

# Trade and Labour Market Adjustment

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## Quantifying Labour Market Adjustment

- Ex-post methods
- Ex-ante methods
- Worries about shortcomings, and **semantics**
- An example: globalization and the structure of employment
- Implications of service sector tradability
- Some thoughts on adjustment-related impacts vs. structural impacts

## Ex-Post methods

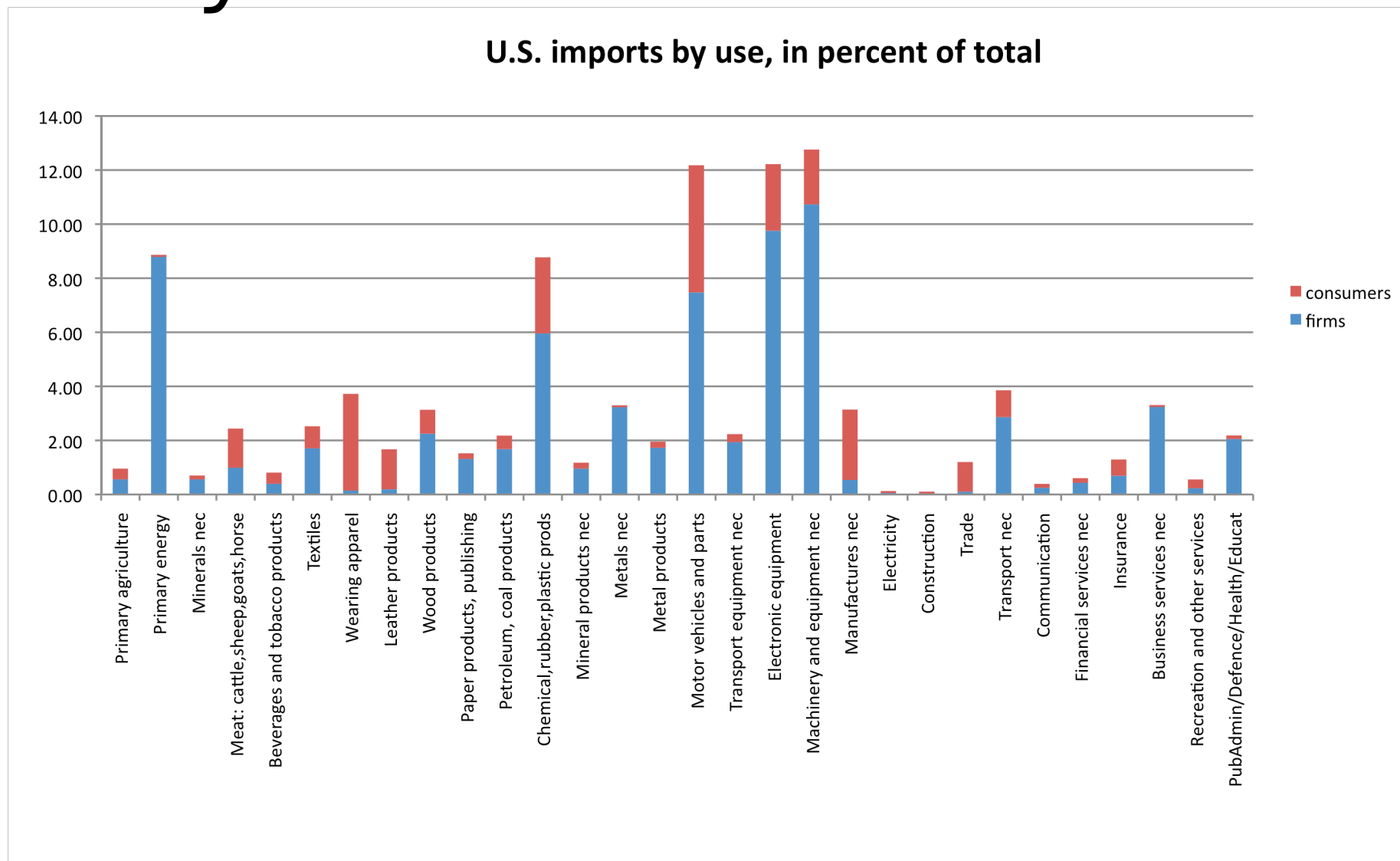
- Adjustment assistance (Richardson)
- Lost earnings measurement (Bale, Hertel)
  - Time out of work
  - Reduction in earnings
- Natural turnover (rapid vs. gradual integration) (Winters and Takcas)
- Intra- vs. Inter-industry adjustment, and shifts in nature of employment  
(Greenaway et al, Brühlhart, Davis and Harrigan, Beaudry et al)
- Productivity linkages to trade volumes and intermediates  
(Francois, Grier, Nelson)

Some recent and recycled trends in this literature

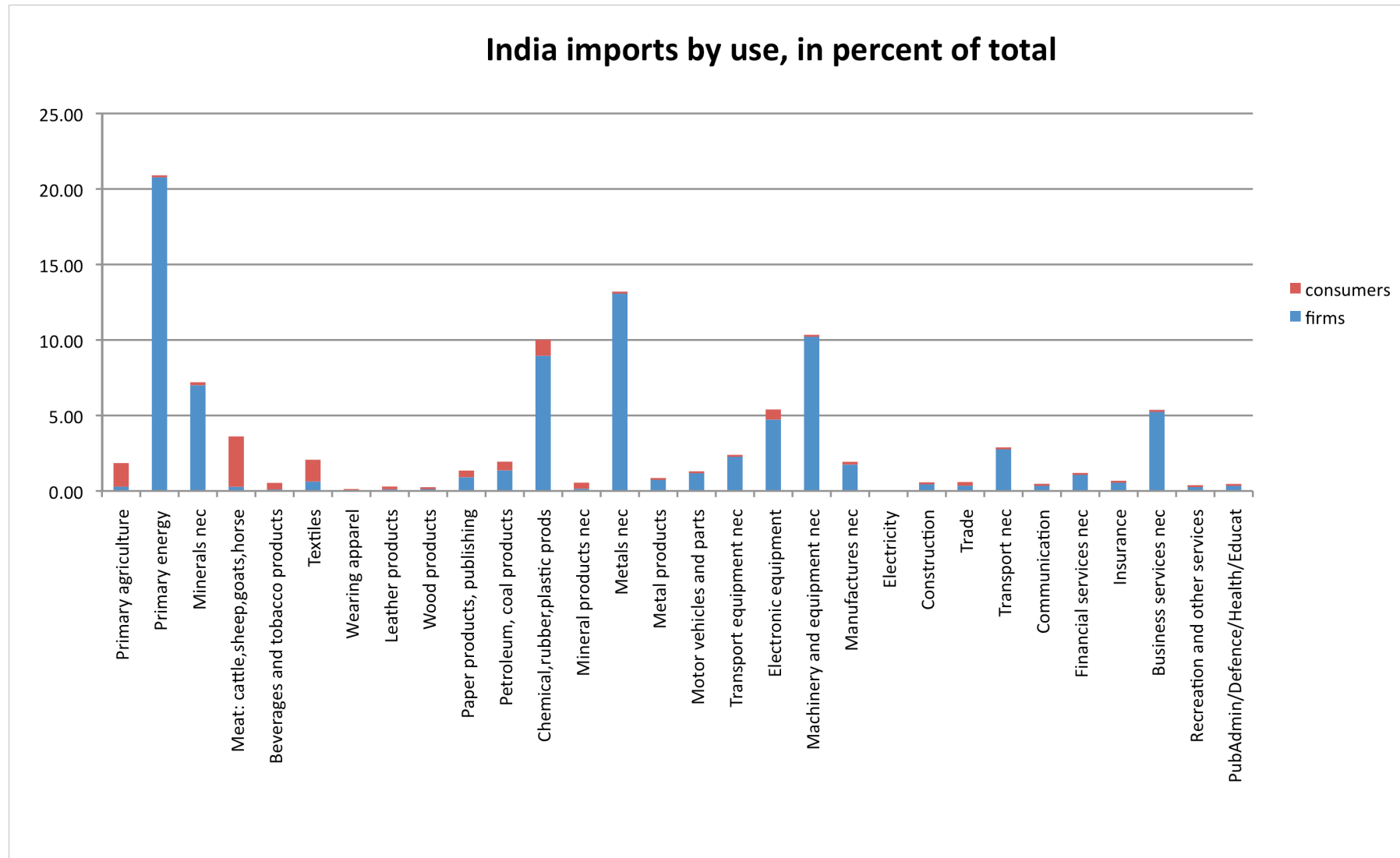
- Good jobs vs. bad jobs, and employment spillovers
- Firm restructuring
- Off-shoring and trading in tasks

# METHODOLOGY FOR EX-POST ASSESSMENT

## Why intermediates matter



# METHODOLOGY FOR EX-POST ASSESSMENT



## Ex Ante Assessment of Trade Impacts

- CGE Models and PE models
- Issues include
  - Labour mobility
  - Import substitution
  - Role of NTBs
  - Firm mobility (can production easily relocate?)
  - Transition Dynamics (poorly worked out for labor)
  - Labor market structure
  - Firm restructuring and links to productivity
  - Wages and household income/poverty

# Structural Impact Indexes

- Production effects
  - Simple sector output changes
  - Weighted output deviation (which weights?)
- Labour effects
  - Average wages
  - Cross-Sectoral displacement
  - Within-sector displacement
  - Weighted employment deviation
  - Total employment changes (how many workers move?)
- Social costs
  - Wages and inequality (not just economic costs linked to equity concerns)
  - Employer linked benefit systems (insurance, pensions)

## Establishment level changes in output

$$\begin{aligned} s_{q,Total}^2 &= \sum_{j=1}^n \sum_{i=1}^{f_i} \lambda_j \theta_{ij} (\hat{q}_{ij} - m_q)^2 \\ &= \sum_{j=1}^n \lambda_j s_{q,j:within}^2 + s_{q,across}^2 \end{aligned}$$

Changes in the composition of output for the economy as a whole hinge on what happens both within and across sectors.



## Establishment level changes in employment

$$\begin{aligned} s_{L,Total}^2 &= \sum_{j=1}^n \sum_{i=1}^{f_i} \lambda_j \theta_{ij} \left( \hat{l}_{ij} - m_q \right)^2 \\ &= \sum_{j=1}^n \lambda_j s_{l,j:within}^2 + s_{l,across}^2 \end{aligned}$$

Changes in the composition of employment for the economy as a whole hinge on what happens both within and across sectors.

Problem: here we capture net variations relative to total employment changes. This undercounts labor market “churn” or turnover.

## Establishment level changes in employment

$$\Delta_{L,j} = (1/2) \sum_{i=1}^{f_j} \theta_{ij} \text{ABS}(\hat{l}_{ij})$$
$$\Delta_L = (1/2) \sum_{j=1}^n \sum_{i=1}^{f_i} \lambda_j \theta_{ij} \text{ABS}(\hat{l}_{ij}) = \sum_{j=1}^n \lambda_j \Delta_{L,j}$$

Focusing on absolute turnover in labor requires both avoiding double counting, and avoiding the netting of departures against entries for the same workers.

This kind of index is included in recent EU SIA reports.

## Economy-wide costs linked to inequality

$$I = 1 - \left( \frac{1}{h} \sum_h \left( \frac{y^h}{\bar{y}} \right)^{1-\rho} \right)^{\frac{1}{1-\rho}}$$
$$SW = \left[ \left( \frac{\bar{y}}{p_c} \right) (1 - I_A) \right]^{1-\theta}$$

Recent literature has examined transmission of globalization trends, through trade, to factor markets, including assessment of changes in poverty at household level.

The next step, adding up, has not been taken.

## Some Issues with Models

- Poor tracking of what happens within sectors
- The basic rate of labour market turnover needs to be kept in mind (as well as time path of policy shocks)
- Labour may be displaced for good reasons (do wages go up or down?)
- Models do not generally include search or waiting time, which is important in the ex-post literature
- In general, the dynamics of labour markets are not included in dynamic models (emphasis on capital market dynamics)
- Lost wages – a mapping of churn to average search time and wages seems appropriate
- From econometrics – does trade impact on search time (and is this economically significant?)
- Social costs linked to establishments? (insurance etc)

# Macro projection analysis

- IMF/OECD baseline GDP projections: 2008-2020
- National and ILO projections of population and labour force trends
- Regional linkages through trade intermediate and final goods, and also through investment flows
- Growth at macro level linked to productivity trends and investment
- Labour market impacts linked to productivity trends, real price trends (rising Asian consumer base) and shifts in employment linked to trade and productivity growth.

A simple question: what does trade with China mean for workers in other regions?

# AN EXAMPLE – GLOBALIZATION TRENDS

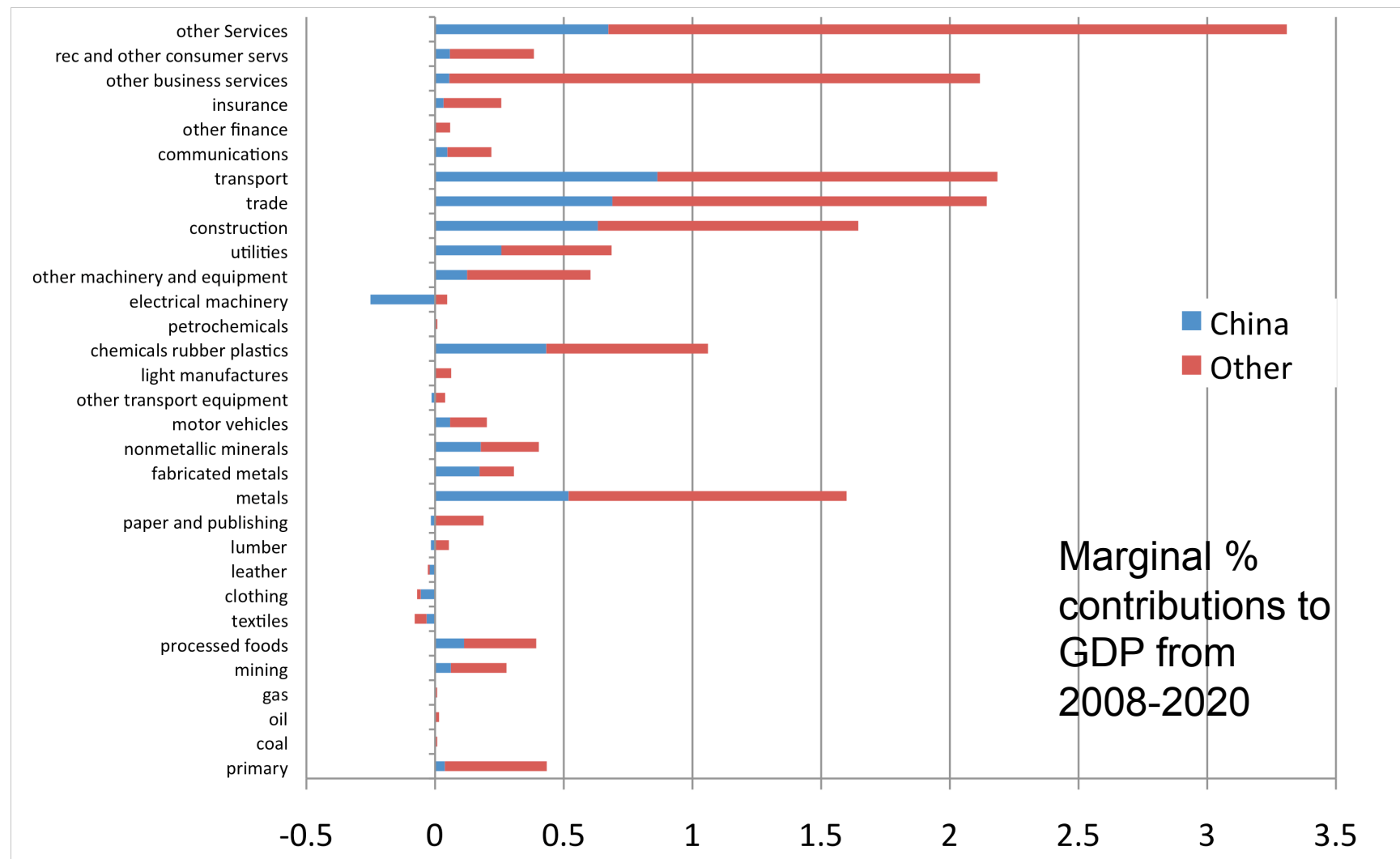
## GDP impacts

### Baseline GDP and Projections

	GDP 2008, billion euros	real growth rate, 2008-2020	real growth rate, without China	China's impact on growth
Austria	283	1.46	0.95	0.51
Germany	2,509	1.04	0.54	0.50
EU 13	8,446	1.55	1.04	0.51
EU 12	1,321	3.12	2.93	0.19
EEA	662	1.29	0.61	0.68
NAFTA	11,631	2.10	1.81	0.29
Other OECD	4,768	2.07	1.77	0.30
China	3,103	9.33	0.00	9.33
Brazil	1,074	3.26	2.64	0.62
Latin America	1,801	3.49	2.88	0.61
India	824	7.51	8.63	-1.12
Russia	1,145	2.92	2.30	0.61
ASEAN	863	5.10	5.08	0.02
Middle East and North Africa	1,485	4.45	3.81	0.63
Sub-Saharan Africa	678	4.98	4.18	0.80
Rest of World	1,014	10.26	10.59	-0.32

# AN EXAMPLE – GLOBALIZATION TRENDS

## Weighted output shifts: Austria



# Macro projection analysis

A simple question: what does trade with China mean for workers in other regions?

A complicated answer

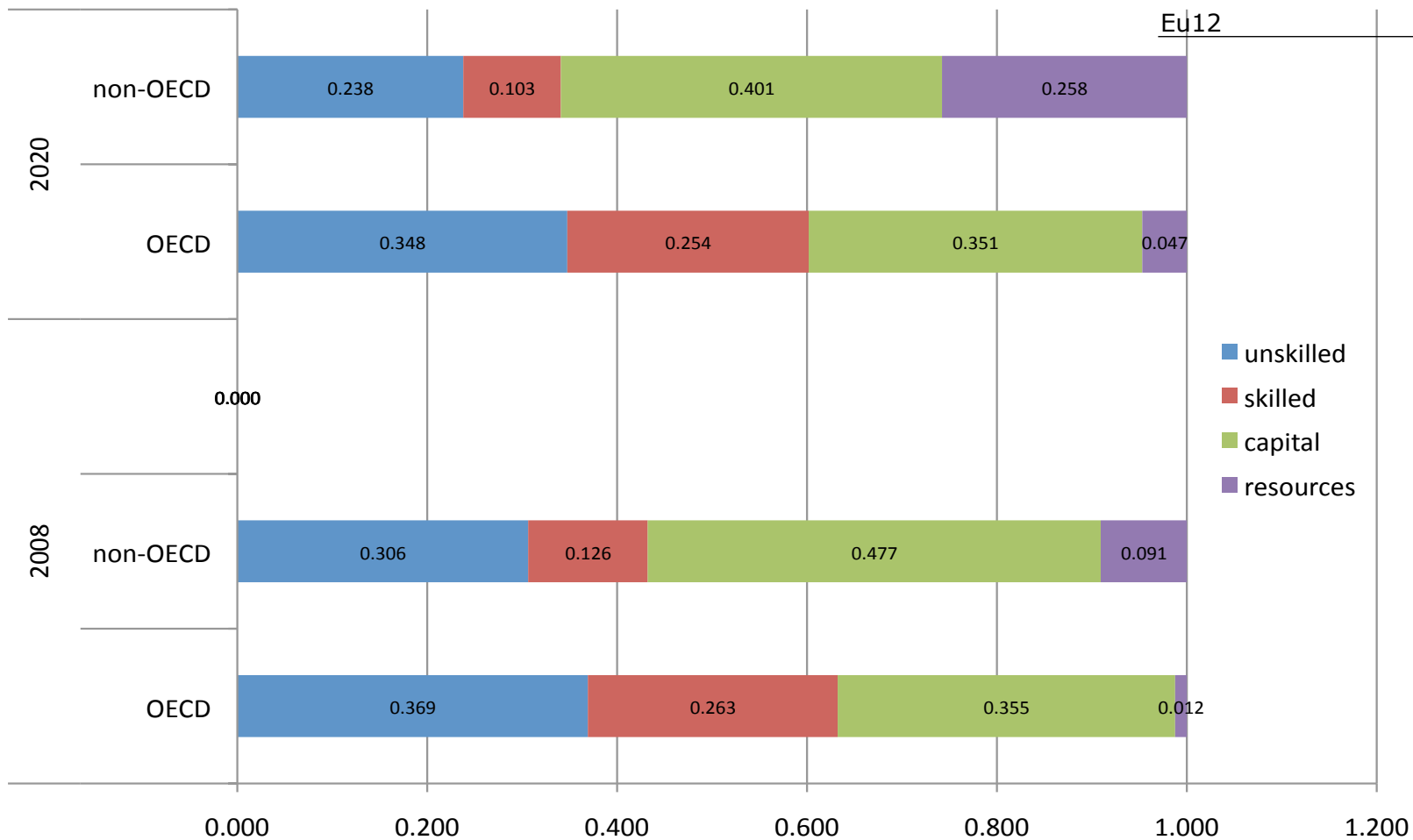
- In a static sense, OECD workers may gain from incremental insulation from trade with China
- In a dynamic sense, important aspects of wage growth are linked to investment-related productivity gains and access to a booming consumer market
- A dominant point is the growth in wages and employment that occur even in the baseline. This means adjustment costs linked to trade, per se, are likely to be insubstantial in a medium-term context
- Greater issue of adjustment costs may be linked to macro policies (credit creation) and linkages to global boom bust cycles and employment cycles.



# AN EXAMPLE – GLOBALIZATION TRENDS

## Income shares

	Real wages	
	unskilled	skilled
Austria	18.9	-4.1
Germany	16.6	2.4
EU13	22.0	-6.7
EU12	33.2	4.5



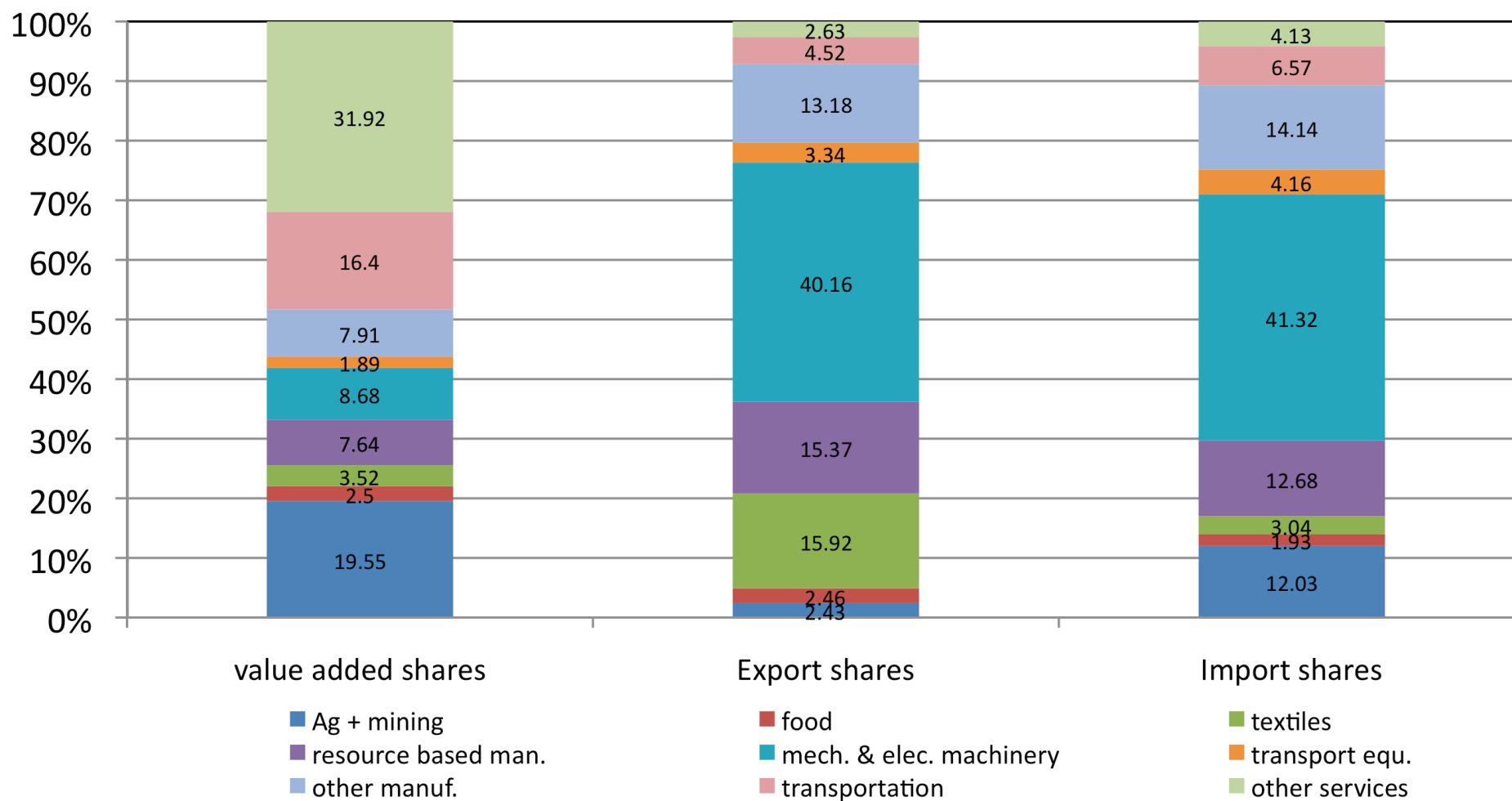
# TRADABILITY OF SERVICES -- GERMANY

Germany: Structure of Value Added and Trade in 2005



# TRADABILITY OF SERVICES -- CHINA

## China: Structure of Value Added and Trade in 2004



# CONCLUSIONS PART 1

## Issues and Uses

- Individual indicators can be misleading (change can be good!)
- Wage effects can be mapped to household earnings and hence to income distribution impact assessments
- Other indicators include real earnings determinants (tax changes, price changes, etc.) and lost wages from search
- Weighted variance indicators provide some sense of economy-wide impact
- General changes in labour markets (churn) may wash out trade-related adjustment costs
- Political weights matter – NAFTA fight over  $\pm 0.01\%$  is informative

## CONCLUSIONS PART 2

# Worries and Shortcomings <sup>1/</sup>

- Structure (parameters and theory) matter tremendously. We need more work on structural estimation (integration of econometric methods for model specification decisions)
- The standard ex-ante methods do not really deal well with intra-sector adjustment mechanisms.
- Not enough emphasis on links between public finance mechanisms, firm benefits, and labour welfare. (State provided health care, firm insurance and benefits, etc)
- Transition dynamics clearly matter in ex post studies. We need to handle this better.
- Macro policy coordination issues may be more important, in a globalization context, for labour market costs linked to trade and openness.
- Structural impacts (wage changes etc) dominant relative to transitional adjustment costs.

<sup>1/</sup> not comprehensive, by any means.