

# New Evidence on Trade and Employment

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# Outline of Talk

- Motivation
- Trends in Trade and Employment
- New Research on Trade, Wages and Jobs
- Trade in Tasks: A New Paradigm
- Adjustment Costs of Trade
- Stylized Facts, Future Research and Policy Implications

# Trade Liberalization Is Disappointing

- Hoekman and Winters (2005)
- Pavcnik and Goldberg (2004, 2007)
- Harrison (2008)
- Rodrik and Rosenzweig (2009)

# But Problems with Existing Research

- Partial Equilibrium
- Few studies at the individual level
- Need to examine “Trade in tasks”
- Trade’s effect at the occupational level
- Heterogeneous firms, heterogeneous outcomes
- Identification is still an issue
- Data is incomplete

# Our Goal in This Paper

- Use new data to examine correlations between trade and employment in developing countries
- Describe most recent work on trade and labor market outcomes
- Based on most recent evidence
  - Stylized facts
  - Directions for future research
  - Policy implications

# Trade and Employment: Aggregate Trends

# Huge Tariff Reductions in Developing Countries

Region	Mean Tariffs (%)						Change (1980-2005)
	1980	1985	1990	1995	2000	2005	Percentage points
East Asia & Pacific	31.9	24.3	25.2	24.8	13.2	9.0	-22.8
Europe & Central Asia	44.0	26.0	18.2	18.2	8.8	6.2	-37.8
Latin American & the Caribbean	37.9	35.6	23.6	23.6	10.6	8.0	-30.0
Middle East & North Africa	25.1	20.5	22.9	22.9	22.4	11.7	-13.4
South Asia	63.0	62.9	57.9	57.9	25.1	14.9	-48.2
Sub-Saharan Africa*	28.3	28.7	25.2	25.2	14.1	12.7	-15.6
<b>All Developing, Average</b>	38.4	33.0	28.8	28.8	15.7	10.4	-28.0
Non-OECD, Non-Developing	18.2	11.2	13.2	13.2	9.6	7.3	-10.9
OECD, Non-Developing	9.2	7.9	7.8	7.8	3.7	3.5	-5.7
<b>All Non-Developing, Average</b>	13.7	9.5	10.5	10.5	6.7	5.4	-8.3

\* Madagascar was excluded from the sample due to inconsistencies in the data.

Source: Authors' calculations based on data from Economic Freedom of the World (2009)

# Excluding China

Region	Mean Tariffs (%)						Change (1980-2005)
	1980	1985	1990	1995	2000	2005	Percentage points
East Asia & Pacific	27.5	21.7	22.7	22.7	12.7	9.0	-18.5
Europe & Central Asia	44.0	26.0	18.2	18.2	8.8	6.2	-37.8
Latin American & the Caribbean	37.9	35.6	23.6	23.6	10.6	8.0	-30.0
Middle East & North Africa	25.1	20.5	22.9	22.9	22.4	11.7	-13.4
South Asia	63.0	62.9	57.9	57.9	25.1	14.9	-48.2
Sub-Saharan Africa*	28.3	28.7	25.2	25.2	14.1	12.7	-15.6
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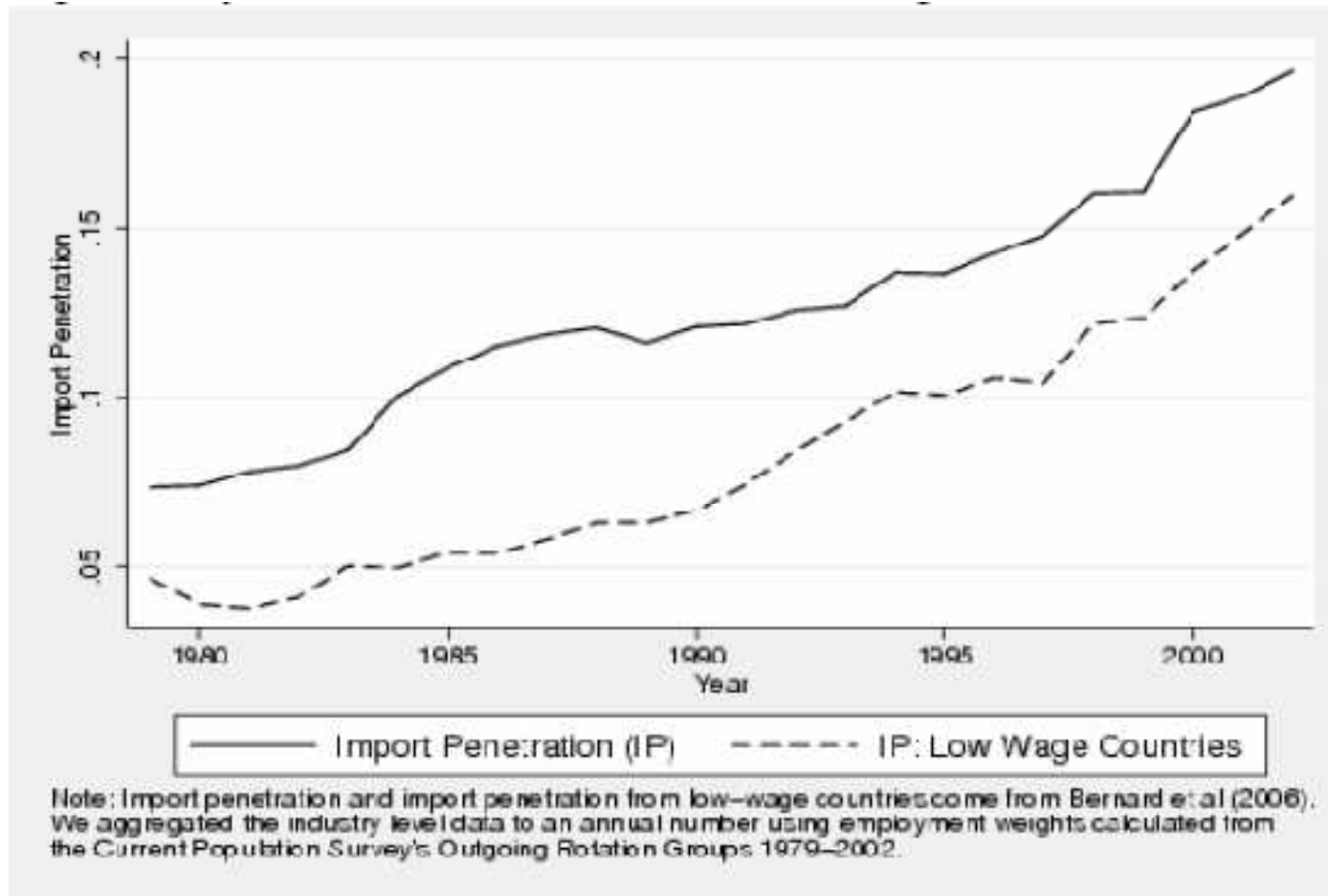
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Note: China was excluded from the sample.

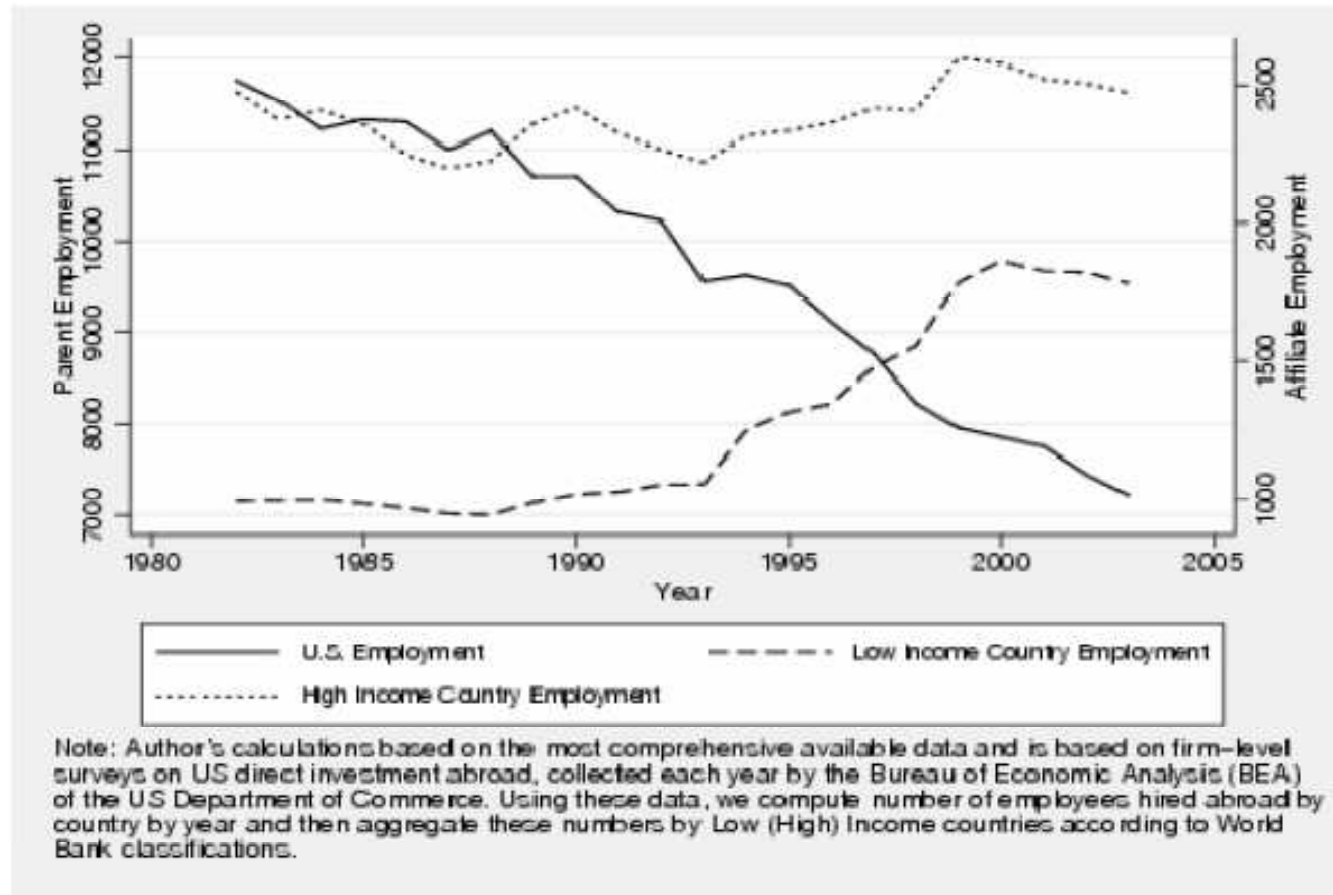
Source: Authors' calculations based on data from Economic Freedom of the World (2009)



# Increased Imported Intermediate Inputs from Developing Countries



# Increased Production Offshoring



# Industrial Employment Shifts to Developing Countries

Region	Employment ('000 workers)						
	1980	1985	1990	1995	2000	2005	Avg.
East Asia & Pacific	26,834	32,635	59,527	64,747	55,254	69,356	51,392
Europe & Central Asia	6,067	5,678	11,125	24,205	21,006	17,646	14,288
Latin American & the Caribbean	9,605	10,374	8,297	7,525	8,598	9,438	8,973
Middle East & North Africa	2,363	2,526	2,749	3,273	2,250	2,125	2,547
South Asia	7,866	7,671	9,236	10,986	8,928	8,180	8,811
Sub-Saharan Africa*	2,653	2,427	2,539	2,915	1,764	1,531	2,305
<b>Total, Developing</b>	<b>55,388</b>	<b>61,310</b>	<b>93,472</b>	<b>113,651</b>	<b>97,799</b>	<b>108,275</b>	<b>88,316</b>
Non-OECD, Non-Developing	1,844	2,058	2,636	2,178	1,902	1,642	2,043
OECD, Non-Developing	59,370	54,362	56,576	58,731	60,715	52,334	57,015
<b>Total, Non-Developing</b>	<b>61,214</b>	<b>56,420</b>	<b>59,212</b>	<b>60,909</b>	<b>62,616</b>	<b>53,975</b>	<b>59,058</b>

\* Madagascar was excluded from the sample due to inconsistencies in the data.

Note: Data for South Asia in 2005 is not available; used data for 2004 instead

Source: Authors' calculations based on data from UNIDO's INDSTAT2 2009

# Largely Driven by China

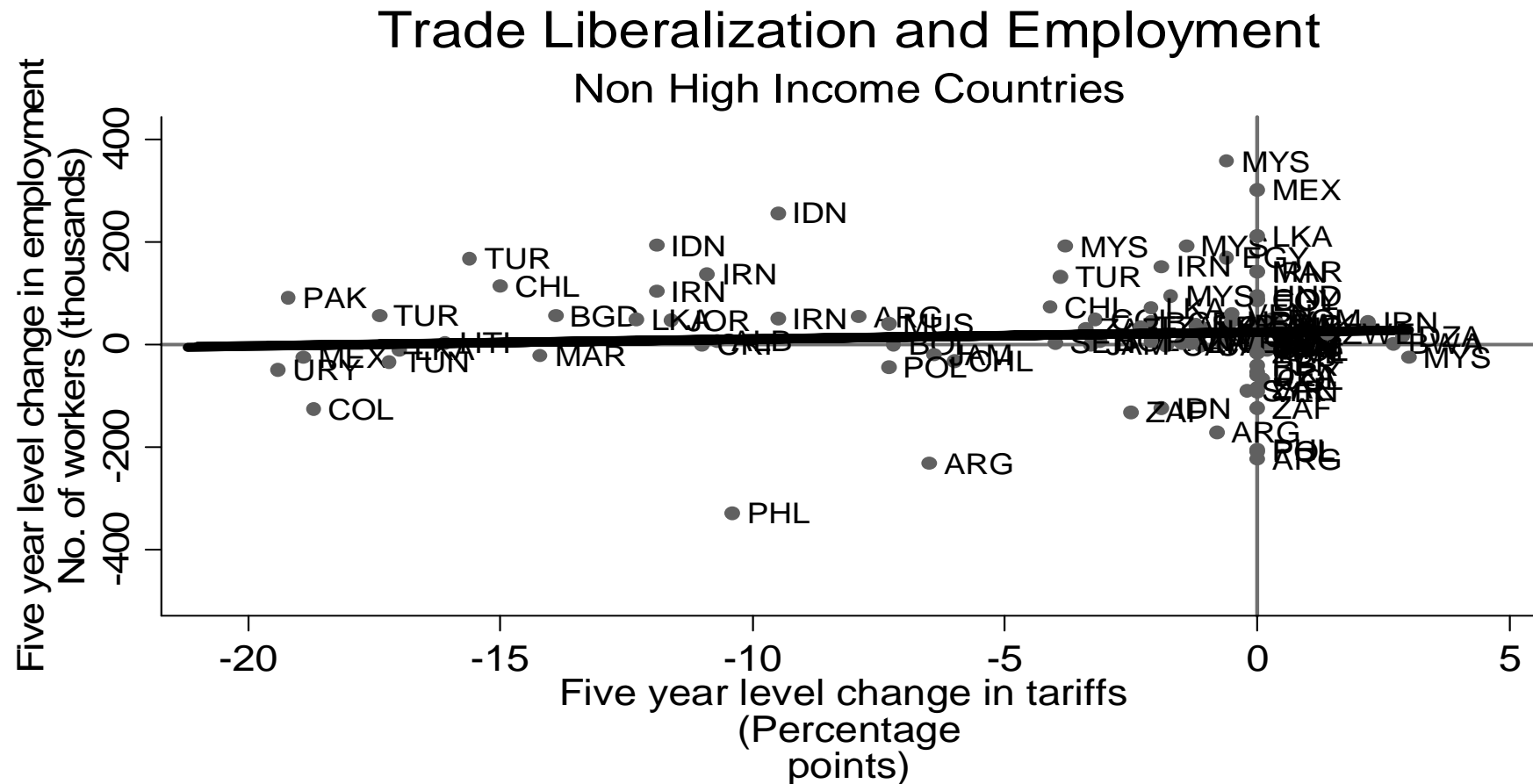
Region	Employment ('000 workers)						
	1980	1985	1990	1995	2000	2005	Avg.
East Asia & Pacific	2,444	2,892	6,487	6,492	10,327	10,003	6,441
Europe & Central Asia	6,067	5,678	11,125	24,205	21,006	17,646	14,288
Latin American & the Caribbean	9,605	10,374	8,297	7,525	8,598	9,438	8,973
Middle East & North Africa	2,363	2,526	2,749	3,273	2,250	2,125	2,547
South Asia	7,866	7,671	9,236	10,986	8,928	8,180	8,811
Sub-Saharan Africa*	2,653	2,427	2,539	2,915	1,764	1,531	2,305
<b>Total, Developing</b>	<b>30,998</b>	<b>31,567</b>	<b>40,432</b>	<b>55,396</b>	<b>52,872</b>	<b>48,922</b>	<b>43,365</b>
Non-OECD, Non-Developing	1,844	2,058	2,636	2,178	1,902	1,642	2,043
OECD, Non-Developing	59,370	54,362	56,576	58,731	60,715	52,334	57,015
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# Short Run Correlations between Trade and Employment



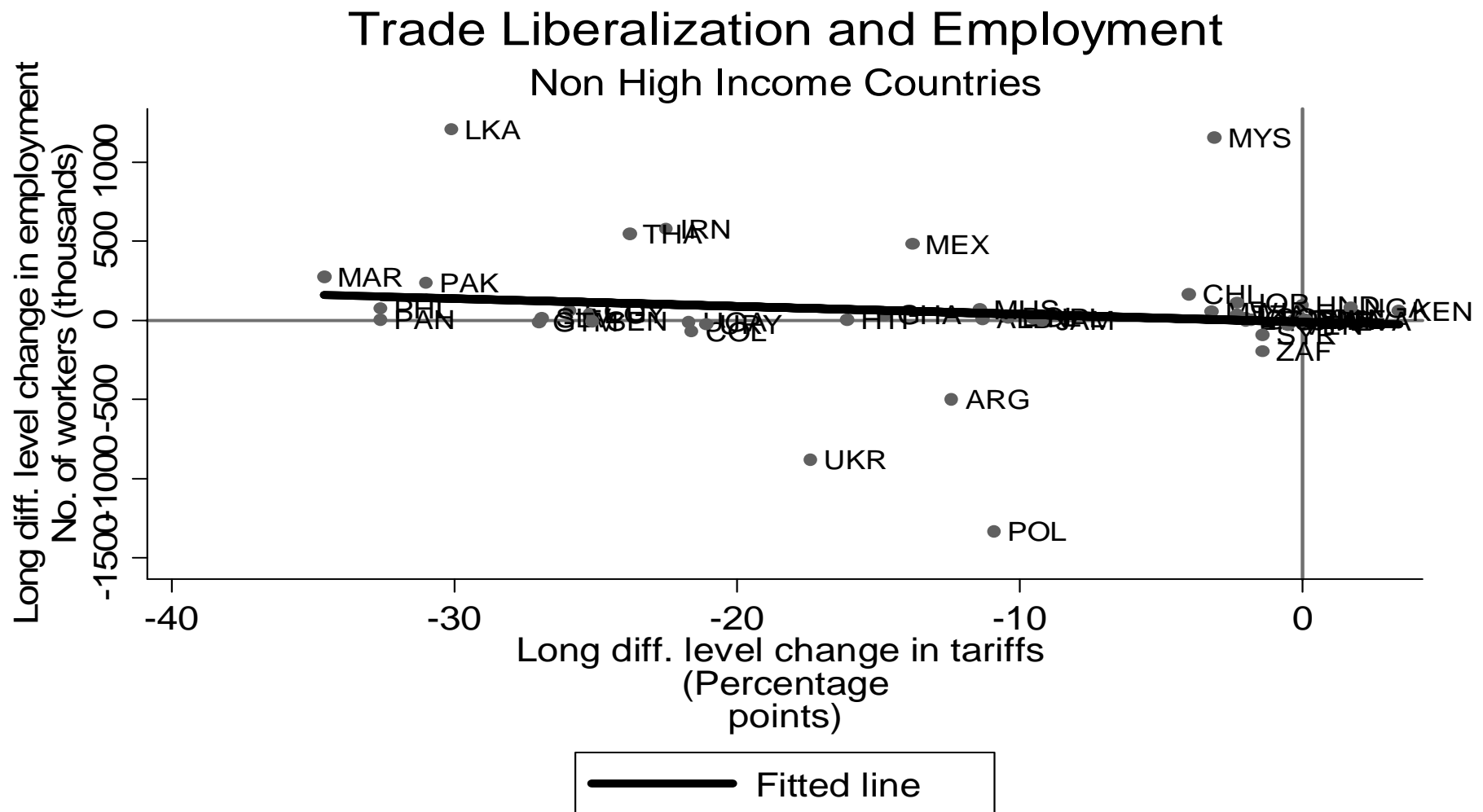
Sources: UNIDO INDSTAT2 (2009);  
Economic Freedom of the World(2009)

# Trade Liberalization and Employment

## Non High Income Countries



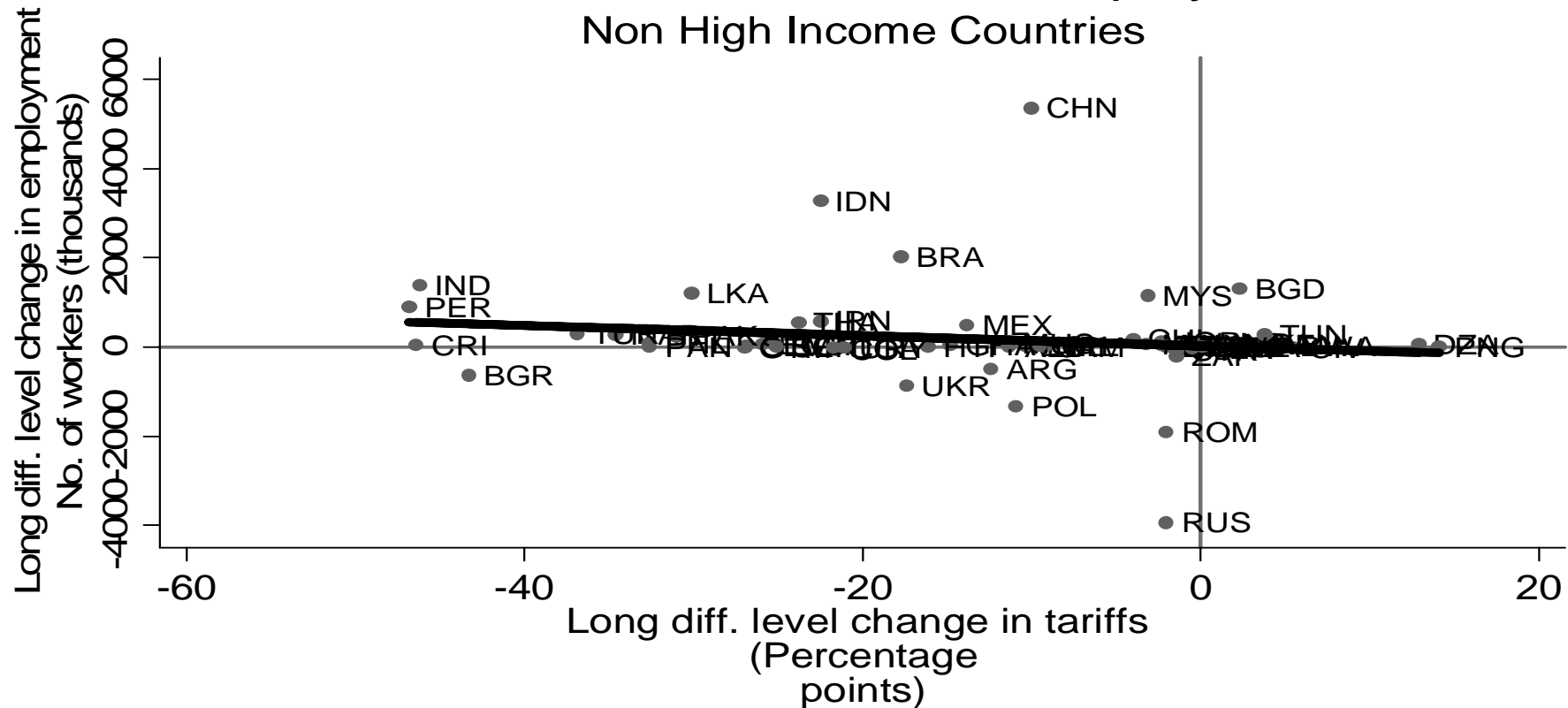
# Long Run Correlations between Trade and Employment



Sources: UNIDO INDSTAT2 (2009);  
Economic Freedom of the World(2009)

# Long Run Correlations between Trade and Employment (includes China)

## Trade Liberalization and Employment Non High Income Countries



Sources: UNIDO INDSTAT2 (2009);  
Economic Freedom of the World(2009)



# Selected Recent Empirical Evidence on Trade, Wages and Jobs

# South Africa

- Unemployment close to 40%
- Dramatic Post-Apartheid Trade Reform
- Even more trade liberalization required  
[Dunne and Edwards (2006), Edwards and Lawrence (2006)]
- Import penetration responsible for job losses  
[Rodrik, (2006)]

# Vietnam

- Trade liberalization associated with increases in real wages [Edmonds and Pavcnik (2006)]
- Trade liberalization associated with reductions in child labor [Edmonds and Pavcnik (2006)]
- Trade reform increased employment [Kien and Ho (2008)]
- Inequality in Vietnam has fallen though authors do not relate to trade [McCaig et al, 2009]

# United States

- Import penetration is associated with a reallocation of labor from manufacturing to services so no net effect on overall employment
- Workers who move from manufacturing to services suffer large wage declines
- Economy-wide, import penetration has put downward pressure on wages at the occupational level

Ebenstein et al (2009)

# Trade and Inequality

- Within country inequality has increased but there is no robust relationship between trade liberalization and increased inequality [Goldberg and Pavcnik, (2007)]
- Trade liberalization may improve allocative efficiency but a lot depends on the institutional setting [Helpman and Itskhoki, (2009)]

# Trade in Tasks: A New Paradigm

*“the nature of trade has changed. For centuries, trade largely entailed and exchange of complete goods. Now it increasingly involves bits of value being added in many different locations, or what might be called trade in tasks... But globalization of production and the evolving international division of labor suggest the need for a new paradigm, one that puts task trade at center stage.”*

Grossman and Rossi-Hansberg (2008)

# Evidence on Services Offshoring

- Service trade doubled between 1992 and 2002 [Jensen and Kletzer, (2005)]
- Most recent estimates by Blinder and Krueger (2009) indicate that roughly 25% of all U.S. jobs are offshorable
- Empirical evidence on the effects of offshoring on labor market outcomes is mixed
- Research primarily focused on developed countries

# Services Offshoring has Negligible Effects

- Amiti and Wei (2005a) – United States
- Amiti and Wei (2005b) – United States
- Liu and Trefler (2008)



# Services Offshoring has Significant Effects

- Scholler (2007) – Germany
- Falk and Wolfmayr (2008) – Austria, Finland, Germany, Italy and the Netherlands

# Evidence on Production Offshoring

- Evidence on offshoring and domestic employment mixed
- Again most of the evidence is for developed countries
- Although there is a large literature on the effects of FDI on labor market outcomes in developing countries which mostly find positive effects

# Production Offshoring Increases Domestic Employment

- Slaughter (2003)
- Borga (2005)
- Desai et al (2005)
- Mankiw and Swagel (2006)

# Production Offshoring Decreases Domestic Employment

- Brainard and Riker (2001)
- Hanson, Mataloni and Slaughter (2003)
- Harrison and McMillan (2007)
- Harrison, McMillan and Null (2007)
- Muendler (2009)

# Reconciling the Different Findings

- Harrison and McMillan (2009) show that the impact of production offshoring on domestic employment depends on:
  - Whether firms are vertically or horizontally integrated; horizontally integrated firms tend to substitute foreign for domestic labor while the two types of labor are complementary for vertically integrated firms
  - The destination of the offshoring matters; for firms that offshore to low wage countries domestic and foreign workers are substitutes while workers in the US and other high income countries tend to be complements.

# Adjustment Costs: Recent Evidence

- Bergin, Feenstra and Hanson (2009) find that offshoring to Mexico increases job insecurity in Mexico
- Krishna and Senses (2009) find that trade reform increases income volatility in the U.S.
- Artuc and McLaren (2009) and Casacuberta and Gandelman (2009) show that adjustment costs associated with trade reform are high in Turkey and Uruguay

# Stylized Facts

1. Unemployment in developing countries has increased.
2. Measured in real USD, wages in developing countries have fallen.
3. Employment in the industrial sector of developing countries has stagnated or declined since 1995 with the exception of East Asia and the Pacific.
4. Aggressive trade liberalization by developing countries does not appear to be responsible for these aggregate trends.
5. The geographic concentration of industrial employment has shifted to developing countries.
6. This shift is largely due to China.

# Policy Implications

1. Decisions to further liberalize trade should proceed with caution.
2. Policies similar to the United States' Trade Adjustment Assistance program should be considered for countries where adjustment costs to trade appear to be high.
3. Policies designed to help displaced workers should be targeted at occupations, not industries.
4. Policymakers should consider “soft” industrial policies that increase workers skills rather than protecting them through tariffs.
5. Policymakers should focus more on labor market conditions in China given the size of China's industrial workforce.
6. Sub-Saharan African countries should do more to make sure they benefit from Chinese investment.



# Directions for Future Research

1. Research on the general equilibrium effects of trade in developing countries is urgently needed.
2. Research on job creation in developing countries is urgently needed.
3. Researchers need better data.
4. We know very little about the effects of offshoring by developing countries.
5. Since the adjustment costs of trade appear to be high, more work identifying these and ways to minimize these is warranted.
6. Botswana!