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Linking labour, trade and macro. Is a task-based approach useful?

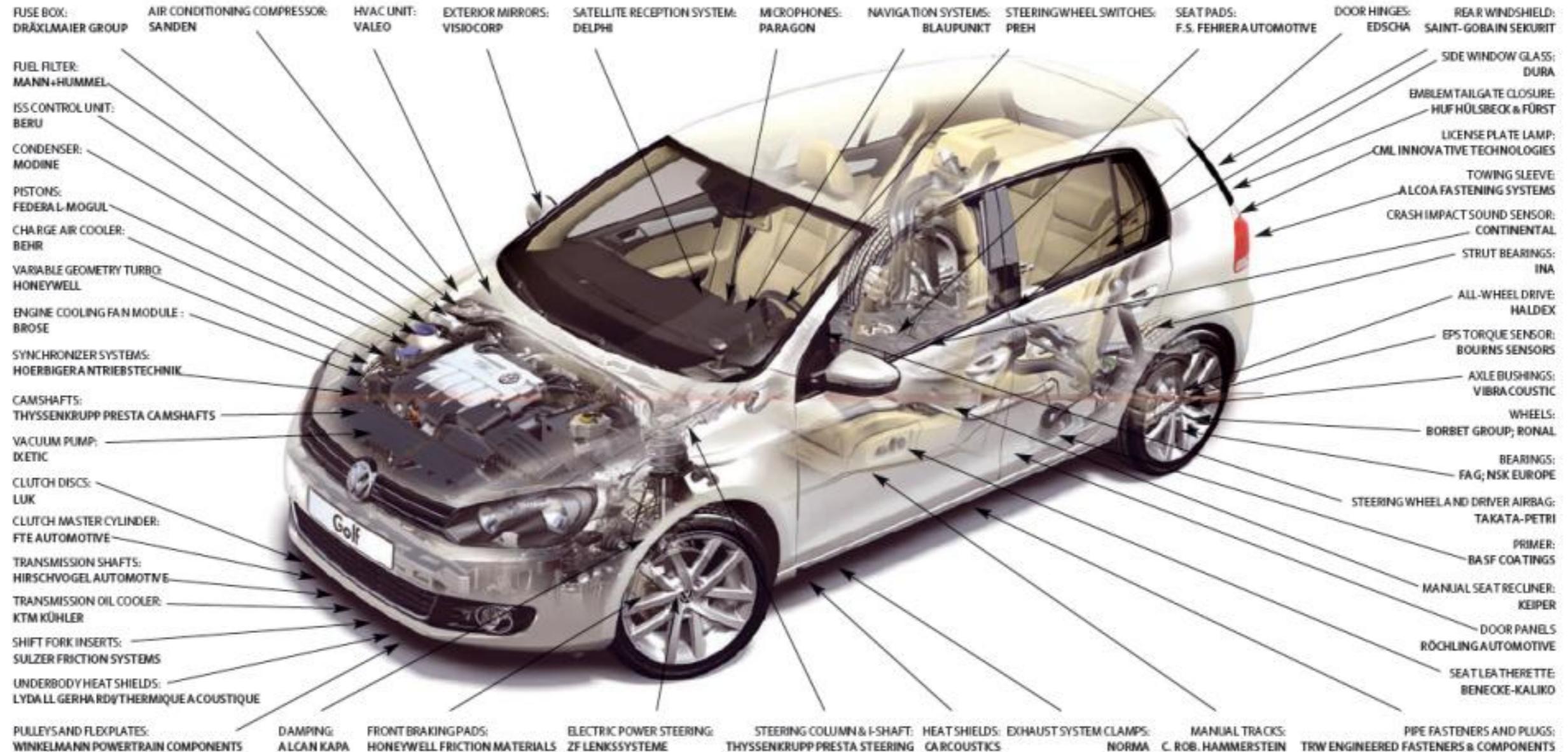
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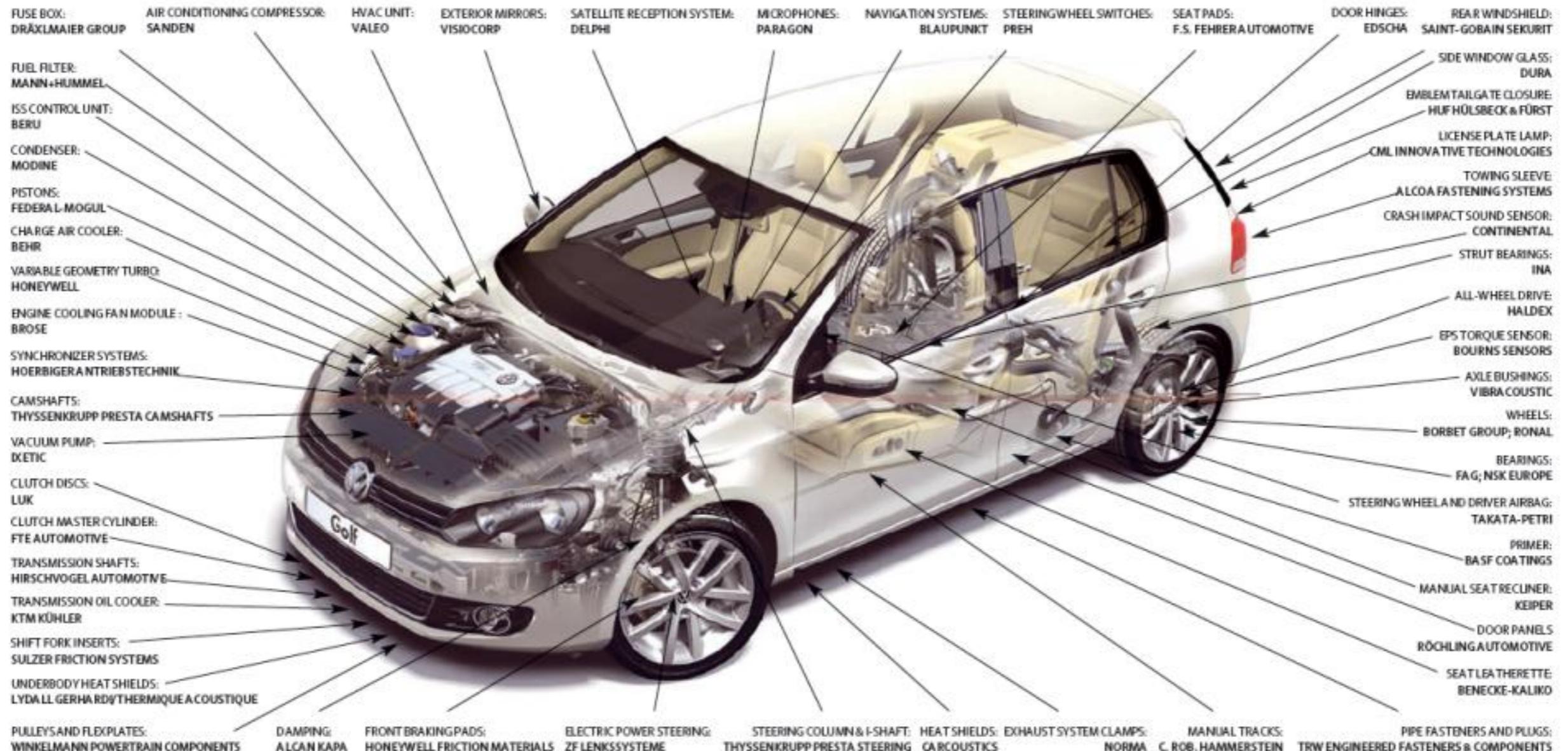
Presentation at CEPREMAP conference “Productivity Puzzles in Europe”,
Paris, 23 Jan, 2015.



- Micro-studies highlight **wage** developments. Provide very useful institutional background for labour market developments.
- Macro emphasizes the increasing role of **intangibles**, but faces difficulties in its measurement and contribution to productivity.
- Touched upon but not analysed (long-term trends):
 - What is the role of **biased technological change**?
 - **Trade-linkages** between firms and countries (e.g. outsourcing and off-shoring).



German car is a function of German labour and capital



A “German” car is an end-result of a series of tasks
(e.g. R&D, marketing, assembly, logistics)

Which are carried out by combinations of labour and capital,
domestic and foreign

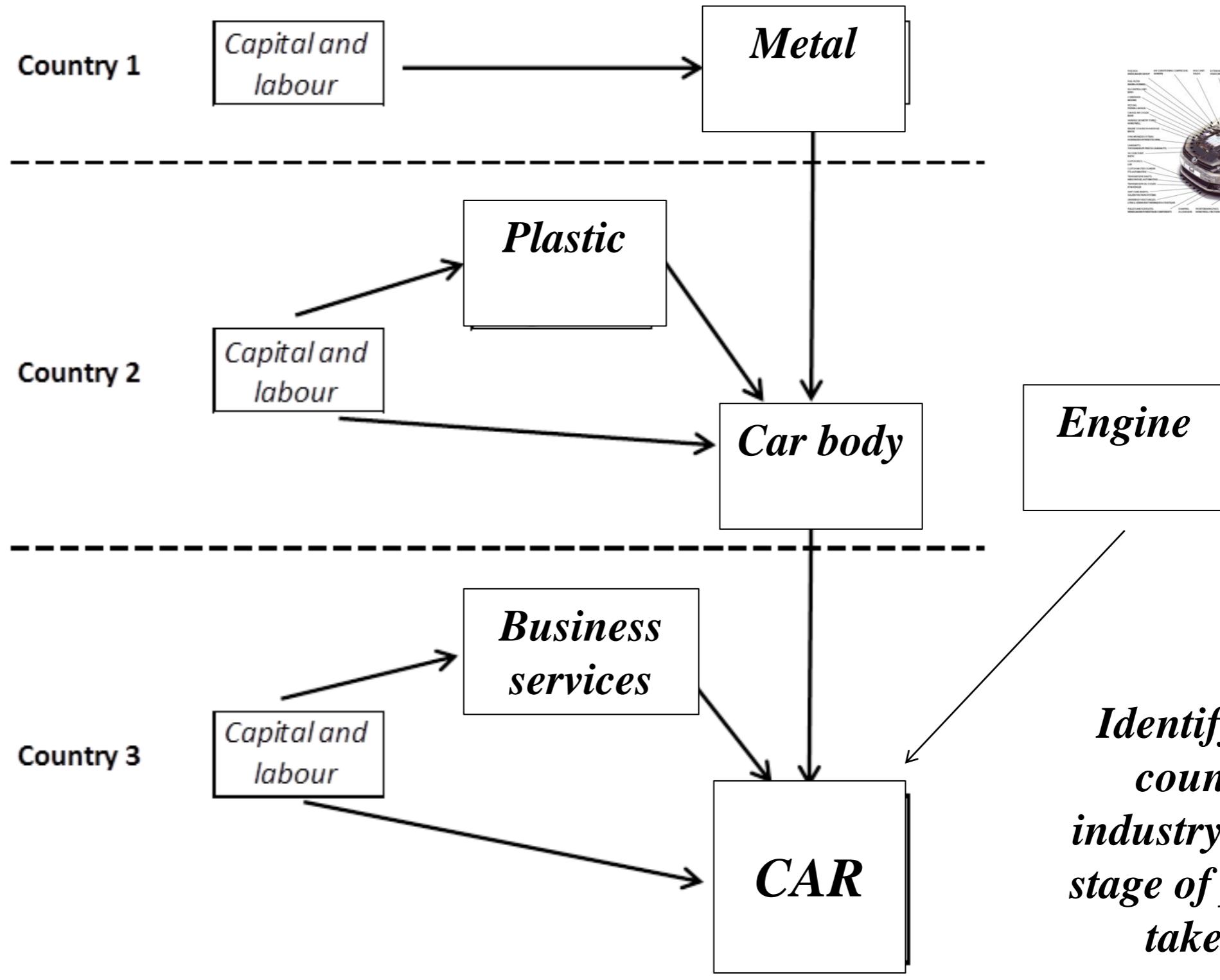


- Analysis of **vertically integrated production function** (Pasinetti 1973, Autor and Acemoglu 2011): final output is combination of labour and capital anywhere.
- **New view allows sharper focus** on:
 - Automation/robotics (e.g. routine tasks substitution, FBTC)
 - Contribution of intangibles (e.g. R&D and marketing tasks)
 - Wages and returns to capital
 - International fragmentation of production (e.g. off-shoring)
 - and interdependence of tasks across industries and countries (e.g. outsourcing of business services tasks)
- But can we bring it to the data?



Stylized global production system for car

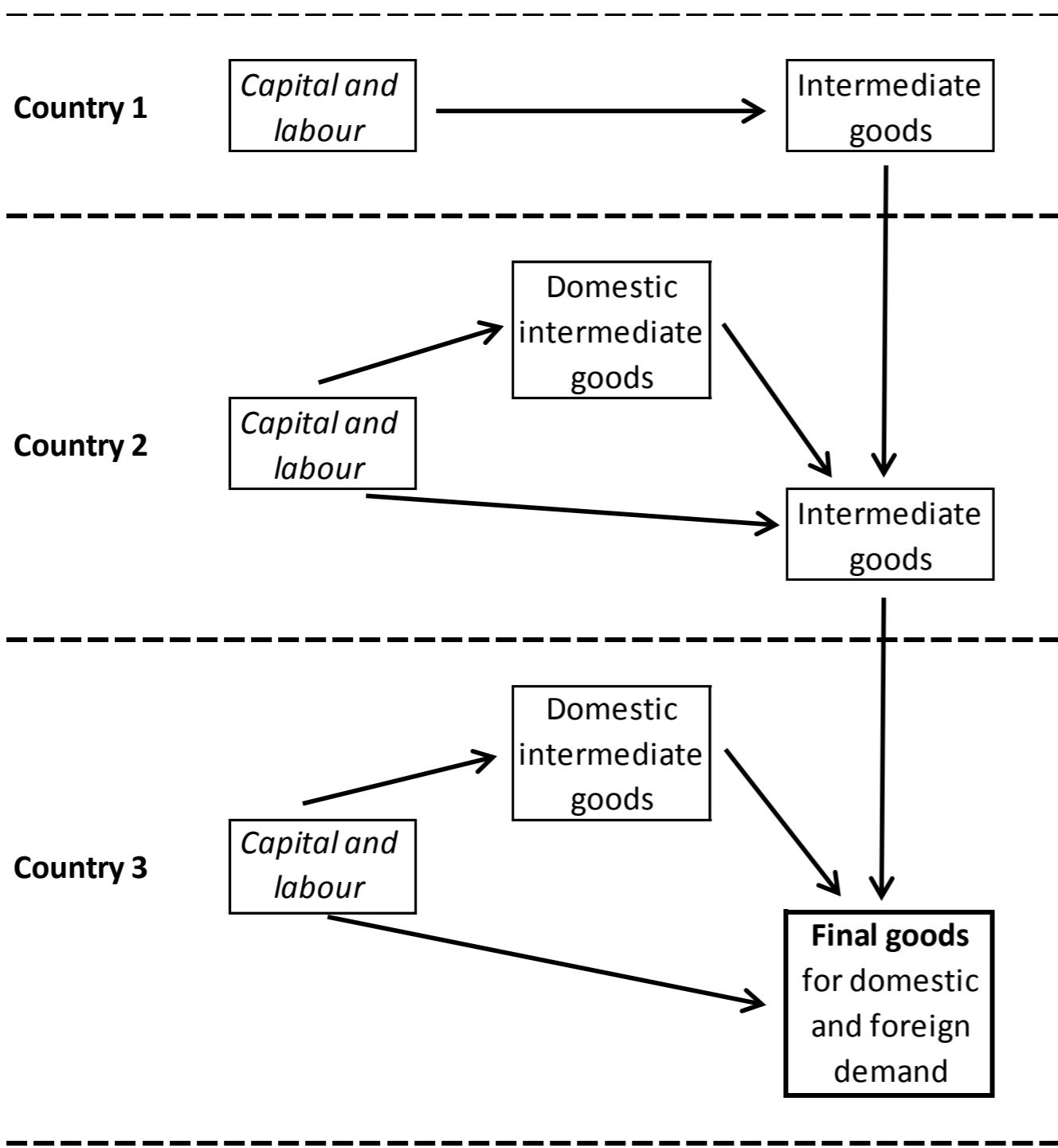
Countries-industries delivering value added



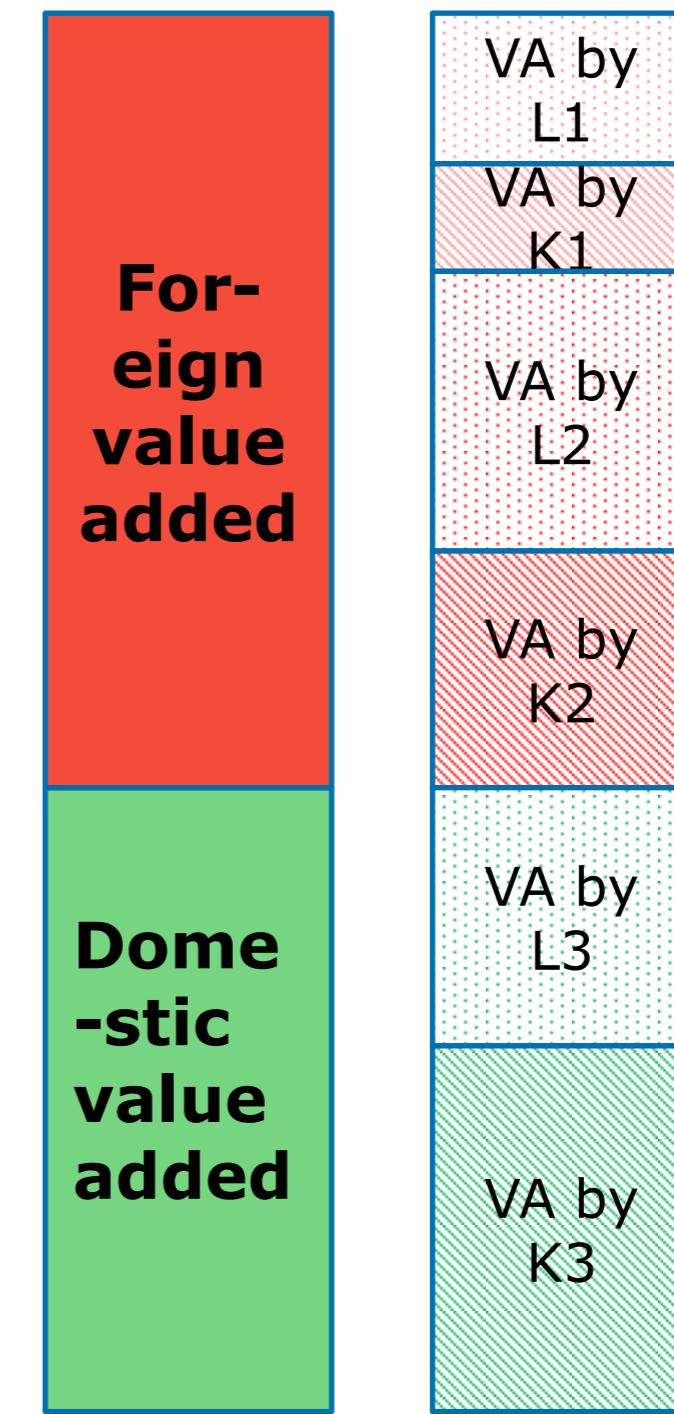


Factor content of a global value chain

Production process of a good



Value of good





Some findings of GVC analysis on final manufacturing products

- Increasing fragmentation of production across borders, in particular outside regional trade blocks (Los et al. 2014).
- Growth in gross exports is much faster than growth in value added exports and
- there is increasing share of services sector contributing to manufacturing goods (Timmer et al. 2013)
- Increasing share of value added by capital (intangibles? SBTC?) and high-skilled labour in GVCs (Timmer et al. 2014)



- To further understanding of macro-productivity and link to labour market one needs more data and analysis of tasks/activities: What do workers and firms do?
- Measurement progress is being made:
 - World input-output databases (e.g. www.wiod.org)
 - Data on occupations and tasks
 - Data on businesss activities of firms



- Timmer, Marcel P., Bart Los, Robert Stehrer and Gaaitzen J. de Vries (2013). "Fragmentation, Incomes and Jobs. An Analysis of European Competitiveness." **Economic Policy** 28(76):613–661.
- Los, B., M.P. Timmer and G.J. de Vries (2014), "How global are Global Value Chains? A New Approach to Measure International Fragmentation", early view, **Journal of Regional Science**, DOI: 10.1111/jors.12121
- Timmer, M.P., A.A. Erumban, B. Los, R. Stehrer and G.J. de Vries (2014), "Slicing Up Global Value Chains", **Journal of Economic Perspectives**, Spring 2014,
- Los, B., M.P. Timmer and G.J. de Vries (2014), "How Important Are Exports for Job Growth in China? A Demand Side Analysis", **Journal of Comparative Economics**, doi:10.1016/j.jce.2014.11.007