

# Globalization and Growth

Lecture 2

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## Globalization and Growth

- Growth in Emerging Economies and global trade imbalances
- Jobless recoveries in Developed Economies and income inequalities
- Policymakers' responses, cyclical or structural?

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## Growth in Emerging Economies

- Usually Emerging Economies (EM) depend on capital flows from more developed economies
- Capital is scarce in EM and therefore returns are much higher than in Developed Economies (DM)
- At the beginning of the 19<sup>th</sup> century, capital from England flowed to Central and Southern American countries and, after 1830, mainly to the US (and Australia)
- The influx of funds helped build infrastructures (canals, roads, railroads, ports, cities) and develop agriculture and industries in EM (in 19<sup>th</sup> century US was an EM!)
- It also led to several booms and speculative bubbles on both sides of the Atlantic Ocean, that inevitably eventually turned to bust (1837,1857,1873)

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### Crisis in Emerging Economies

- **Emerging Economies dependence on capital from more developed economies leaves them subject to (i) overinvestment, (ii) overvaluation of exchange rates coupled with high inflation, (iii) trade balance deficits, (iv) excessive leverage**
- In the early stages of growth, EM do not have the human capital and the organizational structures to deploy large quantities of physical capital effectively. They also lack the institutional environment for competition and innovation (barriers to entry, rule of law, property rights, patents laws, anti-corruption rules, low taxes for new enterprises) and a sound, competent and honest financial system
- Excessive foreign capital flows end up financing unprofitable ventures or even outright frauds, boosting real estate prices to unreasonable levels, funding unsustainable increases in consumer/government spending
- Internal or external events lead to a **sudden loss of confidence**: loans are not renewed, capital is withdrawn ("**sudden stop**" of capital flows), the exchange rate is sharply devalued. Companies (and households) default, the banking sector collapses and there might be **outright default on external debt** (usually denominated in foreign currencies) and/or **default on internal debt** (usually denominated in local currency) through high domestic inflation

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### Development in Emerging Economies

- EM have the "**advantage of backwardness**": to innovate in their choices of technology, industries and institutions they can simply imitate or licence existing technology, industries and institutions from DM
- In practice convergence among world economies has been limited: in 2008 US GDP per capita was 3 times higher than in Mexico, 16 times higher than in India and 145 times higher than in Democratic Republic of Congo
- Between 1950 and 2008 only 28 economies reduced their per capita income gap with the US by at least 10% - and only 12 were neither Western European countries nor oil- or diamond-producing small countries. The other 150 plus countries suffered of the so-called "**middle- or low-income level trap**"
- Since 2000 we have seen the rise of a multipolar world with China and a few other large EM driving global growth: only a few East Asian economies have advanced from low income agrarian economies to middle income newly industrialized economies and toward high income advanced industrialized economies. **The rise of a multipolar world is therefore the result of dynamic growth in just a few middle income countries with large population**
- Historical evidence suggests that growth in successful economies followed a similar pattern: front-runners such as England or the United States devoted ingenuity to the production of innovative new products, industries and ways of doing business, allowing them to make productivity gains and grow at a rapid pace. Latecomers such as France, Germany and Japan could simply imitate the successful countries – like "**flying geese**" – and catch up
- The West took 300 years to innovate and industrialize, but Japan less than 100 years and East Asia only 40 years. The BRICs started their development process less than 30 years ago

**Why did so many EM fail to achieve their economic growth ambitions?**

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### Development Strategies for Emerging Economies

After WW2 governments in EM, especially in those nations that just became independent, had the natural and legitimate aspiration to catch up with DM

- **Most of the development strategies prioritized capital-intensive/"heavy" industries and adopted import substitution policies** to accelerate industrialization. Countries following this approach had some initial successes, but these were quickly followed by repeated crises and stagnation
- **EM are characterized by:**
  - Small endowment of capital (physical, human, organizational, institutional) and an inefficient financial sector, leading to high cost of / suboptimal returns on capital
  - Need to import advanced technologies
  - Small BoP surplus, therefore limited access to forex reserves
- Therefore, **to prioritize capital-intensive industries** governments had to **distort the price system**, guaranteeing capital-intensive industries handsome profits by suppressing the prices of all productive inputs – raw materials, capital, labour - and forcing them to reinvest it in the "priority" sectors:
  - Interest rates were suppressed below market through administrative measures
  - The currency was artificially overvalued to make imports more affordable
  - Wages of workers were kept low and, to avoid social unrest, prices of agricultural goods (especially daily necessities) were also controlled (leading to food shortages - sometimes even famine – and impoverishing farmers)
- To ensure that all factors of production can be used in priority industries governments had to **adopt at macro level administrative measures to allocate scarce capital, foreign exchange and raw materials** and then had to "**micromanage**" firms, to support the proper implementation of their strategies

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Development Strategies for Emerging Economies: **the failures**

- The greatest mistake made by many EM and by former socialist countries was their attempt to **defy the comparative advantage determined by their endowment structures**: in countries where factor endowments were characterized by the abundance of labour and scarcity of capital, government policy aimed at building modern, advanced, capital intensive, heavy industries. Because of their high capital needs and their structurally high production costs in a developing country, the enterprises in these priority industries were not viable in open, competitive markets. Even when they were well managed, they could not earn a socially acceptable profit in an undistorted, competitive market
- In order to mobilize resources to make investments and maintain operations in advanced capital-intensive sectors, it was necessary for EM to **subsidize and protect the firms in those priority industries**, mainly through administrative measures. Thus development strategies inconsistent with comparative advantage also led to a bureaucratic establishment that itself became an impediment to progress in many EM
- These strategies always failed to bridge the gap between EM and DM, often ending in serious economic, financial – and sometimes even humanitarian - crises**

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Development Strategies for Emerging Economies: **the successes**

- Japan first and subsequently the four Asian Tigers (HK, Singapore, Taiwan, Korea) successfully followed a different strategy: **export-oriented rather than import substitution**
- They did not try to "jump-start" their growth through investments in capital heavy industries but climbed the same ladder the DM had done, step by step - though at a much faster speed - moving from the least sophisticated technologies to the frontier of innovation, using low labour cost to stay competitive until technologies improved and the available capital stock - including human, organizational & institutional capital – increased
- They imported what the RoW knew and exported what it wanted, producing large economic surpluses and generating rates of return on investment that were high enough to provide strong incentive to save (higher saving leading to higher investment and thus to higher growth rates)
- Governments protected (at least initially) their domestic markets from foreign imports through high tariffs and import restrictions, allowing domestic firm the space to flourish whilst also pushing them to compete on international markets; also, **they did not resist the market forces in the reallocation of capital and labour from sector to sector, from industry to industry**
- The country's savings were directed through a largely captive financial system to these "favoured" but globally competitive industries
- These strategies succeeded because they exploited the comparative advantage determined by the existing endowment structure of the country**

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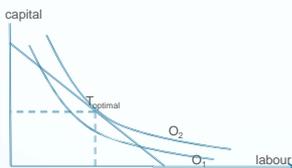
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A framework for analysing development (I)

- In an open and competitive market, with capital and labour as the only two production factors, the mix of factors ("technology") an enterprise should choose depends on the isocost line, indicating the relative prices of the two inputs



- The slope of the isocost line depends on the economy's factor endowment structure, namely the relative abundance of its capital and labour

**An EM, where labour is cheap relatively to capital, will choose:**

- less capital-intensive technologies to produce a certain good
- will specialize in less capital-intensive products within an industry
- will specialize in less capital intensive industries

- A country better endowed with abundant labour or resources can produce labour- or resource- intensive goods or services more cheaply than capital intensive goods, especially when compared with a country that is better endowed with capital

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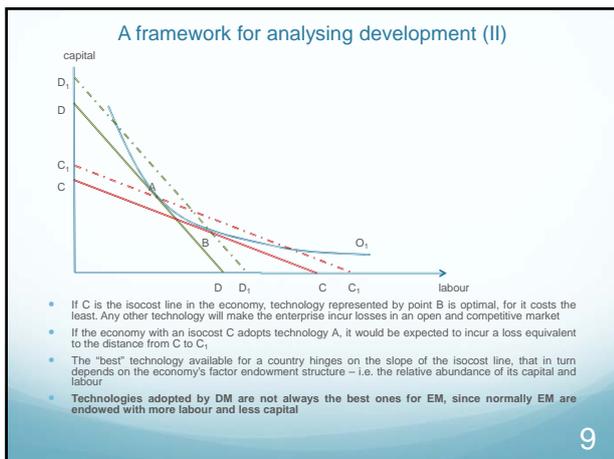
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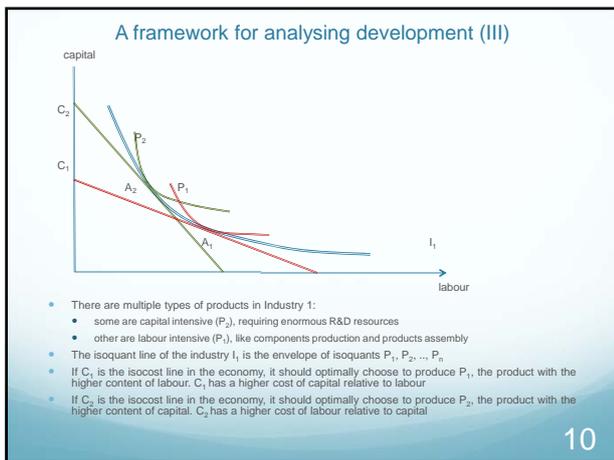
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### Comparative advantage theory

**A country has a comparative advantage if it can produce a particular good or service at lower marginal and opportunity cost over another country.** Even if one country is more efficient in the production of all goods (has an absolute advantage in the production costs for all goods) than the other, both countries will still gain by trading with each other, as long as they have different relative inefficiencies (different relative production costs)

- **Absolute Advantage:** If a foreign country can supply us with a commodity cheaper than we ourselves can make it, better buy it of them with some part of the produce of our own industry, employed in a way in which we have some advantage (Adam Smith)
- **Comparative Advantage:** In Portugal is possible to produce both wine and cloth with less labour than it would take to produce the same quantities in England. However the relative costs of producing those two goods are different in the two countries. In England is very hard to produce wine, relative to cloth. In Portugal both are easy to produce. Therefore, while it is cheaper to produce cloth in Portugal than in England, it is cheaper still for Portugal to produce excess wine and trade that for English cloth. England also benefits from this trade, since its cost of producing cloth has not changed but it can now get wine at a lower price (D. Ricardo)
- **All countries would prosper if they chose to concentrate on what they can produce best and then traded those products for products that other countries produce best.** Specialization of each country in the production line in which it has comparative advantage would actually raise total production and be profitable for both countries
- **A country with relative abundance of labour/resources (typically an EM) should produce more labour/resource- intensive goods and trade for capital-intensive products with a country that has relative abundance of capital. Trade between the two nations normally raises the real income of both**

By building an "optimal industrial structure", consistent with the endowment structure of their economy, Japan and other (mainly Asian) EM succeeded to achieve sustainably high rates of growth over several decades

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### New "Structural" Economics (I)

- Justin Lin, World Bank Chief Economist 2008-12, developed a theory to explain **what drives economic growth and how policies to foster growth should be implemented** (with a focus on EM)
- According to "New Structural Economics" (NSE), a **development strategy aimed at directly upgrading the industrial and technological structure of a country is doomed to fail because it defies the comparative advantage determined by the existing endowment structure**: this will result in distortions and low efficiency, leaving the EM always reliant on capital imports (=running a trade deficit) and therefore subject to capital flights, with little domestic capital accumulation (=little domestic saving)
- Because **the industrial structure in an economy at a specific time is endogenous** to its relative abundance of given labour, capital and natural resources, **the speed of industrial upgrading and development depends on the speed of the upgrading of its factor endowments** as well as the required corresponding improvements in infrastructure (and in institutions)
- Economic development requires **continuous industrial diversification, upgrading, and corresponding improvements in hard and soft infrastructure**: over time, with capital accumulation (or population growth), the economy's factor endowments will change, requiring industrial upgrading and new types of infrastructure services to remain competitive. **Governments must not resist market forces in the reallocation of capital and labour from sector to sector, from industry to industry**
- Therefore the **"optimal industrial structure" of the economy will be different at different levels of development**

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### New "Structural" Economics (II)

- According to NSE the **role of the state** in supporting the process of industrial diversification and upgrading should focus on:
  - Making sure that the price system reflects the relative scarcity of production factors in the country's endowments, therefore maintaining competitive markets to send the right price signals to private economic agents
  - Coordinating related investments (mainly infrastructure) across different firms
  - Providing information on new industries, compensating pioneering firms for (info) externalities
  - Nurturing new industries through incubation, encouraging clustering
  - Attracting FDI
- NSE is consistent with the neoclassical view that **export and imports are endogenous to the comparative advantage** determined by a country's endowment structure (they are essentially features of industrial upgrading, reflecting changes in comparative advantage). **Globalization** offers ways for EM to **exploit the "advantages of backwardness"**, achieve a faster rate of innovation and structural transformation than is possible for countries already on the global technology frontier
- Openness is an essential channel for convergence
- NSE considers **Foreign Direct Investment (FDI)** a more favourable source of foreign capital for EM than other capital flows, since
  - FDI is usually targeted towards industries consistent with a country's comparative advantage
  - FDI is less prone to sudden reversals during panics
  - FDI generally also brings technology, management, access to markets and social networking, all crucial for industrial upgrading (technological spill-over effects)
- On the contrary, large **Portfolio Investments** to EM can cause equity and housing bubbles and excessive currency appreciation, complicating macroeconomic management.
  - Sudden large inflows of capital in EM have often been invested in speculative sectors

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### Export-Led Growth and "Managed Capitalism"

**One way to both discipline inefficient firms and to expand their markets is to encourage (large) firms to export ("openness" of the economy)**

- Firms – not any more constrained by the size of the domestic market – will choose to **exploit the comparative advantage** of their home country (in order to be "viable" and competitive globally) and the larger international markets offer them the possibility to benefit from economies of scale
- The starter sector in EM is easy-to-make but labour intensive consumer goods like garments and textiles, before moving up the technological ladder and producing more complicated goods
- Governments might try to support exporting industries by:
  - Maintaining an undervalued exchange rate, thus making domestically produced goods more competitive
  - Underpricing key raw material or energy inputs
  - Holding down wages

**but this strategy will only be successful if it is backed by an industrial and technology structure coherent with the country's competitive advantage at each moment in time**
- This type of **"managed capitalism"** usually works well in small nations, with limited domestic markets, where firms are forced to turn to exports. In large EM, with big local market, firms are more likely to exploit government support and remain domestic, protected and increasingly inefficient (India, Brazil)
- Japan and Germany after WW2 and China after 1979 are three exceptions where **"managed capitalism"** has been successful in countries with large domestic markets

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### Failure of "Export Led" Growth Models

- In the initial phases of growth, when capital is scarce and labour abundant, wages generally do not keep up with the extraordinary rate of productivity growth and, as a result, **corporations that exploit the country's comparative advantage generate substantial profits**
- Once excess labour in agriculture is fully drawn into the manufacturing sector, wages inexorably increase to keep pace with productivity growth in the efficient export sector, therefore **low wages no longer offer a competitive advantage for exporters**
- To stay competitive, **exporters move up the value chain of production** and eventually reach the frontiers of innovation, making more high-tech, skill-intensive products
- More importantly, **productivity improves in the "tradable" sector, but less in the "nontradable" sector** (construction, retail, hotels&restaurants, services), often deliberately shielded from foreign competition by politicians supported by "local" vested interests
- High wages (relative to productivity) in nontradable goods and services reduce domestic demand for them and hold down domestic consumption, thus **maintaining the dependency on export growth and building up huge current account surpluses** (see Japan & Germany)
- The CA surpluses put pressure on the currency to appreciate but this does not automatically help to rebalance growth; **the required structural reforms (liberalization of non-tradable goods & services) are normally postponed and strongly resisted by vested interests**

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### Financing EM trade imbalances

- Countries with a surplus CA need to look for countries that are disposed to spend more than what they produce but also have the credibility to borrow to finance their spending
- (Asian)EM pursuing an export-led growth initially needed to import substantial quantities of raw material, capital goods and machinery, so they were running CA deficits that needed to be financed by foreign borrowing (to fund investments)
  - Governments in many other EM until late 1990s pursued populist spending and shunned structural reforms (Brazil, India), so they were running CA deficits that needed to be financed by foreign borrowing (to fund consumption)
  - ❖ **Since the late 1960s global trade imbalances have been growing.** From 1970 till 2000 the surplus countries were mostly Germany, Japan and the Gulf oil producing countries
- Poorer EM, with low levels of per capita consumption and investment, where ideal candidates for boosting their spending, provided they could get financing
- In 1950s&60s financing to EM mostly came from governmental and supranational organization
  - In 1970s&80s Western bank "recycled" large amounts of "petrodollars"
  - In 1980s&90s foreign "arm's-length" investors (mutual and pension funds) lent to EM by buying their government and corporate bonds
- But in creating a bias in favour of producers, **EM stunted the development of their financial systems**, thus making it hard for them to use foreign financing to expand domestic demand for goods and services effectively

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### Financing EM trade imbalances: FDI

- Traditional economic theory predicts that a **country's investment should not depend on its domestic savings**, since – if their investment opportunities are good – it should be able to borrow as much as it needs from international financial markets
- But in practice there is a much higher positive correlation between a country's investment and its domestic savings than one might expect if capital flowed freely across countries
- For EM, the more a country invests the more it grows, but **the more investment is financed from foreign sources as opposed to domestic savings, the slower the growth** (a relationship that does not necessarily hold for DM)
- Lucas highlighted that **the flow of capital from DM to EM is much less than would be justified by differences in expected returns** (even risk-adjusted)
- Without improving infrastructure and upgrading to new comparative-advantage industries (following changes in factors endowments), **EM may encounter diminishing returns in accumulating capital in existing industries, causing lower returns to capital and justifying the outflows of capital**

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Financing EM trade imbalances: portfolio flows

- **International capital mobility** (portfolio flows) serves several purposes:
  - It allows countries with limited savings to attract financing for productive domestic investment projects
  - It enables investors to diversify their portfolios
  - It spreads investment risks more broadly
- **Liberalized capital markets in EM can be distorted by incomplete information** and can be affected by the specific features of the domestic financial system (normally "relationship based" vs "arm's length")
- **Foreign portfolio investments in EM** – loans, purchases of bonds - ultimately rely, either directly or indirectly, on **government guarantees** and therefore on the **creditworthiness of the country**
- The analysis of the attributes of the project being financed are normally left to the local, domestic banks, who do often not have the skills, competence and sometimes independence to properly assess them
- **During booms capital flows freely in EM**, with direct intermediation of the government (government debt) or through the local banking system (bank debt). **The problem is that often there are not enough profitable investments opportunities for all the money that is flowing in and chasing them**
- **Due to information asymmetries and costs, relatively little funds flow directly from foreign investors to EM corporates, except for FDI** (foreign direct investments). Most of credit allocation goes through inefficient (and often corrupt) public sector or incompetent domestic banking sector

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The LatAM crises: 1982-2002

- In the 1970s many LatAM government embarked on **massively inefficient economic development projects and strong domestic consumption growth was financed with foreign capital** (but mainly through "portfolio flows")
- The resulting huge fiscal and CA deficits were financed by American and European bank through **floating-rate foreign currency loans** (LatAm countries borrowed both to roll over the debt but also to pay interest on the past loans: a typical example of "Ponzi Finance")
- When Paul Volker dramatically hiked US interest rates to curb US runaway inflation of the 70s, a severe double-dip recession led to a drop in the prices of the commodities the LatAM countries were exporting, making it impossible for them to service their debts, whose value rose as their currencies depreciated
- Mexico defaulted in 1982, soon followed by Brazil, Argentina and other LatAM countries: the recession that hit South America lasted almost 10 years, since only in the late 1980s, when the loans were reduced in face value and converted in "Brady Bonds", did the region start to recover
- After the resolution of the LatAM debt crisis of the 1980s, capital inflows resumed but the same problems resurfaced. In 1994 Mexico edged toward crisis, due to unsustainable deficits and an overvalued currency. As doubt spread about the health of the nation's banking system, the peso plunged in value and made the burden of foreign-currency denominated debt (the "tesobonos") unbearable
- Other "capital account crises" hit LatAM EM in the 1990s, ending with the infamous Argentinian default of 2001

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The implication of the East Asian Crisis of 1997

**The East Asian crisis of 1997 was largely a result of corporate overinvestment**, where the benefits would have accrued to a few "well connected" elite but the risks of economic collapse were borne by governments (hence all taxpayers)

- **In East Asia EM foreign banks and investors lent mainly to:**
  - EM governments
  - The domestic banking system
 and did not care about how efficiently these funds will be allocated, knowing that, if needed, governments (and consequently taxpayers) would "step in"
 

[“Country don't go bust” theory, infamously stated by former Citibank Chairman Walter Wriston, 1984]

 Moreover: **foreign investors lent short-term and in foreign currencies**
- This left EA EM exposed to **sudden stop of foreign inflows**. The consequences were financial crises and ensuing busts that set back growth tremendously
- The EA governments turned to the **IMF**, that **imposed onerous conditions** before releasing the funds required to pay back foreign lenders and preserve the local banks (IMF was accused of "overreaction")
- Consequently **Governments and Corporates in Asia cut back on investment and started to run large CA surpluses**: from being net borrowers, they joined Japan, Germany (and, since 2003, China) as large net supplier of funds to global financial markets
- With all this **"savings glut"** interest rates dropped to record low levels (Greenspan's "conundrum") and bankers looked for some other "big spender" to finance

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### US Jobless recoveries

- Prior to 1990 US economy's post-WW2 recoveries were rapid – on average output recovered to pre-recession levels within two quarters and lost jobs were recovered eight months after the recession trough
- **Social security** (the "safety net" for those unemployed) was devised for an economy capable of quick recoveries, not just in output but also in employment. Even though the unemployment benefits are of short duration, in downturns before 1990 they were enough to support most of the unemployed until they found a job
- The recession of 1990 broke these post-war patterns: production recovered within 3 quarters but it took almost 2 years from the trough of the recession to recover the lost jobs. In the 2001 recession it took 38 months for jobs to recover vs only 1Q for output. Nowadays we are still well below the level of employment of 2007 ("**jobless recoveries**")
- We could argue that **most recent US recessions are not just "cyclical" adjustments (an inventory cycle), but they are "structural": a shift of resources from traditional mature industries to new young ones**, (from steel to software) that is **not matched by a corresponding shift in the skills in the workforce**
- The **NAIRU** (non-accelerating inflation rate of unemployment) tends to increase due to "**hysteresis**" in unemployment: the workers whose skills are in demand have the power to influence or set wages and their reduced number incentivizes them to bargain for even higher wages as soon as the economy improves. The workers who are unemployed and, due to lack of employable skills, find it more difficult to get work might become discouraged and drop out of the workforce (drop in participation rate) or, if no re-training is available, might remain long-term unemployed

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### "Automatic" vs "Discretionary" Stabilizers

- In the US – as opposed to Continental Europe - the emphasis has always been on **rapid restructuring in the face of distress**, terminating dying enterprises and moving on to finance new businesses. **Recessions are a time of both destruction and new creation**: old jobs are destroyed and a whole set of new ones is created. **Short-duration benefits give the laid-off worker the incentive to actively look for a suitable job**. Mobility is easy across firms, no stigma is attached to unemployment and re-entry into employment is easy because jobs are not clogged up by incumbents
- But **the absence of a strong and durable safety net**, coupled with slow job growth in recoveries, **is putting pressure on politicians, fiscal and monetary authorities to pursue "active" discretionary policy** aimed at stimulating the economy far and beyond what traditional "automatic stabilizer" (as unemployment benefits) would normally be allowed to do
- Discretionary stimulus and aggressive easing by monetary authorities present a number of problems:
  - They only partly ease anxiety of unemployed workers (and of those at risk of losing their job), given their discretionary nature
  - Fiscal and monetary policy work with a lag
  - Discretion leads to abuse
- **Discretionary fiscal stimulus tends to be based on ideology and on past obligations or interests rather than attuned to the needs of the moment. Discretionary monetary stimulus (persistent and politically motivated) can affect the financial sector and ignite speculative bubbles**

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### Jobless recoveries + Income Inequalities

- US is politically predisposed toward stimulating consumption because it is **singularly unprepared for "jobless recoveries"**: typically unemployment benefits last only 6 months. Moreover, because health care benefits are tied to jobs, an unemployed worker also risks losing access to affordable health care
- **In politics, economic recovery is all about jobs, not output**, and politicians are willing to add stimulus, both fiscal (government spending and lower taxes) and monetary (lower short-term rates and, when rates hit the zero bound, Quantitative Easing – QE)
- **The average American has also been faced with rising income inequalities**: the wages of the 90<sup>th</sup>-percentile earner increased in the period 1975-2005 by about 65% more than the wages of a 10<sup>th</sup>-percentile earners [In 1975 the first one earned, on average, 3 times more than the latter; by 2005 they earned 5 times more]
- The reasons for growing income inequality are a matter of heated debate: certainly one of the main reasons is the **gap between the demand for highly educated and its lagging supply**
- Also - as EM exploit their comparative advantages - a number of activities, mainly labour intensive, are outsourced to these countries. **The excess supply of low-skilled workers in DM weighs on their relative incomes and on their employment opportunities**

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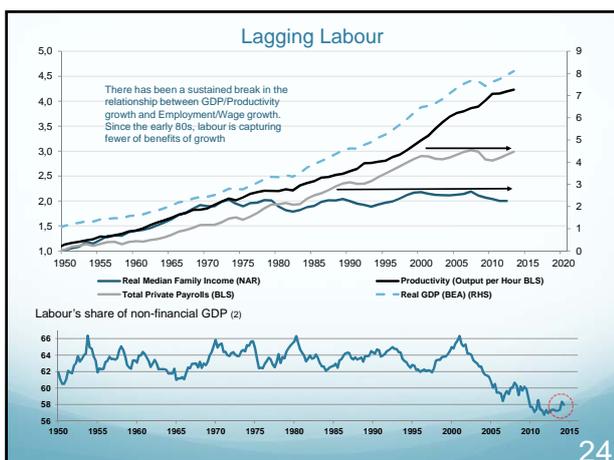
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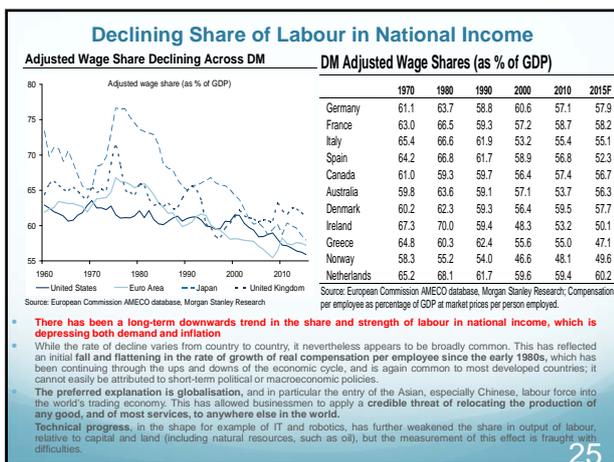
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### Globalization, unemployment and income inequality (I)

- By relocating some parts of international supply chains, globalization has been affecting the price of goods, jobs patterns and wages everywhere
- M. Spence estimated that almost all of the 27 million new jobs created in the US between 1990 and 2008 were in the so-called nontradable sector (NTS) of the economy, the sector that produces goods and services that must be consumed domestically (government, health care, retail, construction, hotels&restaurants)
- Employment in the tradable sector (TS), subject to international competition, barely changed during that period (+600,000 on 34 million employed)
- Unlike employment, Value Added (VA, the difference between the value of its outputs, that is the goods and services it produces, and the costs of its inputs, such as the raw materials and energy it consumes) in the tradable and nontradable parts of the US economy has increased at a similar rate since 1990
- Therefore, over the period, value added per employee (VApE, labour productivity) increased modestly in the nontradable sector (+12% to US\$ 80,000 from US\$ 72,000) vs a strong increase in VApE in the tradable sector (+52% to US\$ 120,000 from US\$ 79,000)
- Generally (except for mining industries and utilities, that are very capital intensive) incomes of workers are closely correlated to VApE, therefore
  - Average incomes in NTS rose very little
  - Average income in TS rose rapidly

Since more jobs were created in NTS than in TS, distribution of income in US economy has become more uneven

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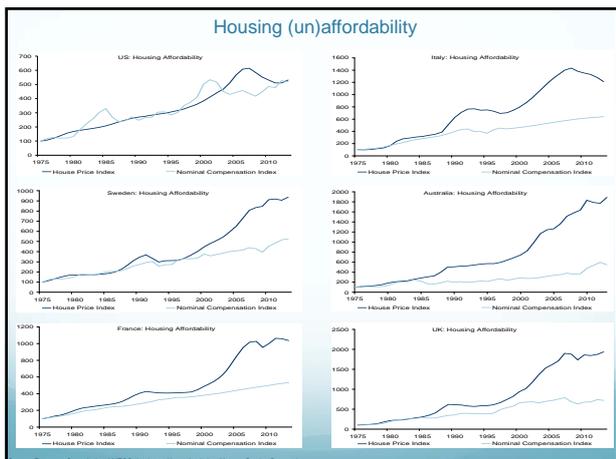
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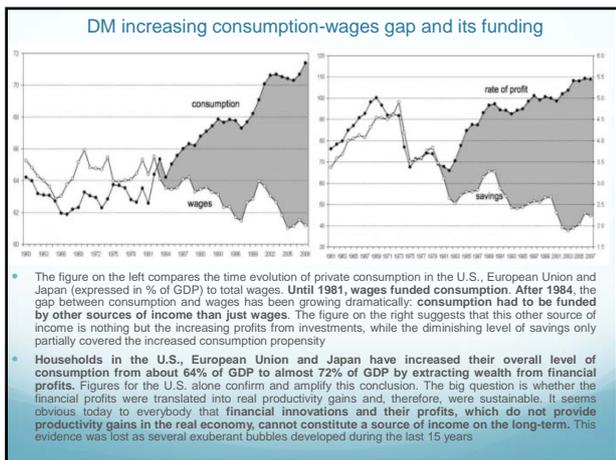
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### The "trilemma": exchange vs interest vs inflation rate

- David Hume argued that when a country on a gold standard (=fixed exchange rates) runs a positive balance of trade, gold would flow into the country in the amount that the value of exports exceeds the value of imports.
- In the absence of offsetting actions by the central bank (sterilization), money supply (and inflation) would rise in a country with a trade surplus and fall in a country with a negative trade balance.
- This would lead to an appreciation of the real exchange rate of the surplus country, making its goods less competitive and pushing towards a rebalancing of the trade account.
- In the long term, a country cannot keep a fixed exchange rate and, with free flows of goods and capital, control its domestic interest rates and its inflation rate.**
- In the short term the Central bank and the government can accumulate foreign currency, but this is tantamount as "vendor financing": lending money to the purchaser of your goods, in order to allow him to spend, and then "recycling" the proceeds in his capital market, keeping interest rates artificially low.
- Chinese "lent" to Americans (and Germans lent to South Europe) in order for Americans to be able to purchase Chinese goods. To keep the exchange rate from revaluing, they "sterilized" the \$ received and "recycled" them in the US financial markets. In doing so, Chinese helped keep US rates artificially low, fuelling the crisis (moreover, since F&F bonds were considered of the same credit standing as US Federal Government, Chinese bought agencies' bonds, helping fuel the housing boom that made US consumers feel richer and thus consume/import more).

**A vicious circle that in the end damaged the world economy** 38

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### Required Readings

- Raghuram G. Rajan: Fault Lines, **How Hidden Fractures still Threaten the World Economy**, Princeton University Press, 2010, Chapters 1, 2, 3, 4
- Michael Spence: **Globalization and Unemployment, The Downside of Integrating Markets**, Foreign Affairs, July/August 2011, [http://www.viet-studies.info/kinhte/MichaelSpence\\_Globalization\\_Unemployment.pdf](http://www.viet-studies.info/kinhte/MichaelSpence_Globalization_Unemployment.pdf)

### Suggested Readings

- Justin Yifu Lin: **The Quest for Prosperity, How Developing Economies can take off**, Princeton University Press, 2012, Chapters 1, 2, 3, 4, 5

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