

Master in Development Economics from University Paris 1 Panthéon- Sorbonne

Development Policies

Sandra Poncet

Email: sandra.poncet@univ-paris1.fr

Opening up policies, Poverty-Inequality and Development

Section 1- Opening up policies, Poverty-Inequality

Section 2 - Opening up policies, structural transformation and development

1) Trade structure and the development path:

a-Diversification away from **agriculture**

Concept and Patterns

How to measure productivity-enhancing structural change?

Does opening up matter?

-for structural change

-for industrialization

b-Sophistication

Concept

How does opening up help?

2) Opening up, **institutions** and development: what accompanying measures to ensure that opening up is inclusive (pro-poor)

1-Trade structure and the development path

a-Diversification away from agriculture

One of the earliest and most central insights of the literature on economic development is that development entails structural change (Rostow, Lewis).

-development process = diversification away from agriculture and other traditional products.

-difference in speed at which this structural transformation takes place determines successful and unsuccessful ones

Developing economies are characterized by large productivity gaps between different parts of the economy.

-between traditional (agriculture) and modern (manuf) sector

-within the modern sector (between manufacturing activities)

Rise in productivity and hence growth depends on the capacity for a country to move resources from the less productive to more productive ones.



In this part of the lecture we will review several papers by **Dani Rodrik** (Turkish born economist from Harvard Kennedy School of government) on

- structural transformation
- early deindustrialization
- sophistication

He has a rather cautious view of globalization

« Globalization does not alter the underlying reality that countries that are poor and have a comparative advantage in natural resources face more challenge to grow.

Globalization matters in that it does increase the costs of getting the policies wrong, just as it increases the benefits of getting them right »

Sectors intrinsically differ in terms of productivity

Table 2. Sector Coverage

Sector	Abbreviation	Average Sectoral Labor Productivity*
Agriculture, Hunting, Forestry and Fishing	agr	17,530
Mining and Quarrying	min	154,648
Manufacturing	man	38,503
Public Utilities (Electricity, Gas, and Water)	pu	146,218
Construction	con	24,462
Wholesale and Retail Trade, Hotels and Restaurants	wrt	22,635
Transport, Storage and Communications	tsc	46,421
Finance, Insurance, Real Estate and Business Services	fire	62,184
Community, Social, Personal and Government Services	cspsgs	20,534
Economy-wide	sum	27,746

Note: All numbers are for 2005 unless otherwise stated.

* 2000 PPP \$US. All numbers are for 2005 unless otherwise stated.

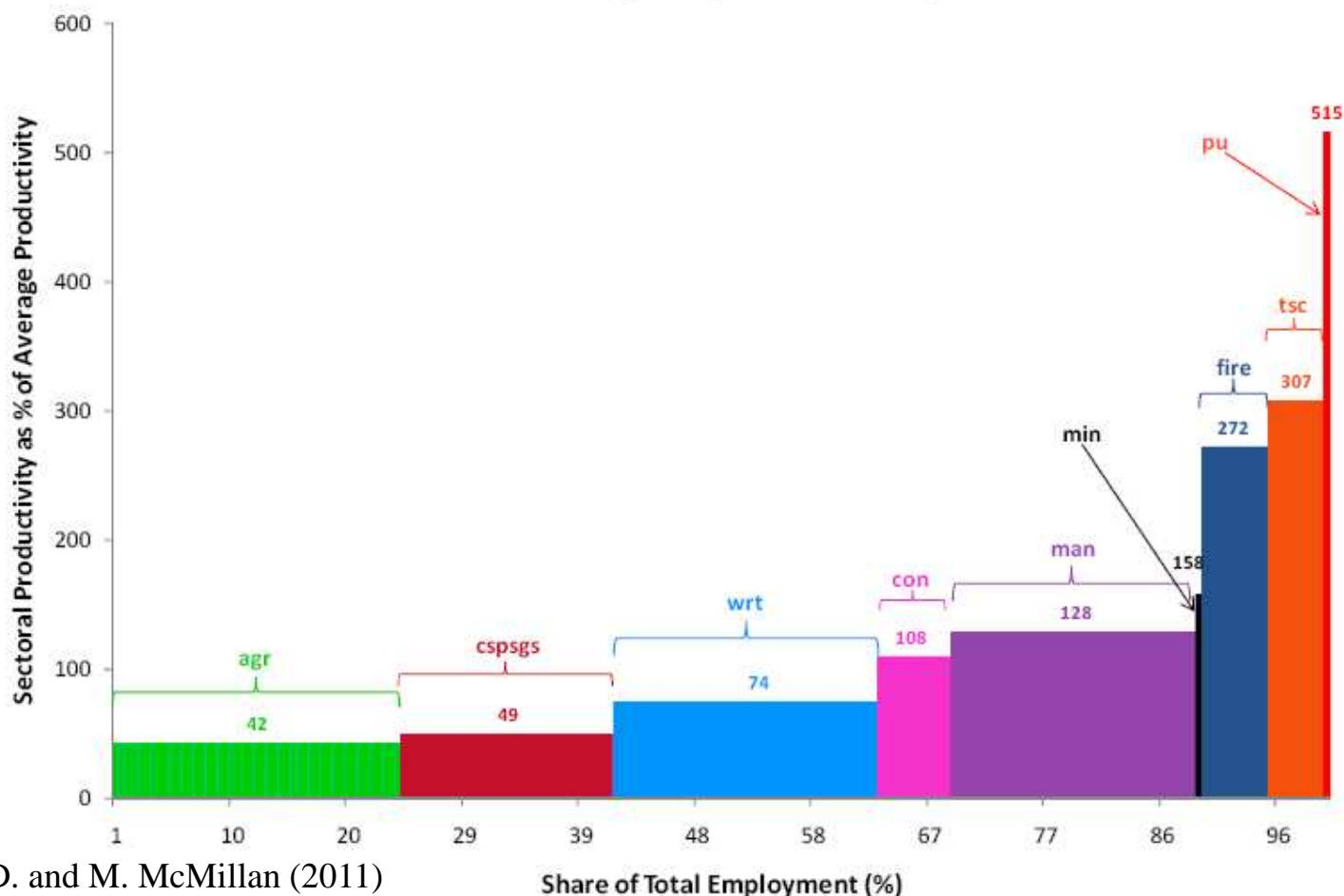
Rodrik and McMillan (2011) collect data by sector and country to compute productivity levels of sectors.

On average in the world, manufacturing labor productivity is on average (over all countries) two times higher than agriculture.

Rodrik D. and M. McMillan, 2011, Globalization, Structural Change and Productivity Growth, 2011. In Making Globalization Socially Sustainable, edited by Mark Bachetta and Marion Jansen, International Labor Organization, Geneva Switzerland

Sectors intrinsically differ in terms of productivity (within country)

Labor Productivity Gaps in Turkey, 2008

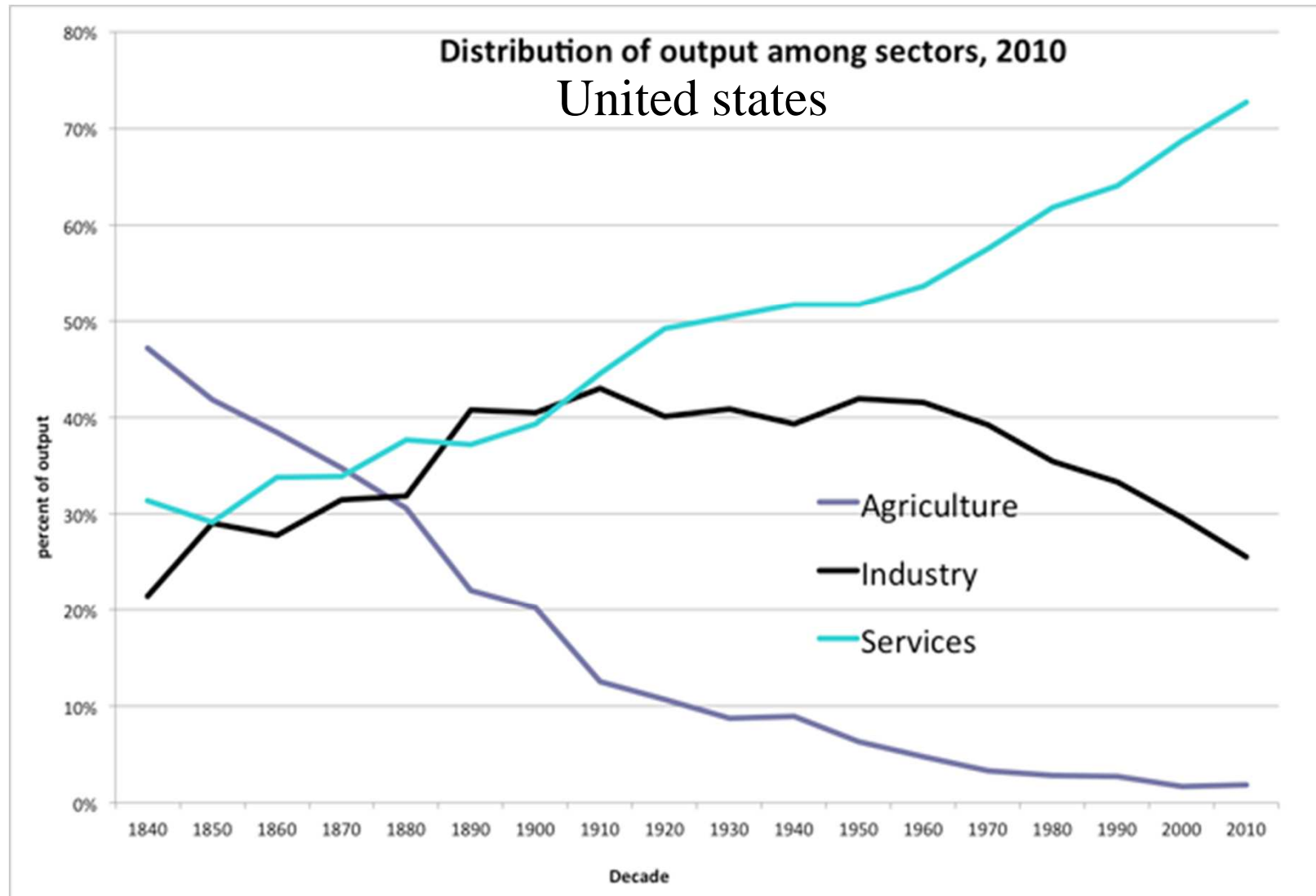


Source: Rodrik D. and M. McMillan (2011)

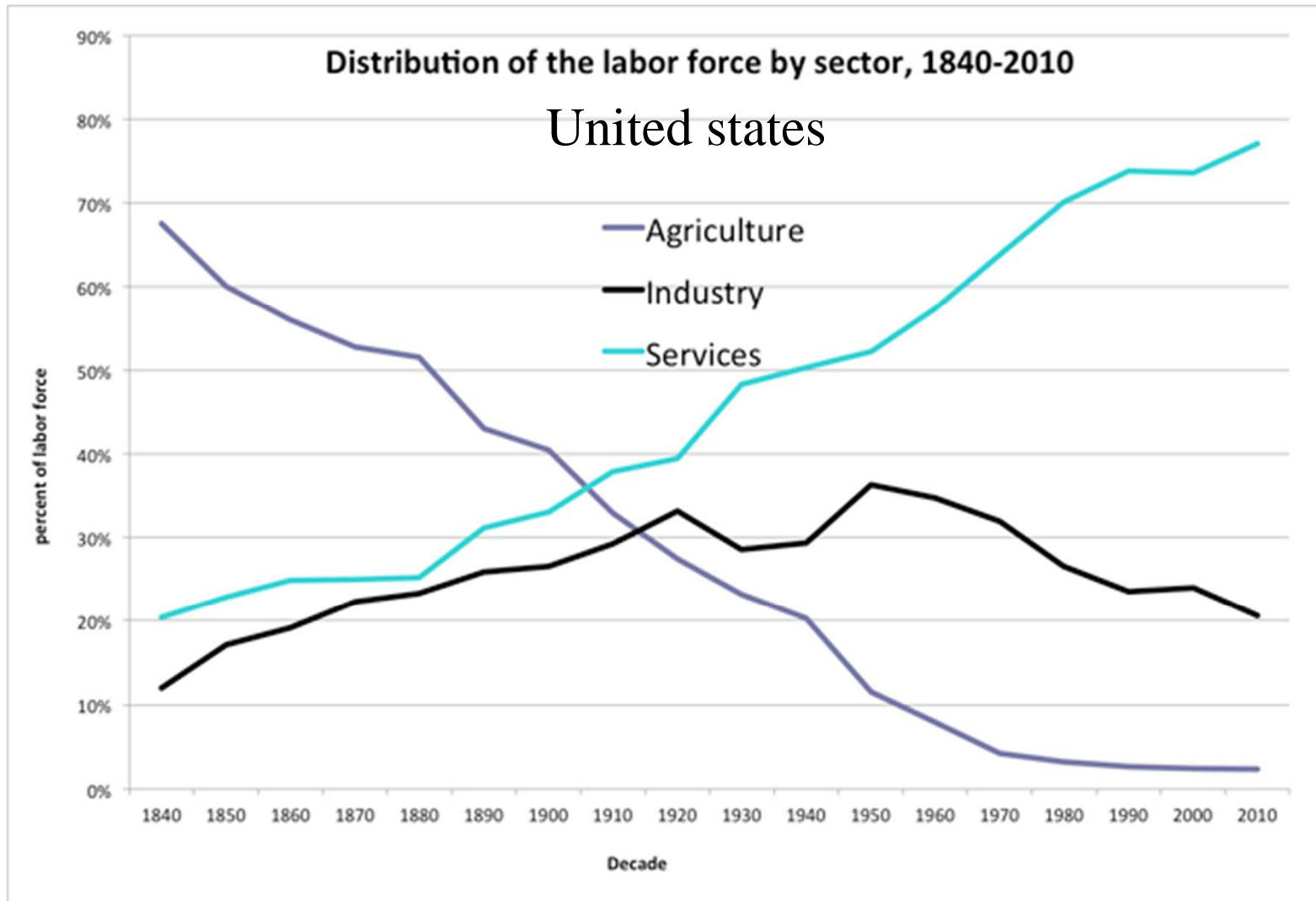
Manufacturing labor productivity is three times higher than agriculture.

The average manufactures-agriculture productivity ratio is 2.3 in Africa, 2.8 in Latin America, and 3.9 in Asia.

The way to development is to move away from agriculture towards industrialization and high productivity services: see for the US

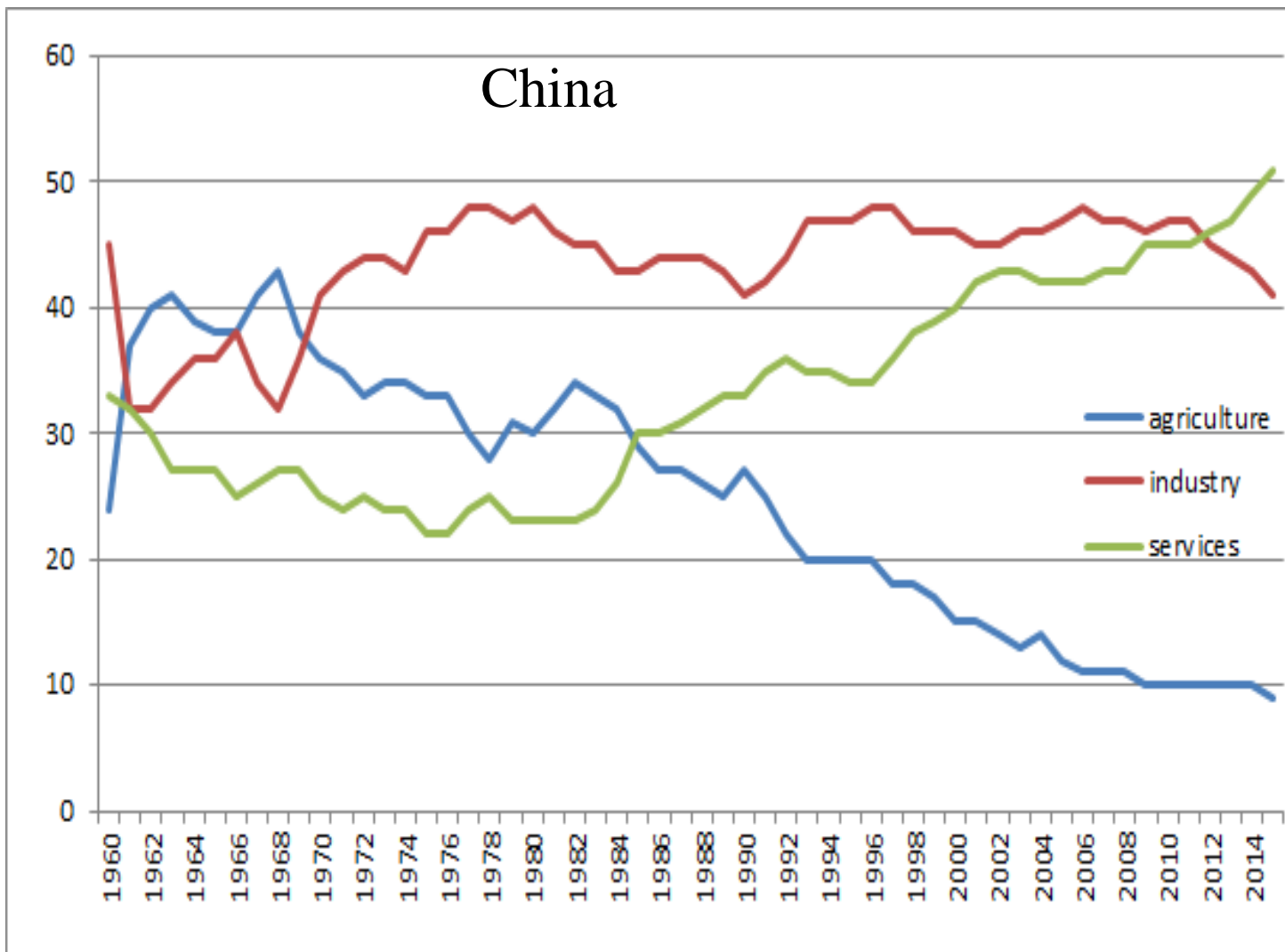


The way to development is to move away from agriculture towards industrialization and high productivity services: **even sharper in terms of employment (US)**



The way to development is to move away from agriculture towards industrialization and high productivity services: **similar trajectory in China**

China value added breakdown into main sectors (% of GDP)



The way to development is to move away from agriculture towards industrialization

It is clear industrialization provides gains:

-higher productivity levels

-but also dynamic productivity gains:

-increasing returns to scale at the firm level (\neq in agricultural sector) cf new trade model with imperfect competition (Krugman)

-learning by doing effects (internal to sector or spillover to other sectors) cf Romer endogenous growth model

-manufacturing can absorb significant quantities of unskilled labor,
(\neq other high-productivity sectors such as mining or finance)

-manufacturing is a tradable sector:

escapes the demand constraints of a poor consumer base at home

can expand and absorb workers even if the rest of the economy remains technologically stagnant.

**Manufacturing the quintessential escalator for developing economies
(Rodrik 2014).**

This is **contrary to predictions of traditional trade models** (Ricardo and Heckscher Ohlin Samuelson) that state:

-Products have no major significance (corn or wine or car)

-Countries maximize their welfare by specializing based on their (fixed) comparative advantages

-Attempt to change an export package from what is indicated by its current comparative advantages would imply misallocating resources (hence lower growth)

Poor countries are poor because they have too much factors used in agriculture (low productivity) and not enough in higher productivity sectors (manufacturing): this results in huge dispersion in the productivity of their workers: some work in very low-productivity and some in high productivity.

Poor countries are poor because they have huge dispersion in the productivity of their workers: some work in very low-productivity and some in high productivity. **Rich countries have low dispersion (CV)**

Countries and territories	Code	Economy-wide labour productivity*	Coef. of variation of log of sectoral productivity	Sector with highest labour productivity		Sector with lowest labour productivity		Compound annual growth rate of econ.-wide productivity (%) (1990–2005)	
				Sector	Labour productivity*	Sector	Labour productivity*		
High income									
1	United States	USA	70,235	0.062	pu	391,875	con	39,081	0.02
2	France	FRA	56,563	0.047	pu	190,785	cspsgs	37,148	0.01
3	Netherlands	NLD	51,516	0.094	min	930,958	cspsgs	33,190	0.01
4	Italy	ITA	51,457	0.058	pu	212,286	cspsgs	36,359	0.01
5	Sweden	SWE	50,678	0.051	pu	171,437	cspsgs	24,873	0.03
6	Japan	JPN	48,954	0.064	pu	173,304	agr	13,758	0.01
7	United Kingdom	UKM	47,349	0.076	min	287,454	wrt	30,268	0.02
8	Spain	ESP	46,525	0.062	pu	288,160	con	33,872	0.01
9	Denmark	DNK	45,423	0.088	min	622,759	cspsgs	31,512	0.02
Asia									
10	Hong Kong (China)	HKG	66,020	0.087	pu	407,628	agr	14,861	0.03
11	Singapore	SGP	62,967	0.068	pu	192,755	agr	18,324	0.04
12	Chinese Taipei	TWN	46,129	0.094	pu	283,639	agr	12,440	0.04
13	Korea, Rep. of	KOR	33,552	0.106	pu	345,055	firebs	9,301	0.04
14	Malaysia	MYS	32,712	0.113	min	469,892	con	9,581	0.04
15	Thailand	THA	13,842	0.127	pu	161,943	agr	3,754	0.03
16	Indonesia	IDN	11,222	0.106	min	85,836	agr	4,307	0.03
17	Philippines	PHL	10,146	0.097	pu	90,225	agr	5,498	0.01
18	China	CHN	9,518	0.122	firebs	105,832	agr	2,594	0.09
19	India	IND	7,700	0.087	pu	47,572	agr	2,510	0.04
Middle East									
20	Turkey	TUR	25,957	0.080	pu	148,179	agr	11,629	0.03

Poor countries are poor because they have huge dispersion in the productivity of their workers: some work in very low-productivity and some in high productivity. Poor countries have high dispersion (CV)

Countries and territories	Code	Economy-wide labour productivity*	Coef. of variation of log of sectoral productivity	Sector with highest labour productivity		Sector with lowest labour productivity		Compound annual growth rate of econ.-wide productivity (%) (1990–2005)	
				Sector	Labour productivity*	Sector	Labour productivity*		
Latin America									
21	Argentina	ARG	30,340	0.083	min	239,645	firebs	18,290	0.02
22	Chile	CHL	29,435	0.084	min	194,745	wrt	17,357	0.03
23	Mexico	MEX	23,594	0.078	pu	88,706	agr	9,002	0.01
24	Venezuela	VEN	20,799	0.126	min	297,975	pu	7,392	-0.35
25	Costa Rica	CRI	20,765	0.056	tsc	55,744	min	10,575	0.01
26	Colombia	COL	14,488	0.108	pu	271,582	wrt	7,000	0.00
27	Peru	PER	13,568	0.101	pu	117,391	agr	4,052	0.03
28	Brazil	BRA	12,473	0.111	pu	111,923	wrt	4,098	0.00
29	Bolivia	BOL	6,670	0.137	min	121,265	con	2,165	0.01
Africa									
30	South Africa	ZAF	35,760	0.074	pu	91,210	con	10,558	0.01
31	Mauritius	MUS	35,381	0.058	pu	137,203	agr	24,795	0.03
32	Nigeria	NGA	4,926	0.224	min	866,646	cspsgs	264	0.02
33	Senegal	SEN	4,402	0.178	firebs	297,533	agr	1,272	0.00
34	Kenya	KEN	3,707	0.158	pu	73,937	wrt	1,601	-1.22
35	Ghana	GHA	3,280	0.132	pu	47,302	wrt	1,507	0.01
36	Zambia	ZMB	2,643	0.142	firebs	47,727	agr	575	-0.32
37	Ethiopia	ETH	2,287	0.154	firebs	76,016	agr	1,329	0.02
38	Malawi	MWI	1,354	0.176	min	70,846	agr	521	-0.47

Note: * 2000 PPP US\$. All numbers are for 2005 unless otherwise stated.

Poor countries are poor because they have huge dispersion in the productivity of their workers: some work in very low-productivity and some in high productivity.

Structural transformation means that factors in the low-productivity activities reallocate to the high-productivity activities:

As inter-sectoral productivity gaps reduce, income grows

CV means coefficient of variation (dispersion)

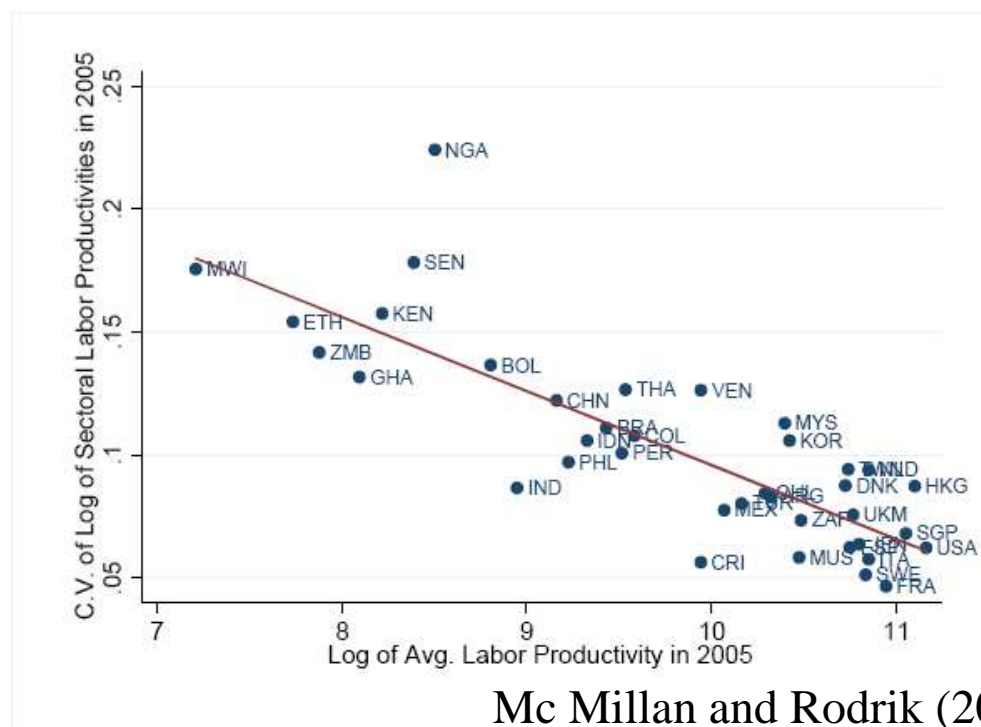
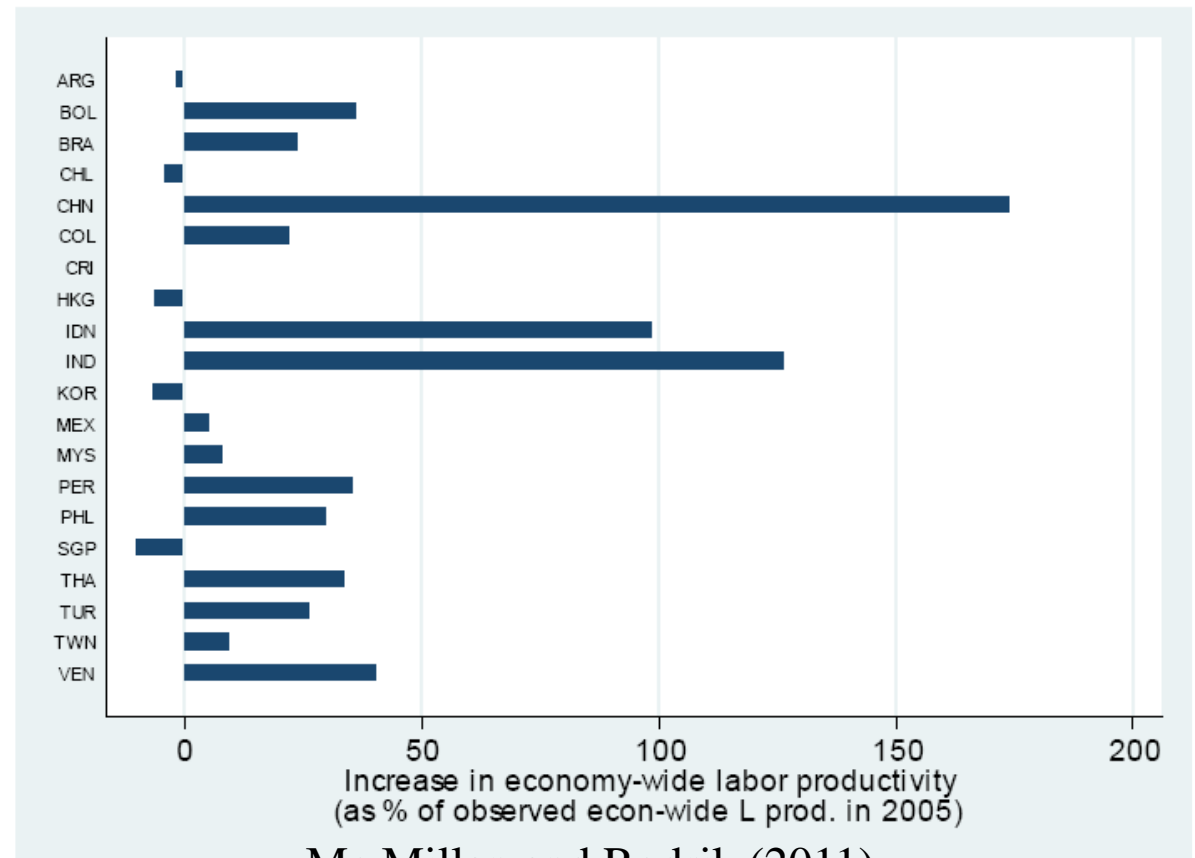


Figure 2: Relationship between inter-sectoral productivity gaps and income levels.

Potential gains from reallocating resources in a more efficient way (less agriculture, more manufacturing and services as in developed countries) are huge:

Large percent increase in economy-wide average labor productivity can be obtained **if the inter-sectoral composition of the labor force was to match the pattern observed in the rich countries:**

- doubling for India
- tripling for China



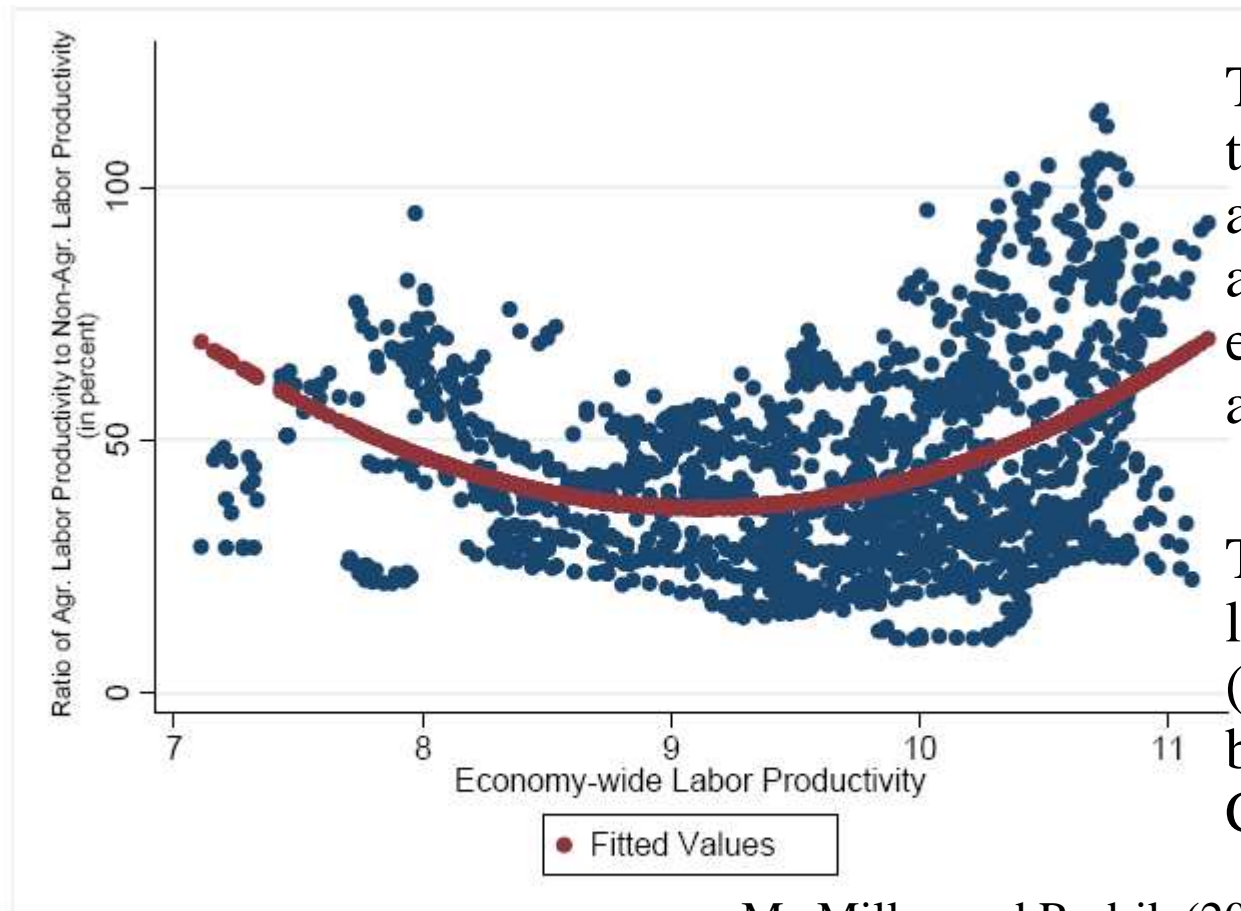
Mc Millan and Rodrik (2011)

Figure 3: Counterfactual impact of changed economic structure on economy-wide labor productivity, non-African countries

A fifth of the productivity gap that separates them from the advanced countries would be eliminated by the kind of reallocation considered here.

Patterns of structural change

Non monotonic evolution of productivity gap between the agricultural and non-agricultural sectors during economic growth.



The gap first increases and then falls, so that the ratio of agricultural to non-agricultural productivity exhibits a U-shaped pattern as the economy develops.

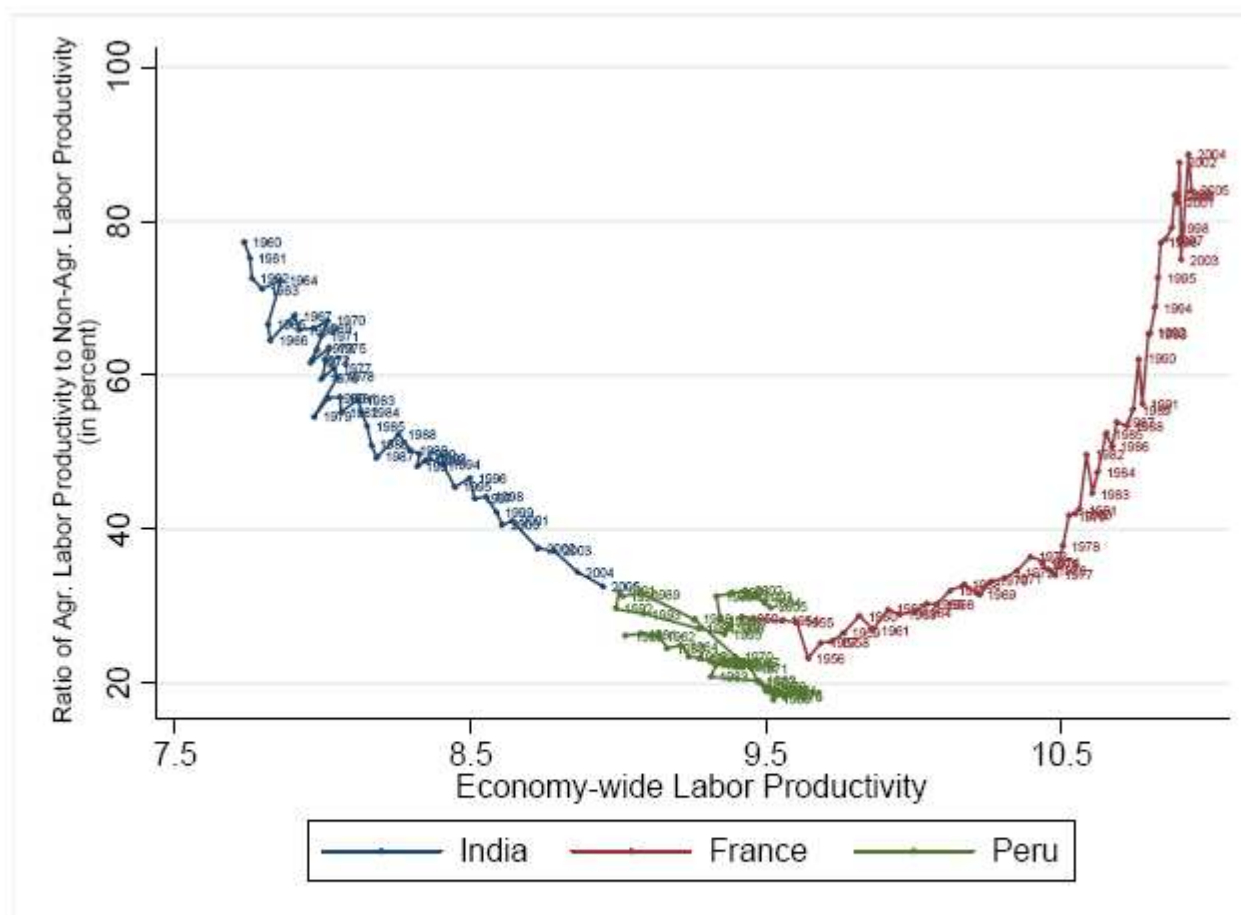
Turning point at productivity level of around \$9,000 (=exp(9.1)) per worker. \approx between that of India and China in 2005.

Mc Millan and Rodrik (2011)

Figure 5: Relationship between economy-wide labor productivity (horizontal axis) and the ratio of agricultural productivity to non-agricultural productivity (percent, vertical axis), full panel.

Patterns of structural change

U-shaped relationship is also observed over time within countries



Mc Millan and Rodrik (2011)

Figure 6: Relationship between economy-wide labor productivity (horizontal axis) and the ratio of agricultural productivity to non-agricultural productivity (percent, vertical axis), selected countries

Patterns of structural change

Empirical evidence of inverted U is very consistent with Lewis model:

At low level of development: few modern industries in the non-agricultural parts of the economy. So even though agricultural productivity is very low, there is not a large gap yet with the rest of the economy.

Economic growth typically happens with investments in the modern, urban parts of the economy.

- wider gap begins to open between the traditional and modern sectors

- the economy becomes more “dual.”

- at the same time, labor begins to move from traditional agriculture to the modern parts of the economy, and this acts as a countervailing force.

Past a certain point, this second force becomes the dominant one, and productivity levels begin to converge within the economy.

Patterns of structural change

Empirical evidence of inverted U is very consistent with Lewis model:

This story highlights the two key dynamics in the process of structural transformation:

- the **rise of new industries (i.e., economic diversification)**
- the **movement of resources from traditional industries to these newer ones. No barriers to labor mobility and to entry/exit/expansion of business activities are hence key**

Without the first, there is little that propels the economy forward.

Without the second, productivity gains do not diffuse in the rest of the economy.

How to measure productivity-enhancing structural change?

Labor productivity growth in an economy can be achieved in 2 ways:

-productivity can grow *within economic sectors through capital accumulation, technological change*, or reduction of misallocation across plants.

-labor can move *across sectors*, from low-productivity sectors to high-productivity sectors

$$\Delta Y_t = \sum_{i=n} \theta_{i,t-k} \Delta y_{i,t} + \sum_{i=n} y_{i,t} \Delta \theta_{i,t}$$

Within *Structural change*

where Y_t and y_{it} , refer to economy-wide and sectoral labor productivity levels, respectively, and $\theta_{i,t}$ is the share of employment in sector i .

The Δ operator denotes the change between $t-k$ and t .

Potential gains are huge but structural change can have a negative contribution to growth

Negative contribution of structural change was a key factor behind the deterioration of Latin American productivity growth since the 1960s.

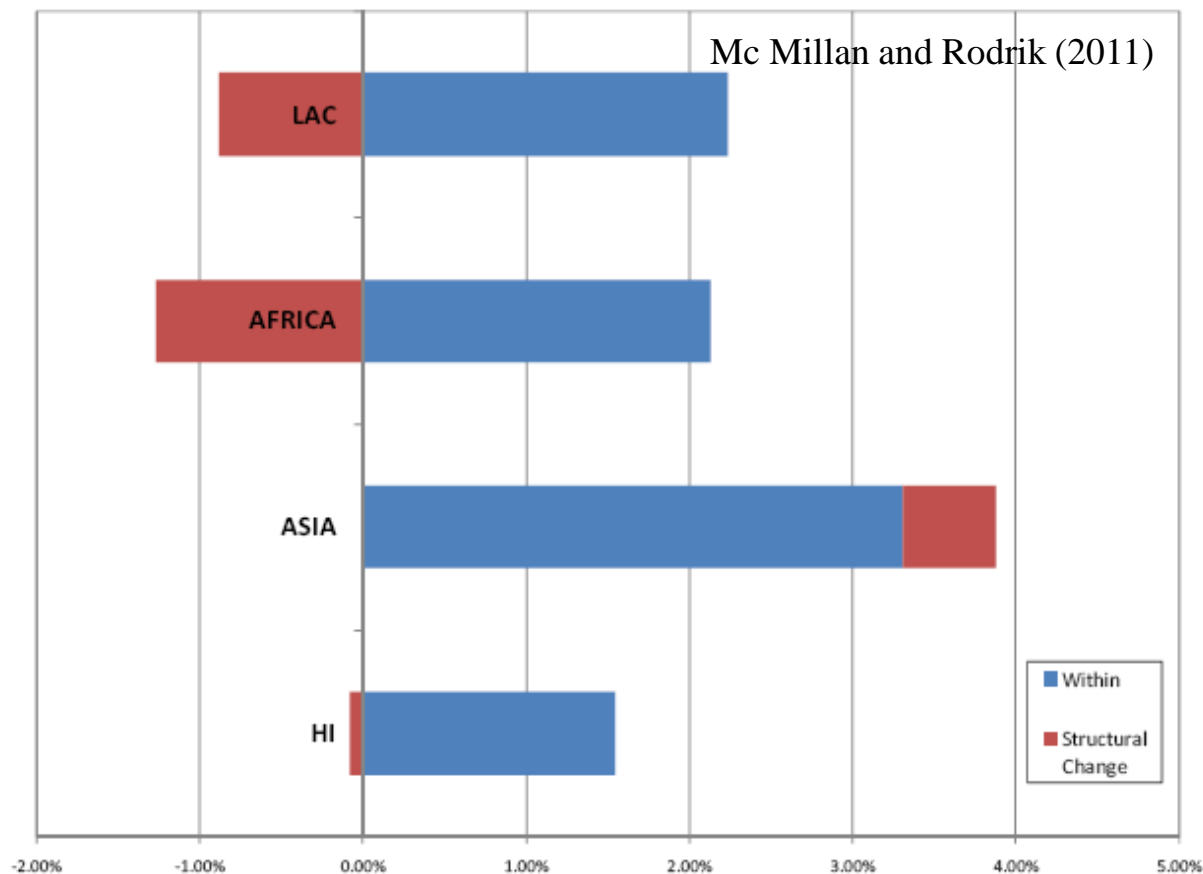
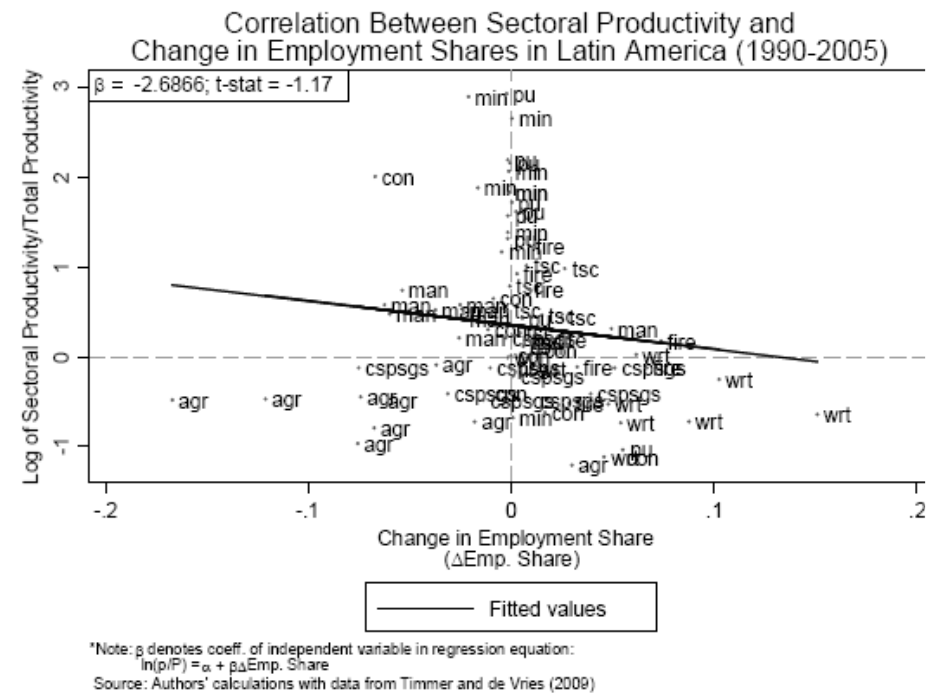
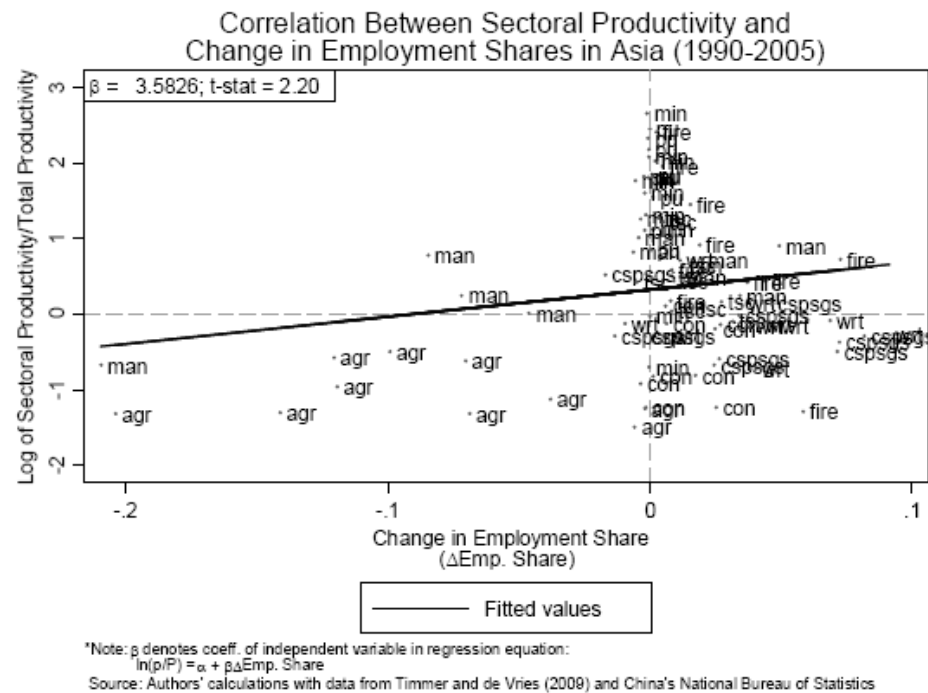


Figure 9: Decomposition of productivity growth by country group, 1990-2005

The reason that Asia has outshone the other two regions is not so much in productivity growth within individual sectors but in **ensuring that the broad pattern of structural change contributes to, rather than detracts from growth.**

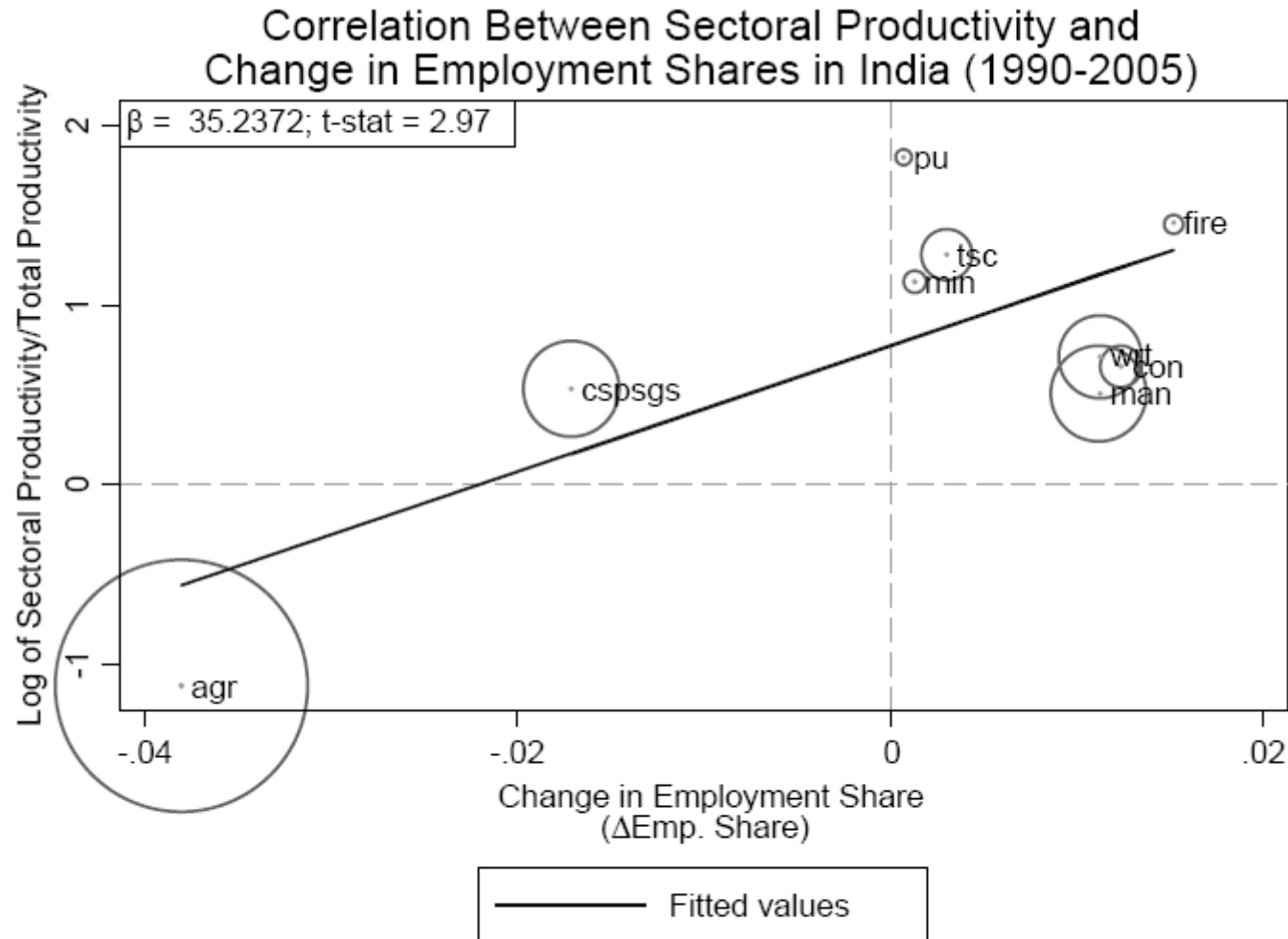
Heterogeneity between Asia and Latin America:

Asia's labor productivity growth in 1990-2005 exceeded Africa's by 3 percentage points per annum and Latin America's by 2.5 percentage points.



In Asia structural change was productivity enhancing while it was productivity reducing in Latin America

India as an illustration of growth-enhancing structural change



*Note: Size of circle represents employment share in 1990

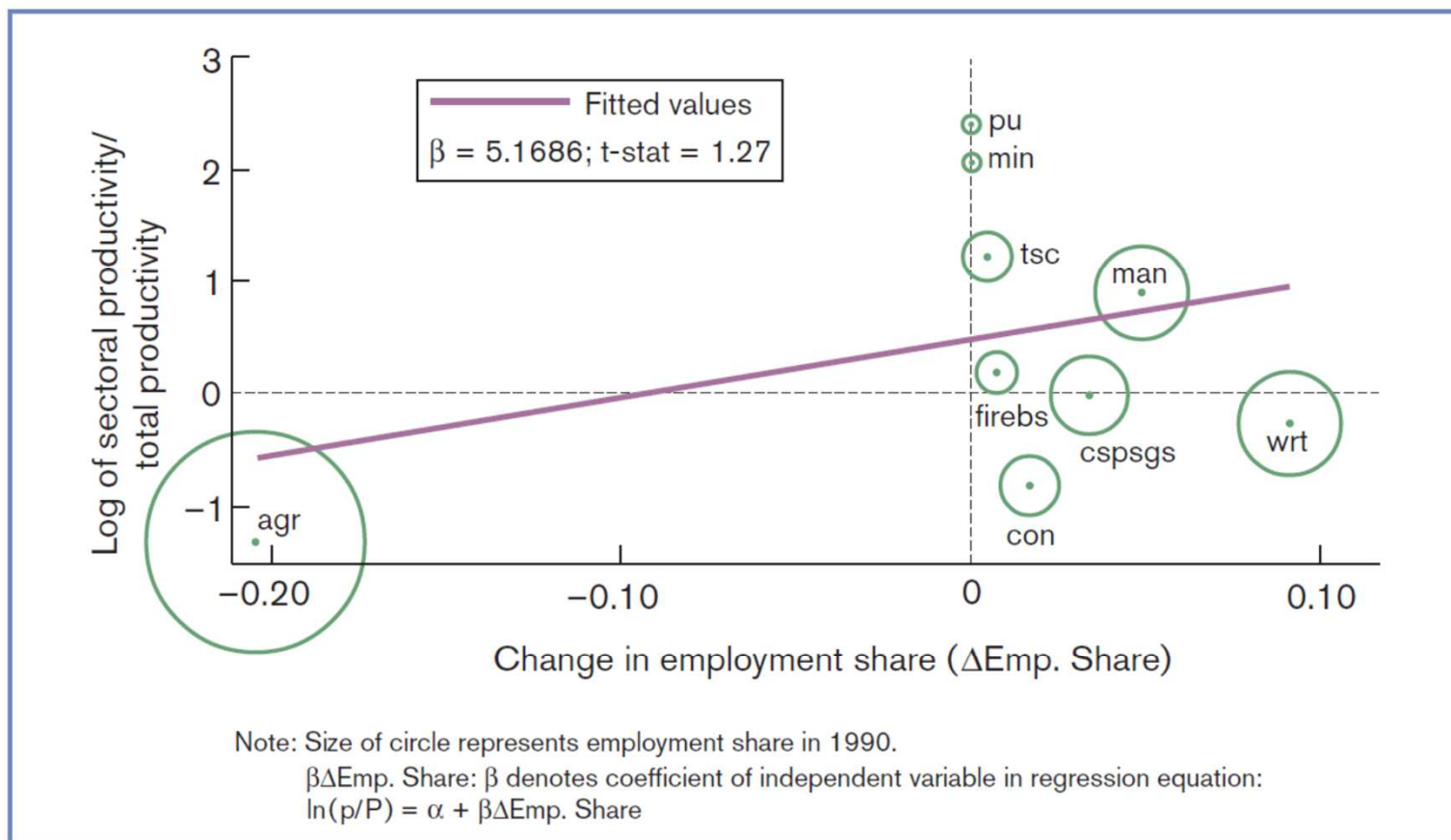
**Note: β denotes coeff. of independent variable in regression equation:

$$\ln(p/P) = \alpha + \beta \Delta \text{Emp. Share}$$

Source: Authors' calculations with data from Timmer and de Vries (2009)

Thailand as an illustration of growth-enhancing structural change

Figure 2.15 Correlation between sectoral productivity and change in employment share in Thailand, 1990–2005

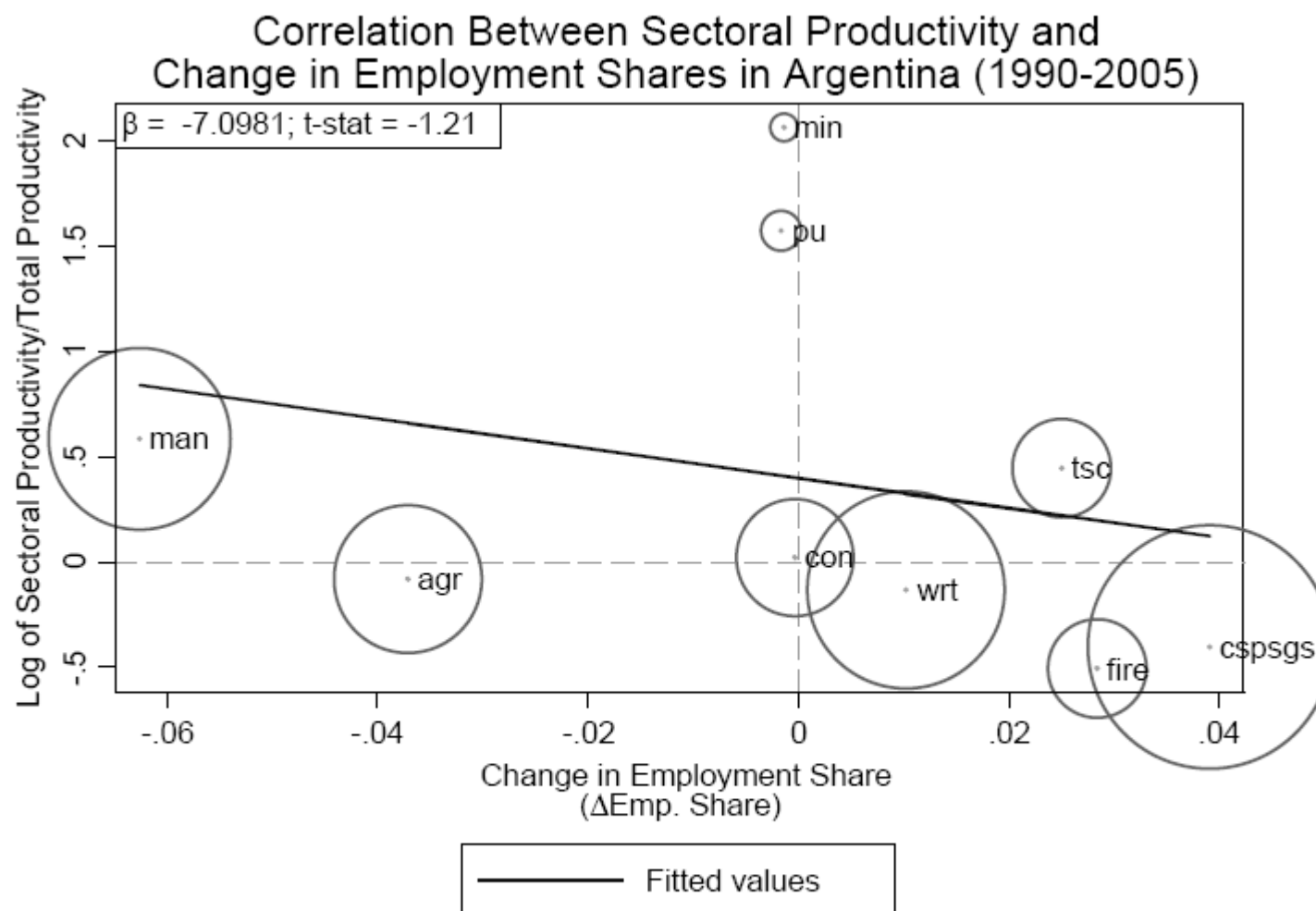


Note: Abbreviations are as follows: agr = agriculture; min = mining; man = manufacturing; pu = public utilities; con = construction; wrt = wholesale and retail trade; tsc = transport and communication; firebs = finance, insurance, real estate and business services; cspsgs = community, social, personal and government services.

Source: Authors' calculations with data from Timmer and de Vries (2009).

Source: Mc Millan and Rodrik (2011)

Argentina as an illustration of growth-detering structural change



*Note: Size of circle represents employment share in 1990

**Note: β denotes coeff. of independent variable in regression equation:

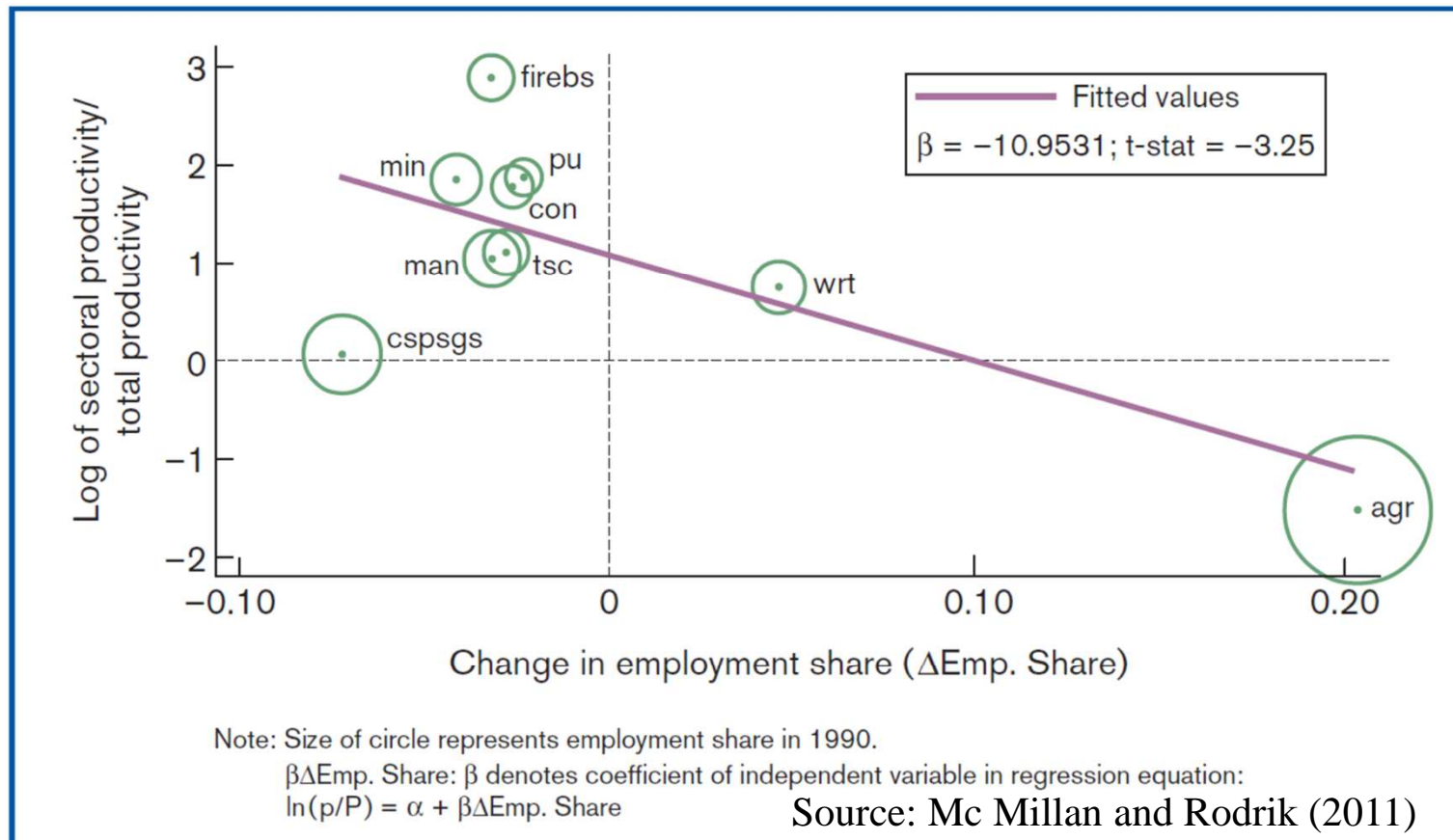
$$\ln(p/P) = \alpha + \beta \Delta \text{Emp. Share}$$

Source: Authors' calculations with data from Timmer and de Vries (2009)

Source: Mc Millan and Rodrik (2011)

Zambia as an illustration of growth-detering structural change

Figure 2.13 Correlation between sectoral productivity and change in employment share in Zambia, 1990–2005

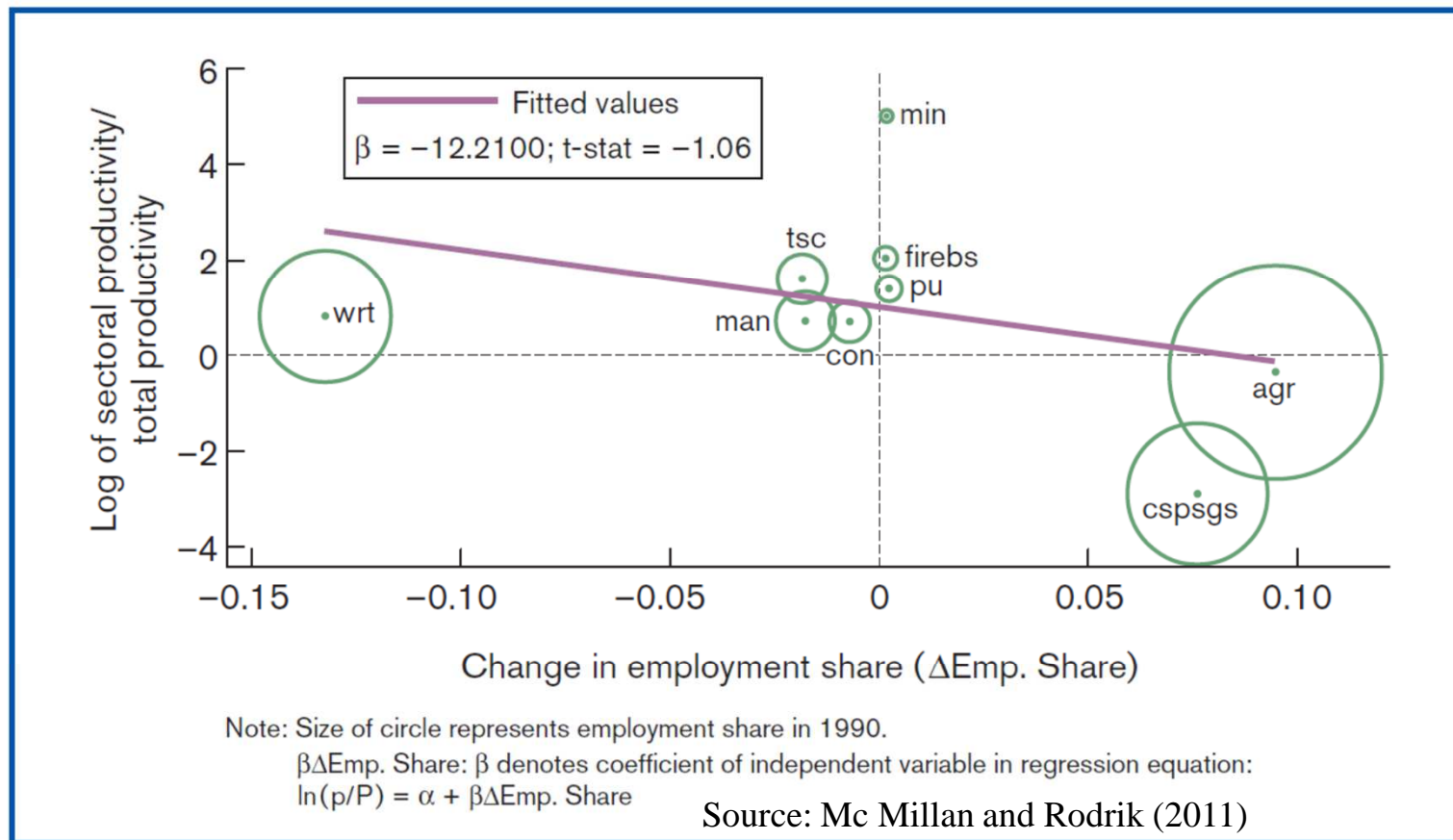


Note: Abbreviations are as follows: agr = agriculture; min = mining; man = manufacturing; pu = public utilities; con = construction; wrt = wholesale and retail trade; tsc = transport and communication; firebs = finance, insurance, real estate and business services; cspsgs = community, social, personal and government services.

Source: Authors' calculations with data from CSO, Bank of Zambia, and ILO's KILM.

Nigeria as an illustration of growth-detering structural change

Figure 2.12 Correlation between sectoral productivity and change in employment share in Nigeria, 1990–2005



Note: Abbreviations are as follows: agr = agriculture; min = mining; man = manufacturing; pu = public utilities; con = construction; wrt = wholesale and retail trade; tsc = transport and communication; firebs = finance, insurance, real estate and business services; cspsgs = community, social, personal and government services.

Source: Authors' calculations with data from Nigeria's National Bureau of Statistics and ILO's LABORSTA.

What determine the direction of structural change: Does opening up matter for structural change?

Clearly a common phenomenon (globalization) cannot explain directly such large differences across countries which all opened up.

Especially as in many developing countries, a large share of the activities and jobs are in the *non-tradeable sector* so not concerned by opening up.

Direction of structural change hence is more likely to reflect local circumstances and specific domestic strategies in this common context:

- initial **comparative advantages** (as trade reinforces them):
natural resources, primary sector (**resource curse?**)
- flexibility of labor markets** (required to allow inter-sectoral transfers)
- ways of opening up** (import liberalization, attraction of capital, export promotion). A key indicator is the level of exchange rate
 - Africa and Latin Am: attraction of capital by offering high interest rate and curbing inflation, this induces **overvaluation**
 - overvalued currency squeezes tradable export industries*
 - Asia targeted by contrast competitive real exchange rate

Determinants of the structural change

Countries with a comparative advantage in natural resources run the risk of stunting their process of structural transformation.

The risks are aggravated by policies that allow the currency to become overvalued and have high barriers to worker mobility

Table 5: Determinants of the magnitude of the structural-change term

Dependent variable: structural-change term					
	(1)	(2)	(3)	(4)	(5)
agricultural share in employment	0.013 (0.98)	0.027 (2.26)**	0.016 (1.48)	0.023 (2.45)**	
raw materials share in exports		-0.050 (2.44)**	-0.045 (2.41)**	-0.046 (2.73)**	-0.038 (2.29)**
undervaluation index			0.016 (1.75)***	0.017 (1.80)***	0.023 (2.24)**
employment rigidity index (0-1)				-0.026 (2.64)**	-0.021 (2.15)**
Latin America dummy	-0.014 (2.65)**	0.007 (0.74)	0.006 (0.72)	0.013 (1.49)	0.007 (0.85)
Africa dummy	-0.022 (2.04)**	-0.006 (0.80)	-0.005 (0.83)	-0.004 (0.75)	-0.003 (0.38)
High income dummy	-0.003 (0.66)	-0.001 (0.14)	0.008 (0.98)	0.013 (1.47)	0.010 (1.06)
constant	0.002 (0.30)	0.005 (1.11)	0.006 (1.37)	0.009 (2.03)	0.014 (3.63)*
Observations	38	38	38	37	37
R-squared	0.22	0.43	0.48	0.55	0.50

Robust t-statistics in parentheses

Mc Millan and Rodrik (2011)

* significant at 1% level; ** significant at 5% level; *** significant at 10% level

Finding that countries with high share of employment in agriculture are at an advantage is in line with “**advantage of backwardness**” (Justin Y. Lin in his analysis of why China grew rapidly in 1980s)

-large (low-productivity) agricultural sector signals that there is a lot of *room for “easy” improvement*

-this was not obvious as having a large inefficient sector could signal that there are large inefficiencies that will make improvements harder

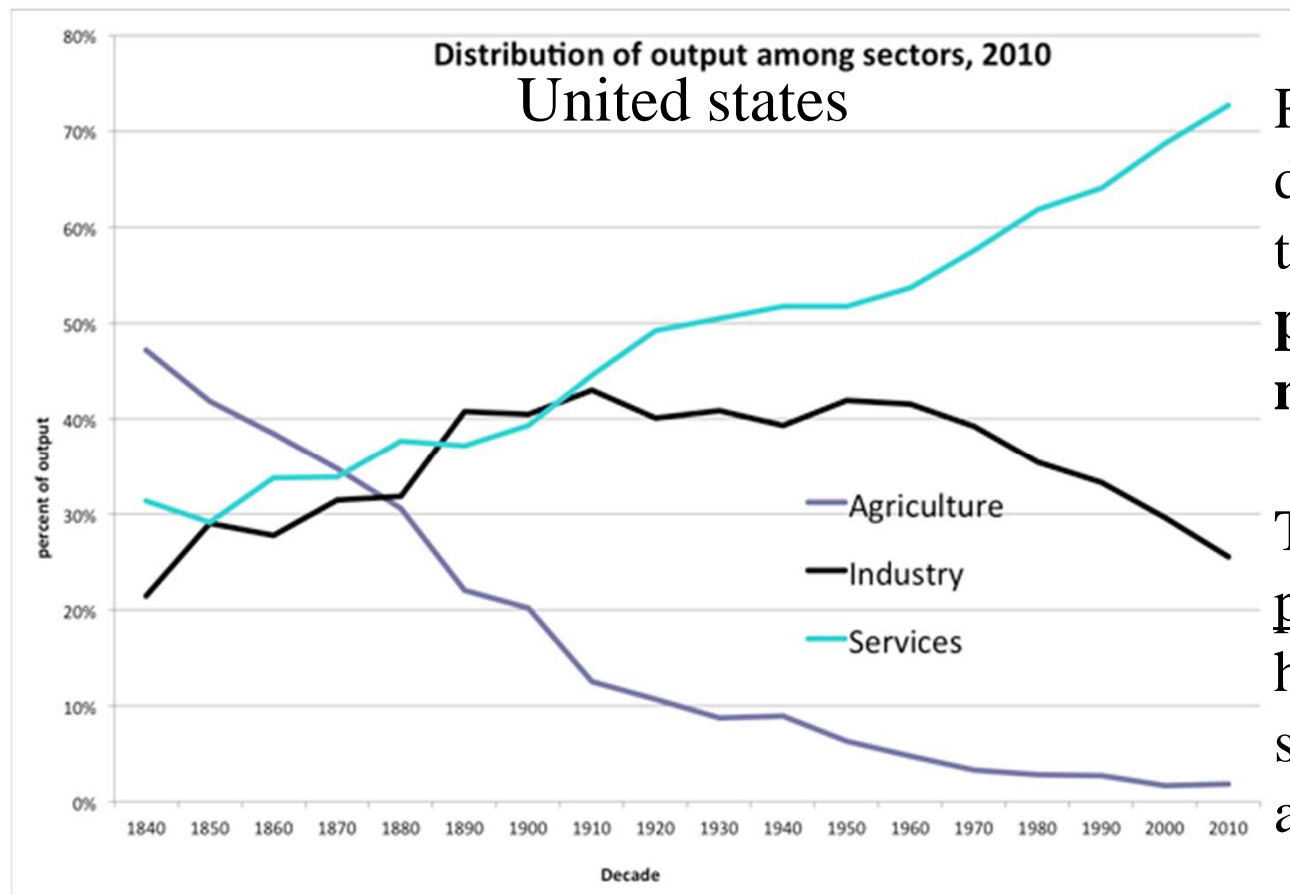
In sum, there is an unconditional convergence and there is no “*poverty trap*” due to initial backwardness

By contrast natural resources lead to a “trap” effect calling for a bold intervention of the state (*big push*) to ensure that industrialization happens however should be careful not to make the matter worse by wrong policies (overvalued currency, regulations that limit reallocation of factors etc.)

Does opening up matter for industrialization?

The process of development is clearly one where agriculture declines and manufacturing and services both rise.

Manufacturing typically accounts for 40% of the output/employment during the process of “economic maturation” before it gives way to more services (in the US, manufacturing share declines since 1970)



Reason behind the relative decline of manufacturing is the **higher technological progress in manufacturing.**

This depresses the relative price of manufacturing and hence induces factors to shift to more profitable activities (services)₃₁

Does opening up matter for industrialization?

Also deindustrialization in developed countries has been accelerated by globalization as many industrial tasks were **offshored** to emerging countries with comparative advantage in labor (Asian countries)

So opening up explains the deindustrialization in developed countries and parallel industrialization of “**early globalizers (1970-80s)**” (dragons and tigers in Asia that have rapidly converged to developed countries)

What about later globalizers (bulk of developing countries)?

What about later globalizers (bulk of developing countries)?

As developing countries opened up to trade in the 1990s, their manufacturing sectors were hit by a double negative shock.

-those without a strong comparative advantage in manufacturing became net importers of manufacturing, reversing a long process of import-substitution. **Competition effect**

-but also developing countries “imported” deindustrialization from the advanced countries, because they became exposed to **the relative price trends** originating from advanced economies:

-declining relative price of manufacturing further deter manufacturing activities even in countries that may not have experienced much technological progress.

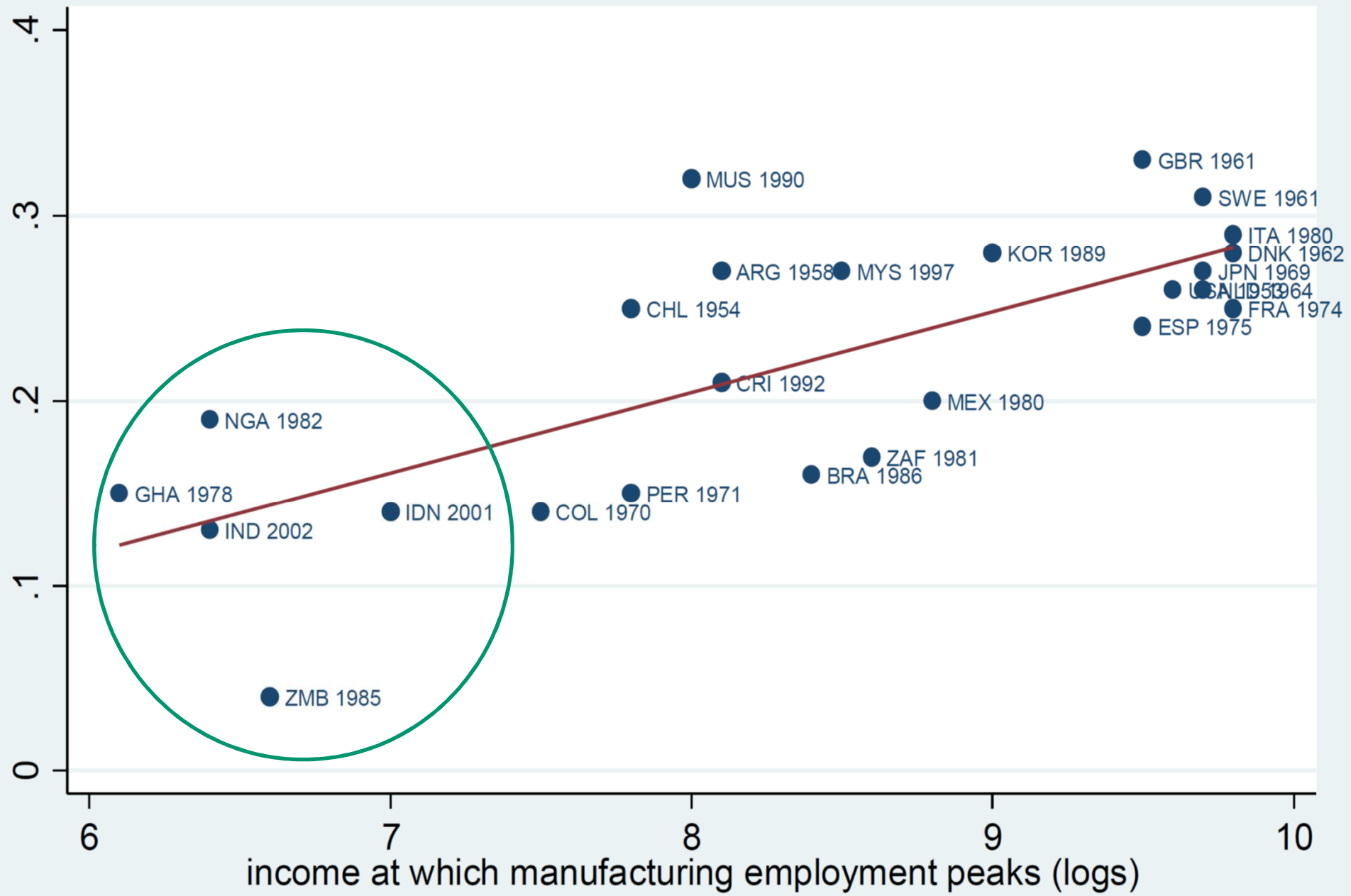
-strong reduction in both employment and output shares in developing countries (especially those that do not specialize in manufactures).

Rodrik identifies **premature deindustrialization of developing countries**:

The share of manufacturing in GDP peaks much earlier and at levels much lower than 40%

Before the 1990s low-income countries used to reach the peak share at levels of GDP per capita around **\$12,000** (in 1990 US\$).

After the 1990s the U shape relationship has shifted to the left and the maximum is reached at much lower levels of GDP per capita (around **\$4,500** in 1990 US\$).



● peak manufacturing employment share — Fitted values

Premature deindustrialization is not good news for developing nations. It blocks off the main avenue of rapid economic convergence in low-income settings

The service sector is the only option left to absorb workers

The **bulk of other services suffer from two shortcomings.**

-technologically not very dynamic.

-non-tradable, which means that their ability to expand rapidly is constrained by incomes (and hence productivity) in the rest of the economy.

There are **exceptions (IT and finance)** which are high productivity and tradable, and could play the escalator role that manufacturing has traditionally played.

However, these service industries are typically highly skill-intensive, and do not have the capacity to absorb as manufacturing did – the type of labor that low- and middle-income economies have in abundance.

Pessimistic but does not mean that developing countries will stagnate

-moderate growth is possible through improved fundamentals – better institutions and growing stocks of human capital, skills, and knowledge.

-advanced countries themselves have been able to grow at rates between 1.5-2 percent per annum despite declining manufacturing.

-but this means that poor countries will never catch up with the “rich countries” since this would require higher growth rates

The main message is that developing can not count on the “self-sustained growth gains from manufacturing” (Lewis optimism)

**Priority more than ever is to improve institutions
and develop human capital, skills, and knowledge**

Opening up policies, Poverty-Inequality and Development

Section 1- Opening up policies, Poverty-Inequality

Section 2 - Opening up policies, structural transformation and development

1) Trade structure and the development path:

a-Diversification away from **agriculture**

Concept and Patterns

How to measure productivity-enhancing structural change?

Does opening up matter?

-for structural change

-for industrialization

b-Sophistication

Patterns

How does opening up help?

2) Opening up, **institutions** and development: what accompanying measures to ensure that opening up is inclusive (pro-poor)

Follow up question is whether opening up can bring skills and knowledge and helps countries to produce more sophisticated goods

For a given share of manufacturing output, what matters is **what goods are produced**

-Products differ not only in terms of productivity levels

-but more importantly in the **knowledge externality** they contain.

this externality affects the probability of entry of producers in other goods (cost discovery process). The logic corresponds to “endogenous growth models”

Hausmann, Hwang and Rodrik (2007) consider that more productive goods are likely to carry high externalities and hence to provide an advantage for future discoveries

Idea: the reallocation of factors towards the most productive products is an engine of (temporary) growth.

Key point: how to measure the productivity of a good?

Idea is to measure the productivity level of a product to the income level of the countries that produce it

Revealed comparative advantage index

$$PRODY_k = \sum_j \left(\frac{(x_{jk} / X_j)}{\sum_j (x_{jk} / X_j)} Y_j \right)$$

- with: X_j : total export of country j , x_{jk} : export of good k by country j and Y_j : per-capita GDP of country j .

This measure is simple to do: it requires information on the income Y of countries in the world and their share in the total trade of products

Need for country-product trade data (COMTRADE)

Use international product-level customs data (COMTRADE, UN)
 HS6 nomenclature: roughly 5000 products

Table 3 Largest and smallest PRODY values (2,000 US\$)

	Product	Product name	Mean PRODY, 1999–2001
Smallest	140490	Vegetable products nes	748
	530410	Sisal and Agave, raw	809
	10120	Asses, mules and hinnies, live	823
	90700	Cloves (whole fruit, cloves, and stems)	870
	90500	Vanilla beans	979
Largest	721060	Flat rolled iron or non-alloy steel, coated with aluminium, width > 600 mm	46,860
	730110	Sheet piling of iron or steel	46,703
	721633	Sections, H, iron or non-alloy steel, nfw hot-roll/drawn/extruded > 80 m	44,688
	590290	Tyre cord fabric of viscose rayon	42,846
	741011	Foil of refined copper, not backed, $t < 0.15$ mm	42,659

Hausmann, Ricardo, Jason Hwang, and Dani Rodrik, 2007, “What You Export Matters,” *Journal of Economic Growth* 12:1 (2007), 1–25.

It is then possible to compute the **sophistication** (EXPY) of a country's export basket by taking the weighted sum of the productivities of the various goods it exports

- *EXPY* is the weighted average of *PRODY* for country *i*.

⇒ *EXPY* :

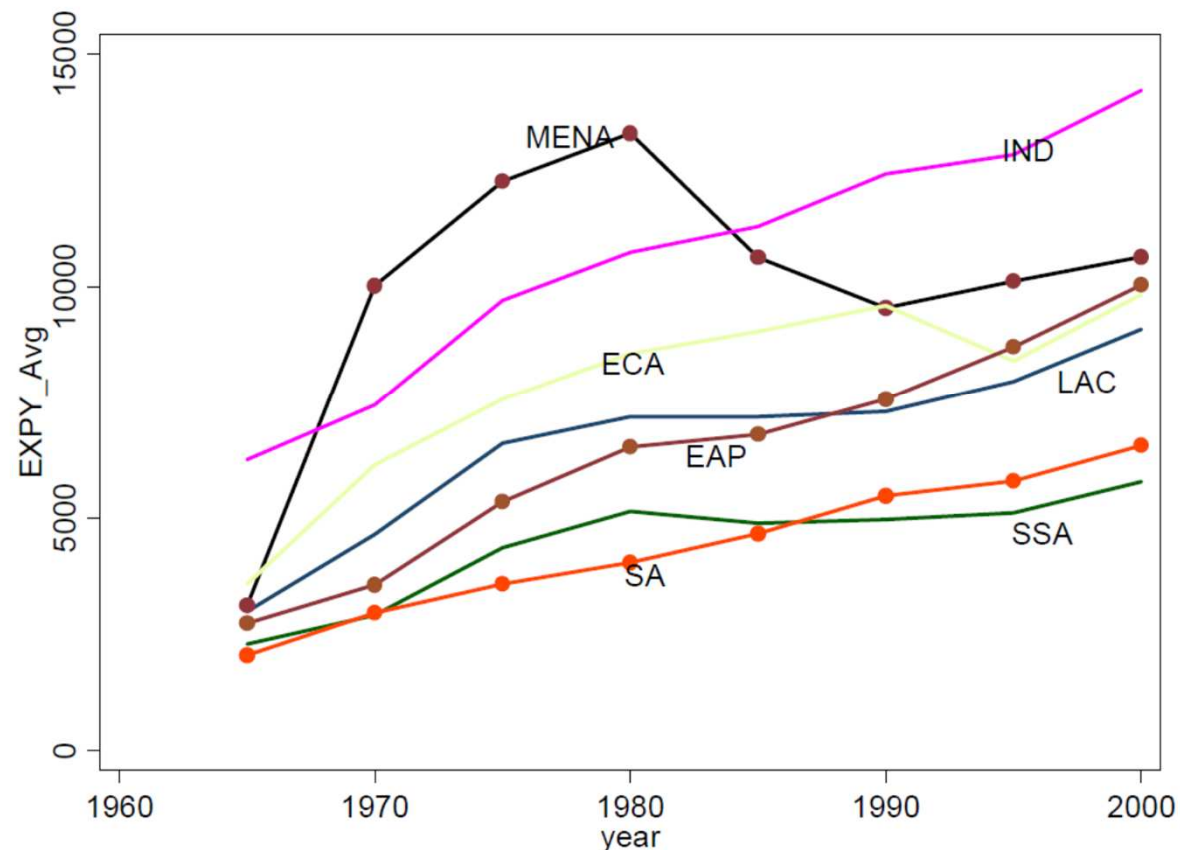
$$EXPY_i = \sum_l \left(\frac{x_{il}}{X_i} PRODY_l \right)$$

Export share of *l* in country's *i* exports

The **sophistication** (EXPY) of a country has been shown to PREDICT the subsequent economic growth of the country.

So the question becomes how do you make sophistication rise?

Figure 1: EXPY index by region.



Several papers have shown that Foreign Direct Investment helps

Micro level evidence and macro level evidence

Harding T and B. S. Javorcik, 2012, Foreign direct investment and export upgrading, *The Review of Economics and Statistics*, 94(4): 964–980

Opening up: allow foreign firms in!

Of course some negative effects

Competition so induces restructuring: lays off, bankruptcy

But **positive direct effect**: Bring capital and create jobs

Structural transformation: help develop new sectors

Foreign firms are more efficient (technology and management skills), fuel aggregate productivity gains

Foreign trade expansion (and foreign exchange earnings)

Plus the overlooked spillovers: domestic firms benefit from proximity to foreign firms

Externalities:

Transfer technology and management practices from Downstream Clients and Upstream suppliers

Acquisition of human capital created by foreign firms

Imitation of new products and process

Exports spillovers: spillovers on the creation of new export linkages

In conclusion opening up creates constraints and challenges

But also creates opportunities

Last section will discuss how can countries get the best out of the ongoing globalization

-seize the opportunities

-avoid the negative repercussions

This relates to existing institutions (which can themselves be impacted by opening up) and accompanying policies