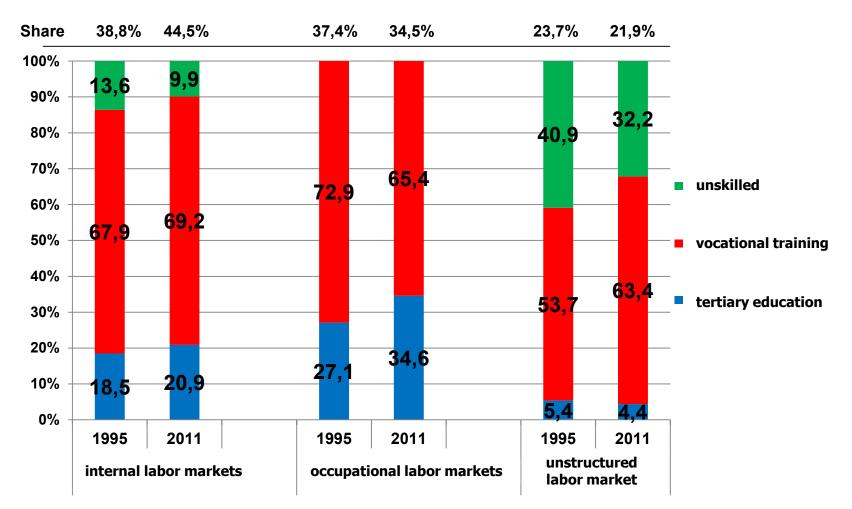
Impact on work organization: less supervisors, more complex job tasks, steep learning curve after re-structuring, communication between shop floor and management at eye level (Ryan et.al. 2011)

Skilled workers + engineers – secret of German competiveness





Skill structure in the segments of the German labor market 1995 and 2011 in DE in % (SOEP)



Source:: Bosch, G., 2014: Facharbeit, Berufe und berufliche Arbeitsmärkte.WSI-Mitteilungen 67 (1), S. 5-13



Co-determination and VET

Literature shows positive impacts of co-determination at (1) company-level, (2) work-place level and (3) in the German dual system of apprenticeship on VET

- Company level: nomination of an HR-director, linking business decisions with training
- Works-councils (WC's) : information, consultation and co-determination rights in the promotion and implementation of VET
- Youth and trainee representatives (Jugenvertretung) with legal rights can be elected
- Dual System: Social partners decide on the national occupational profiles with the support of the Federal Institute for Vocational Training (BiBB) and are responsible for the examinations





Co-determination and apprentice-ship-rate (ASR)

- Each year: National debate on sufficient provision of training places, closely monitored by employment office, social partners, governments (national, Länder) and the media
- Training pacts at national, industry, Länder and company level to increase or stabilize training
- ASR in companies with strong board co-determination 4,5% in companies with no or weak co-determination 3,6% (Scholz 2017)
- Work councils strongly engaged in the keeping ASR high
- But ASR in companies with works councils not above average since licensing and levy systems (in construction) keeps ASR high in SME's without works councils





The German job miracle in the great recession

Decline of German GDP by 5,0 in 2009 – but no increase of unemployment and youth unemployment - Reasons:

- (1) Work-sharing (short-time scheme, partial reduction of agreed hours, overtime ban, use of credit hours on working time accounts). Effect: dismissal of hours not of workers
- (2) Recruitment of 540 000 apprentices in 2009
 - Dual System of Vocational Training major route into the labour market for school leavers
 - Apprentices regarded by WC's as "Insiders" easier transition from school to work than in countries without apprenticeship systems
 - Social Pacts and collective agreements (engeneering and chemical industry) to maintain apprenticeship rate and continuation of employment after apprenticeship

Effect: Fast recovery since the industrial fabric including the skilled workers were maintained





Higher retention rates of apprentices in plants with works councils

Strong role of works council in quality control of training – good quality increases rentention





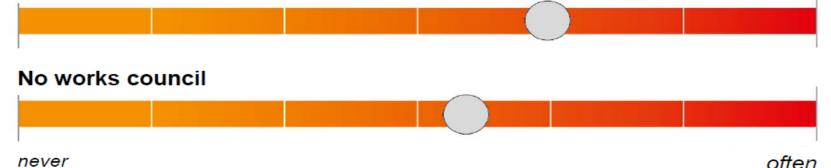




Works councils and further training

- Many studies show positive impact of works councils on *further* training (Hübler 2003; Jirjahn/ Smith 2017, Stegmeier 2012, Cantner et.al. 2014 etc.)
- Main reasons: (a) active promotion of further training to increase employability and promote careers, (b) managers also engaged since dismissals are expensive in DE and do not want to loose the high investments in the apprenticeship training
- But many inactive works coucils further training regarded as invidual responsibility also by employees low pressures on works councils to act
- Challenges of industry 4.0 used by unions to enage works council more in further training

Works council



Quelle: Cantner u.a. 2014 © Hans-Böckler-Stiftung 2014





Modernization of vocational training

- Most of the 350 national occupational profiles in the dual system have been modernized in the last decade
 - Occupational profiles broader than in the past and technology open
 - Learning in teams and in real business processes to acquire social skills and understand the context of the job
 - Creation of optional modules for initial or further training
 - Debated: joint module "media competence" across all occupations
- Parallel: Modernization of promotional training for masters, technicians, business administrators





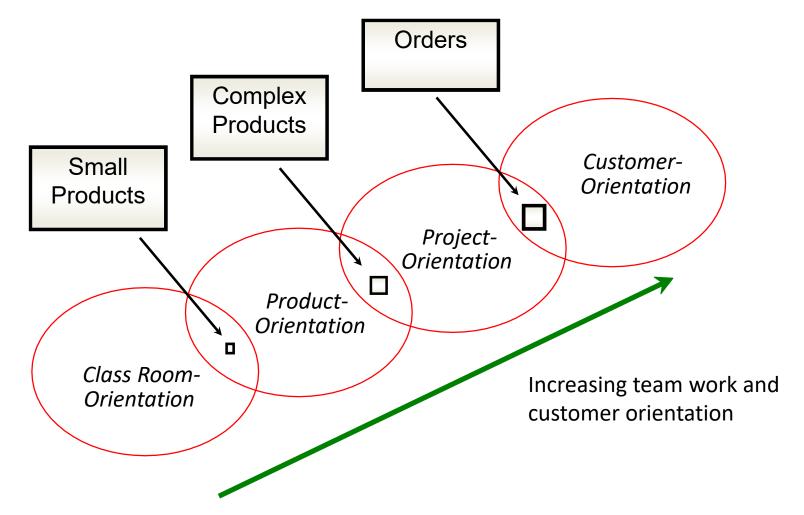
Profile of the "Industrial mechanic"

- Organise and check production and manufacturing processes
- Make structural components and subassemblies and assemble them to produce technical systems
- Identify and document faults and their causes in technical systems
- Repair technical systems Retrofit machines and systems
- Complete maintenance work and inspections Select testing procedures and testing equipment
- Deliver technical systems and products to customers and provide instructions in the use of the plant
- Ensure the functionality of technical systems
- Monitor and extend electrical control components
- Consider business processes and apply quality management
- Act autonomously in completion of activities taking into account relevant regulations and safety provisions
- Coordinate work with upstream and downstream departments
- Set up workstations Communicate with internal and external customers in a manner appropriate for the situation; work as part of a team
- Check and document maintenance and assembly work with due regard to company quality management systems
- Use IT systems, including in digitalized processes
- Apply regulations relating to data protection and information security





New learning forms: From product towards team work and customer-or business process orientation

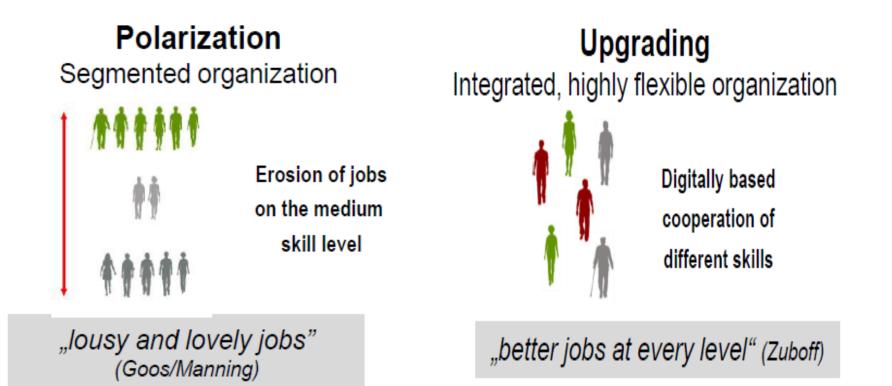


Source: Bosch 2000a





Broad occupational profiles key to create flexible work organizations in the world of industry 4.0



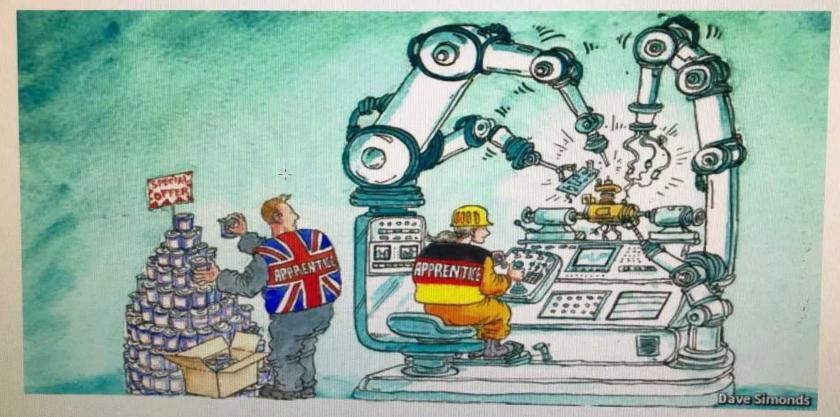
Source: Hirsch-Kreinsen (2018) http://www.fapesp.br/eventos/2018/12046/day30/1330_Hirsch_Kreinsen.pdf





"Keeping up with the Schmidts" -- ??

"Attempts to build a snazzy, German style apprenticeship system crash into cultural and economic differences" [The Economist, 26.04.2014]



Cartoon von David Simonds©





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