Globalisation, Integration, International Organizations

Facts, Theory, Opportunities, Economic Policy Options

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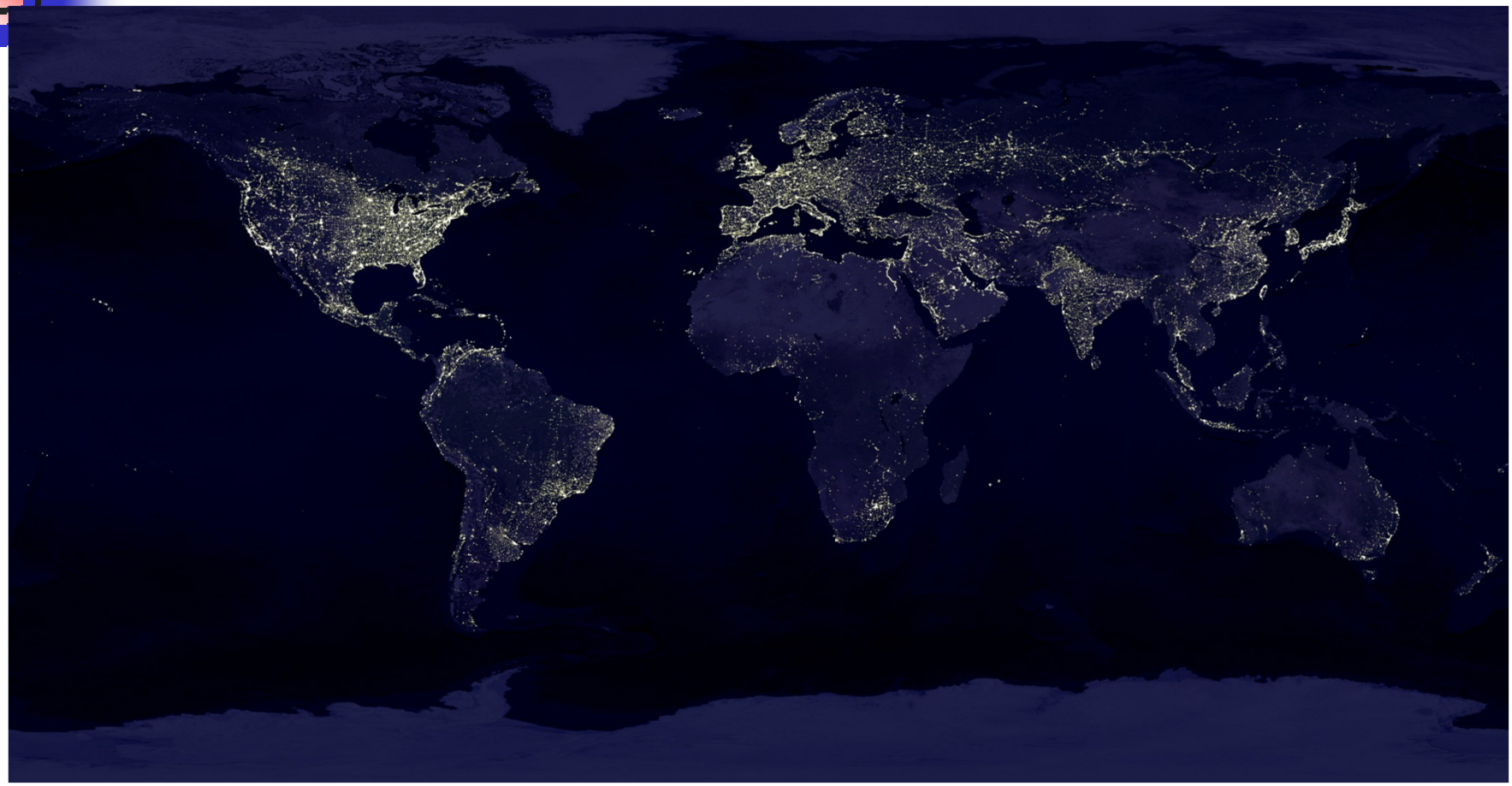
See NASAwebsite; reports of OECD; IMF, US Council of Economic Advisors, UNCTAD

The World is Asymmetric in Terms of Prosperity…Globalization, Regional Integration (driver of catching-up, regional economic networking)



How To Organize Integration and Globalization as a Stable and Welfare-Enhancing Process? Role of International Organizations…

Globalization, Integration, I.O.

- **Globalization** creates larger & more intensive networks of trade and capital flows (more...)
- **Integration** reduces regional trade and investment barriers; regional institutions (EU, Asean...)
- **International Organizations: 2013**=67 000
  - Global: IMF, WTO, UNEP *1972, ITU (International Telecommunications Union); **G20**: Banking Crisis
  - Regional: OECD, OPEC...; I.O. have specific mandate; cooperation of countries

International Organizations started as ...

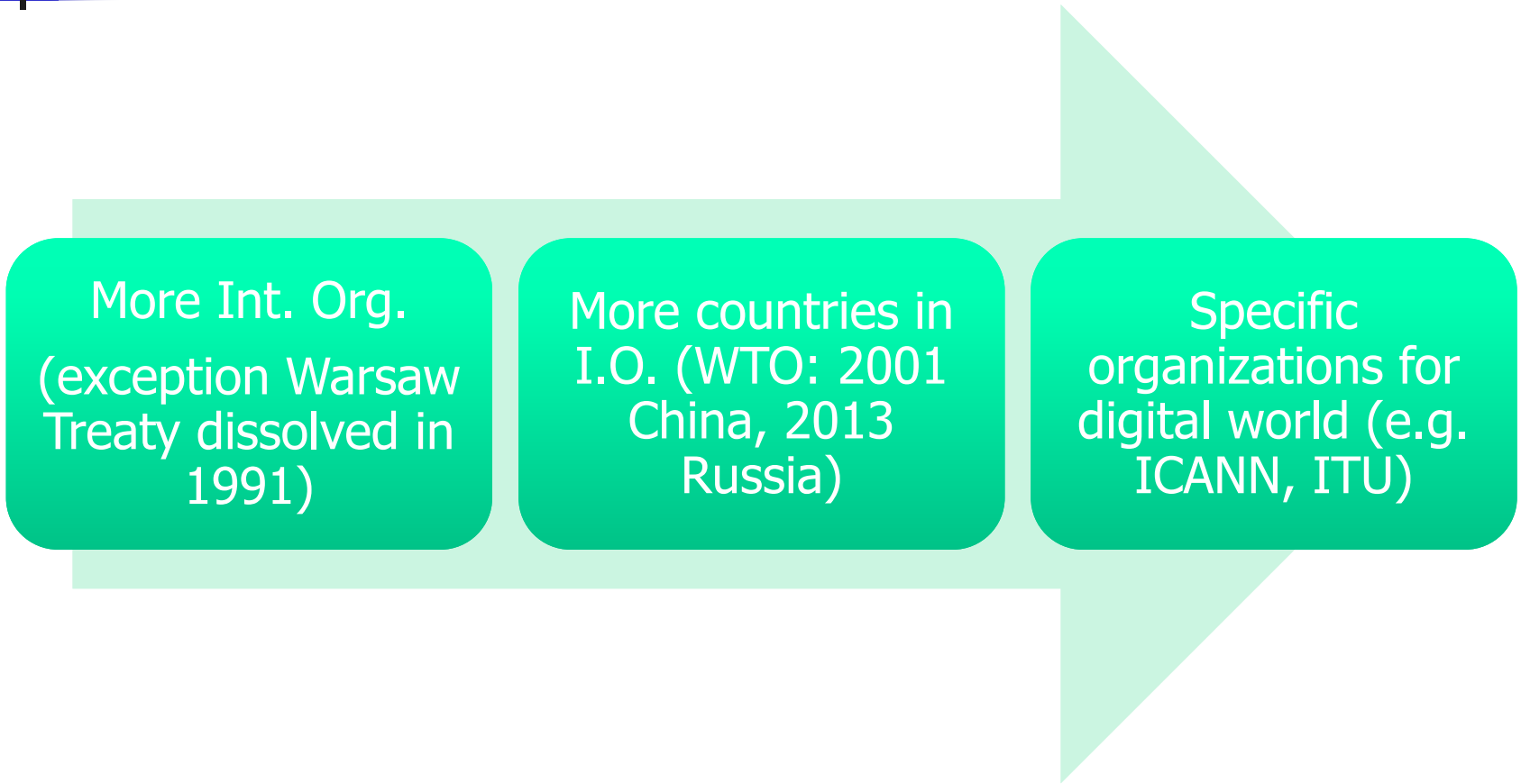
International conferences:

- e.g. Vienna conference 1814/1815 after Napoleonic Wars (5 big powers, including France)
- Berlin conference under Bismarck 1878: Germany should be honest broker – conflicts in Europe (Balkan) and in Africa/Asia (colonies)
  - Revolutions of 1776 (US Independence), 1789 (France), UK 1688 (Glorious Revolution) brought constitutional constraints for government; international equivalence missing – International Rule of Law (?)

What is the Problem with **International Conferences?**

- Complex decisions before/during conference:
  - Where, whom to invite, which rules of decision-making, how to finance activities and to implement decisions; **too slow, too ineffective**
  - **International organizations** become relevant in late 19th century as certain international key problems were considered as continuing challenge: Postal services, Patents (international intellectual property rights), River conventions...

Some Developments in the Two Decades After 1991



More International Organization Activities

- UN and sub-institutions increasingly important in the field of the environment: since 1972 – Environment Conference of Stockholm; Kyoto Protocol/Global Warming as global challenge
- More regional organizations: NAFTA, EU, ASEAN, Ecowas (Economic Community of West African States) Mercosur, Gulf Cooperation Council…; ASEAN 2015= start of a single market (like the EU) – for at first 6/10 countries
- Combined activities: „Troika" = IMF+EU+European Central Bank in euro crisis countries (2010-2014): adjustment programme implemented? Next disbursement paid?

New Organization AIIB

- Asian International Investment Bank (located in Beijing), created in 2014
  - Initiative from China
  - Many EU countries member
  - US does not want to join
  - Problem(?) undermining role of world bank, undermining role of Asian Development Bank (dominated by Japan)
  - Many EU countries interested in financing of projects in Asia...

Required Reading on International Organizations

- *Tilly, R.; Welfens, P., eds. (2000), Economic Globalization, International Organizations and Crisis Management, Heidelberg and New York: Springer*; chapters A) Welfens, B) **Foreman-Peck**, C) Flandreau, D) Fratianni/Pattison, G) James, H) Gillingham: on ILO, I): Güth on Game Theory, J: Oliveira-Martins: Environment, M: Baer/Tilly: BIS; Journal *International Organization*

International Organizations: Few Existing Prior to 1944 (IMF)

- League of Nations, Geneva, 1920 (without US!)
- Early: Bank of International Settlements: dealing with World War I reparations; Basle, * May 17, 1930; after 1945 new task: monitoring international capital markets; cooperation of central bankers (leading countries)
- International Court of Justice 1899, The Hague
- international patent convention (1880); 1875 Bureau International des Poids et Mesures (meter!), World Post Association, 1874; International Telecommunications Union/ predecessor (telegraphy) 1865; rivers...

Special Regional I.O.s (in context of rivers)

- Danube River Protection Convention: 1856, revised and signed 1994, entering into force 1998 (13 countries plus EU): Safe Shipping!!!
- Rhine River Convention: **1831**, revised 1992 (Switzerland, France, Germany, Netherlands, Luxembourg, +EU); prior to this Agreement (concerning the **protection of the Rhine against pollution**) already in 1963.

Considering

- **Institutions and rules** (formal/informal)
- **Organizations** = institution with legal entity
- **International organization = multi-country organization – under which law?**; International Law is useful here; could help to solve conflicts peacefully (I. KANT)
  - International organizations can solve conflicts peacefully: who wants to be a member/stay on..?

The Emergence and Growth of International Organizations (FOREMAN-PECK, 2000)

- 11th century: army of Danes camped on Blackheath, overlooking London – they demanded a large amount of money (known as Danegeld) in return for the Archbishop who had been captured. Rudyard Kipling (1865-1936) wrote („Dane-Geld AD 980-1016"):

We never pay anyone Dane-geld,

No matter how trifling the cost;

For the end of the game is oppression and shame,

And the Nation that pays it is lost.

Theory...

- Consequencews of alternative strategies have to be evaluated over a number of „game rounds". If the English pay now the Dane-geld this will increase the likelihood to be „taxed" in the future.
- Arming and preparing to fight creates 3 potential outcomes:
  - A) Danes withdraw immediately
  - B) Danes fight and retreat
  - C) Danes win and get tribute

James Foreman-Peck (2000, p.75): looking at international relations...

- „For most of history the international „community" has lacked the sanctions of nation states, the legislative or judicial bodies, enforcement agencies and common rules. However, lines of agreements are reached...There (were) frequent and potentially costly disputes. To avoid them, states increasingly accepted some principles of international law."

Key Ideas for International Organizations

Creation of organization (delivering net benefits): mandate/goals, seat, resources, decision-making (e.g. majority vs. unananimous voting)

Country i joins = benefits

Incentive for country j to also join (?)

Rule of Law

- Private contracts could solve all potential conflicts (Hayek)
- However, in reality there are countries, governments, government-owned institutions
- Different values/preferences of people in different countries and regions
- The state – national government - in country has monopoly of physical coercion

Ke Aspects of International Organizations

- 1)Agreements between countries/participation in international organizations should be **self-enforcing**: no requirement for third party intervention
- **Single issue I.O.** more likely to survive than broad I.O.: Single issue I.O. can employ selective incentives to members
- One may add: Single issue I.O. has gains from specialization

Public Goods vs. Semi-public Goods

- 1) No rivalry in consumption (country I can increase the consumption of service while this is not affecting consumption of other countries II, III etc.)
- 2) Principle of exclusion cannot be applied
  - Semi-private good has property 2), but not 1)

International Cooperation

- Many international protocols and standards were adopted on **a voluntary basis** – often the motivation was to achieve compatibility with major trading partner.
- Note that **transaction costs across national boundaries** not only will concern governments, but private actors as well. International organizations can be classified according to whether they are intergouvernmental, or between private actors exclusively.

History: 19th Century International Political Organizations

- Treaty of the Quadruple Alliance 1815: Austria-Hungary, Russia, Prussia and the UK;
  - Ended 1822 (Congress of Verona); **Britain not oppressing liberal ideas** while the other three countries were
  - At the end of the Crimean war in 1856 the „Concert" was revived; it accepted a protocol on the protection of neutral trade in time of war. A joint appointment of a director-general of Danube River Commission was also agreed upon.
  - 26 nations signed the 1899 Convention of the Hague Conferences on laws and customs of war on land; **1920 League of Nations**

Early I.O.s: 1849...

- 1849 negotiation of the first telegraph treaties – motivated by the **need for uniform standard**.
- 1865 Paris telegraphy conference which was basis for the International Office of Telegraphy in Berne (forerunner of ITU)
- Network industries internationalized their business (post, railways) which required I.O.; **by 1871 there was a European railway timetable**, **meetings sponsored by Bavaria from 1860 onwards**

Early Problems with Subsidies

- **International property rights in technology** created in after 1880 (but Swiss Law and Dutch Law hardly gave patent protection until 1900; reciprocity clauses typical: has clear implications...If you give no protection you forego the benefits of IPR, but will not pay for foreign Intellectual Property Rights!
- Agricultural exports, subsidies for sugar(subsidy race!)
  - Conventions 1864, 1888 proved ineffective for NO subsidies
  - Only in 1902 the Sugar Union was created, solution found.

(International) Public Good

- **No rivalry in consumption**
- The **exclusion principle cannot be applied**
  - Revealing preferences is biased, thus no efficient market solution possible (**market failure!**); political solution?
  - Small group of countries has high internal interdependence of behavior (Member I observes MII, MII observes MI, MIII etc.); see OLSON, M., The Logic of Collective Action, BUCHANAN/TULLOCK, The Calculus of Consent
  - Distributional coalitions are more able to apply „selective incentives" and thus avoidng the collapse of organization in the face of „free-riding"

MANCUR OLSON: organizing groups/lobbying; (I.O.)

- **Small group** easier to organize than large group of individuals (countries): global I.O. more difficult to organize than regional „club"
- **Homogenous group** easier to organize than large group of countries (e.g. consider the per capita income/PPP in the EU)
- **Producer interests** are easier to organize than consumer interests

Big International Organizations

- Fifa: semi-private soccer group (Zürich)
- Olympic Games (Seat of the Olympic Committee is Lausanne)
- IMF: International Monetary Fund (Washington DC); World Bank
- Regional in Europe: EU28, EBRD (European Bank for Reconstruction and Development), EFTA (European Free Trade Area...)

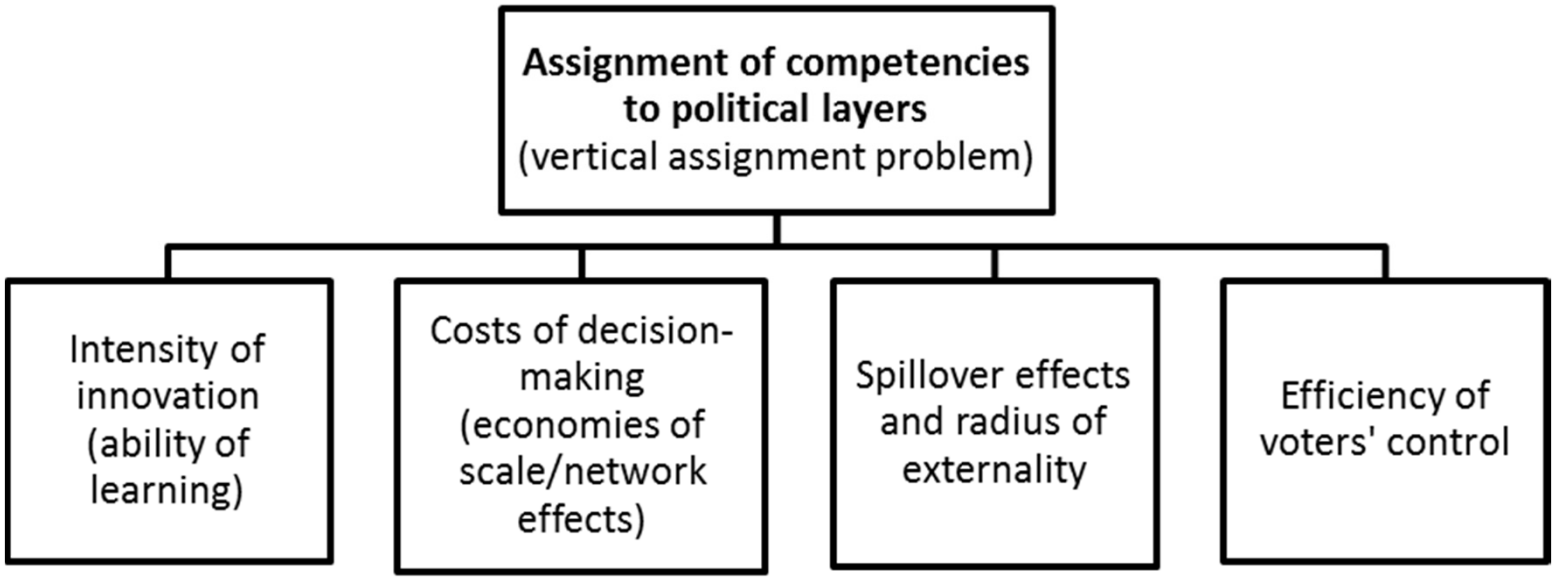
Regional Development Banks

- **World Bank:** project financing (WB has AAA) in poor countries
- **Regional development banks**; e.g. African Development Bank, Asian Development Bank (dominated by Japan; with US as member)...
- **Asian Infrastructure Investment Bank:** October 2014, headquarter Beijing, 35+ member countries (not the USA); China becoming an international actor in I.O.s

Efficient Solution for **(International) Public Good:** vertical aggregation of individual willingness to pay: Economics of Lighthouse

- vertical aggregation of individual willingness to pay
- Economics of Lighthouse
  - All captains would like to have lighthouse services: public good; **free rider problem, market failure,** political system has to decide about provision of public good – international public system must be active; question how intern. public goods are financed
  - Everybody would like to avoid paying fees to the lighthouse

Assignment of Competencies in International Organizations and Government Layers



Source: Welfens: Globalization of the Economy and International Organizations: Developments, Issues and Policy Options for Reform in: Welfens/Tilly (2000): Economic Globalization, International Organizations and Crisis Management

Theory of Fiscal Federalism (OATES, 1999, in JEL)

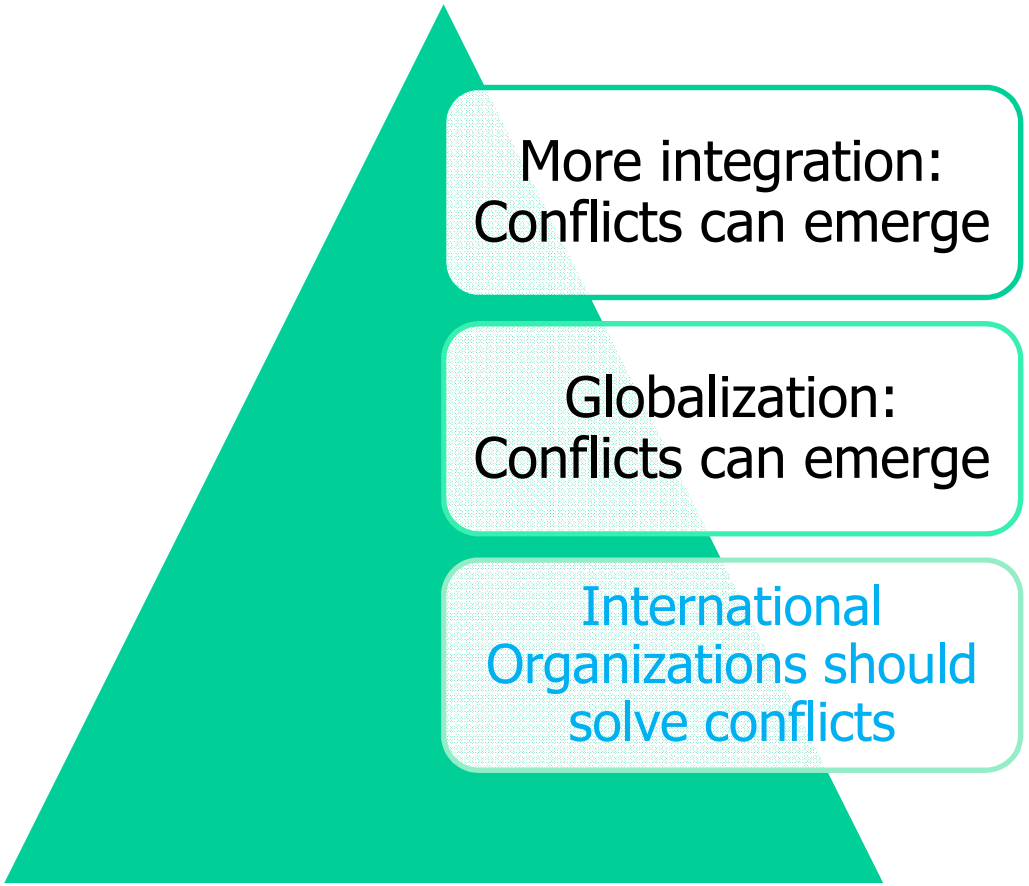
- **National policy layer: defence, income redistribution, counter-cyclical policy**
- Local policy layer: pricing local public services through user fees
- Regional policy layer (US: states): should get federal grants as compensation for positive spillovers to other states/regions (e.g. reduction of emissions, innovation spillovers)
- **Global layer:** (? No theory!); free trade is an international public good: organization=WTO!; IMF; Controlled capital flows; BIS= Bank of International Settlements; G20 since US/UK banking crisis 2008

International Public Good(s)

How efficient are International Organizations?

- Which global I.O.s and regional I.O.s are active with what mandate/ressources
  - Vertical international division of labor: effective, efficient? Countries concerned = member countries?
  - Decision-making rules/majority requirement crucial; **POWER** = Shapley Value or **Bhanzaf index:** *looking at the percentage loser coalition which becomes a winner coalition by country x joining the coalition:*
  - Which country **dominates** (countries dominate)I.O.?

Triangle Globalization, Integration, Internat. Org.



Economic Globalization: What does this mean? Link globalization and integration

- Globalization =
  - **Intensive worldwide network** of trade, capital flows, migration flows
  - Involving **all major countries in the world**
  - Moreover**: „Information globalization**“ = knowing in most countries/cities about the state of the world in all other countries: role of TV, internet, newspapers; knowing so much more makes you care much more about the overall global economy

ICT/Internet and Global Trade

- Falling international telecommunications cost = reduced information and trading costs
  - Hence trade should generally increase (internat. telecommunications: Jungmittag/Welfens, 2009)
  - Trade with intermediate products might rise
  - Digital globalization in the form of digital products (can be attached to mail) and digital services; market power problems (e.g. Google, Microsoft?)
  - Internet users density & host density important

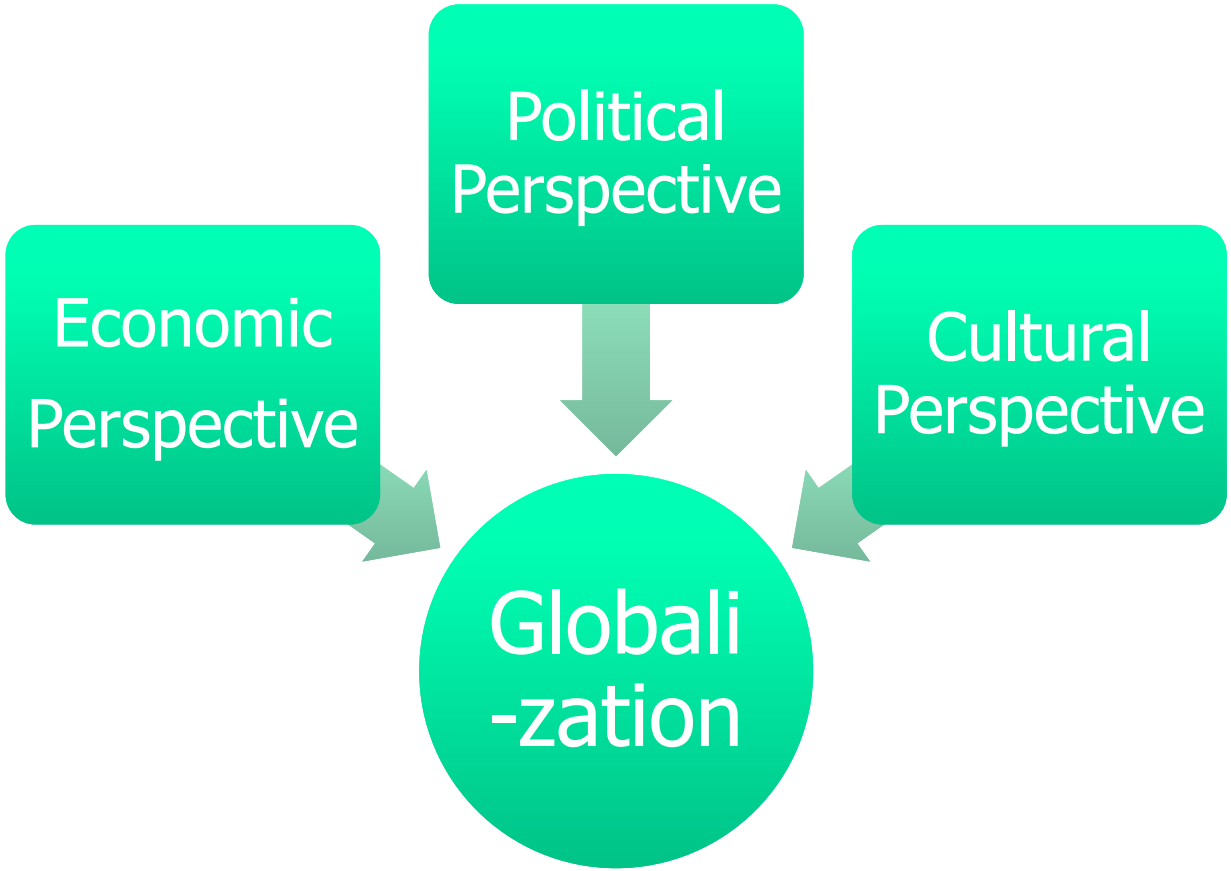
EU Countries...

- EU countries are social market economies (OECD?)
  - Market allocation reinforced by I.O.?
  - I.O. is kind of international government: 3 roles of government **(Musgrave)**
    - **Allocation** (e.g. competition policy: there is no global competition authority so fare – but we have the internet which is global market place/global competition...e.g. Google market power
    - **Stabilization** of output (e.g. cooperation of central banks..)
    - Income **redistribution** (Development policy?, OECD tax code?)

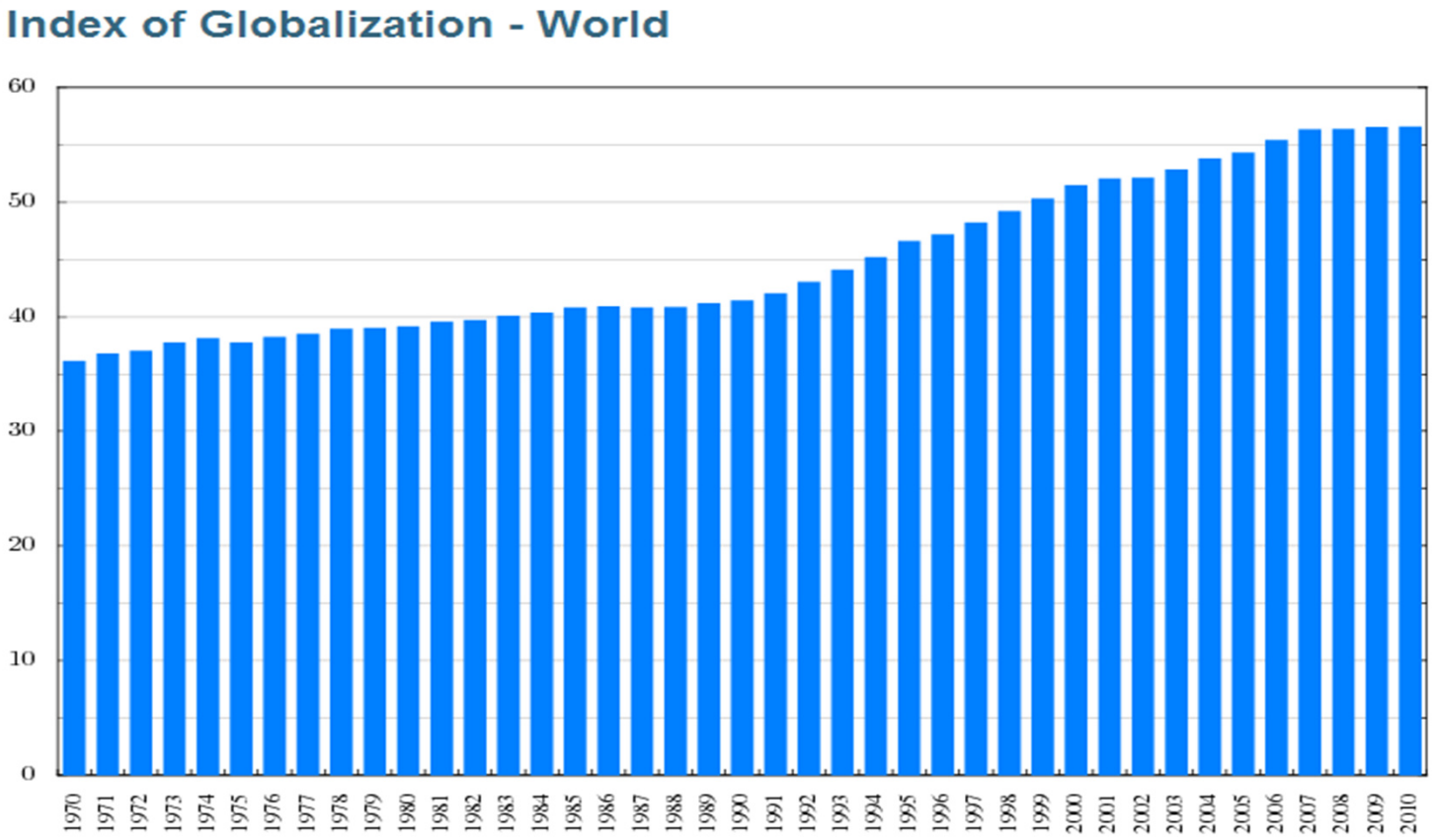
Economic Globalization

- Trade plus capital flows – particulary foreign direct investment (FDI) of MNCs; international migration, digital markets/the Internet in 1990s!;
- 1970s liberalization of portfolio capital flows;
- Mid-1980s liberalization of FDI (about 10% of global capital formation); increasing share of profits in US, UK, GE etc. accruing from abroad (subsidiaries); also MNCs subsidiaries` profits from Ireland to US, GE, UK

Globalization Perspectives



KOF Statistics (Zurich) on Globalization



Source: ETHZ (2013), http://globalization.kof.ethz.ch

2013 KOF Index of Globalization based on raw data for the year 2010

	country	Globalization Index
1.	Belgium	92.30
2.	Ireland	91.79
3.	Netherlands	91.33
4.	Austria	89.48
5.	Singapore	88.89
6.	Denmark	88.12
7.	Sweden	87.63
8.	Portugal	87.07
9.	Hungary	86.85
10.	Switzerland	86.28
11.	Cyprus	86.08
12.	United Kingdom	85.39
13.	Canada	85.38
14.	Luxembourg	85.15
15.	Czech Republic	84.86
16.	Finland	84.85
17.	Spain	84.21
18.	France	83.86
19.	Slovak Republic	83.49
20.	Norway	81.99

	country	Economic Globalization
1.	Singapore	97.64
2.	Luxembourg	94.75
3.	Ireland	93.95
4.	Malta	92.40
5.	Netherlands	92.18
6.	Belgium	91.33
7.	Hungary	89.62
8.	Estonia	89.57
9.	Bahrain	88.91
10.	Sweden	88.72
11.	United Arab Emirates	87.40
12.	Denmark	86.15
13.	Cyprus	85.11
14.	Czech Republic	85.08
15.	Finland	84.59
16.	Austria	84.02
17.	Slovak Republic	83.55
18.	Portugal	83.47
19.	Chile	82.52
20.	Montenegro	81.57

Source: ETHZ (2013), http://globalization.kof.ethz.ch/media/filer_public/2013/03/25/rankings_2013.pdf

2013 KOF Index of Globalization based on raw data for the year 2010

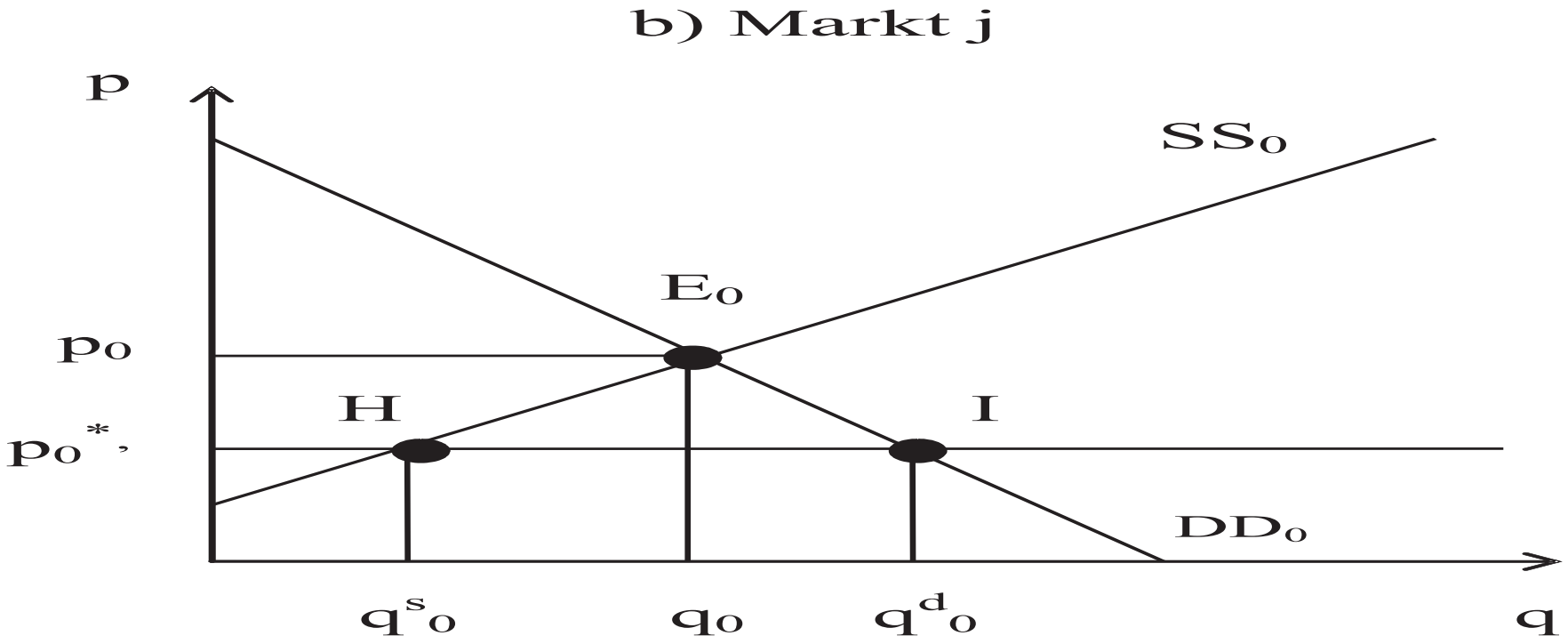
	country	Social Globalization
1.	Cyprus	91.81
2.	Singapore	90.99
3.	Ireland	90.79
4.	Austria	89.84
5.	Belgium	89.79
6.	Switzerland	88.81
7.	Netherlands	88.80
8.	Canada	88.59
9.	Denmark	85.82
10.	France	85.78
11.	Portugal	85.44
12.	United Kingdom	85.19
13.	Czech Republic	83.21
14.	Norway	82.67
15.	Germany	82.23
16.	Slovak Republic	82.06
17.	Sweden	81.46
18.	Spain	81.40
19.	Kuwait	81.29
20.	Finland	81.12

	country	Political Globalization
1.	Italy	98.21
2.	France	97.98
3.	Belgium	97.19
4.	Spain	96.68
5.	Austria	96.54
6.	United Kingdom	95.93
7.	Sweden	94.87
8.	Brazil	94.73
9.	Portugal	94.37
10.	Egypt, Arab Rep.	94.16
11.	Denmark	94.14
12.	Canada	94.13
13.	Netherlands	93.74
14.	Switzerland	93.63
15.	Argentina	93.59
16.	Turkey	93.24
17.	Germany	92.66
18.	India	92.21
19.	United States	92.21
20.	Norway	92.17

Source: ETHZ (2013), http://globalization.kof.ethz.ch/media/filer_public/2013/03/25/rankings_2013.pdf

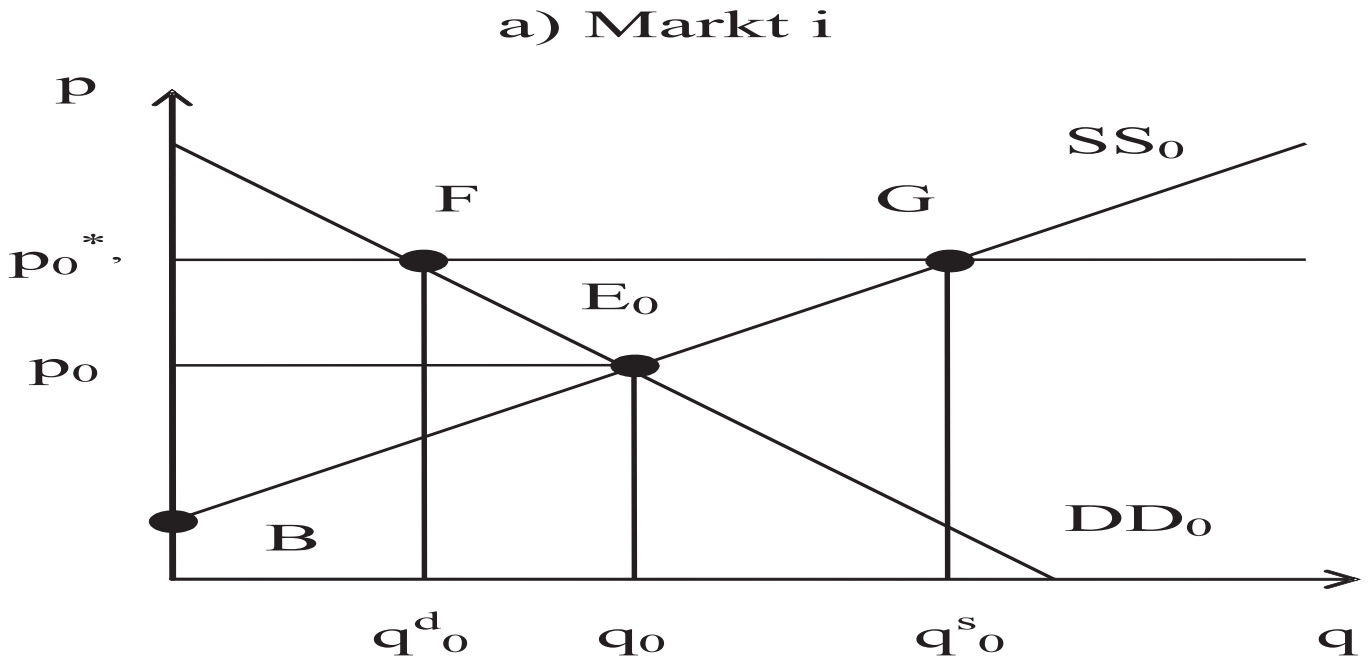
Trade: Looking at an Import Market: World Market is Below Price (p_0) under Autarchy; Import=HI

Small open economy perspective

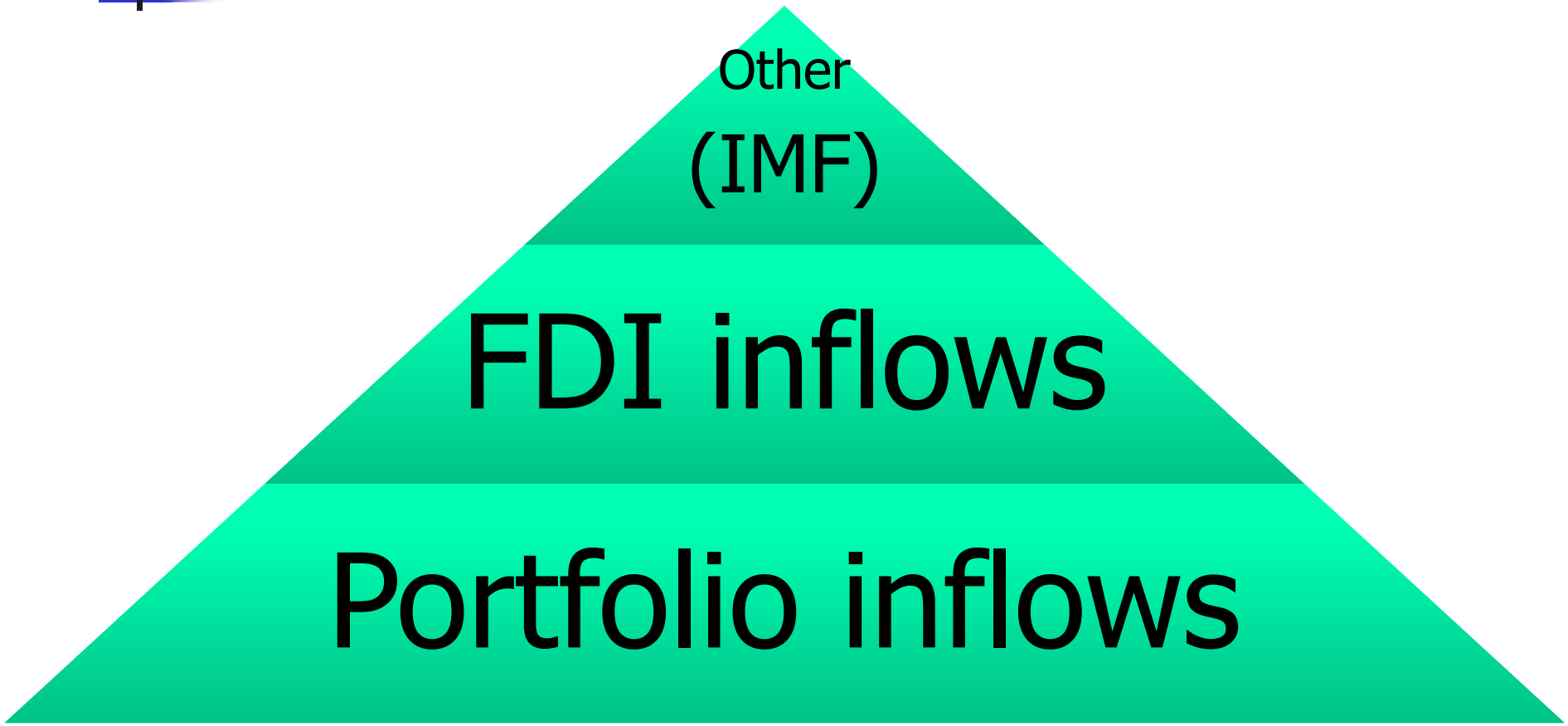


Looking at an Export Market: Export Quantity is Distance FG

Small open economy perspective



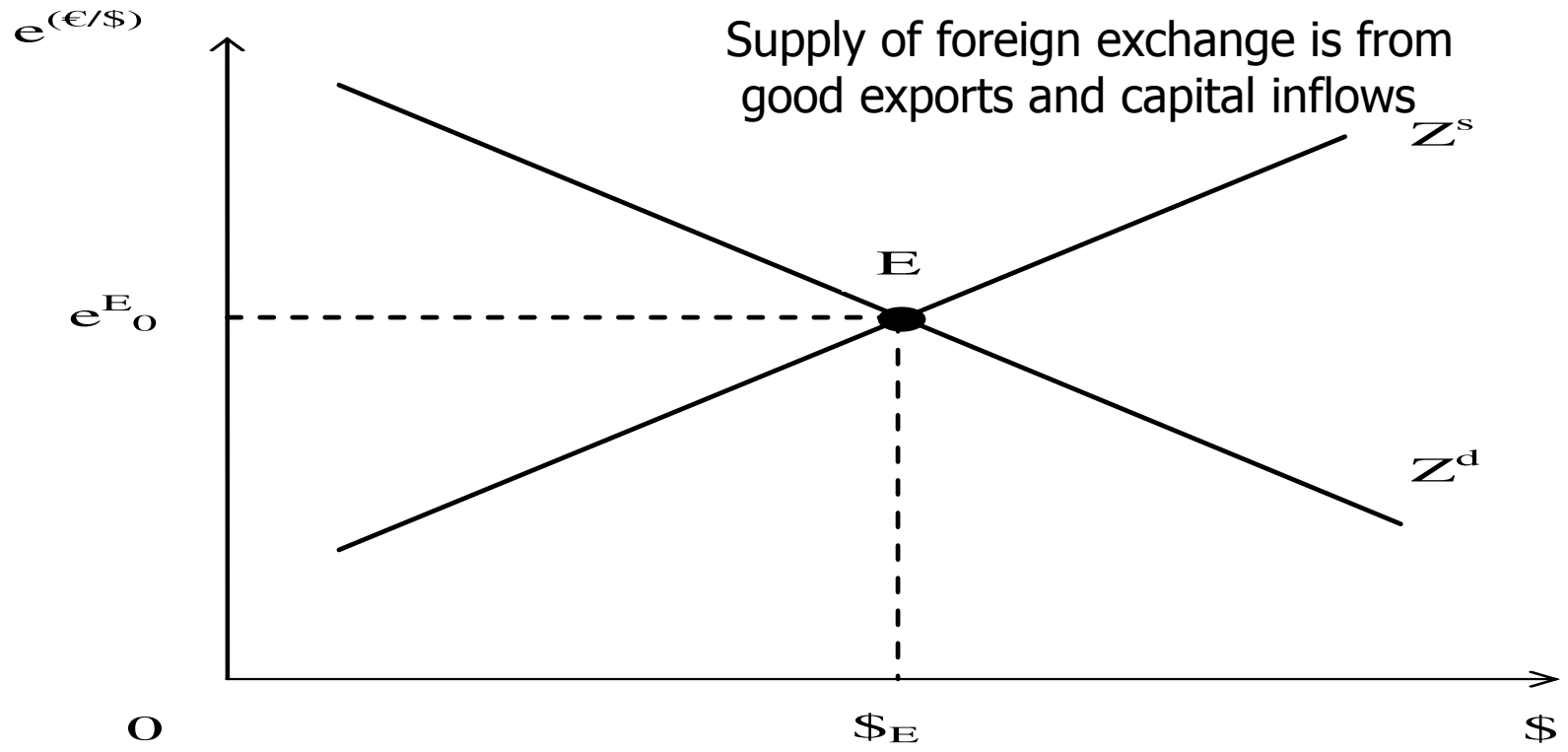
A Word on Capital Inflows (Outflows)



Capital Inflows Q (in real terms; * foreign variable)

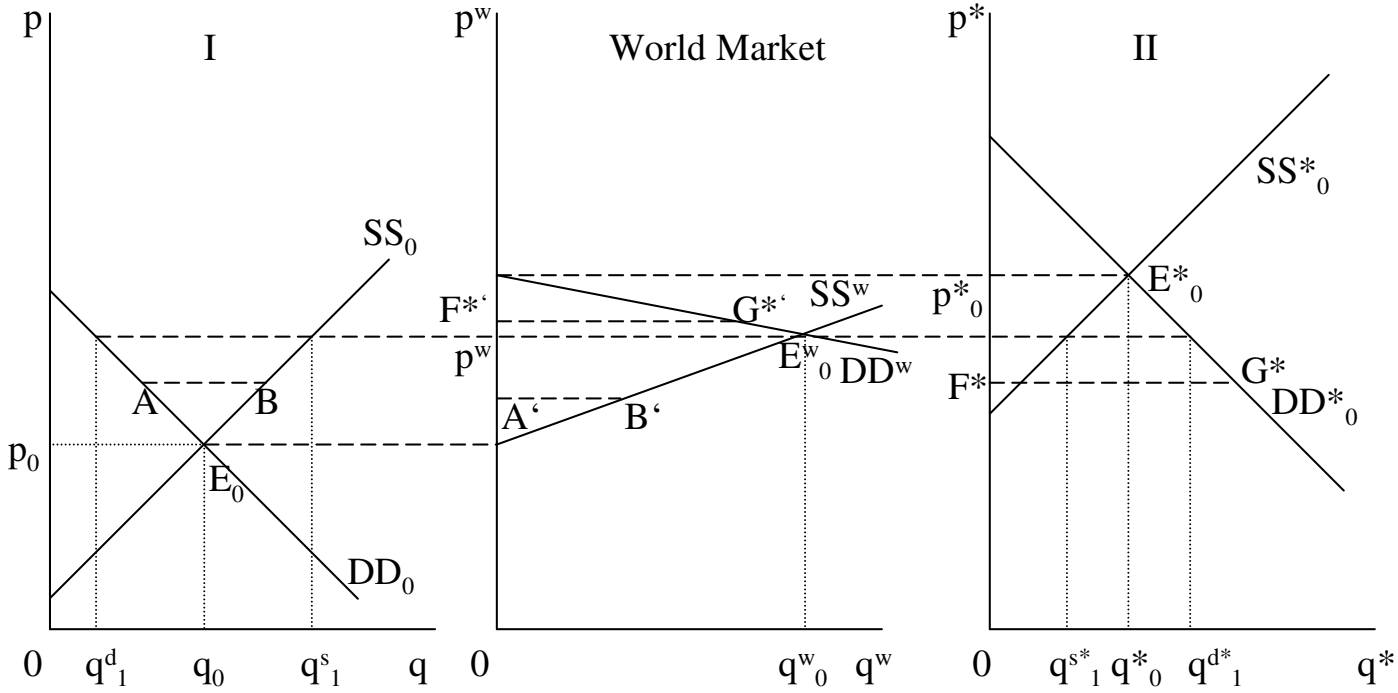
- $Q = \lambda'(r - (r^* + a')) + \lambda'' q^*$; $q^* := eP^*/P$
  - λ' and λ'' are positive parameters
  - r is real interest rate, r* foreign interest rate, a' is expected depreciation rate of currency (yield abroad is r* +a'); q*:=eP*/P where e is the nominal exchange rate; P the price level; q* is the real exchange rate (FROOT/STEIN in QJE, 1991) which is relevant for inward foreign direct investment: the higher q* the higher FDI inflows in imperfect capital market

Foreign Exchange Market Under Flexible Exchange Rate



Looking at World Market

Export market (country I) and import market (country II), the case of normal marginal costs curve: p domestic market price, p* foreign market price, p^W world market price



Distinction Between Exports and Value-added Exports

- Exports contain foreign imported intermediate products (from country j)
- The higher this share is, the lower is relative value-added in country i
- However, the higher the share of sophisticated intermediate imports is, the higher is the unit export value (this means...) = average price fetched in world market

Export-GDP Ratio and Export-value-added GDP-Ratio (GE, FR, SP, IT, UK, NL, US); source: OECD (2013)

Country	Gross exports as a % of GDP (total value added)	Domestic value added embodied in gross exports as a % of GDP
France	21,63	16,06
Germany	33,58	25,06
Greece	17,73	13,72
Italy	20,31	16,67
Netherlands	42,74	28,25
Spain	19,16	15,54
United Kingdom	24,41	20,27
United States	10,01	8,87

Source: OECD-WTO Trade in Value Added Dataset (TIVA)

Import Side: Similar Perspective; Import-GDP Ratio and Import value added-GDP Ratio; Statistics (OECD)

Country	Gross imports as a % of GDP (total value added)	Foreign value added embodied in gross imports as a % of GDP
France	23,3	18,03
Germany	28,33	21,26
Greece	28,19	21,76
Italy	20,46	16,11
Netherlands	35,92	28,32
Spain	21,06	16,36
United Kingdom	25,95	19,46
United States	12,77	9,61

Source: OECD-WTO Trade in Value Added Dataset (TIVA, 2013)

Supply-side: Simple Production Function is Cobb Douglas

- **$Y = K^{ß}L^{1-ß}$**; K is capital, L is labor, $0<ß<1$
- Marginal product of capital is equal to ßY/K;
  - Under profit maximization we have ßY/K = r
- Marginal product of labor is equal to (1-ß)Y/L; under profit maximization the condition is met that real wage w=(1-ß)Y/L; or L^d =(1-ß)Y/w
- Short term investment function I=v(ßY/K-r) where v is a positive parameter(WELFENS, 2009)

Interested in Globalization Impact? (supply-side view?)

- $Y=K^{\beta}(AL)^{1-\beta}$; $Y^*=K^{*\beta^*}(AL)^{1-\beta^*}$; * for foreign variable, K is capital stock, A is knowledge, L is labor
  - Foreign direct investment= foreign firms contribute to capital accumulation in country I (greenfield investment)**; if A* has spillovers to A in poor country rise of A* will affect A** (international M&As bring technology transfer!); consider the case
  - $dA/dt = \mu' A^* A^{\mu} - \delta'' A$; $0<\mu<1$; $A\# = (\mu' A^*/\delta'')^{1/(1-\mu)}$
  - If we have immigration into I: L rises as L* is falling

How Strong is the International Patenting System/Protection TRIPs?

- International patent system (20 years) plus copyright system (US/EU differ in the case of software: US patent, EU copyright)
- **TRIPs** = trade related international property rights (e.g. problem of fake trade mark products that are exported: often US/EU vs. China); TRIPs is part of the World Trade Organization rule book (1995); enhances trade and possibly FDI

Analysis of Immigration (Cobb Douglas functions in I and II)

Demand Side Perspective on Real GDP (Y)

- Y = C+ I + G + X –q*J (q*:=eP*/P is real exchange rate);
  - In economy with underutilized capacity aggregate demand (right hand side of equation above) will determine Y
  - Real exports X and real imports J in the equation; (X-q*J) is the current account in real terms, in units of country I; by multiplying J with q* we translate foreign country II units into country I units

Caveat: Standard Models Ignore FDI; think about this...

- Real national income **Z is not the same** as GDP (Y);
  - Difference is net income from abroad (e.g. dividends accruing to country)
  - Z = Y(1- α*ß) where α* is share of capital stock owned by foreign investors; here only II-investors active in country I (no FDI in II)
  - Consumption C or export X or import J in open economy with FDI is not C=cY but rather C=c**Z**; X=x**Z***, J=j**Z** WELFENS (2011), Innovations in Macroeconomics, 3rd edition

True Import-GDP Ratio is Smaller than J/Y (J=jY/q*;J is real imports)

- (1) Y = cY(1-τ) + v(ßY/K –r) + G + xY*q* - jY

Goods market equilibrium; investment v(ßY/K –r)

- (2) M/P= hY/(h‘r); money market equilibrium; hence r = h“Y/(M/P); h“:=h/h‘; insert r in (1)
- (3) V‘r/r* =jY/(xY*q*) foreign exchange market equilibrium; insert (2) in (3) and solve for q*
- q*=(M/P)r*jY/(V‘h“YxY*)=(M/P)r*j/(V‘h“xY*)
- dY/dG =V“/(...-j);but j (value-added is smaller!)

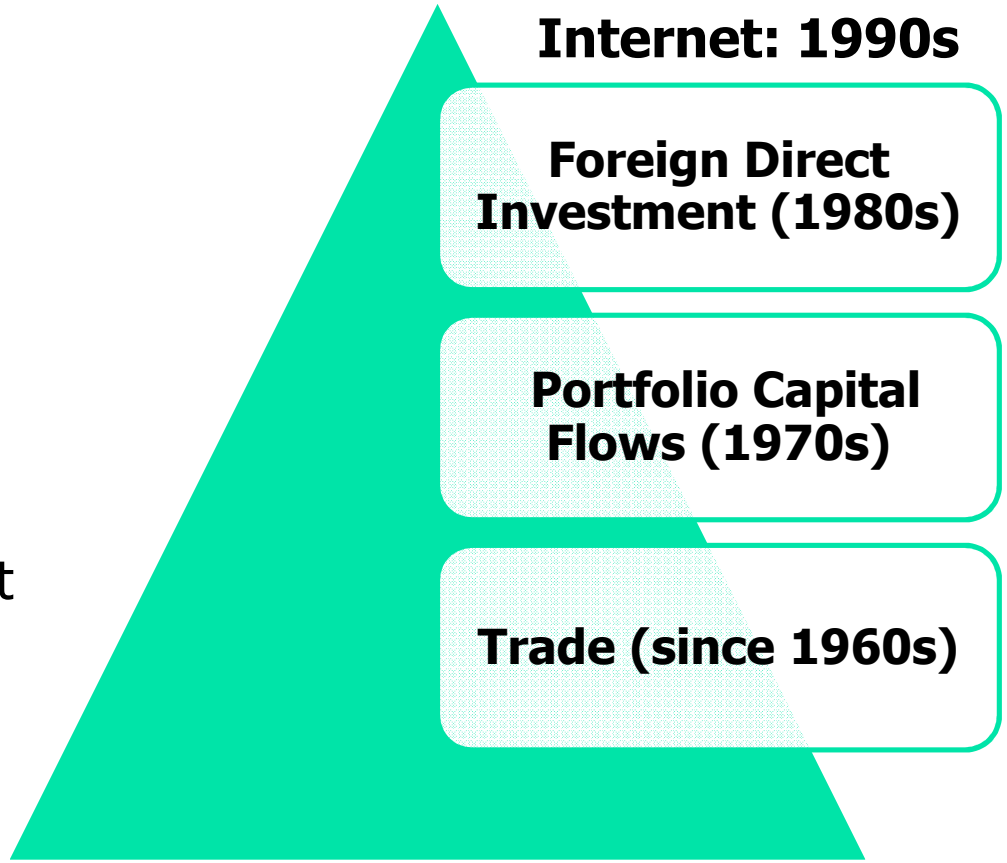
Multiplier Formula dY/dG is:

- Y = cY(1-τ) + v(ßY/K–h"Y/(M/P)) + G + xY*(M/P)r*j/(V'h"xY*) – jY
- Y(1-c(1-τ)- v(ß/K–h"/(M/P))+j) =G+(M/Pr*j/(V 'h ' '))
- dY/dG=1/(1-c(1-τ)- v(ß/K–h"/(M/P))+j)

Modern Globalization (FDI is foreign direct investment)

More and more countries active in global trade and investment;
After 1978 CHINA;
After 1991 New Russia plus eastern Europe;

FDI outflows mean that MNCs invest abroad (in country II);
FDI inflows: foreign subsidiaries produce in country I



Globalization

- Trade in goods and services (50%; OECD 2013)
  - Specialization gains, gains from scale economies (at the international level); internet = services expansion
- Portfolio capital flows
  - Lower interest rate; price of risk reduced (?)
  - Higher liquidity
- FDI inflows
  - Capital accumulation in host country
  - International technology transfer

Global Warming Problem

- Post-Kyoto; Copenhagen, Cancun
- EU 2020
- Problem of climate change, ressource efficiency,
- Challenges after Fukushima
- BRICS countries as a new actor;
- G20 as a new active actor in 2008/09 (several summits)

Globalization 1970-2030

- More countries have opened up for trade liberalization and capital flow liberalization
- More countries ***with regional integration***
  - EU, NAFTA (US, CDN, Mex), ASEAN, Mercosur
- **Dominant country** is USA; after 2030: China?
- **International organizations:** IMF, World Bank, WTO, Bank of International Settlements (BIS), G8, G20 (since 2008), ICANN [Internet]

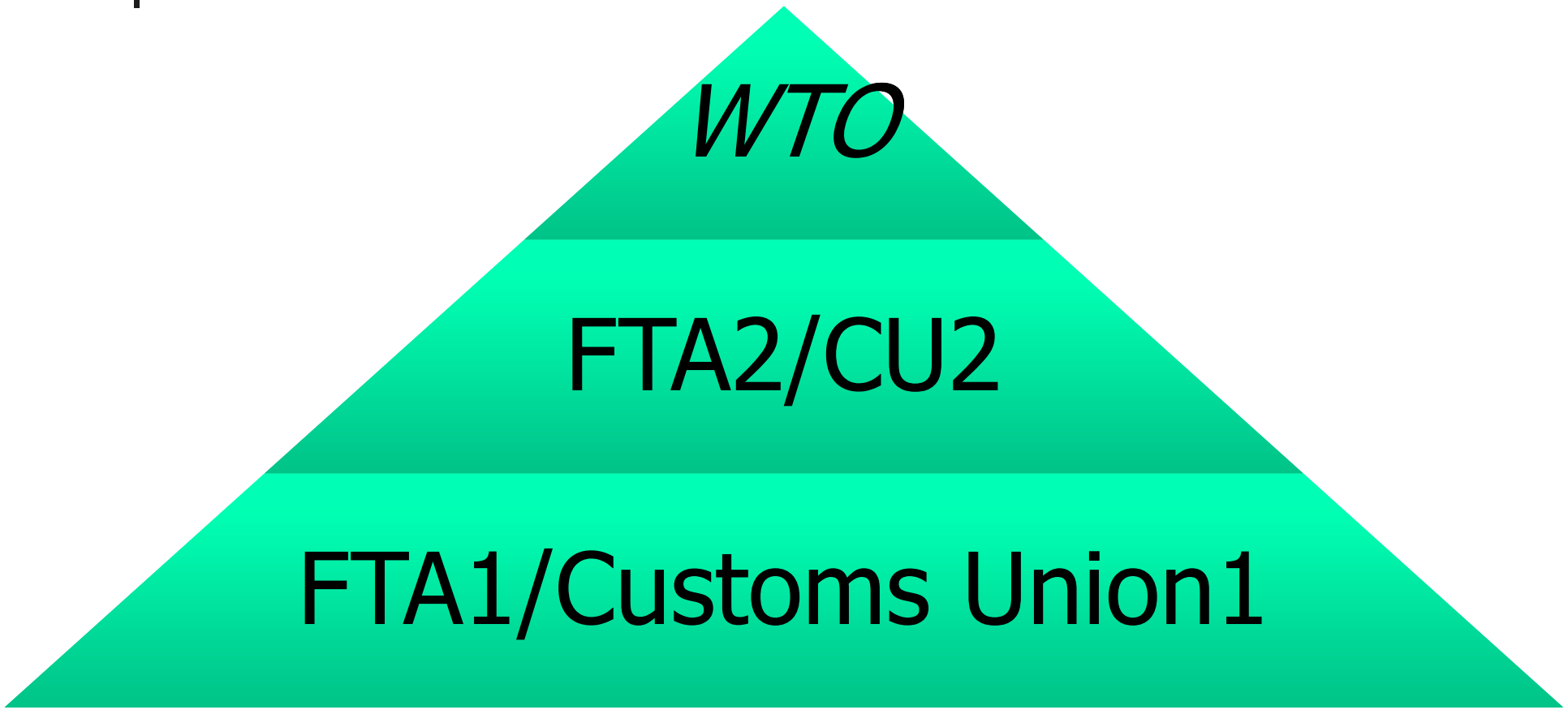
Internet & IP-Telephone in a World with Competition in Communication Markets

- Post-1998 competition in telecommunications in EU (1984: US, UK) and internet expansion
  - *Falling international information cost* = more trade
  - *Falling costs of corporate international governance* = new opportunities for multinational companies
  - **Better networking opportunities:** Options for enhancing international creativity and innovations
  - New digital markets
  - Micro-multinationals

(Regional) Economic Integration;

- Removing intra-trade barriers = Free trade area (NAFTA= US+Canada+Mexico)
- Customs Union: = FTA plus common external tariff (EU; MERCOSUR in Latin America)
- Single Market= free movement of goods (merchandis plus services) and production factors (capital, labor); e.g. EU1992; ASEAN2015

Regional Integration and Globalization: FTAs=building bloc or stumbling bloc for globalization?



Links between Regional Integration and Globalization

- FTA/Customs union= rasing per capita income = rising import demand from all other countries (stimulates globalization)
- FTA negotiates with other FTA (e.g. EU-Mercosur; quasi EU-NAFTA; reality EU-US=TTIP2013 (Transatlantic Trade and Investment Partnership negotiations) + EU-Canada FTA + EU-Mexico FTA. Stimulates globalization(?)

Fear of Globalization

- Countries create regional integration club also for defensive motives: fear of globalization (?); e.g. EU argues that as a big group one can easier pursue interest at the global level; e.g. in WTO; EU countries are better able to cope with globalization (e.g. there is EU globalization fund; could give funds to countries where big companies close down/job losses)

Economic Globalization, Integration, Policy Issues (Y real income; T taxes; δK reinvestment); recall Y=C(Y-T)+I(r)+δK+G+X(Y*,q*)-q*J(Y,q*)

Economic Globalization (more trade, FDI, portfolio capital flows, migration, internet…; & more countries opening up)

EU: Economic Integration= customs union (1957) = removing regional trade barriers etc. (common external tariff): leads to rise of Y regional = rise of regional imports = rise of exports of other countries	Other regional integration clubs (eg ASEAN); and other countries (e.g. China, Russia, India, Brazil); Exports to EU increase, Y* will rise = globalization through integration	**Some EU Policy Issues:** How is EU affected by globalization? Can EU integration (EU widening/deepening) help to cope with globalization = EU more powerful than individual EU countries

Analytical Perspective: World Economy is a Closed Economy

- Aggregate Demand Side: World Economy GDP is $Y=cY(1-\tau)+[I(r, Y_K)+\delta K]+G$; gross investment $I'=I+\delta K$
  - Y is GDP, $0<c<1$, τ is income tax rate; K capital stock
  - Net investment $I(r, Y_K)$ where r is the real interest rate, Y_K is the marginal product of capital ($I_r<0$); reinvestment is δK (δ is the depreciation rate); $I' = v(Y_K - r) + \delta K$; $v>0$;
  - G is government consumption; (or split G in inv. G'+G")
- Supply side: $\mathbf{Y=K^{\beta}(AL)^{1-\beta}}$; $0<\beta<1$; *L labor input = population*; *A knowledge*; per capita income Y/L:=y; capital intensity is k:=K/L; $\mathbf{y=k^{\beta} A^{1-\beta}}$

Two Country Supply-side Perspective of World Economy

- Supply-side Analysis (Country I= home country, country II = foreign country)
  - Y(K,L,A); A is knowledge and will be affected by foreign direct investment inflows so that A* (* for foreign variable) affects A; particularly if II is advanced country. K also is raised by FDI inflows, namely if we have greenfield FDI. International labor mobility?
  - Y*(K*,L*,A*) is affected by **country I**: through FDI outflows from I (K*; also A affects A*); international labor mobility?

Demand Side and Supply Side View for Total World Economy

- **Keynesian Demand Side View** (short run; recession period, unemployment high)
  - If the sum of planned global consumption C, global investment I‘ and real global government spending G is rising: world real GDP will rise
- Supply Side View (**long run perspective**): If world capital stock K, amount of world labor L (world population) or global knowledge A is rising, then world GDP will increase

Long Run View: 2010-2050

- **World population** will increase from 7 bill to about 9 bill. People: pressure & opportunity
- **Knowledge** will increase due to schooling/university systems, research and development in firms, university labs, independent R&D firms: governments promoto R&D
- **K will increase** as net investment is expected to be positive in OECD countries and most other countries

Two Country Perspective of World GDP (* for foreign variable)

- Y‘ (world) = Y + q*Y*; q*=eP*/P
- Small Open Economy; real exchange rate q*:
- $Y=cY(1-\tau)+[I(r,Y_K)+\delta K]+G+x(q^*)Y^*-q^*j(q^*)Y;$
- If both countries have underutilized production capacities:
  - Y‘ = C(…)+ I(r,…) + G + q*C* + q*I + q*G
- Full employment in both countries:
  - $Y' = K^{ß}(AL)^{1-ß} + q^*K^{*ß^*}(A^*L^*)^{1-ß^*}$

Price Level P and Exchange Rate e; interest rate parity…

- $P = (P^N)^{\eta} (P^T)^{(1-\eta)} = (P^N)^{\eta} (\underline{eP^{T*}})^{(1-\eta)} = (\varphi)^{\eta} \underline{eP^{T*}}$
  - P^T is the price index of tradables
  - P^N is the price index of nontradables; $\varphi = P^N/P^T$
  - $0<\eta<1$; η is share of nontradables in total consumption
- $P^T = \underline{eP^{T*}}$; **law of one price for tradables!**
  - Rise of the exchange rate raises domestic price of tradables (small open economy)

Portfolio capital flows (π is inflation rate; E expectation operator)

- Nominal interest rate is i; i= real rate r + E(π)
- Nominal interest rate abroad is i*
- Investors compare i and i*+ a ‘ (a ‘ is the expected depreciation rate of the currency)
- **Equilibrium**; interest rate parity: i = i* + a ‘;
  - i is nominal interest rate, r is the real interest rate
  - a ‘ is the expected depreciation rate E(de/dt)/e

Economic globalization

Economic globalization

- Trade dynamics
- Capital flows
- Migration
- Internet expansion(communication)

Political globalization

- International Organizations more powerful
- Networking of leading countries

Modern Globalization Dynamics

Demographic development: 7 bill. in 2013, about 9 bill. by 2050

Greying of society: Japan>EU>US>China; implications...(e.g. Japan interested

in current account surplus

Integration dynamics; EU28, ASEAN= single market in 2015 (for 6)

Technology dynamics(e.g. expansion of ICT)

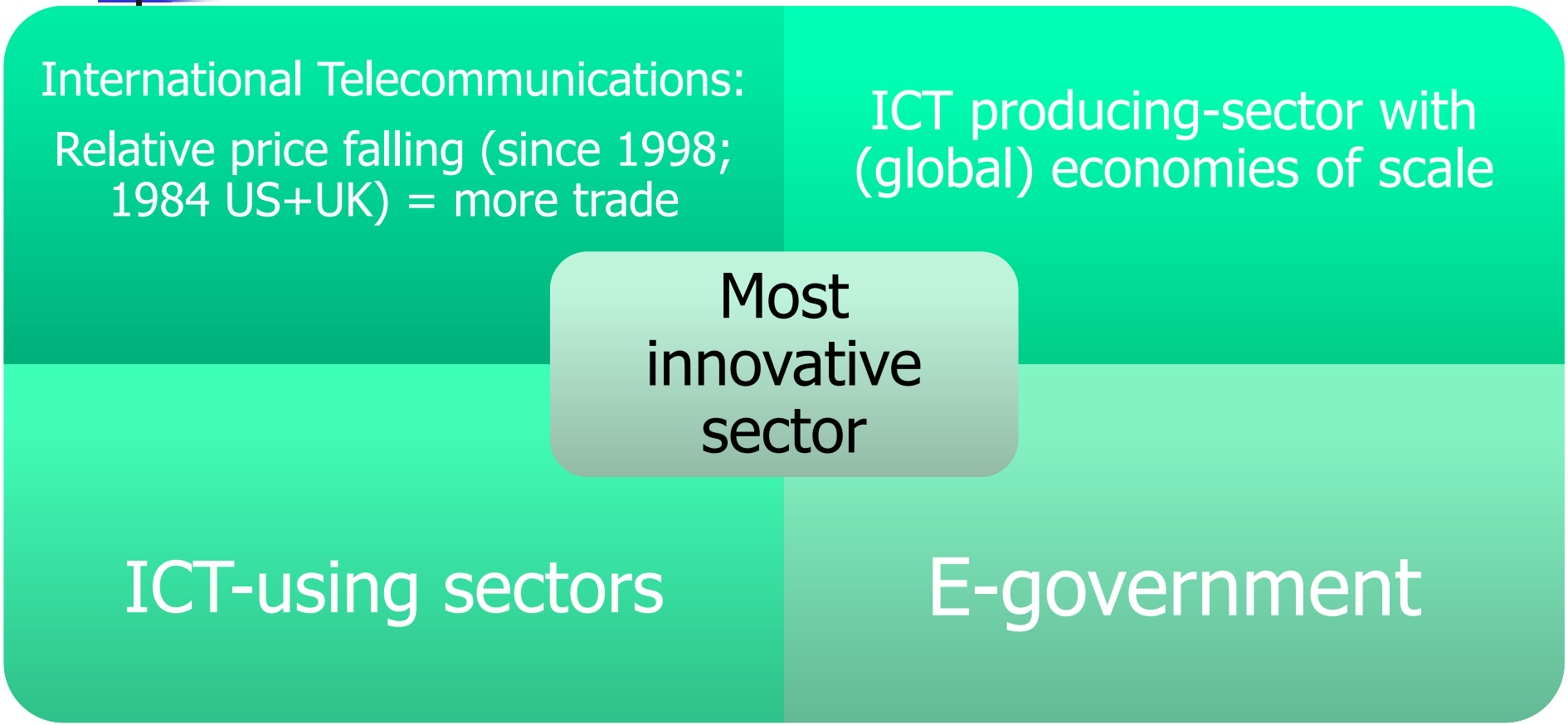
Globalization (GNP= gross national product)

- Globalization affects
  - real GNP growth & variance in individual countries
  - **relative income position within individual countries as well as cross country convergence/divergence of per capita income (z)**
  - inflation rate; change of P in %; e.g. globalization could imply more elastic world supply curve so that demand shift will raise price level less than previously
  - other variables…

Economic Globalization: Output (growth, variance)and **inequality**

- Globalization will raise world output (trend growth rate)
- Globalization could affect volatility of output
- Globalization could affect international per capita differentials (y/y*): ***cross country view***
- Globalization could affect wage and income differentials **within individual countries**
- Globalization affects world inflation dynamics?...

Information & Communication Technology (ICT=telecom. services, software, equipment)



Important empirical paper = **Required reading**

- JAUMOTTE, F.; LALL, S.; PAPAGEORGIOU, C. (2008), Rising Income Inequality: Technology, or Trade and Financial Globalization, IMF Working Paper WP/08/185, Washington DC

Globalization and Inequality

- Globalization in the basic sense of more trade could contribute to cross country **convergence of per capita income** y. What about inequality **within** the respective countries?
- Globalization in the sense of more capital inflows (FDI and portfolio inflows)
  - Unclear how **inequality within countries** affected (wage rate of **skilled vs. that of unskilled** workers)
  - Countries/people with much collateral can attract + capital inflows=dI>0

Some Key Insights About Accumulation of K and A

- K is the capital stock which is based on net investment of
  - Domestic investors (firms)
  - Subsidiaries of foreign multinational companies
- A is knowledge whose increase is based on
  - Domestic knowledge creation (schools/universities)
  - Imported foreign knowledge (eg licences…)
  - Knowledge spillovers (eg via internet)
  - Skilled immigration

Higher capital flows as part of globalization (ICT= information & communication technology)

- FDI inflows very asymmetric in world economy
  - in main host countries K/L will increase, therefore **per capita income** will increase: $\mathbf{y}=(K/L)^{\beta}A^{1-\beta}$
  - host countries: FDI inflows mainly into technology-intensive sectors = rising demand for skilled labor
- Portfolio inflows = higher credit supply = opportunity for those with collateral (asymmetric)
- Technology (expansion of ICT)= +demand for skilled workers = wages of skillled workers ++

Policy Fields, Institutions, Democratic Control (!???)

- In traditional country (in the 1960s, 1970s):
  - Competition in markets
  - **Democratic control of national government**
- In countries facing the globalization process
  - Competition in international markets reinforced
  - **Weakening democratic control of international organizations** – so international bureaucrats can decide (discretion); weak learning processes

Modern Globalization (1970s-2010) vs. Historical Globalization 1860-1914

- We will consider modern US-led globalization
  - Starting with trade liberalization in the 1960s (EU was created in 1957): 6 starter countries – Germany, France, Italy, Benelux; common external tariff
  - Strong capital flow liberalization in the 1970s
  - Increasing foreign direct investment in the 1980s, partly due to privatization wave and opening up of markets (eg telecomms; energy sector worldwide)
- Historical industrial globalization shaped by UK

Questions about globalization

- Why did globalization emerge; leaders…
- Why was it maintained (or given up)
- What are the costs and benefits for
  - Large countries; or integration clubs; vs. small countries
  - North vs. South perspective (if adequate)
- Which institutions responsible for setting institutional framework (eg IMF)?
- How national policies are adjusted? Which mix national policy & I.O.

What we should learn about

- Globalization dynamics: ongoing process of internationalization with respect to trade, capital flows – including foreign direct investment of MNCs, internet etc.: **Description of Globalization**
- **Problems of Globalization**
- **Explaining Globalization** Dynamics; special role of internet/ICT
- Options to control/optimize globalization (policy options/Level I)
- Regional economic integration : EU-Asean-Nafta-Mercosur… (Description)
- **Regional Integration Clubs: Explaining Integration**
- Global **international organizations (IOs)**
- Role and developments of IOs **(Description, Explaination)**
- How integration and globalization go together **(Explaining Interaction)**
- Links between integration+ globalization+ IOs **(Explaining Interaction)**
- World economic dynamics: developments and shifts, crisis management – how can national policymakers control globalization/combine efficiency+equ.

Globalization is shaped by various actors

- Countries: Leading influential economy (US) vs. other countries or country groups
- Multinational companies (MNCs) which invest abroad = foreign direct investment – often based on technological advantages
  - Source countries (e.g. US, Japan, Germany, Netherlands etc.)
  - Host countries (e.g. US, Germany, Netherlands, China, Mexico, South-Africa; more such countries);

Economic Globalization with Cumulated FDI Inflows (Welfens, 2008)

- Make distinction between
  - GDP (gross domestic product: Y), GNP (gross national product: Z)

Country I: Z = Y + balance of international factor income

- Assume that $Y=K^{ß}L^{1-ß}$; $0<ß<1$; and $Y^*=K^{ß}*L^{1-ß^*}$; $0<ß^*<1$; under competition *capital income is rK=ßY*, abroad $r^*K^*=ß^*Y$. If firms from country II own share α^* of K we have $Z= Y(1-\alpha^*ß)$; $Z^*=Y^*+ \alpha^*ßY$
- New C= $cZ(1-\tau)$, $X=xZ^*$; $dY/dY^*=$(<than without FDIinflow)
- Old: $Y=cY(1-\tau)+G+I+ xY^*-q^*jY$; thus $dY/dY^*=xq^*/(1-c\,'+j$

Economic Globalization

- Economic globalization means that trade, FDI (foreign direct investment) inflows/outflows plus portfolio capital flows take place in a worldwide context – includes since 78 China; since 91 exUSSR, Eastern E.
  - 19th century **first wave of globalization**: 1860-1914; gold standard, UK as hegemonial power, imperialist rivalries, growth of trade and portfolio capital flows: 1919-1945=de-internationalization; after WW I many new countries, Great Depression 1929-33=revival of protectionism, unemplyom.+
  - 1970-2010: US as hegemonial power, growth of trade, FDI (strongly since 1985), portfolio capital flows; internet=90s; regional integration (EU etc.); many International Organiz.

Perspectives on Globalization

- Globalization of the real economy (rise of **Y; structure of output**): multinational companies which also are strong in trade (partly intra-MNC=off-shoring); international outsourcing (intermediate inputs from foreign firms)
- **Financial market globalization;** eg EU banks active abroad, buying foreign bonds (diversifcation); international loans to foreign firms/foreign governments („sovereign debt“)

Current Account/GDP Ratios: Deficits have to be financed!

Country	2000	2001	2007	2008	2009	2010	2011
EU 27	0.23	0.78	0.57	0.34	0.86	1.20	1.37
Belgium	0.65	1.43	1.56	1.06	1.25	1.61	1.71
Bulgaria	2.93	3.65	3.85	0.86	1.23	1.53	1.38
Czech Republic	-5.35	-7.57	-22.09	-22.78	-12.38	-9.11	-7.59
Denmark	-3.02	-2.50	4.97	4.55	5.21	5.50	5.70
Germany	6.04	6.64	2.14	2.30	2.67	2.89	3.74
Estonia	0.35	2.01	7.07	6.24	3.52	3.73	3.74
Ireland	-3.61	-2.48	-11.31	-4.17	6.06	4.03	4.15
Greece	13.46	15.57	10.21	10.39	15.78	17.98	18.11
Spain	-13.50	-13.16	-11.09	-10.24	-4.85	-3.59	-3.35
France	-3.13	-2.53	-6.78	-5.88	-1.48	-0.41	-0.20
Italy	0.90	1.15	-1.87	-2.47	-1.21	-1.10	-1.13
Cyprus	0.94	1.37	-0.23	-0.50	-0.31	-0.24	-0.26
Latvia	0.84	2.07	-6.37	-11.37	-6.35	-5.22	-5.07
Lithuania	-7.03	-9.53	-20.15	-13.08	-1.75	2.75	3.91
Luxembourg	-6.28	-5.52	-13.34	-11.44	0.05	1.14	1.44
Hungary	21.01	17.61	33.48	32.53	31.14	32.06	32.57
Malta	-3.67	-1.23	1.57	0.98	4.54	4.70	4.00
Netherlands	-10.65	-4.72	-2.83	-3.18	-1.33	-1.17	-1.00
Austria	5.55	5.79	8.64	8.35	7.54	8.29	9.24
Poland	1.76	2.21	5.86	5.76	3.39	3.36	3.84
Portugal	-6.42	-3.66	-2.87	-3.98	-1.53	-1.97	-2.27
Romania	-10.89	-10.02	-7.52	-9.55	-7.59	-7.68	-7.52
Slovenia	-5.30	-7.61	-13.89	-12.61	-6.12	-6.18	-6.45
Slovakia	-3.49	-0.83	-1.72	-3.03	2.24	3.04	2.88
Finland	-2.49	-8.09	-1.03	-2.44	-1.33	-0.62	-0.21
Sweden	9.60	9.63	5.05	3.89	1.92	2.03	2.03
United Kingdom	6.26	6.76	7.75	7.43	8.57	9.10	9.56
USA	-1.84	-2.35	-3.21	-2.57	-2.45	-2.19	-1.61

Define CA-Ratio= X/(q*J)

X=xY*q* exp η*; η* is foreign import elasticity (export elast. of I)

Import function J= jYq* exp –η

Elasticity dlnCA-Ratio/dlnq*?

ln(CA-Ratio) = lnx + lnY* +
+η*lnq* - lnq* -lnj – lnY + ηlnq*

dn(CA-Ratio) /dlnq* = (η*+η -1)>0 if the sum of the import elasticity abroad and at home exceed unity

Perspectives on Globalization

- Describing the globalization dynamics
  - Considering winners and losers; includes North-South perspective as well as analysis within North (or South) where unskilled labor wages have declined relative to that of skilled labor; role of multinational companies as actors in gl.
  - Role of **regional integration** in globalization (building blocs for trade/or stumbling blocs); „globalization management“
- Analyzing the dynamics of globalization and the role of international organizations(eg IMF, WTO, BIS, G8);
- Asking which policy options are useful
  - Eg role of EU (supranational policy layer); member states…

Think about **some key benefits** of economic globalization

- **Trade** = enjoying bigger variety of (foreign) goods, lower prices (based on specialization gains in tradables sector)
- **Foreign direct investment inflow:** as MNC typically stands for ownership specific advantages (e.g. technology lead) FDI brings upgrading of knowledge in host country
- **Portfolio capital inflows** = lower real interest rate = higher private & public investment

Financial Globalization (perspective of risk-averse international investors)

- Investors – eager to have optimal portfolio - seek
  - High **liquidity** (ability to sell asset at stable price)
  - High **yield on investment**
  - **Low risk** (low volatility of rate of return)
- International capital flows
  - Imply higher liquidity – at least in integrated markets
  - Allow to obtain high yield for the portfolio
  - Better diversification of risk (**lower volatility**...sleep well!)

Think about potential problems: some examples

Problems could be

- Sudden capital outflows (short-term capital) = rise of interest rate [investment falls]; & depreciation of exchange rate (flexible exchange rate; or devaluation under fixed exchange rate) = inflation impulse
- High immigration pressure which creates strains in use of infrastructure, higher government budget expenditures, could depress wages of unskilled workers (assuming immigration of unskilled)
- Conflicts over protectionism; ? **burden sharing** in recession(US/EU/JP)

International Financial Market Crisis 2007/08: Reversal of financial globa-lization; end of uncontested rule of G8

- US banking crisis (related to subprime crisis in summer 2007) in 2007/08
  - Translates into **(international) banking crisis** in UK, Germany, Belgium; later also eastern Europe
  - Causes serious **global recession in 2009**
  - **G20 London Meeting** of April 2, 2009: more regulation of financial markets, $ 1000 bill. for IMF (raising IMF capital endowment up from $ 250 bill.); IMF should save EU accession countries etc.

Globalization/Integration/In-ternational Organizations

- 1. Definition of globalization
- 2. Historical globalization vs. Modern globalization (since 1970)
- 3. Theoretical analysis: trade, portfolio investment, foreign direct investment, technology transfer, migration, internet
- 4. Multinationals as actors of economic globalization (incl. Case studies: SAP…)
- 5. Growth dynamics: EU, US and China; special role of ICT for growth & globalization
- 6. Financial Market Crisis: Case Study on the Mexican Debt Crisis
- 7. Economic Integration and Integration Theory
- 8. EU Enlargement (Southern Enlargement and Eastern Enlargement)
- 9. Monetary integration and the creation of the Eurozone and the ECB
- 10. Theoretical analysis: Enlargement and EU deepening – costs and benefits
- 11. Integration dynamics: EU, NAFTA, ASEAN, MERCOSUR
- 12. International Organisations: Theory, Actors, Perspectives
- 13. Critique of International Organizations – basic reflections
- 14. The Asian Crisis of 1997 and the Banking Crisis in Europe in 2007

New Political Economy of integration/globalization/international organizations

Introductory References

- **Welfens, P.J.J. (2009), International Economic Relations and Globalization, mimeo**
- *Harold James (1997), Rambouillet, 15. November 1975.*
- *Die Globalisierung der Wirtschaft, München: DTV;*
- **Tilly, R.; Heise, A.; Welfens, P.J.J., eds., 50 Years of EU Integration, Heidelberg: Springer**
- **Tilly, R.; Welfens, P.J.J., eds. (1999), Economic Globalization, International Organizations and Crisis Management, Heidelberg: Springer**
- **Welfens et al., eds. (2009), EU-ASEAN. Facing Economic Globalisation, Heidelberg: Springer**

Methodology: Phenomena and Analytical Approaches

- **Critical rationalism** (Karl Popper; Logic of Scientific Discovery, 1934)
- Truth defined by the **coincidence of explanatory statement and facts in reality**. Theory = consistent set of hypotheses to explain phenomenon X
  - *Inductive logic is not convincing*; you see one white polar bear, 2, 3…= conclusions that all polar bears are white!? NO (Popper contra Vienna group)
  - **Deductive approach!** But leads to **truth** (=consistent with facts of reality) as *valid hypothesis=empirically corroborated hypothesis* (until the first black/green polar bear is found…); *scientific analysis is intersubjective process:* others must be able to repeat experiment or analysis so that scientific truth is impersonal
  - Statement which is falsibiable is worthless for scientific progress:...*If the hens cry in the early morning the weather on that day will be nice or it will be very bad*
- **Religious belief**(≠scientific truth)=statements with regard to transcendent world = not a scientific concept. Personal decision about what to believe…
- **Science:** empirical analysis crucial; collect data, present analysis, discuss findings, draw conclusions. Rational policy should consider scientific findings

Some key questions

- Issues
  - globalization brings **economic benefits** for both North and South; and indeed **for all countries?** (rise of y and convergence of y and y*)
  - can globalization promote **economic stability?**
  - can **globalization be sustainable?**
  - is **globalization efficient? Competition &** requiring **internalization of external effects**

Aspect of international external effects

- Financial globalization brings
  - Negative external effects – stemming from lack of financial regulation - if overshooting of US volatility (during 2007-09) creates negative international spillovers and rising risk premia abroad = capital outflows to US
  - International relocation of energy-intensive industries = (?) more global warming; globalization brings more emission trading?!

Introduction

- **globalization** = global **networks**
  - of trade, capital flows/FDI in particular (MNCs) and digital flow of cross-border information (internet, including mobile internet and TV)
  - Involved are countries and major government instititutions; new countries: hence opening up of China in 1978/WTO membership 2001 & opening up of eastern Europe/former Soviet Union in 1991 is crucial (29 transition countries)

Historical Globalization 1860-1914 (selected key points)

- Trade liberalization (**starting in 1860**); interindustrial trade
- Fall of transportation costs and removal of intra-national tariffs/monetary unification (Germany, 1834; Italy/Ger, 1870s)
- Expansion of gold standard under British rule; growth of capital flows & convergence of interest rates: i=i*; P(P*) constant; mainly buying foreign bonds/(selling)=portfolio capital flows
- New international institutions in the field of telegraph/ telecommunications; standardization (m in Paris, etc.)
- Agreements about patent protection (national treatment = foreign firms in host country treated without discrimination (later GATT/WTO principle) in Europe;
- Colonialism/Imperialism: Africa, Asia… under European+US rule

Modern Globalization 1970-21st century…

- **Capital flow liberalization** (portfolio capital flows) since 1970s in OECD, 1980s NICs
- **Foreign Direct Investment** plays increasing role since 1985 (2000: about 10% of global gross fixed capital formation)= investment of multinational companies abroad
  - System shaped by **US, EU & Japanese MNCs+ X (Korea/Taiwan)..**
  - **MNCs** play strong role in trade, innovation, investment
- Two way FDI is normal within OECD, otherwise an exception…
- **Internet creates new global trading place** plus info & communication platform; **issue of telecoms regulation!**

Modern Globalization: 1985-2100(?)

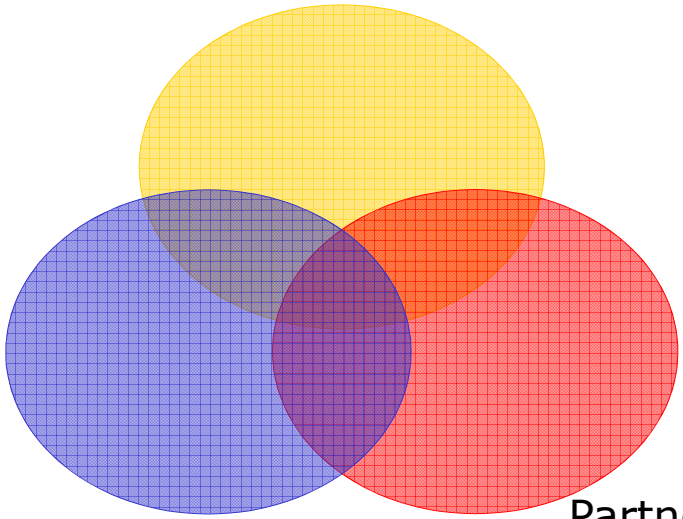
- MODERN Globalization; Asia plus XX
  - Modern globalization has brought **Asia** (China + new Russia) fully back into the world economy; new players must find their role and will have an impact on New World Economy – also new potential fields of conflict; India also has become more active player in Asia/world
  - Internationalization/globalization means not least to face **new/foreign products and attitudes as well as to compare internationally**
  - Globalization= activities in enlarged global markets which brings more **competition and better exploitation of economies of scale plus gains from specialization**= higher income in the world economy
  - Also **higher adjustment pressure for some sectors & countries**
  - **Higher degree of complexity** for the individual and policymakers

Globalization in 21st century also means

- More countries in world market economy which
  - are more similar in terms of economic system
  - more willing to cooperate?(doubful:Rus.,China, Saudia A.?)
- More democracies in the world? (China= autocratic market economy= Asian benchmark??)
- More member countries in international organizations
  - Less efficient work of IO (rise of consensus costs, more styles in leadership; eg US vs. Asia)
  - Geographically more comprehensive coverage of global rules (more similar systems?)= reduced information cost

Internationale Aspects of Power

Military



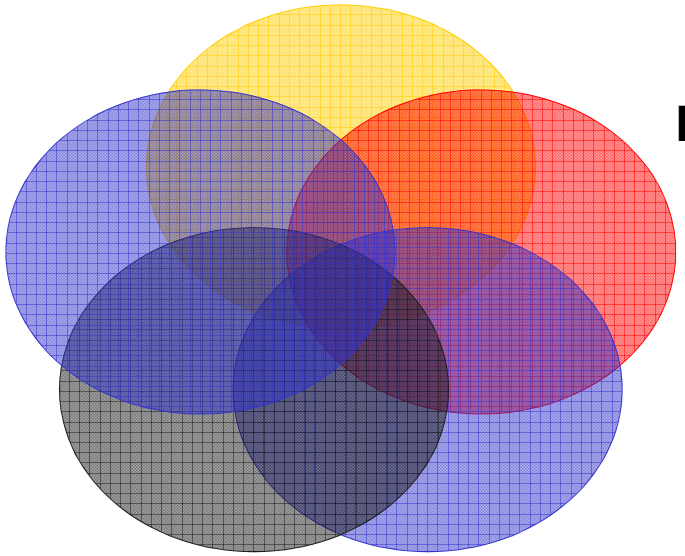
Economy
(tradel/internat. loans/MNC etc.)

Political Power
Partners in coalition/networks

Networks in globalization process

FDI (multinational firms)

Exchange of Information; Expansion of digital net-works



Portfolio Invest-ment

Migration

Trade

National Policy is loosing autonomy; eg in stabilization policy (open economy model Mundell Fleming). Coordinated policy could be useful!

Why are we interested in Globalization?

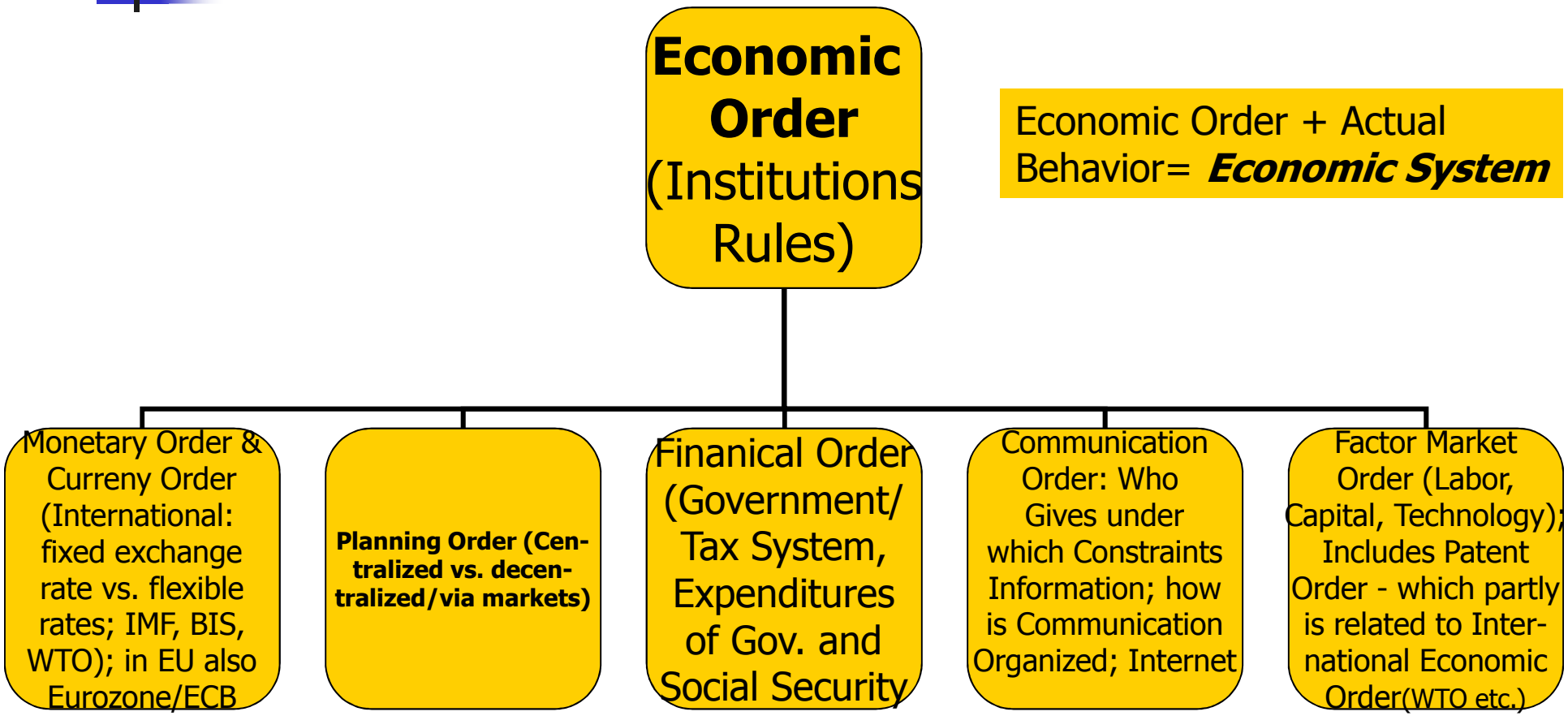
- 1) **globalization dynamics is high** – perhaps globalization cannot be avoided, but at least it should be understood
- 2) globalization brings economic **opportunities:** New markets, new partner companies, new staff, new investment locations; how we best use growing internationalization(trade, FDI, www)
- 3) certain globalization dynamics **could run counter to political** (voters' ?) interests in EU/US/China/Brazil/country xx
  - endogeneous change of economic system/order: contra human interest?
  - eg globalization could bring about temporary fall of wages in OECD countries (and rise of wages in the South of the World Economy)
  - eg globalization= rise of Y^{world}, but massive increase of emissions?
  - eg globalization could lead to +economic power &loss of pol. autonomy

Rational long term policy options are …

Globalization is a challenge for

- Locational competition through
  - Mobile capital, particularly FDI/MNCs (multinationals as actors; make comparisons)
  - Mobile labor/managers and pensioners
  - Info on TV/Internet/Books
- Arbitrage etc.=Changes of Economic/Political Order at
  - National level
  - Supranational level
  - Global level (=„Weighted Mix“ of national orders+supran. order – the latter as established in the EU)

The Economic Order



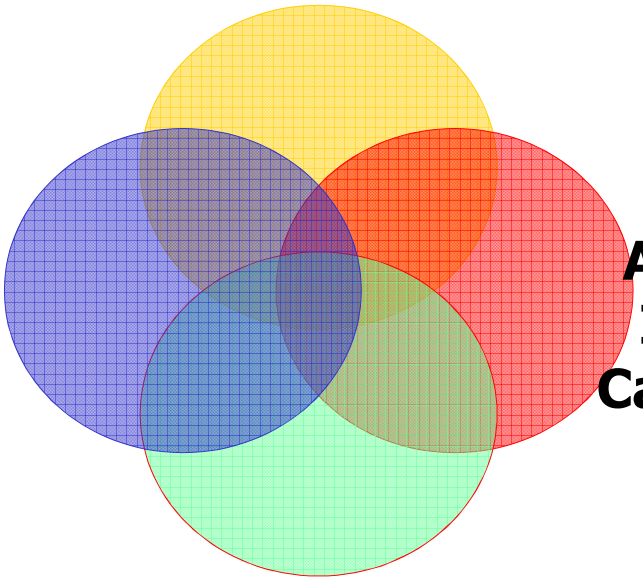
Some institutional aspects of globalization/monetary economic order

- Globalization shaped through exchange rate system; since 1973 more flexible exchange rate system = autonomy of national central banks = visible responsibility = tendency towards low inflation = encourages long term maturities in financial markets =+stability = higher output growth
- BUT: Dornbusch model = risk of overshooting…

Some of the key issues in globalization

Sustained competition in more integrated world economy with +(large)MNCs?

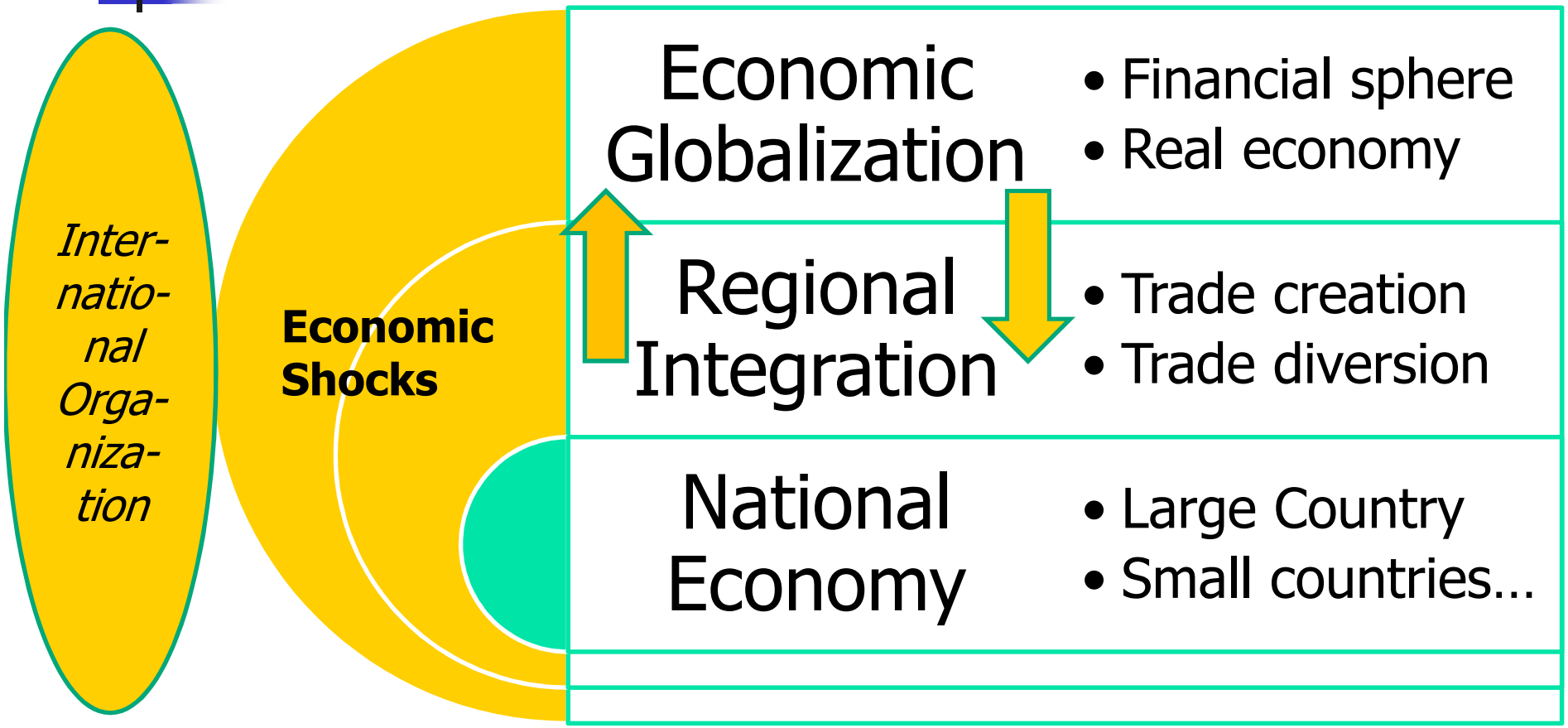
Efficiency of Allocation/Role of External Effects (eg global warming; R&D)



Convergence Across Countries In Terms of Per Capita Income(y)?

Stability of the global financial markets/World Economic System(major countries/links..)

Which links between globalization and integration (2 country model?)? Globalization = 3 country perspective



What is sustainable globalization?

- Efficiency of international **competitive allocation = gains from globalization**
- **Limiting external effects** in a globalized system (e.g. refers to environmental problems; financial market shocks)
- **Achieving minimum convergence** of per capita income (trade helps; FDI?...)
- *Creating peaceful global political cooperation* (New Political Economy)

What is needed for sustainable globalization in a world of shocks?

- **„Circuit breakers“** in the world economy (like bulkhead doors in a ship which help to limit impact of hitting iceberg…); global free trade and global free capital flows might not be optimal
- **Minimum variety** of liberal institutional set-ups = evolutionary reserve for intelligent response to economic shocks (counter to Chicago School in competition policy)

Why are we interested in globalization?

- 4) globalization= more **opening up in the South**
  - gains for all/for some groups; losers – can be compensated/retrained(?)
  - how to best open up (see East Europe, lessons from Asian crisis)
- 5) globalization has certain economic effects – on income, employment, wealth etc. - and is shaped by US, EU, Japan, China: Which perception & policy strategy visible in country X?
- 6) Are **International Organizations** effective and efficient (IMF, WTO, BIS, OECD, ITU etc.); how do they act? Which problems/opportunities as new member countries get on board?
- 7) Which impact from **truly global internet**? How create a productive and peaceful networked global economy?

How to judge economic globalization?

- Distinguish
  - effects from globalization vs.
  - effects from other dynamics
- State hypothesis(eg globalization creates net benefits –or net losses(eg income; risk; inflation) in terms of welfare analysis) and consider the empirical evidence
- Define criteria Welfare Function
  - for countries I, II (2 country model)
  - can winners compensate the losers?
  - alternative for globalization is??

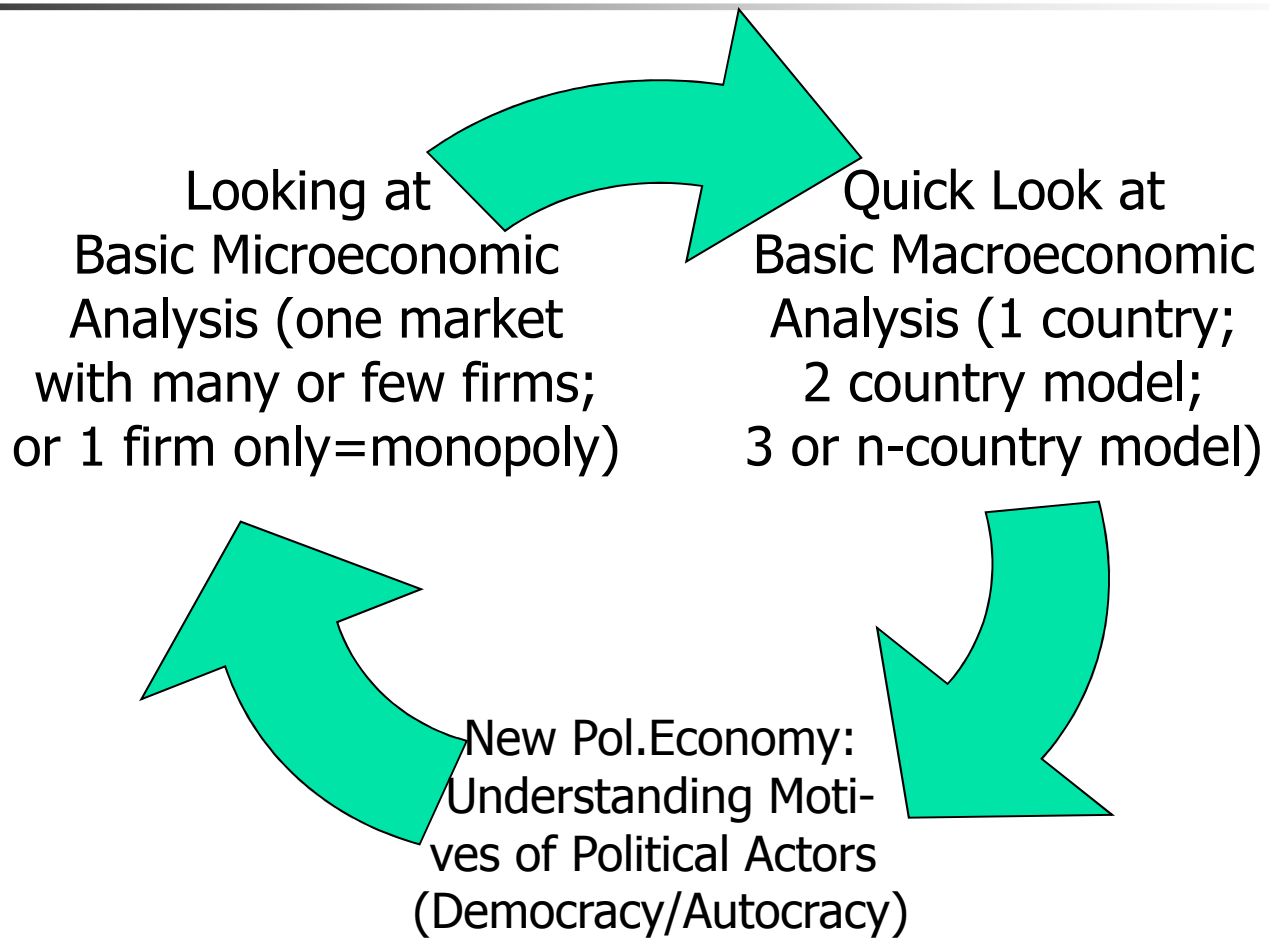
Short term analysis	Medium Term (5 years)	Long Term
Country I (T-sector; N-sector)	Country I	Country I
Country II	Country II	Country II

What could be criteria to judge globalization effects

- Output effects (GDP)/real income effects (national income)
- Unemployment rates (I,II)
- Inflation rates (I,II)
- Volatility of Asset Prices
- Relative income shift within countries (eg labor-capital)
- Life expectancy (normal health indicator; ?? also terror risk)
- etc.

- Freedom of expression (see journalists sans frontières)
- Economic freedom indices (Frazer Institute…)
- Development of World Attitudes (Sinus Milieus)
- „Degree“ of peace

Before we try to understand globalization/EU/IOs



CORE Perspective: Globalization –which effects – national policy response – IO response; static view on globalization misleading,dynamics crucial

- Globalization brings eg relocation of textile production or toy production to China/Asia
  - *Loss of some jobs* in EU/Japan/US…
  - Less control about quality of production process – more emissions/hazardous products which endanger workers and consumers (Mattel crisis)
  - Per capita income y in China is rising; with higher y demand for clean environment rising (Kuznets)
  - *Exports of EU/Japan/US to China++*
- How is policy response (system reform; and policy) in China/US/EU etc. (national)
- Policy response/role of IOs
  - WTO (late with response in environmental field); see also new DOHA round
  - BIS (Bank of International Settlements) – how effective is cooperation in prudential supervision?
  - IMF – which quality eg of firebrigade in Asian crisis etc
  - Which role for G8/Gx?!

Reflections on Economic Inequality: on which principles could people globally agree?

- People have different attitudes in different countries/cultures
- Large international per capita differentials will stimulate migration (pros and cons)
- RAWLS (Theory of Justice – is this global idea?):
  - **difference principle:** inequality acceptable as long as the poorest strata also benefit from this (in absolute terms); and all people have equal access to pol. positions
  - concept of **veil of ignorance**/ hypothetical natural state of society – if you would not know your future position in society which rules would you accept in various policy fields

Some New Political Economy Perspectives

- Politicians are utility maximizing actors…
  - How intensive is political competition? Country 1,2..
  - Which lobbying groups are most influential? Why?
  - How long term/short term is pol. decision horizon?
  - How attractive is political career (see alternatives)?
  - How important/accepted is corruption?
  - How strong are international mechanisms for diffusion of best practice/learning in politics?
  - Where should national policymakers have full autonomy!?

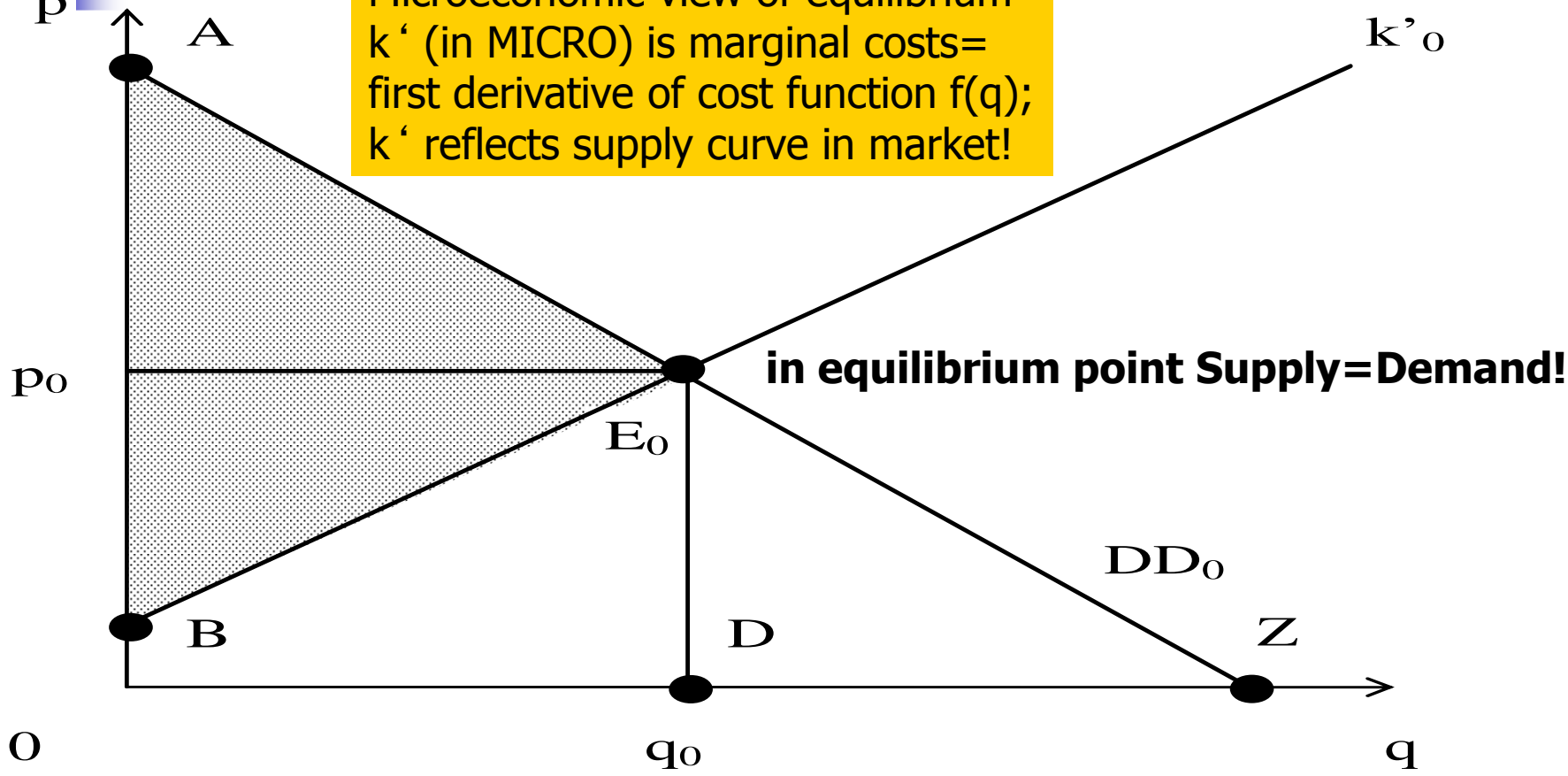
Globalization =more integrated world (1 disadvantage of globalization is perception of global village/eg every war is visible)

- In which fields can countries (which countries) gain through cooperation
- How important is interculteral dialogue? How should one define international policy agenda **versus** domestic policy fields (non-interference; eg income distribution)

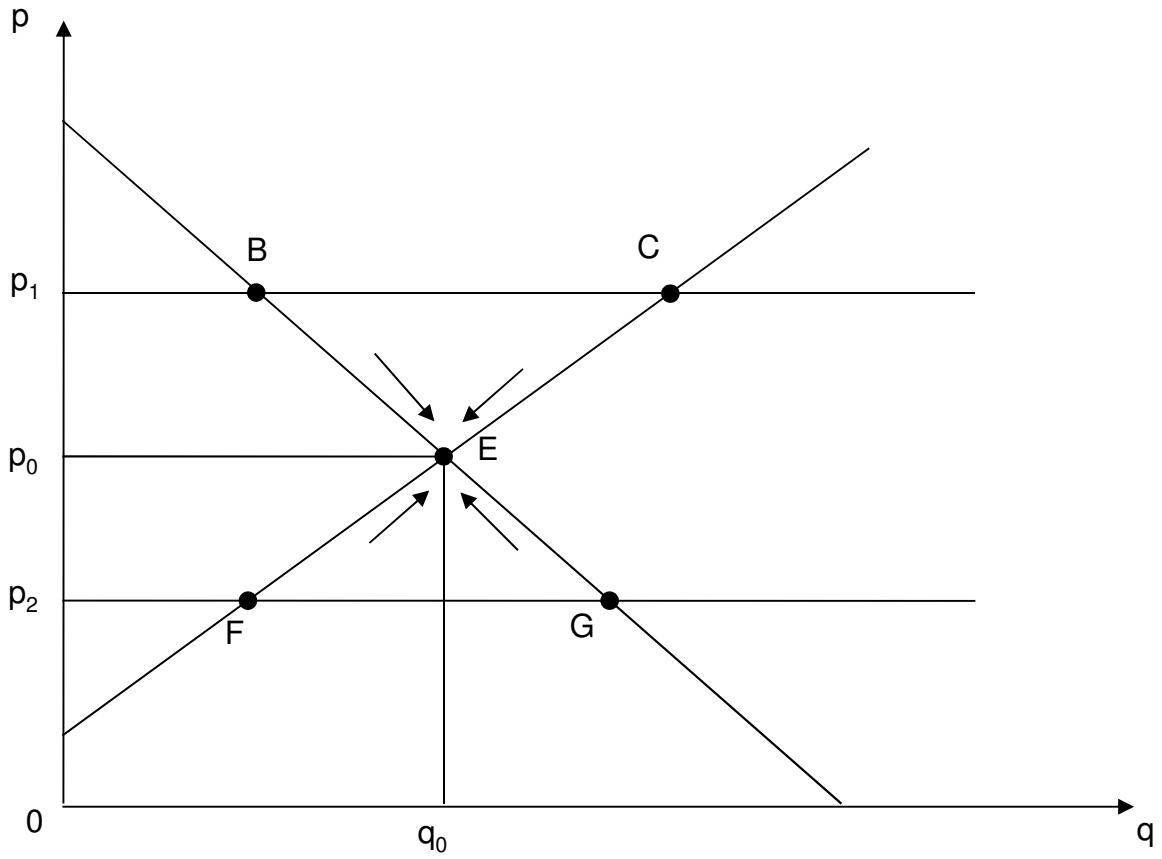
Potential possible vision

Standard in Economics: competition works…: **Market equilibrium (E_0); no external effects. Consumer surplus** AE_0p_0; **producer surplus** is E_0Bp_0

Microeconomic view of equilibrium
k‘ (in MICRO) is marginal costs= first derivative of cost function f(q);
k‘ reflects supply curve in market!



Excess Supply (BC) and Excess Demand (FG) in the Market



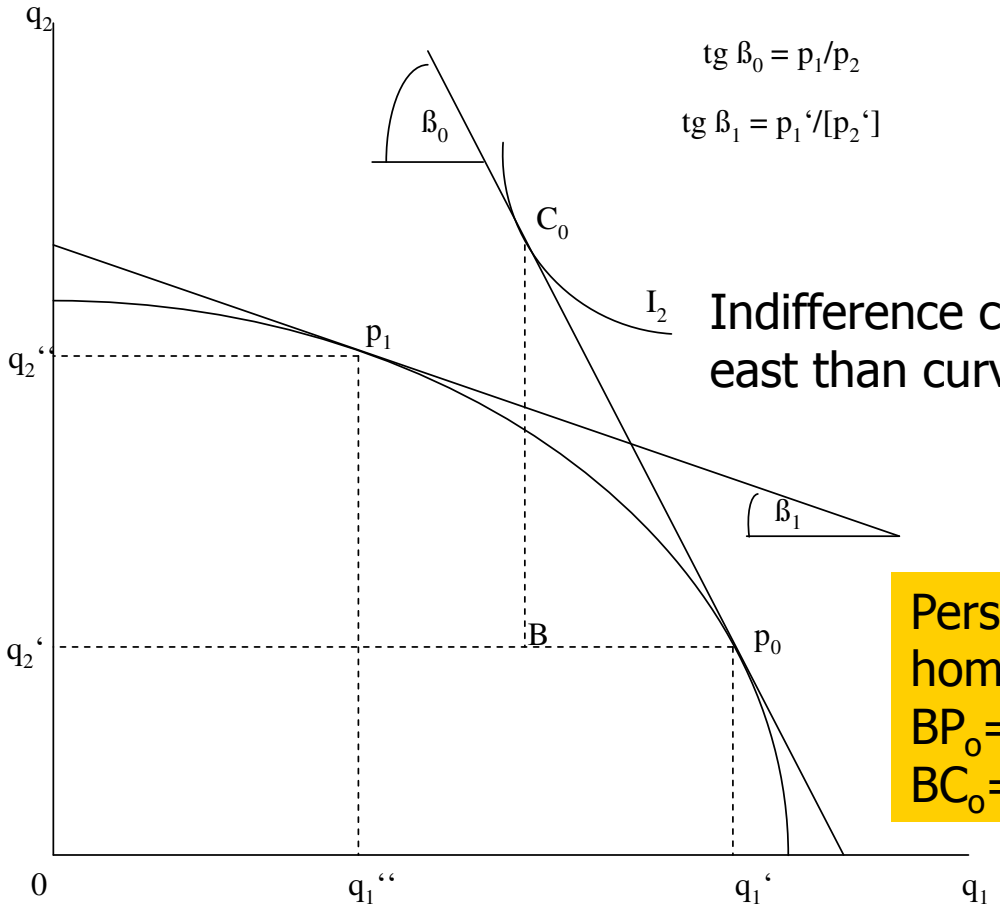
General Equilibrium Analysis is different from partial equilibrium (1 market) analysis; GEA with 2 markets…; indifference curve II=line with constant utility U

- Demand side of two markets i and j(parameterD,D ‘,H,H ‘,v,v ‘,v“λ,θ> 0)
- $q_i = Dp_i/p_j$ or $q_i=(p_i/p_j)^{-\lambda}$
- $q_j = D\,‘p_i/p_j$ or $q_j=(p_j/p_i)^{-\lambda\,‘}$
- Equilibrium: $q_i=Q_i$; **and** $q_j=Q_j$
- Supply side (simple; also capital stock $K=K_i+K_j$):
  - $Q_i = v(p_i/p_j)[K-K_j]+ v“L$; $\partial v/\partial[p_i/p_j]>0$
  - $Q_j= v\,‘(p_i/p_j)K_j$; $\partial v\,‘/\partial[p_i/p_j]<0$

Change of relative price affects sectoral output as well as relative demand!

- Or graph with $U(q_i,q_i)$ & production frontier FP; budget line (BB) $Y\,‘=p_iq_i+p_jq_j$

Welfare gain of foreign trade (case: rising marginal costs for q_1 and q_2); *budget line in closed economy is tg ß$_1$*



Indifference curve more to north-east than curve on initial budget

Perspective in home country
BP_o= Export
BC_o= Import

How firms cope with globalization

- Import competitition
  - Product innovation
  - Process innovations
- More countries as export targets (China, ex-Soviet Union etc.): enter new markets, visit trading fair, ***get data on new markets***
- Licensing: If firm is innovator and holds patents: (with risk= info leakage etc.) international licensing
- Production abroad (FDI) of part of value-added chain /internat. M&A = exploiting **relative cost advantage**; or **home market bias**; or **locational advantage**

Some views about globalization

- Countries are fully open to trade and capital flows which implies
  - **no possibility for government** to conduct economic policy on its own – say in the field of tax policy: not correct; depends how tax revenue is spent, alos relevant is size of the nontradables sector and economic geography
  - **downward spiral of standards**, including workplace safety standards; assumption not correct: see model by WÄLDE (2007)
- **No social policies possible** – US free market economy will dominate everything and EU countries will be forced to trim social policies sharply; moreover, China imposes low wages everywhere
  - Most of the need to trim the welfare state is related to the ageing society; has nothing to do with globalization
  - True that China ‘s entering into the world market puts strong pressure on unskilled workers to accept cuts in wages; intelligent response in EU countries would be enhanced retraining and education: skilled workers (those used in production of machinery & equipment) will benefit from globalization. Unskilled workers and skilled ones benefit from fall of import price level
  - Global warming problems! Ok, but not due to globalization; avoid CONFUSION!

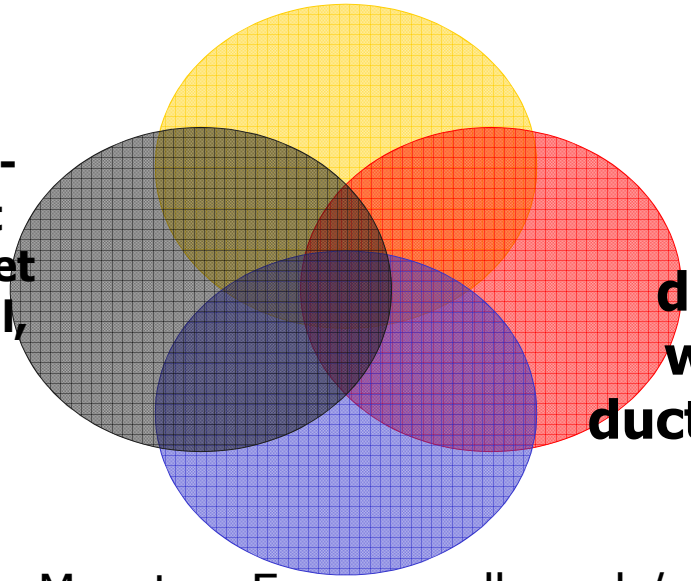
Monetary Economy

- Money is
  - Unit of account; traders of commodities in London still used Pound in 1990s; but no longer: US $ now
  - Means of (international) transactions – this includes (buying/selling goods or assets); few currencies prefered: $, €, Pound, Swiss Franc, Yen, Yuan…
  - Store of Value – assuming that high inflation and depreciation rate is avoided; choice of currency see above (plus gold); with high inflation foreign money becomes store of value, or gold, or real estate…: the latter is dissipation of resources (k ‘ of printing M is zero!).
  - Choice among currencies depending on size of country (importance in terms of GDP and trade)/stability of currency/quality of the banking system/quality of prudential supervision (?)

International Economics takes look not only at goods market(s) but also at money market etc.;

Goods Market Equilibrium (Determines Output/Real Income, respectively)

Bonds market (identical with loan market =kind of capital market so that price of capital, namely interest rate is determined)

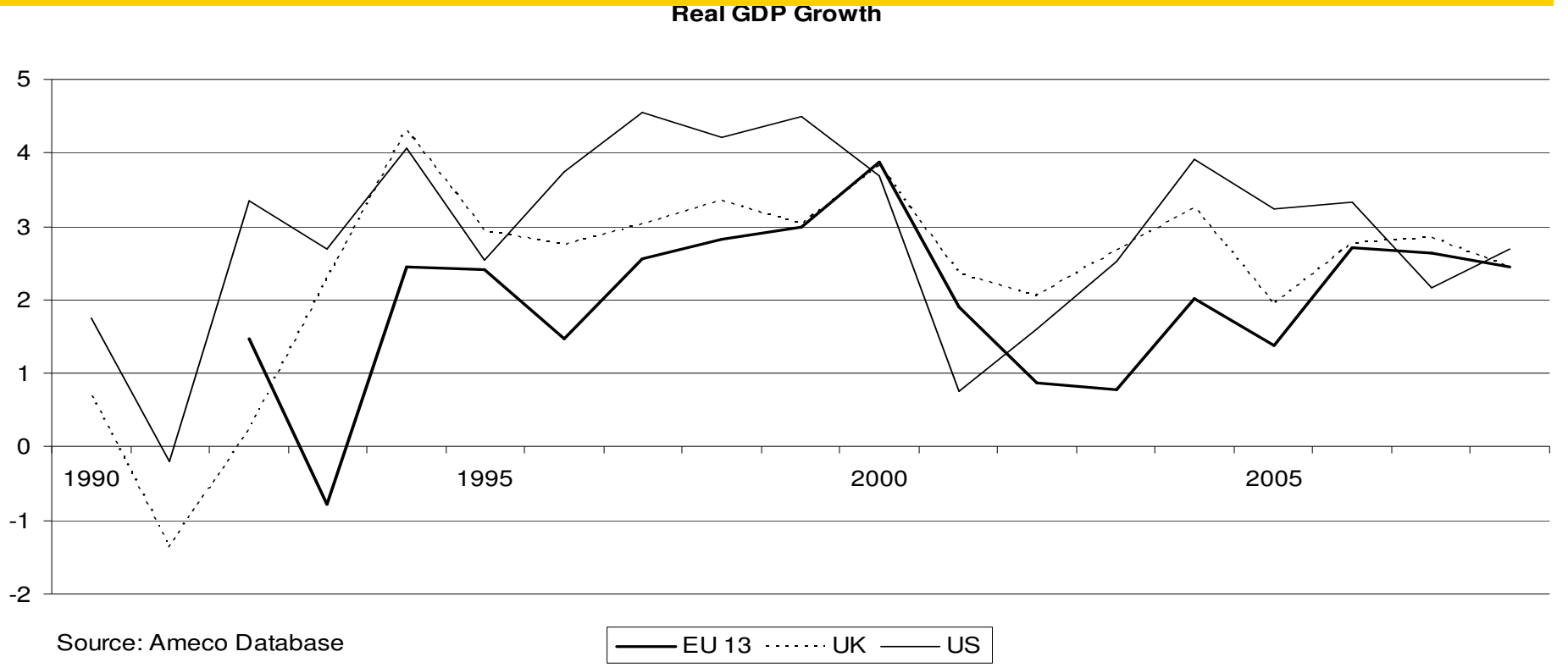


Labor Market; if goods market determines Y, then we have L via production function $Y(L,K_0)$

Money Market Equilibrium: In Monetary Economy all goods/assets are paid via money so that money market is mirror of all other markets: If all other markets equilibrium $M^s=M^d$

Growth of output g_Y=: (dY/dt)/Y; rule: If A=BC then $g_A=g_B+g_C$; dlnA/dt=:g_Y;(denoting $a=g_A$; $n=g_L$): if $Y=K^{ß}(AL)^{1-ß}$ ⟶ $g_Y=ßg_K+(1-ß)[a+n]$

Remember that if y=lnx, then dy/dx=dlnx/dx=1/x; dlnx=dx/x; with x(t)…



Source: Ameco Database

Growth rate of money supply (gM), output (g_Y; year-on-year change in %), V is velocity, P price level

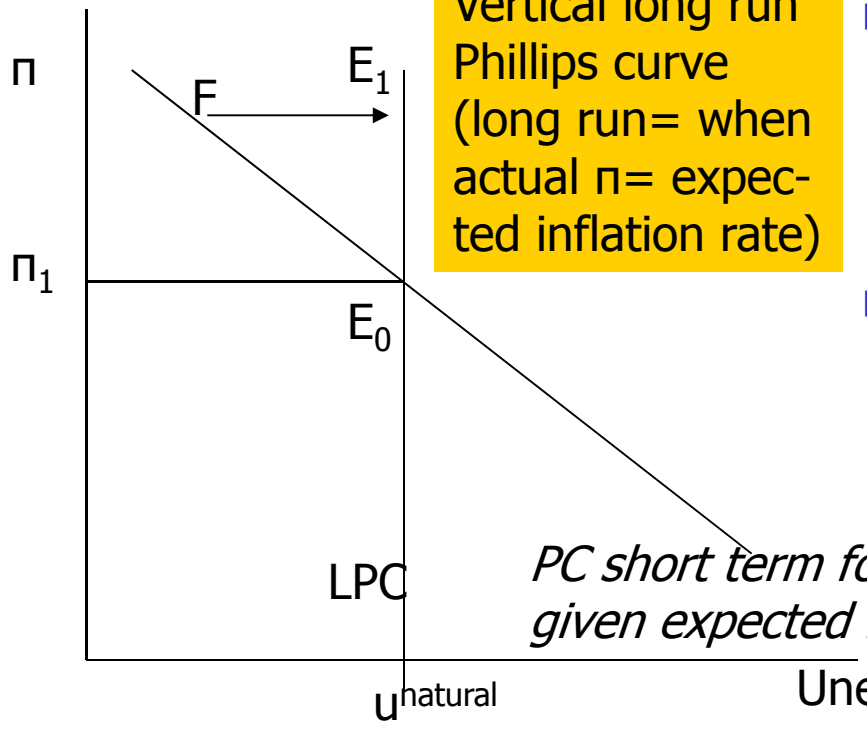
- Money stock M V = PY
  - Simplified view on V: Velocity indicates how often a 100 € bill is used per period
  - $g_M+g_V = g_P+g_Y$;

(if variables are multiplied with each other – see MV=PY – then the respective growth rates add up!)

  - If V is constant, hence $g_V=0$, then the inflation rate g_P is equal to the difference between g_M and g_Y; so if money growth rate g_M is 4% and g_Y 2.5%, $g_P=1.5\%$

Phillips curve PC: trade off between inflation ($\pi =: g_P$) and unemployment

- Flexible exchange rate



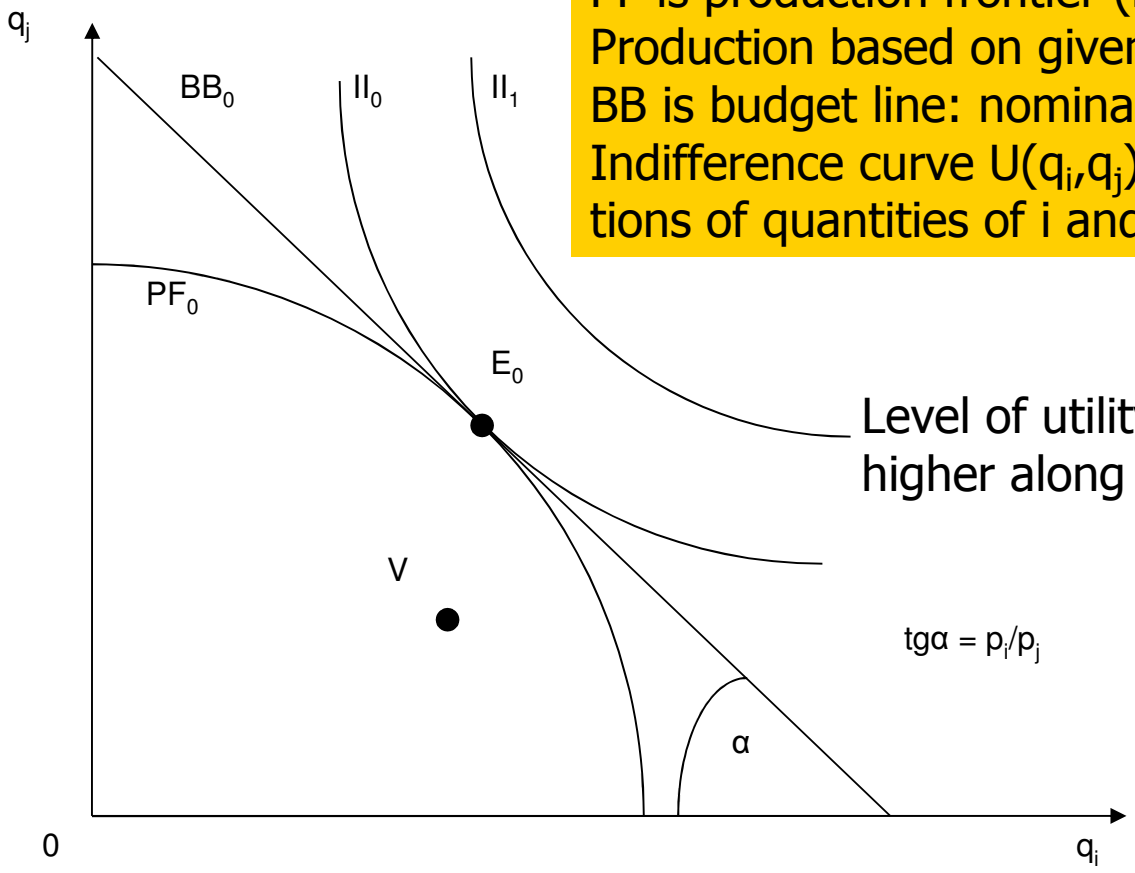
Vertical long run Phillips curve (long run= when actual π= expec-ted inflation rate)

- M V = P Y is quantity theory (Irving Fisher)
- V is [given] velocity (how often a 100€ bill used for payment p.a); iff $g_V=0$…
- $g_P = g_M - g_Y$ (g is growth rate: in %; if g_M is raised, inflation up, u falls)

Profits= PY – WL;
Wage setting: $W_t = vP_{t-1}$…

General Equilibrium Closed Economy

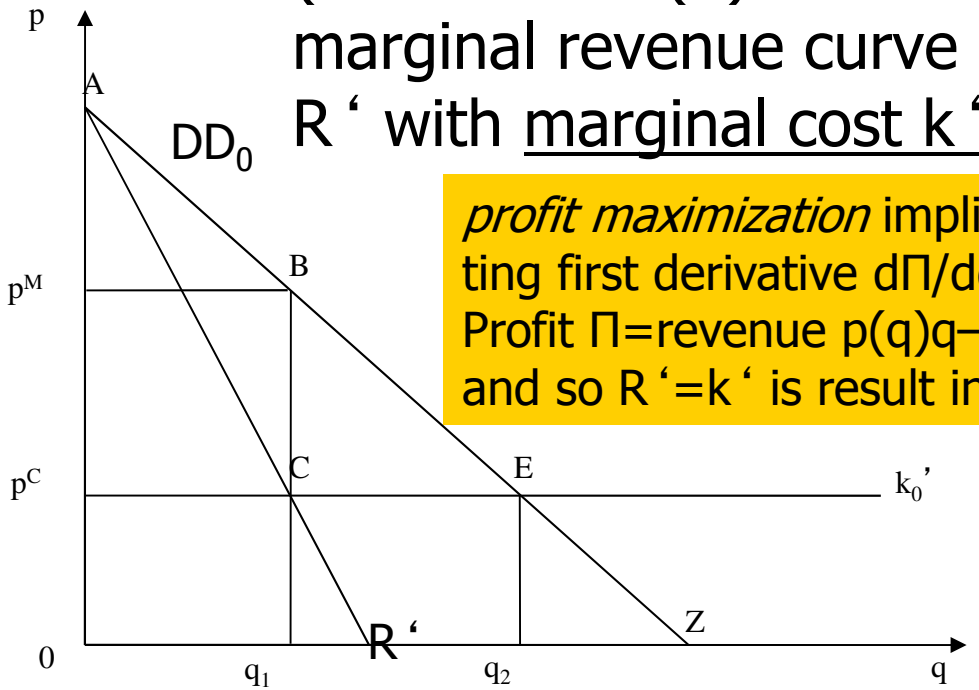
PF is production frontier (line of efficient Production based on given factor endowment);
BB is budget line: nominal income Y '=$p_i q_i + p_j q_j$
Indifference curve $U(q_i, q_j)$ indicates combinations of quantities of i and j yielding certain U



Level of utility (happiness) is higher along II_1 than along II_0

Problem (1) is static mononoply; Schumpeterian mononpoly (moving towards E over time) no problem

- Monopoly price p^M (intersection (C) of marginal revenue curve R ‘ with <u>marginal cost k ‘$_0$</u>)

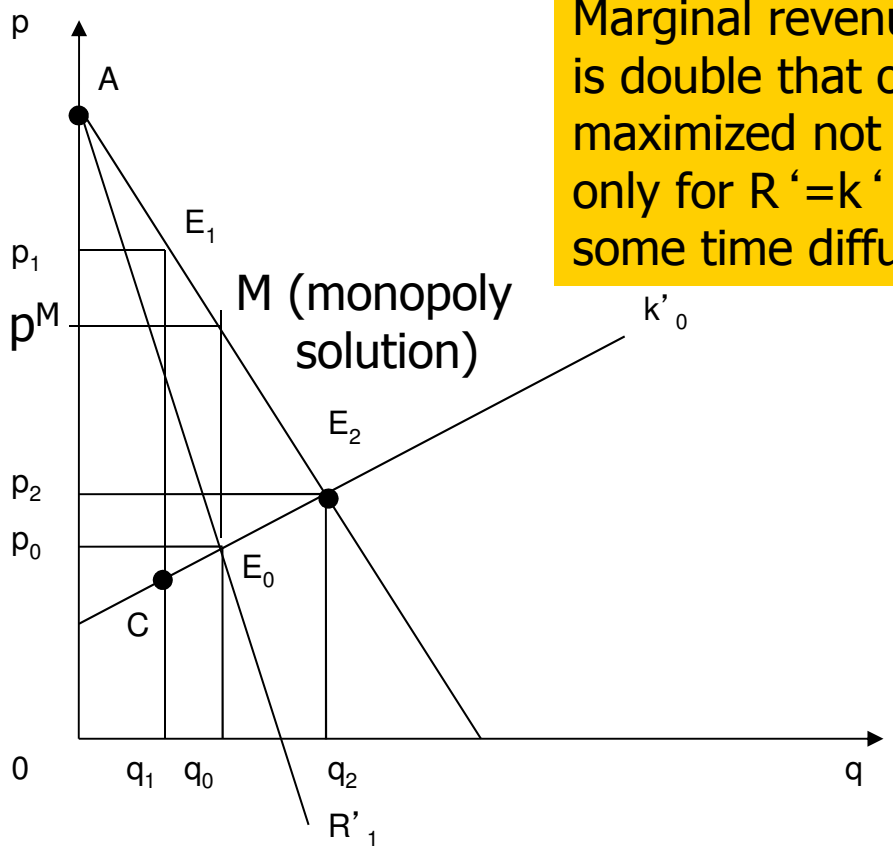


profit maximization implies setting first derivative dΠ/dq=0; Profit Π=revenue p(q)q–costs(q) and so R ‘=k ‘ is result in monopoly

- Monopoly price p^M >competition price $p^C=k‘_0$
  - Loss of consumer surplus BCE= „deadweight loss“
  - Redistribution of consumer surplus: area BCP^CP^M = profit of monopolist
  - With full FDI inflow welfare loss= $BCE+BCP^CP^M$

Equilibrium in monopoly is point B, under competition point E!

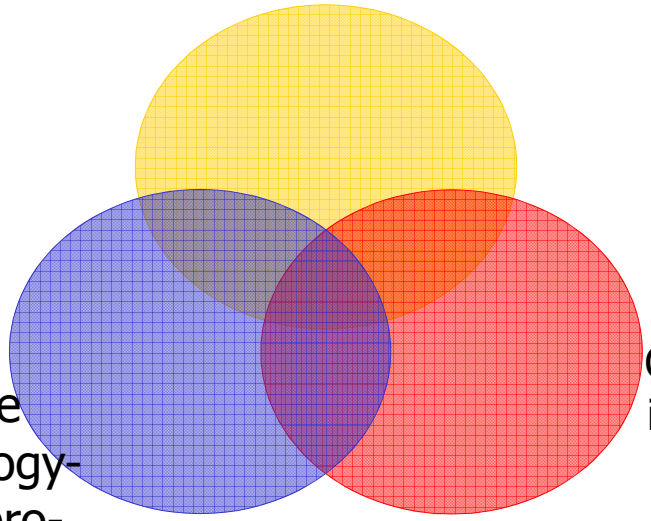
Product Innovation und Transitory (Schumpeter) Monopoly



Marginal revenue curve R‘ has slope which is double that of demand curve; profit is maximized not for whatever high price, but only for R‘=k‘ (intersection, price p^M); after some time diffusion of innovation: price is p_2

Price across countries will differ if there is product innovation (monopoly position)

International price discrimination requires some form of monopoly power (preventing arbitrage)



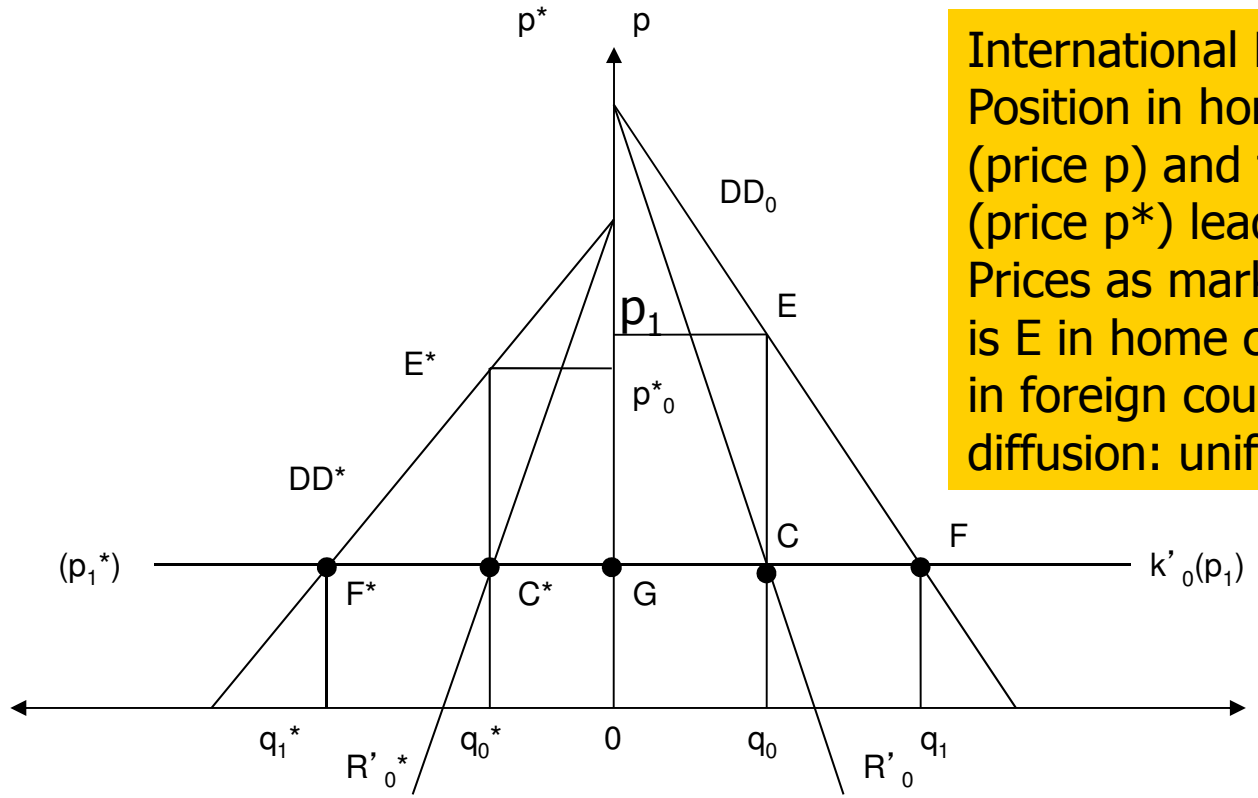
Countries which are specialized in technology-intensive products (product innovations important)

Countries specialized in standard products (no mark-up over marg. cost possible unless a dominant position in market)

International Organizations have a role in various fields: Institutions matter/ international learning over time?

- **Creating and maintaining competition** (EU); in some way also WTO: role of import competition. Competition makes sure that – in the long run – market price equals marginal costs & no discrimination; standard case if marginal costs are increasing or constant
- If **marginal** costs are falling – as in telecommunications – there are special problems; **„natural monopoly" problem:** particularly in fixed-line telecommunication. Historically in the EU: government owned monopoly operators – until liberalization of 1998 through European Commission (framework reg.+nat. regulations; different approaches in various EU countries. BENCHMARKING?
- **International calls for many years regulated by ITU** (International Telecommunications Union): US had massive sectoral current accout deficit (US prices – with competition after 1984 – much lower than say in EU or Asia….
- Since 1998: **Market opening up, increasing competition:** Newcomers, including foreign investors (ex-monopolist invade each other's markets); problem for newcomers with access to the customer –"dirty last mile". Solution is asymmetrica regulation which imposes regulation ONLY on ex-monopoly firm/the incumbent operator; must lease access lines at regulated price to competitors; INTERCONNECTION rules (incumbant operator must interconnet). Problem is that network operation AND telecommunication services in 1 hand!

International Price Discrimination (static vs. Dynamics)

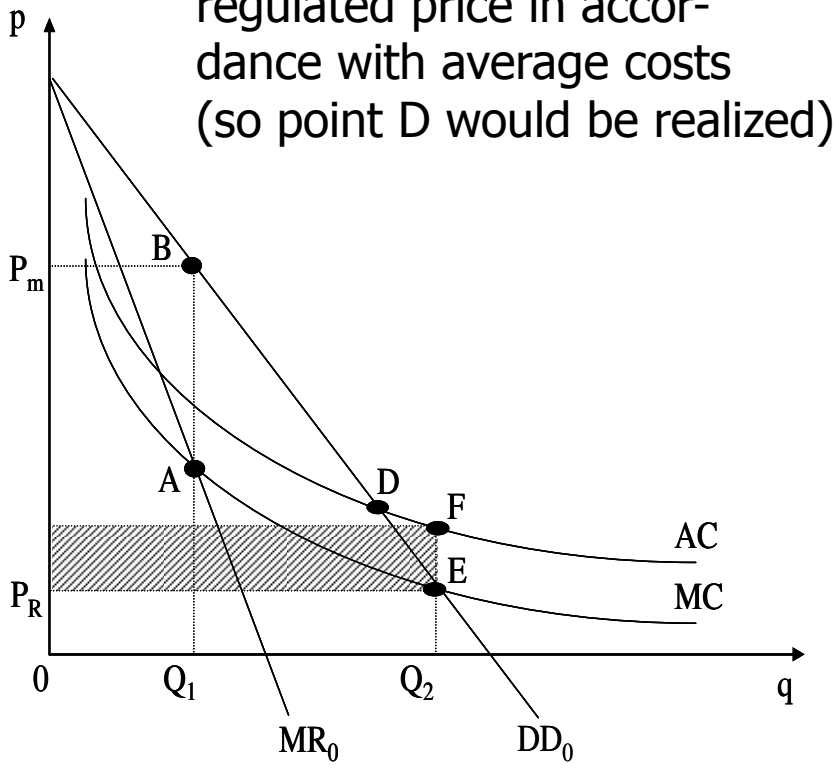


International Monopoly Position in home country (price p) and foreign country (price p*) leads to different Prices as market equilibrium is E in home country and E* in foreign country; after full diffusion: uniform price p_1

What happens in industries with falling marginal costs MC (eg telecomms); optimum is E, but average costs AC>MC…

- Falling k ‘(q); not easy to have **sustained competition**
- „Hit and run competition“ possible only if there are no **sunk costs** (costs that cannot be recovered after going out of business; eg railways in the business of railway transportation; sunk als R&D costs, marketing costs)
- **Regulation** might be necessary

MR is marginal revenue; regulated price in accordance with average costs (so point D would be realized)



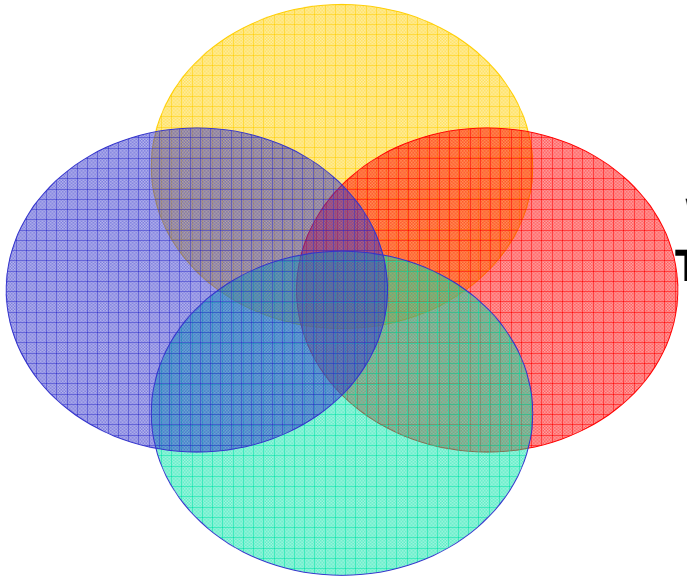
Liberalization, Privatization, Regulation: Successful Example of EU Telecommunications

- 1998: EU has liberalized network operation and voice telephony (UK already liberalized in 1984/as did the US)
  - Problem for newcomers as dominant operator has 99% market share
  - Regulation necessary, but asymmetric=for incumbant; eg interconnection rules
  - Local loop access problem: leased access lines at regulated price which is cost-based
  - Price caps as typical regulation= RPI minus progress rate x (EU; US rate of return regulation=problem)
  - Increasing fixed-mobile substitution!
  - Mobile technology=innovation driver
- Relative prices have fallen after 1984, particularly for international calls = stimulating globalization
- Many newcomers which have entered various markets, partly on call-by-call business model
- Innovation has grown
- Much mutual invasion=FDI of incumbant operator
- Digital convergence= merging markets: voice, data, TV =more competition
- Internet expansion=digital globalization, partly MOBILE

Telecommunications: Snapshot: Internationalization in Fixed-line plus Globalization of Mobile Market

Vertically Integrated Business(Digital Services plus Network Operation)

High Sunk Costs in Fixed-Line Telecoms (but not in mobile GSM/UMTS)



With Competition in Telecoms = Pressure on Suppliers to Be More Innovative

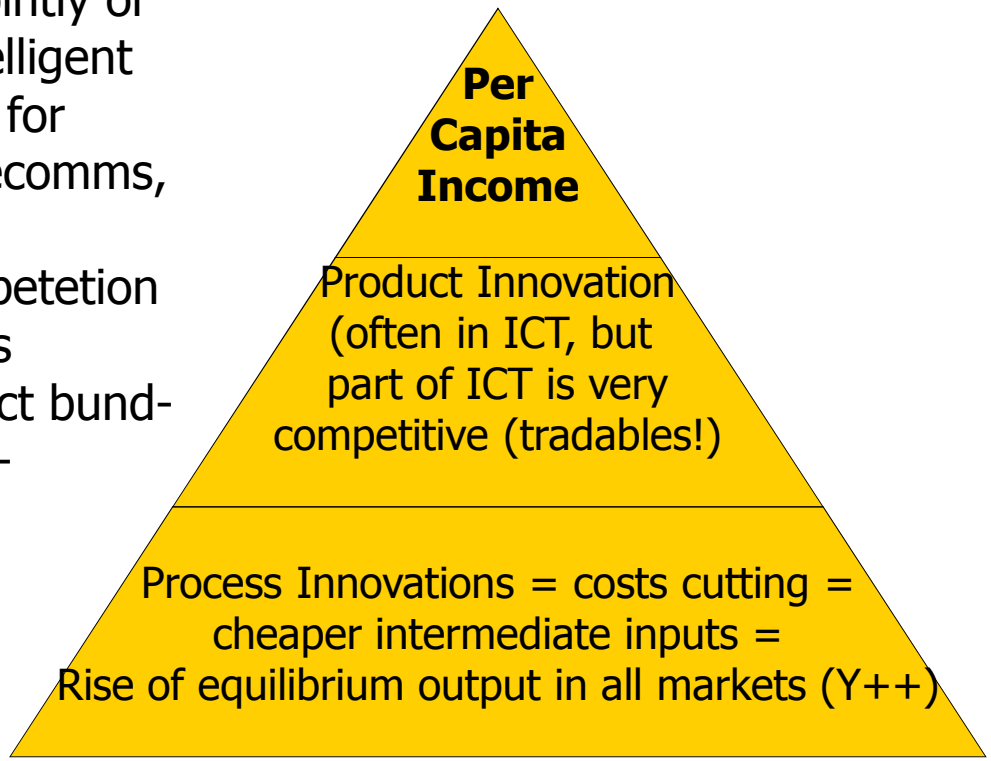
Internationalization of Telecommunications Markets after 1998 (Fixed): Opening up of Markets; Mu--tual Invasion of Markets in EU. Parallel *Globalization of Mobile Telecommunications (US, Korea etc.)*

Separate Case Study on Digital Liberalization, Privatization and Regulation

- EU Telecommunications sector is wonderful experience in intelligent deregulation;
- Deregulation was motivated by perception of the European Commission that the EU was falling back vis-à-vis the US
- EU also active in stimulating (mobile= GSM) standards
- EU better than in US in mobile telephony, but in all other digital fields the US is leader
- EU vs. US in strong competition on Chinese etc. market (see GSM story, but China has developed its own standard; largest mobile market in the world. However, problem with optimal use of internet – political interference, language…

Competition and Innovation in Infrastructure

How can we set jointly or in cooperation intelligent international rules for competition in telecomms, software etc.
Can we have competetion in internet markets
What about product bundling and cross-subsidization?



Going Back to Macroeconomic Perspective in 2 Country Perspective PLUS Monopoly (!)

- Monopoly/firm with market power will fetch higher price than under competition;
- If import price is raised then import bill is higher and hence demand for $ is raised (EU or ASEAN perspective) so that depreciation of currency is likely
- If export price can be raised in monopolistic way export revenues are increased= appreciation (under flexible exchange rates)
- Big multinational companies often have some monopoly power (eg vitamin market, software); rising role of FDI could raise monopoly problems insome countries, but reduce it in other countries – large economies attracting diversified FDI!

Relative Income: G is government expenditure, τ income tax rate; 0<c<1; s+τ+c=1; s savings rate

- PX = eP*J (no capital flows!)
  - k'X = ek'*J; competition so k'=P & P*=k'* we have $e_0P^*_0/P_0=X_0/J_0$
  - P^MX = ek'*J which implies with Amoroso-Robinson k'(1-1/η)=P^M that $X_1/J_0 < X_0/J_0$. η demand elasticity
  - Caveat: will there be effect on e (?) as consequence of monopoly pricing in country I; eg could be higher net capital inflows= real appreciation under flex. exch. rate
- Monopoly pricing of export goods has an effect on real income since

  Y = cY(1-τ) + I + G + xY* -q*jY where real exchange rate q*=: eP*/P;

  a higher P implies a fall of q*!; Y up

Multinationalization (FDI), Trade, Digital World (internet)

- Traditional Open Economy (Musgrave/ *Mundell/Dornbusch):*
  - **Allocation**
  - **Distribution (of income and wealth)** where neoclassical approach with $Y=K^{\beta}L^{1-\beta}$ implies for case of competition in goods markets & factor markets that profit maximization leads to $\partial Y/\partial L=w=:W/P$ (w is real wage rate, W nominal wage rate) and $wL/Y=1-\beta$; $\partial Y/\partial K=r$ and $rK/Y=\beta$ (profit income relative to Y determined by technology…)
  - ***Stabilization under fixed exchange rates and flexible exchange rates;***

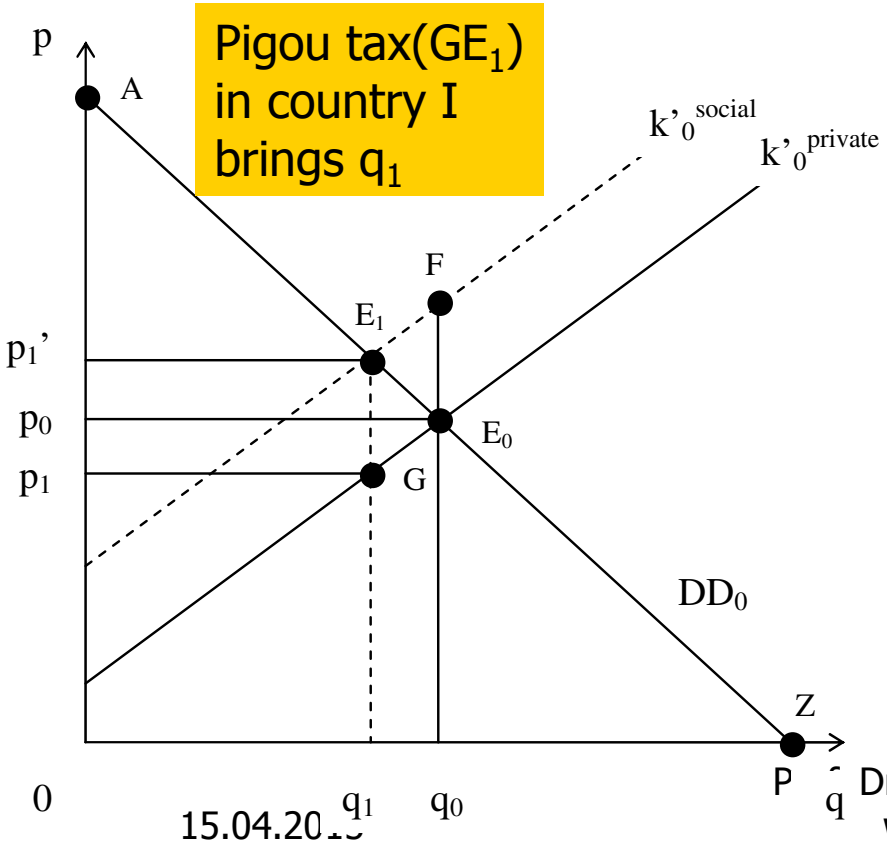
  flexible rate= central bank controls money M

- Allocation efficiency
  - Static (price=marginal cost): competition? Internat. ext. Effects?
  - Dynamic (optimal innovation): competition policy & innovation policy – role of info market imperfections/new (nat/int.)institutions?
- Distribution: will there be cross-country convergence? Intra conv.?
- Stabilization: with more international capital flows
  - Benefits in terms of allocation
  - Increased instability as FULL globalization unfolds (China,…)?
  - Instability as New Globe:+complex?

What is an economic optimum? Marginal social costs= marginal social benefits (maximization of economic welfare); assume full inward FDI=all profits going abroad. Which incentive for policy?

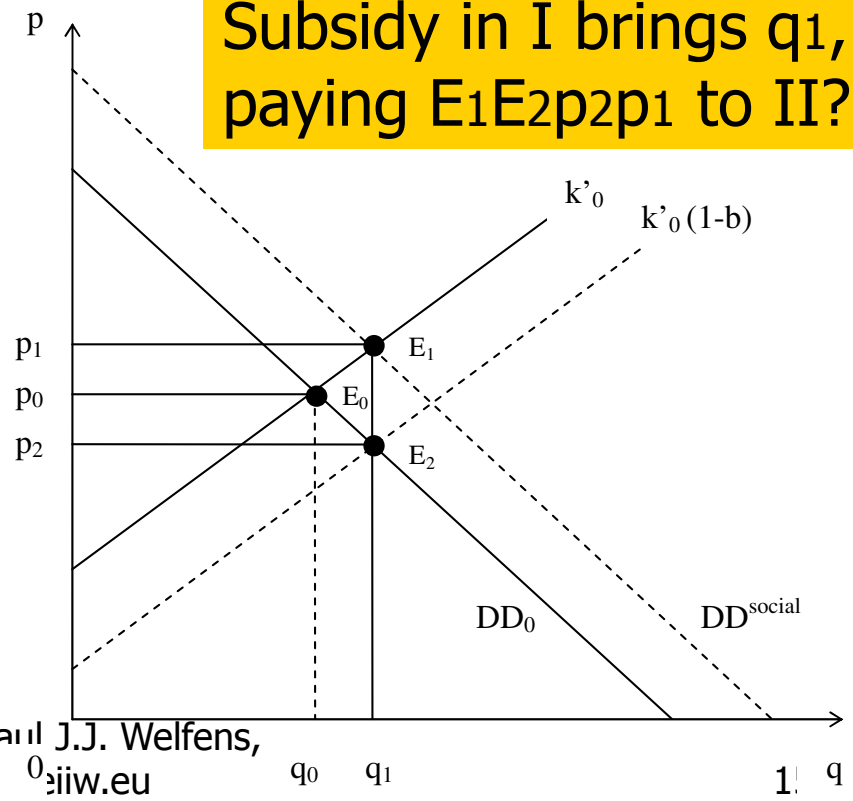
- Market Equilibrium with Negative **External Effects** (air pollution)

Pigou tax(GE_1) in country I brings q_1



- Market Equilibrium with Positive External Effects (R&D service,innov)

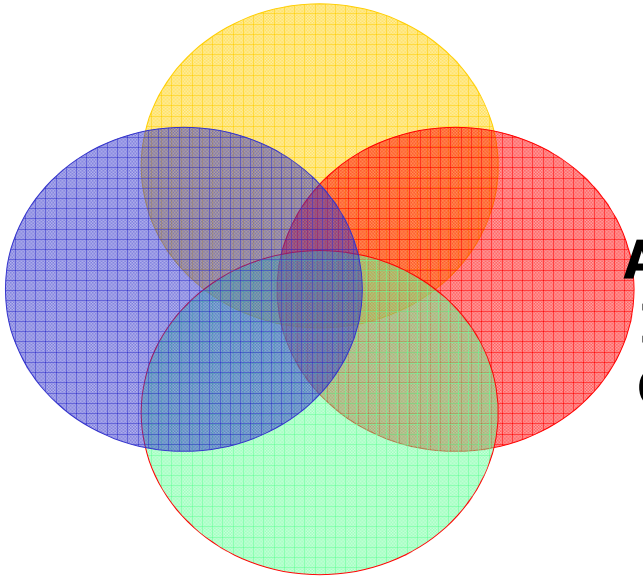
Subsidy in I brings q_1, paying $E_1E_2p_2p_1$ to II?



4 Key Issues of Globalization

Sustained competition in more integrated world economy with +(large)MNCs?

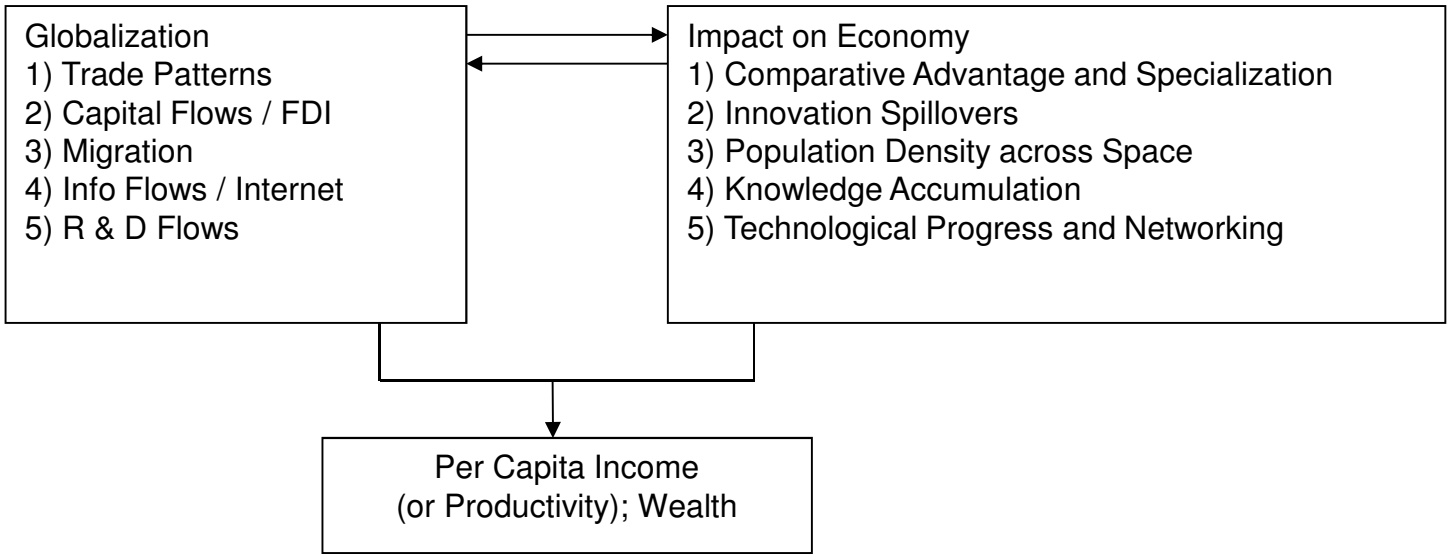
Efficiency of Allocation/Role of External Effects (eg global warming; R&D)



Convergence Across Countries In Terms of Per Capita Income?

Stability of the global financial markets/World Economic System(major countries/links..)

Analytical Framework on Globalization



4 key issues of globalization?

- Will world have less static **monopoly problems**?(income redistr.)
  - (a) Industrial dynamics: mergers and acquisitions; type of technological progress: eg see problems in markets with digital goods (k‘ falling)
  - (b,c) National competition policy & intern. cooperation in comp. policies
- Will we have less **external effects** in a world economy with more trade and FDI? FDI is horizontal, but more so vertical= international offshoring = industrialization of the South = growth &more intensive business cycle in South, less in US, EU and Japan (services economy less cyclical!)? So… ⟶
- → Will we have **more economic stability** in the world economy (**less weighted variance in global output**)? Problem for monetary policy, *prudential supervision of financial markets*, changes in structure of output in OECD countries and world-wide; what does entering of China, Russia, India etc. mean(not in BIS)
- Will there be economic **convergence** across countries and within countries

HOS analysis assumes away the long term internat. problem as $A=A^*$, $ß=ß^*$ in a setup with competition &production functions $Y=K^{ß}(AL)^{1-ß}$ in country I; II:$Y^*=K^{*ß}(AL^*)^{1-ß}$

Global Aspects of Competition Policy in Goods and Services

- Some OECD Principles
- Free Trade
  - =import competition
  - =most-favor nation clause which generalizes bilateral trade concessions
- US competition policy (approach X)
- EU competition policy (approach XX; see Microsoft case)
- Russia ‘s competition policy
- China ‘s competition policy
- Etc.

Imperfect Markets for Information Services and Technology

- Information Markets
  - Heavy role of government: eg disclosure rules for firms going public
  - Standards set within government and set for/and with business community
  - Reuters etc. (building reputation); Why paying a price for a newspaper you have not yet read?
  - Problems with information markets in the internet
- Technology Markets
  - Intellectual property rights (TRIPS = trade related intellectual property rights in GATT Uruguay Round/WTO)
  - Basically MNCs dominate international technology trade; countries without MNCs and FDI inflows/FDI outflows have disadvantage

Globalization – some problems in a world economy with more MNCs

- Economics: **Sustainable competition** */in open markets* **with normal cost functions (marginal costs k ‘≥0)** brings efficient outcome = welfare maximizing
- Small (poor) countries facing large MNCs have problems in establishing competition
  - Tradables sector: rely on import competition
  - Problems in digital sector
  - Nontradables sector (eg energy, telecommunications)
  - Can country become home of MNCs itself = active participant in global technology trade
- Technology accounts for about 1/3 of growth in „growth accounting“ in OECD countries; trade is very imperfect
  - Intra-company technology trade
  - Technology swaps among MNCs
  - = countries without MNCs/ inward FDI miss % innovations
- Regional integration can create larger markets and more competition (enhance tradability: EC – energy, telecomms) + apply better regulation (benchmarking)
- Countries unwilling in integration?
- How „breeding“ MNCs in NICs? (Dunning ‘s approach tells us…)

Dynamics: Medium term and long term

- Is there a **globalization equilibrium:** n-country equilibria in terms of real income Y, price level P, unemployment rate u, interest rate i (nominal) or real r (i minus inflation rate π); degree of Multinationalization
- Which changes in globalization equilibrium/**comparative statics**: N instead of n countries; eg China enters world market…: Y, Y*, P, P*, u (unemployment rate), u* etc.
- **Which adjustment dynamics?** (eg overshooting of exchange rate…)

- Disequilibrium in globalization dynamics
  - (Crisis) management by dominance
  - Crisis management by multilateral management (IMF+WTO+BIS/ G8)
  - Crisis management by „club response“ (EU+NAFTA+ASEAN+ MERCOSUR etc.)
  - Effect of newcomers such as China; India; SPAIN and TURKEY in Europe!!

Four Basic Economic Points of Departure

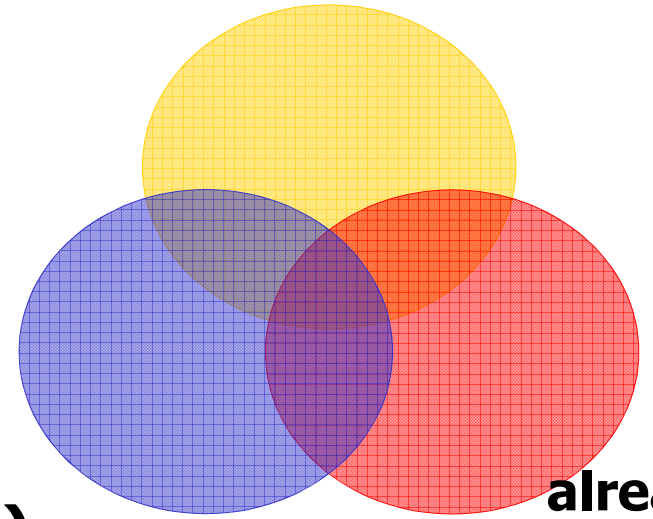
- Describing globalization
- Explaining globalization
  - Behavior of main actors at national level
  - Competition dynamics AND cooperation
  - Behavior of international organizations/actors in IOs
- Policy options for controlling globalization
  - Medium term; vs. long term

The World from a Washington Perspective (very stylized)

- **US is dominant in military and economic and technological** terms
- Japan was dependent on US (and will be!); should accumulate foreign reserves and reinforce US economy and military in the long run (China!)
- UK is kind of US political subsidiary: will not join eurozone in 21st century
- Continental Europe is a region with much cultural heritage, but EU is weak; Germany has strong economy, but no real political actor: is naive and can be exploited; France strong in political terms, but weak economy (or not?)
- Eastern European accession countries plus Turkey are natural allies of US
- Saudi-A. dependent on US (would send helicopters & army iff); US needs oil
- China is a serious challenge: possible option is Hongkong-China in 2050?
- Russia is difficult&dyn. partner, but weak in the South & politically unstable
- North Pole belongs to nobody,so it effectively belongs to US. Avoid Glo.Wa.?
- The internet will be most dynamic marketplace for US (terrorism is problem)

Gravity Centers in World Economy

US: 20th century/21st century



UK/Europe (1492-1918)

Asia (China already around 1200, again in the 21st century)

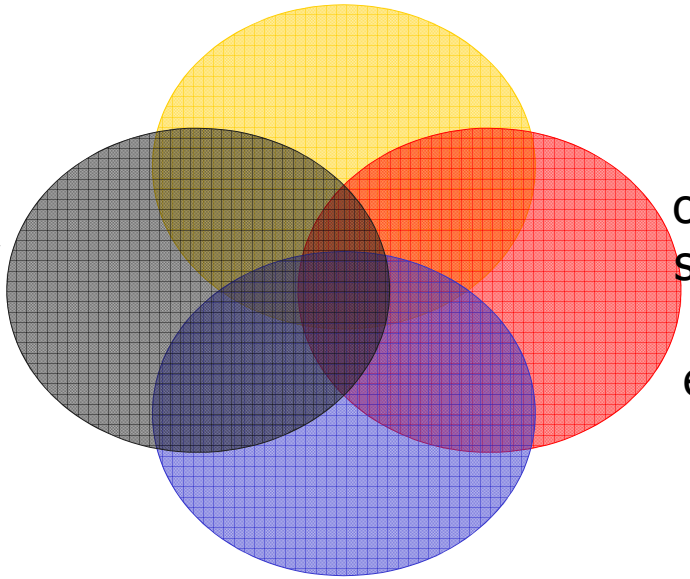
Gravity Equation: **X is export quantity** (from country i to j) Y is real income, **D is distance**

- $X_{ij} = a_0 + a_1 Y_i + a_2 Y_j - a_3 D_{ij}$ (a>0) US is major trading partner for ALL.
  - in two country setup the implication is X=xY*+x“Y
  - **but** in traditional macro model: X=x(q*)Y*; q*=: eP*/P (real exchange rate; e nominal exchange rate, P price level, * for denoting foreign variables); Imports J= j(q*)Y
- FDI_{ij} can be modelled similarly;
- Distance variable is influeced through technology: Shipping (sailing/steam boats), telegraph/telephony 1870s, container in 1960s, internet 2000+; see JUNGMITTAG/WELFENS (2009)

Four Constraints in Broader International Perspective (M is stock of money, B stock of bonds; m real money demand)

External Constraint (country II): Net Import of Goods be equal to Net Capital Imports!
(2 country-modell: from country I perspective: net exports X ‘= net capital exports)

Ecological Constraint; Avoid Serious Global Warming Problems



Political Constraint Majority/ies in Favor of Sound Policies &Sustained System Reform (scientist+journalists explaining complexity to broader political audience)

Government Budge in Country 1; 2 (seigniorage+new bonds to cover deficit)
Country 1: (G- τY) = [dM/dt]/P +[dB/dt]/P; in 2…Note: m=m(i,i*…)

Reflections on MNC and FDI inflows; C is consumption, I investment, G government consumption; H human capital, R&D=res.&

- According to gravity equation: It makes an important difference which regional growth centers expand; as China expands regional trade grows and this contributes to regional rise of (Asian) output and real income
- Conventional demand side perspective (output is Y; q*= eP*/P; P is the price level)
  - Y = cY+ I + G + [x(q*, K**/K)Y* - q*j(q*,K**/K) Y]; K** firms owned by II; q*J translates imports into domestic units
  - Y*= c*Y* + I* + G* + [j(q*,…)Y/q* – x(q*,…)Y*];
  - I= I“+I** domestic firm ‘s investment I“; I** FDI inflow, asymmetrical setup; but alternative of two-way flow possible

Reflections on role of foreign direct investment (FDI)

- FDI inflows creates dependency in various ways (trade deficit financing, access to foreign markets, technology/access to foreign research & development results: product innovations AND process innovations)
  - but also **raises Y (gross domestic product) and *real income Z*** *(GDP minus net dividend payments accruing from abroad);* US is still receiving net dividends (Z for USA larger than Y); Ireland, China…paying net dividends: Z*<Y*)
  - Y=Y(K,L,A) where K is capital, L is labor and A level of technology; FDI inflow implies dK>0, international technology transfer: dA>0; A=A(R&D, H, A*(K**/K)
  - more refined approach is **Y(K,L,A,X,X*)…;** see WELFENS (2007a)

Map of World Economy

- www.worldmapper.org
- Subsequently:
  - Info about - relative - income position based on $ income (case a)) = income in national currency times exchange rate;
  - Info about income position in Purchasing Power Parity (PPP): international price differences of non-tradables in considered = raising e.g. China ‘s GDP above the value obtained under a): see TABLE – China at PPP = 4x as high as under methodoly a)

Share of Output, Trade, Stock Market Capitalization in Economy

	GDP				Merchandise Trade				Stock Market Capitali-zation
	At PPP exchange rates		At market exchange rates		Exports		Imports		
	1971-75	2001-05	1971-75	2001-05	1971-75	2001-05	1971-75	2001-05	2001-05
United States	22.5	20.5	27.9	30.1	15.7	11.6	15.6	19.7	44.4
Euro area[1]	21.3	15.7	20.2	21.9	21.2	18.5	21.2	16.9	15.3
Japan	8.0	6.7	7.5	11.6	8.5	7.4	7.9	5.8	9.4
United Kingdom	4.3	3.1	3.7	4.9	6.9	4.7	7.9	5.6	7.5
China[2]	3.0	14.0	2.6	4.6	1.2	7.2	1.3	6.2	1.9
Canada	2.1	1.9	2.7	2.4	5.7	4.4	5.5	4.0	2.8
Mexico	1.7	1.8	1.3	1.8	0.5	2.7	0.8	2.9	0.5
Korea	0.6	1.6	0.3	1.7	0.7	3.1	0.9	2.7	1.1
India	3.5	5.7	1.7	1.6	0.7	1.0	0.8	1.2	0.8
Brazil	2.7	2.7	1.2	1.5	1.3	1.2	1.9	0.9	0.8

Source: IMF 2007, World Economic Outlook, Washington D.C., pp. 122/123

[1] Excluding intra-euro area trade

[2] Data in 1971-75 column are for 1976-80

Basic Aspect of Trade (and logic of two country world)

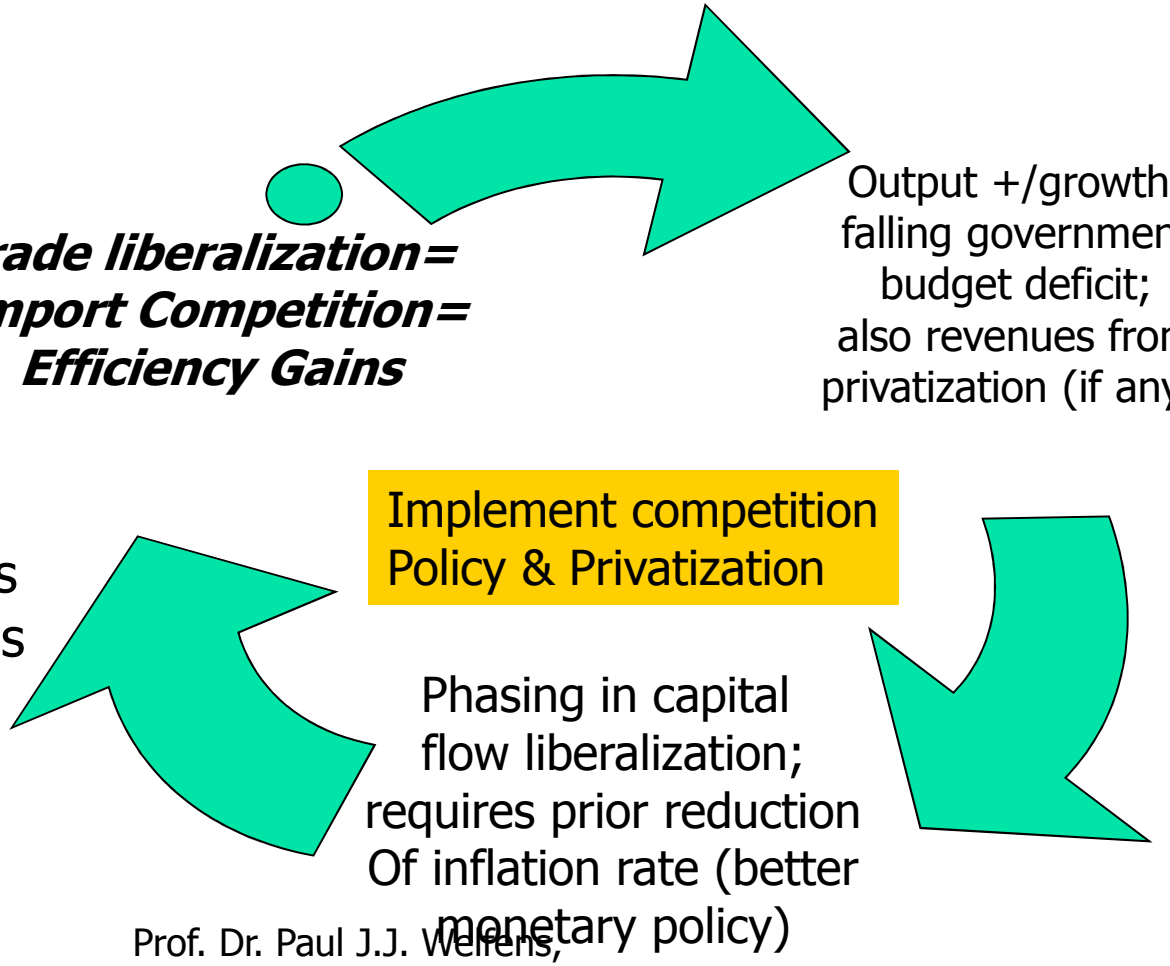
- We consider a simple model of world economy: country I (home country) and country II
- Type of links (* is foreign variable, e exchange rate, P price level)
  - Exports of goods and services of country I: symbol X is quantity= identical to imports J* of country II
  - Imports J of country I = identical to exports of II
- Current account in nominal terms: X^{netnom}=PX- eP*J
- If surplus: country I accumulates claims on II; and II will have to pay interest payments; II debtor position
- Transitory current account deficit no problem, BUT…

Why internationalization is of interest for policymakers

- **Emigration opportunities** always welcome in countries with unemployment problems (Europe in 19th century); immigration – in particular of high skilled - supports economic expansion if integration works
- **Trade = economic gains** & ++international dependence or interdependence; large country (US, EU, CH) attracts high FDI
- **More international capital flows if location is attractive** (low taxes, infrastructure+, rel. cost advantage, human capital) = benefits through lower real interest rate r, rise of investment I(r), positive income effects (demand-induced); AND through international capital reallocation - **see MacDougall diagram.** Poor quality of policy/location= outflows of capital
- Expansion of trade and capital flows= rising **real income** in the world economy = more **jobs**; welfare gain in both countries under standard condition
- *Can trade undermine economic prosperity?* Problem of distortions (eg monopoly) in initial period; potentially immeserizing growth (large country)

Issues of Sequencing; intial distortioins, starting point…

- Poor country which opens up to world economy typically has distortions in t_0:
  - High inflation
  - High budget deficits
  - Low growth
  - Much corruption
  - Many state-owned firms
  - Banking system which is rather weak
  - Lack of competition policy



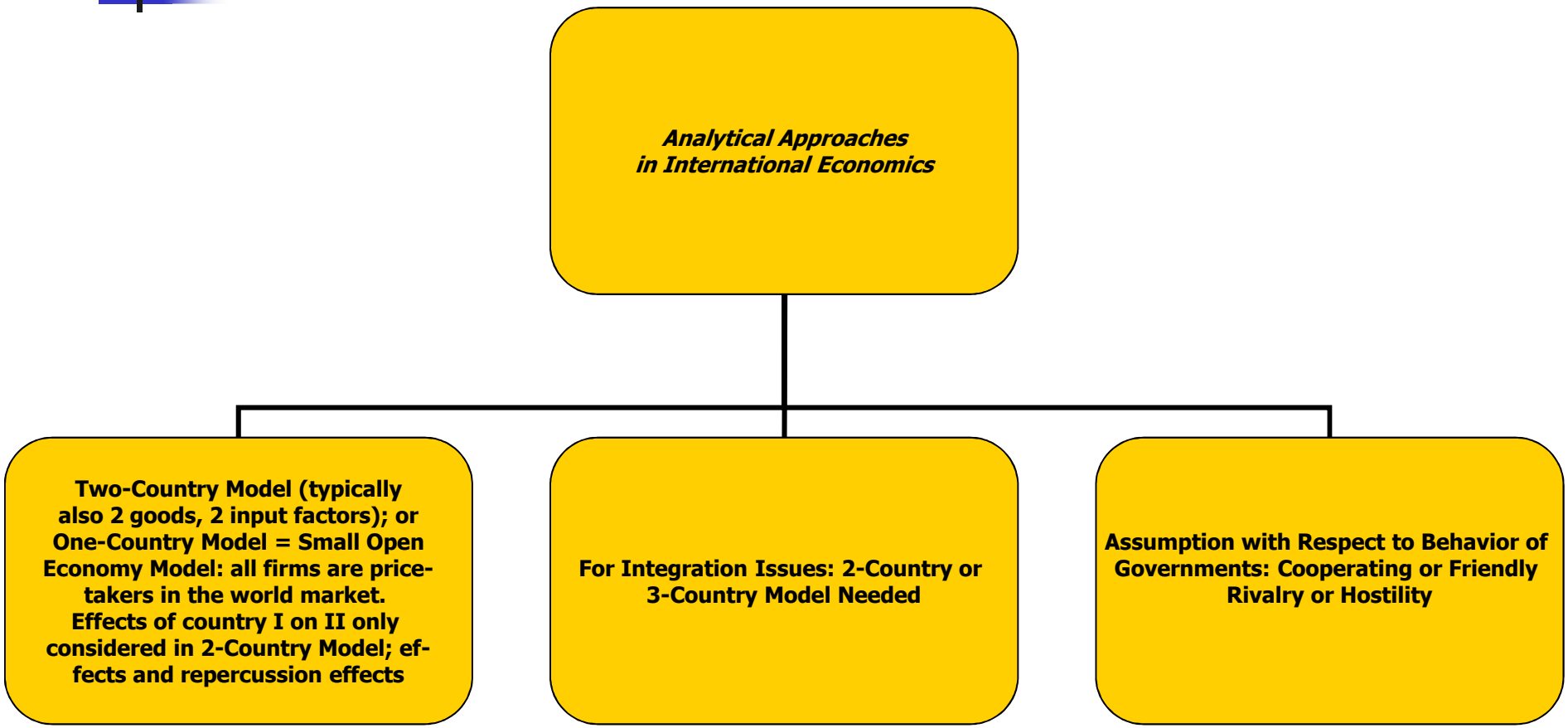
Catching-up of Developing Countries

- Key Ingredients for catching-up
  - Creating efficient and effective institutions (eg prudential supervision, competition authority)
  - Invest in health and infrastructure
  - Liberalize trade and internat. investment (the latter gradually; combine with banking modernization)
  - Invest in education (while avoiding high deficits)
  - Stimulate entrepreneurship and accept trade unions
  - Consider options for regional integration

What to do, what to avoid

- Emphasize political stability; and democracy
- Tax system which encourages investment and human capital building
- Create effective prudential supervision
- Stimulate trade and foreign direct investment
- Stimulate diffusion of knowledge, introduce innovation policy…
- Avoid fixed exchange rate regime unless exports are diversified
- Avoid high budget deficits and high inflation (>10%?)
- Avoid increasing shadow economy
- Implement an effective tax system – with some VAT!
- Nurture entrepreneurship
- Introduce international benchmarking; try to learn from comparative country survey (not simply from US/CH/…)

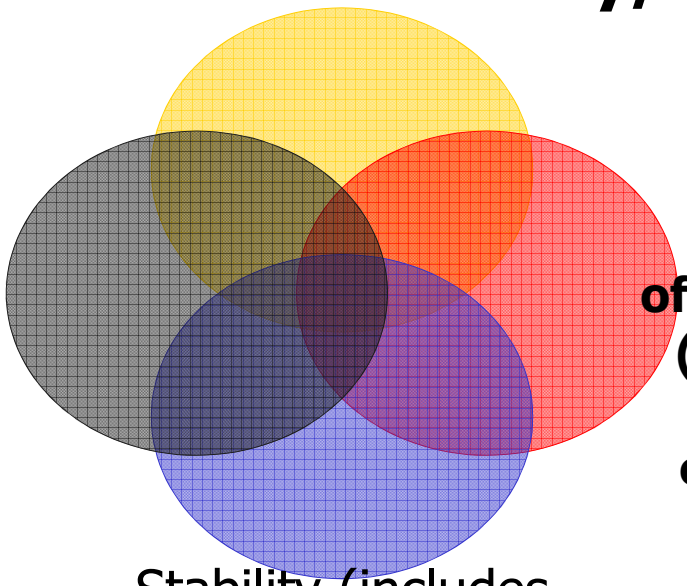
Standard analytical approach in international economics



Import Issues in Globalization

Economic Prosperity; high per capita income.Distribution of income: convergence within country/across countries?

Peace: Dialogue Between All



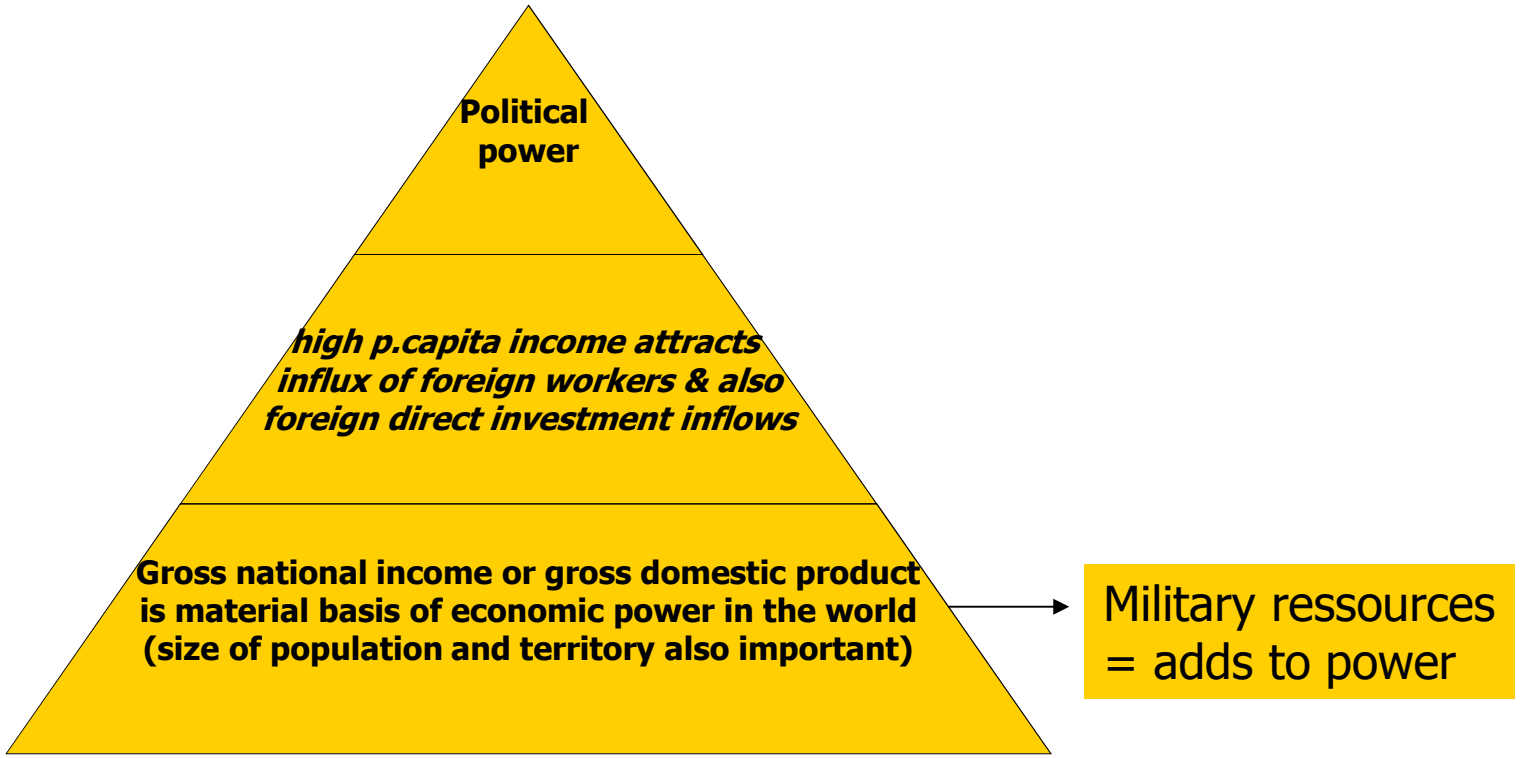
Which countries are main actors & shape the rules of the World Economy (which perceptions prevail in leading countries/& why?)

Stability (includes effective crisis management)

Some Reflections about the Debate in Europe (eg Germany and France); EU27 is less international than EU15 (Eastern Europe has short international history) – EU27<EU15?

- Germany
  - Globalization is largely accepted as country runs high current account surplus; exporter No. 1
  - This could change after 2010 once China has taken No. 1 position
  - Germany ‘s political system is not very much oriented towards global organizations (Mr. Köhler, president, headed the IMF for a short period), Mr. Stoiber, head of Bavarian state gov. did not want to go to Brussels/president of the EU when chancellor Schröder offered this a few years ago…
- France
  - Globalization successfully managed by my many companies, but CA/Y<0!
  - Politicians consider IO as multilateral playing field for leveraging French interests through leaders of IO/from France (IMF, EBRD, WTO, EU to some extent)=pro globalization
  - Going IO = natural French element of national political career thereafter (not in Germany! Poland..)

The economic interest of the the political class



Different types of countries

- Large economy can pursue national interest at the global level
- Large economy
  - With high income per capita (US, EU, Japan)
  - With small per capita income (China, India)
- Small economy will find it difficult to pursue national interest; cooperation among small countries (EFTA minus UK; EU6…EU15, EU27)?
- Small economy
  - With high per capita income y (Switzerland, Belgium,…)
  - With low y

A few historical data on globalization

- 1492 Columbus discovers America
- 1498 Vasco da Gama: sea way to India
- 1507 Copernicus: suggests that earth is moving; sun is center of movements
- 1517 Luther ‘s reformation (protestant ethics, savings, modern capitalism)
- 1571 sea battle at Lepanto= end of Ottoman dominance in the Mediterranean
- 1588 British fleet ‘s victory over Spanish Armada
- 1618-1683: Colbert ‘s mercantilism= support for manufactures; building channels and streets; import tariffs, prohibition of emigration, promotion of immigration
- 1648 end of 30 Years War
- 1683: Osmanic army defeated before, 1698 Hungary given to Austria
- 1788: end of feudalist system in France, Declaration of Human Rights, 89: French Revolution, later Napoleon (Code N.); Prussia: 1794 introduction of Allg. Landrecht
- 1834: Deutscher Zollverein=economic integration of central Europe (Prussia,Austria)
- 1854: USA force Japan to open up; [1842 China loses Hongkong to Britain]
- 1910: US is naval power with many islands in the Pacific; „owns“ Philippines

A few historical aspects

- First **colonial expansion of European countries** in 1500-1800;
- 1776 Declaration of Indepedence of the **USA** which means the gradual rise of an anti-colonial new power (1776: Adam Smith: Wealth of Nations…)
- 19th century = **diffusion of gold standard unter British leadership** = facilating international trade and capital flows. Joining Gold Standard in 1875 Germany and Japan, 1895 Russia, India 1999. Countries have fixed parity to gold (e is nominal exchange rate; P price level, P* foreign variable)
- ***Gold standard*** **stabilizes world price level** $P^{World}=P^{\alpha}\ eP^{*\ (1-\alpha)}$ as (α is parameter) countries ' expansion of monetary policy is related to gold reserves:
  - In countries with balance of payments surplus we have gold accumulation = rise of money supply = output expansion/real income+= rise of price level which reduces trade surplus (hence also reduces trade deficit of partner countries);
  - in deficit countries there is decumulation of gold reserves/M= fall of price level.
- Gold standard has stabilization effects and hence supports expansion of global trade as no serious current account deficit problem can occur

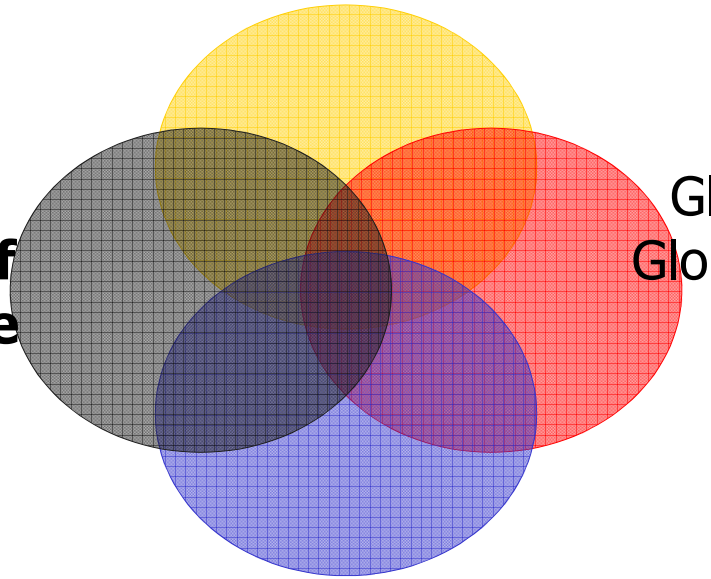
First globalization : 1860-1914

- 1860-1914 trade liberalization under gold standard (Paris conference of 1867); use of telephone, internat. patents
- **Industrialization** with mass production (steam engine 1769, railways 1814) Europe: growth of population, social conflicts, emigration to US, Canada etc.: 1824 cration of first trade union in England, first socialist parties
- Trade is mainly with raw material and agricultural products plus machinery & equipment. Mainly interindustrial trade = country I exports i-goods and imports goods of sector j; structural change means strong adjustment pressure and high costs (modern globalization: mainly intra-industrial trade=trade with similar products)
- **UK** dominant; Germany catching up (1871 created). Rivalries in Europe. US and Europe jointly open up China. Spain loses colonies to US. Germany: Fear of US economic expansion (American menace)

Economic Globalization Aspects

Trade Intensity and Regional Integration Dynamics

Special Aspects of Technology Trade



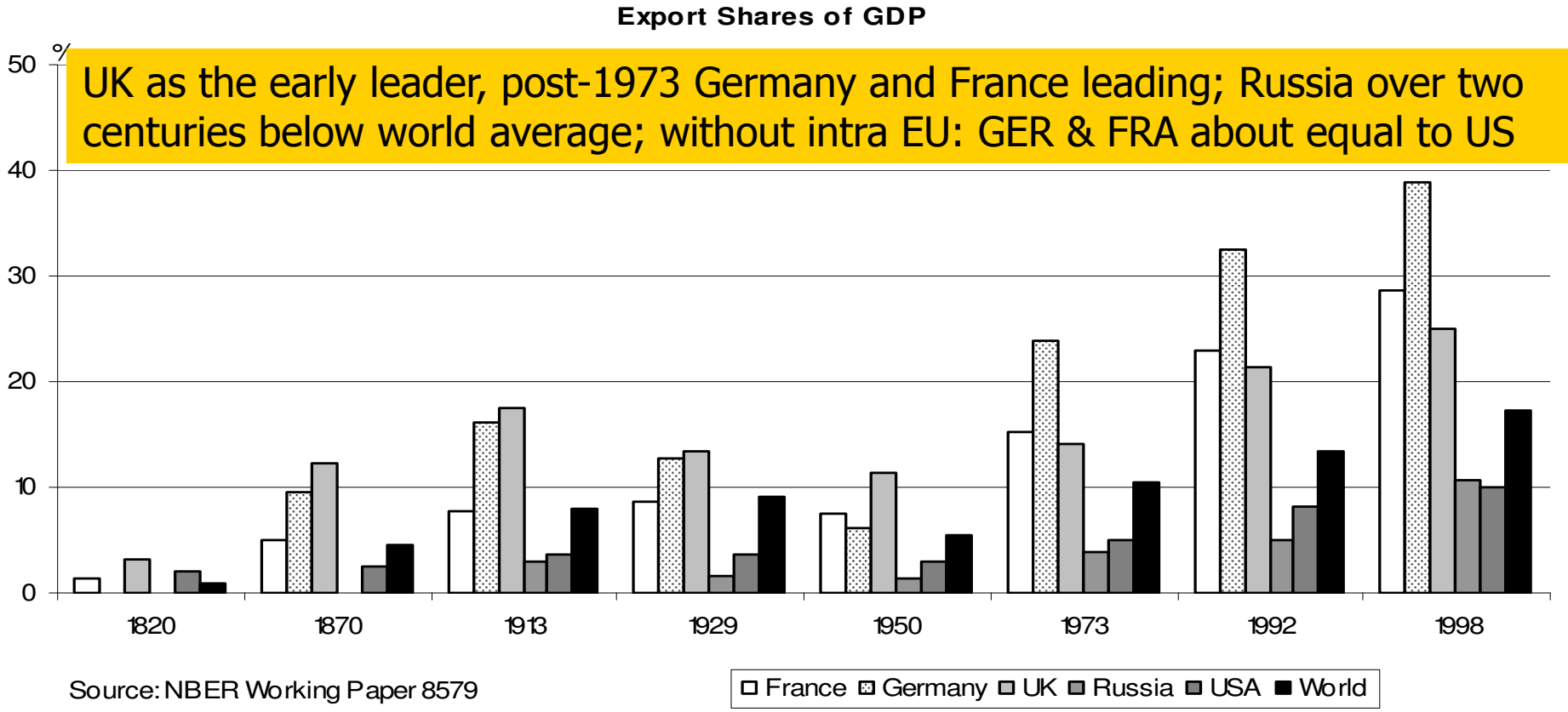
Global Environment/ Global Warming Issues; Special Aspects of Energy Trade

Capital Flow Dynamics (partly related to current account deficits) and Foreign Direct Invstment Flows AND Stocks

Politico-economic Aspects

- Historically: tariffs were important revenue source; introducing income taxes/1900=tariff(-)
- UK unilaterally adopted free trade in 1846 after the Irish famine and under the impact of Adam Smith, David Ricardo; 1860 Cobden-Chevalier Treaty (France had more interest in Nizza than in free trade)

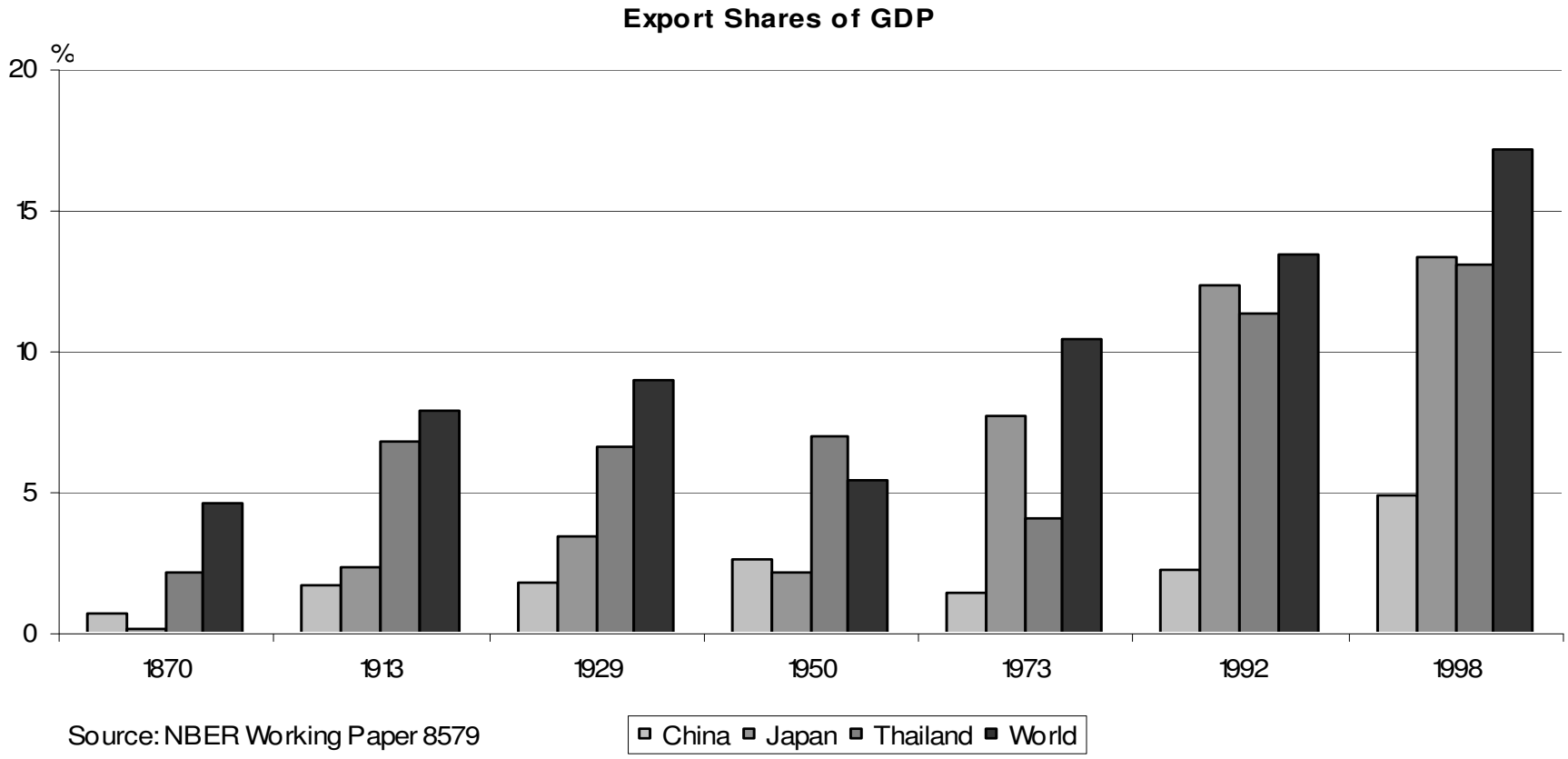
Historical Figures on Trade Intensity: Rising until 1913, Falling in the Interwar Years; post-1944: IMF/GATT…X/Y Rising



UK as the early leader, post-1973 Germany and France leading; Russia over two centuries below world average; without intra EU: GER & FRA about equal to US

Source: NBER Working Paper 8579

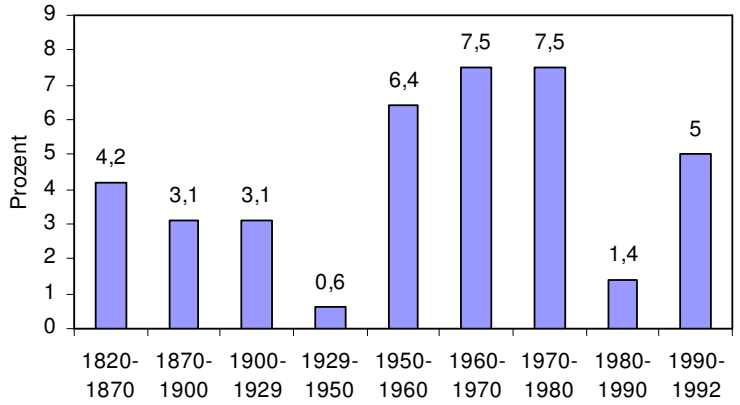
Historical Figures on Export Intensity: until 1990: ASIA <World Average (except Thailand in 1950)



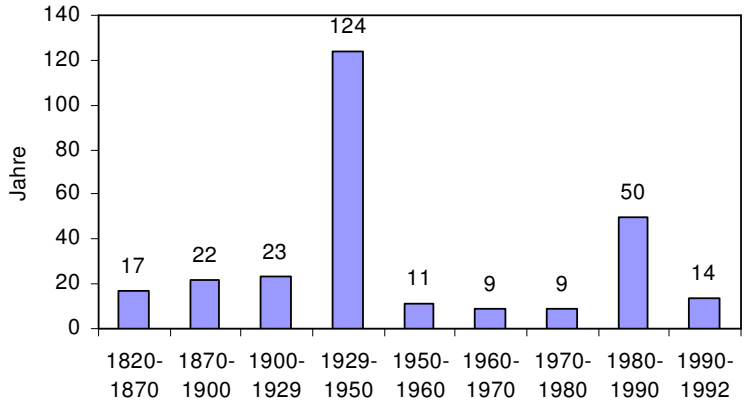
Source: NBER Working Paper 8579

Historical Dynamics of Global Trade

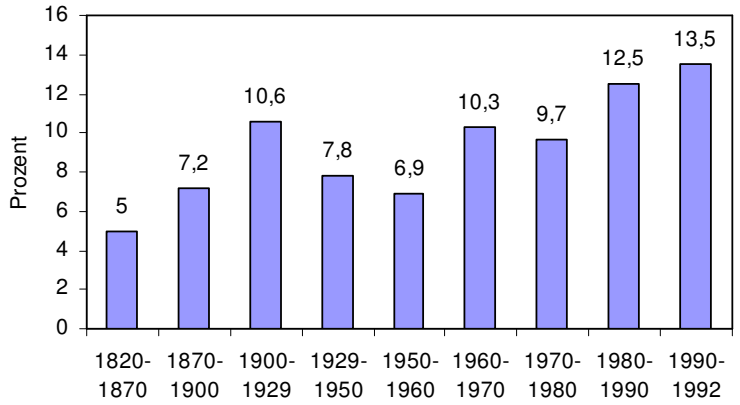
Jährliche Wachstumsrate der Weltexporte



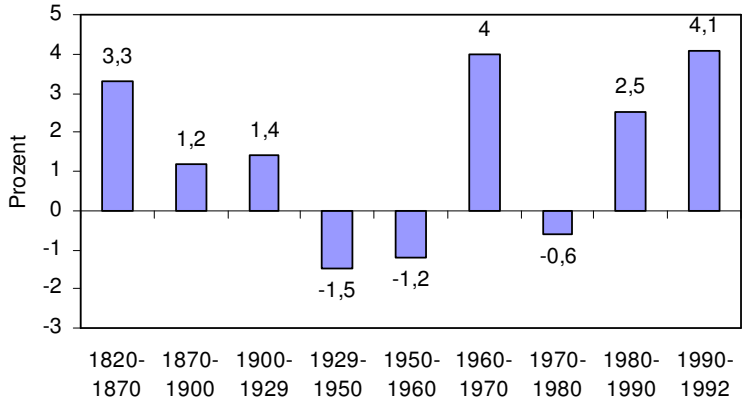
Verdopplungszeit der Weltexporte



Durchschnittliches Export/BIP-Verhältnis



Jährliche Wachstumsrate des Export/BIP-Verhältnisses



Quelle: van Bergeijk/Mensink (1997)

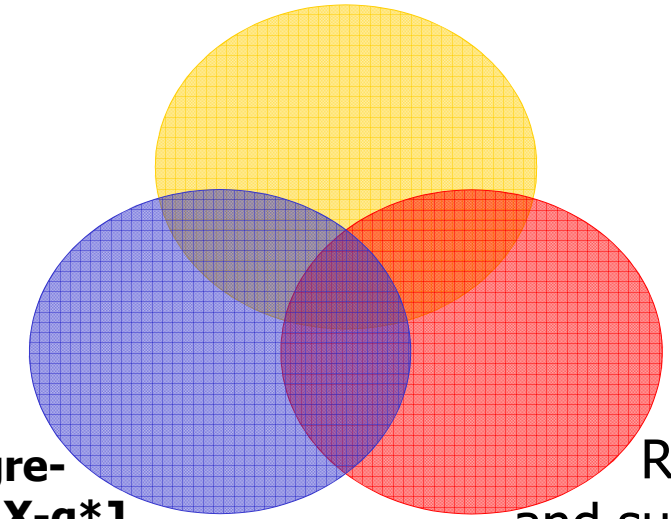
Trade Intensity

- Export Intensity (X/Y) shows the exposure of country to world markets;net export intensity<gross
- Import intensity (J/Y) indicates the dependency on world economy
- Small open economies have higher trade intensity than large country (but share of traded goods is roughly the same)
- Trade openness affects companies & culture

- Japan ‘s exports more visible than those of GER/FRA/UK: **Japanese** exports strong in **consumer goods**; Germany strong in investment and equipment; UK strong in exports of services (invisibles), FR mixed

Supply-side Dynamics and Demand

Supply side of the Economy: Production Function Y(K,L..) as Macro Perspective



Demand View: Aggregate Y^d= C(..)+I+G+ X-q*J

Reality: both demand and supply impulses overlapp

Macroeconomic Perspective of Production Function; Real Income Y; k=K/L capital intensity; M is stock of money

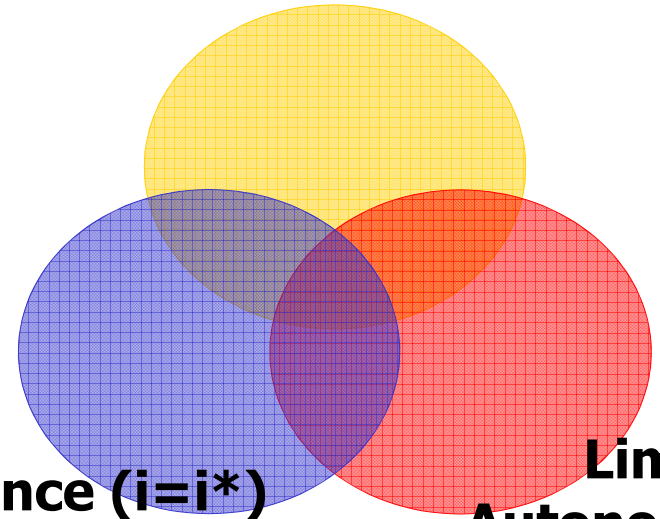
- **$Y=K^{\beta}(AL)^{1-\beta}$**; $0<\beta<1$; $Y/L=k^{\beta}A^{1-\beta}$; β: output elasticity
  - Input factor capital K; accumulation through investment, including foreign direct investment inflows (from MNCs)
  - Labor input L (or workers whose number is proportionate to population; here L also is population – for simplicity)
  - Technology A (generated through cumulated research and development R&D as a specific input – A could be non-rival across firms and countries); part of A could come from abroad so that trade &foreign direct investment. M is money
- Broad function Y=f(K, L, A, M/P, X, J, Φ); P price level (Welfens, 2007a; b); Φ is the quality of institutions or politico-economic order; globalization thus..

Money; in world economy there are several monies…

- Money M –is convertible domestically &?abroad
  - as a means of exchange: paper (fiat) money can be printed at zero marginal costs; saves information costs and thereby is quasi-factor augmenting [K,L]
  - as an accounting device: balance sheets…
  - as a store of value provided no high inflation
  - Relative price of foreign money M* (expressed in terms of domestic money) is the exchange rate e

Gold Standard as Example of Monetary Integration

Law of One Price(P=eP*): Through **Price Arbitrage** in the Context of Free Trade



Interest Rate Convergence (i=i*)

Limitation of Policy Autonomy (Monetary Policy)

i is the nominal interest rate; under flexible exchange rates interest parity: $i=i^*+g_e$ where g_e is the growth rate of the nominal exchange rate (depreciation rate)

From British Pound to the Modern Monetary System

- Reserve currency/ies: before WWII British pound!; $ dominating since 1950s; € is a rival since 1999
- Reserve currency can be used nationally **and internationationally**; RC country: other countries peg their exchange rate to ist currency. RC country can pay current account deficit by printing money…
- Prerequisites for reserve currency (Yen/Yuan/SwFr?):
  - Low inflation rate
  - Top banking system = top banks, wise central bank+superv.
  - High GDP (and per capita income y so that wealth-output ratio is high) which amounts to strong real convertibility

Introduction: Imperialism; World War I

- 19. th century/20th century: Imperialism **as a powerful ideology** leads to conflicts among European countries in Africa and Latin Ameria; but in the Monroe doctrine of 1823 US has anti-European attitude: Europe should keep out of the Western Hemisphere.
- Germany ‘s economic catching-up + monarchy&militarism + unstable AustroHungarian monarchy (in period of nationalism) basis for sustained political conflicts in Europe and WWI
- Alliance F/R/UK vs. GER/AU/(I). Democratic US enters WW I in 1917. WWI: about 50 Mio. soldiers mobilized, incl. soldiers from colonies; 10 mill. soldiers died (total=20).The old global system dominated by Europe has collapsed after WWI. After II: world economy dominated by US; after 2050 US-Europe-China…

Introduction

- After 1918: US is No. I in economic terms, UK no longer dominates economically, but **UK politicians still want domination**. US politicians in favor of isolationism – Congress says No to the project of membership in the newly created League of Nations. US no longer debtor country after WWI, but net creditor status; naval power. **No global leadership!**
- France could not get effective support of US for containing Germany. UK weakened by desire to restore pre-WWI-parity which was reestablished in 1925 at the price of deflation +mass unemployment; insufficient military since government wanted to balance budget (way to UK's appeasement policy)

Interwar period =protectionism=*anti-globalization*

- World War I: enemies which cut mutual trade links during War; loser countries (Ger; Austria/Hungary) suffer from high inflation and political instability + reparations. Sharp decline of trade in the former Austro-Hungarian empire. Excess capacities in several countries, rising protectionism. Global trade volume recovers to level of 1913 only in 1929.
- 1928 incipient (US) capital outflow from Europe; 1929 US liquidity crisis, Great Depression of 1929-32 with major banking crisis in 1930/31.

Disintegration in 1930s; setting the wrong parity in the UK (logic of purchasing power parity e^{PPP}...)

- Deflation in Germany and other European countries plus USA; fall of P implies rise of debt in real terms (firms, households!..)
- Deflation already in the 1920s in the UK when the country tried to restore the pre-War I parity (it did so in 1925):
  - Denoting P as domestic price level, * foreign country/US, e is nominal exchange rate Pound Sterling/$. Logic of international arbitrage says: P(Sterling)= e(Sterling/$) P*(in $) or e^{PPP}= P/P*; high British P can be reduced through deflationary policy and wage cuts, respectively: (P=bW[1+z]); z: mark-up factor, W nominal wage, b is L/Y (Y output)
  - UK: High interest policy to defend the parity. summer 1931: gold reserves almost gone; September 1931 massive devaluation of the Pound = appreciation of other countries ' currencies. France tried to maintain parity, finally devalued, suffered from exchange rate instability

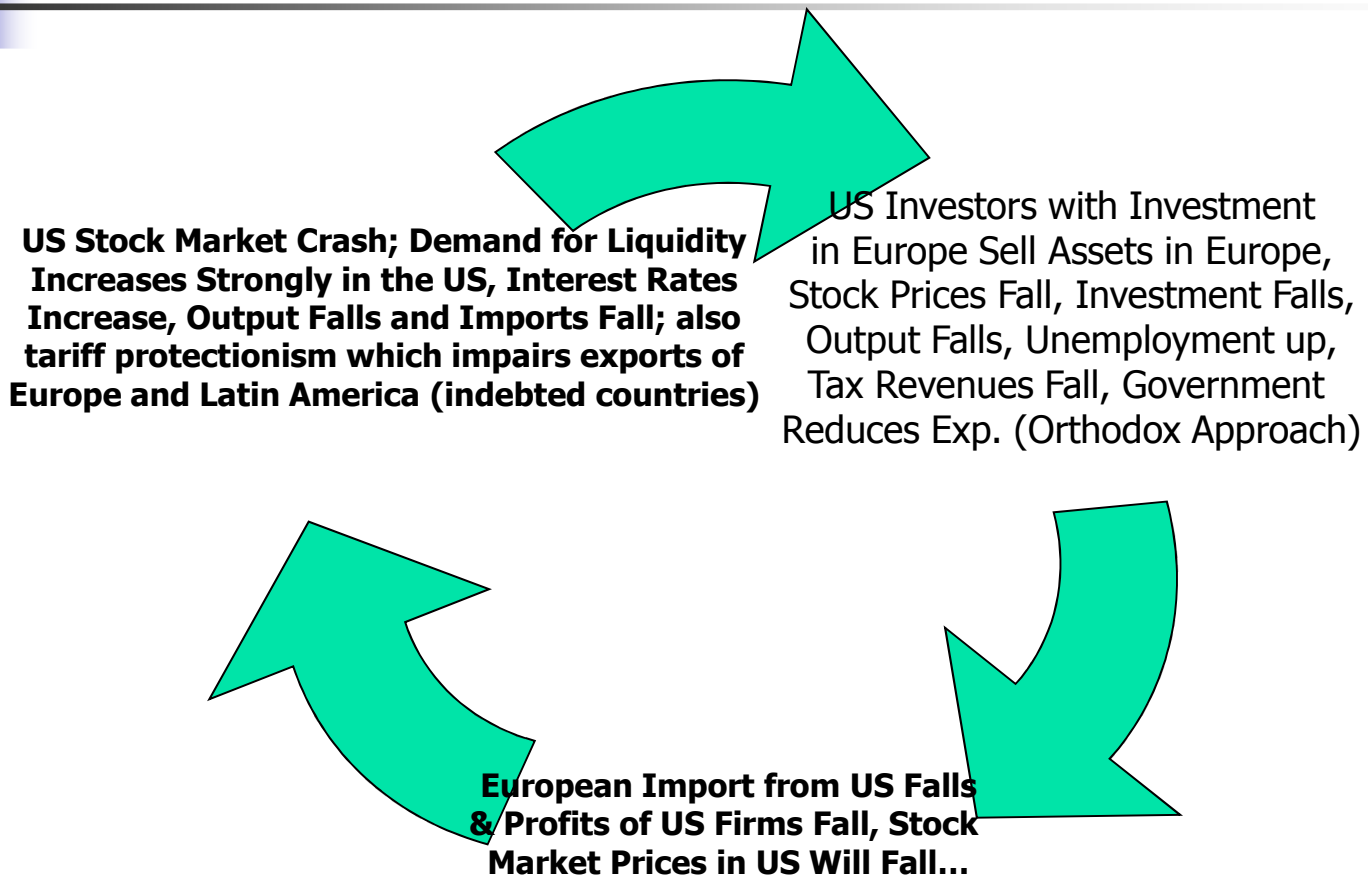
Disintegration [& protectionism] II: end of liberal trade

- UK gradually introduced preferential tariffs for the **Commonwealth countries** in 1919 and 1920th; on a broader scale in 1932.
- US 1931: Smoot-Hawley import tariff(against warning of econ.)
- France has similar system of preferences as UK which encourages colonies to focus trade dynamics on mother country instead of global economy
- Germany in 1930s getting under influence of trade bloc approach
- Change in real income Y: USA 1931/29: -28%. Germany in 1930: 2.3 Mio. unemployed, in 1932: 6 Mio.; Nazis wons the elections. Fall of Y and Y* which implies shrinking of X+X* which reduces real income Y+Y* so that unemployment rises

Interwar Period: US policy poor, no IOs, noNo coordination

- **Uncoordinated policies** UK, Fra, Ger, US… (US=global newcomer; FED with contractive policy!!!
- After the **Black Friday 1929** in New York, the US adoption of higher import tariffs undermined Europe ‘s competitiveness and exports, respectively; downward transatlantic economic spiral occurred. Devaluations in Europe and Latin America
- **As X falls, Y falls and as Y falls imports falls since J=j(q*)Y, as J (read X*) falls, Y* falls, and hence exports X fall, downward spiral**

Mechanisms of International Destabilization: Panic 1929/30



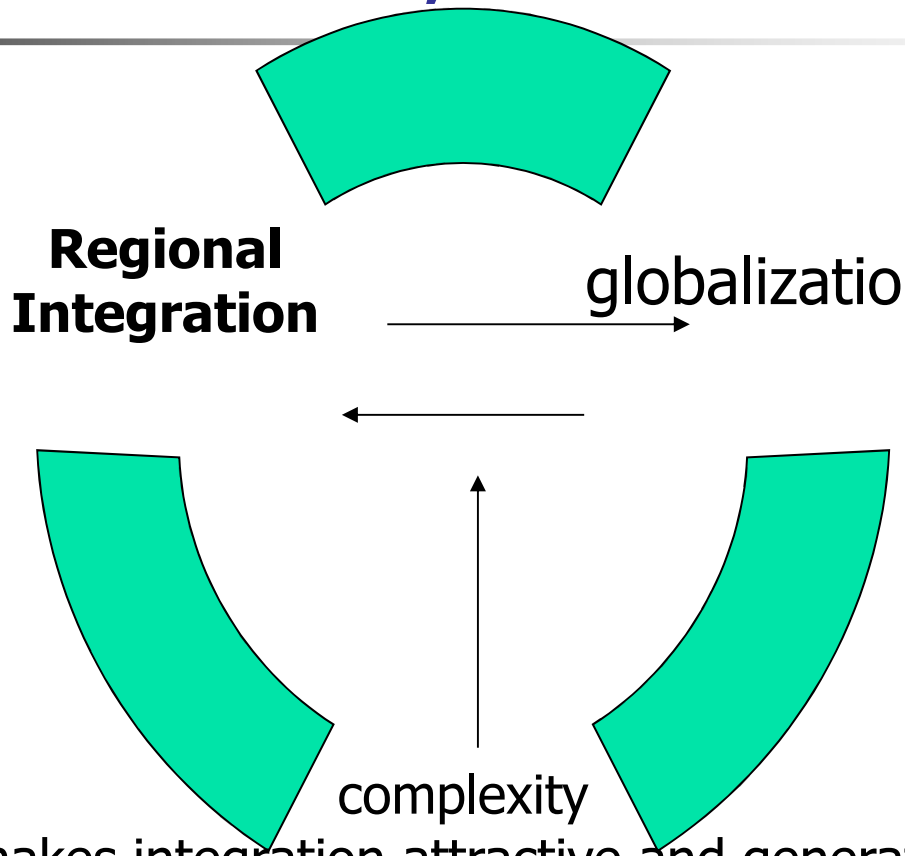
Type of Relations Between 2 Countries

- Dependency: Y* affects Y; but Y not Y*; or P* affects P (P=eP*); but P not P*
  - Typical: small open economy/large country II
- Interdependency: Y affects Y*; Y* affects Y; or P* affects P and vice versa
  - Typical case of two large countries (model)

Important global Institutions

- IMF (1944); creation of the Bretton Woods System of fixed exchange rates; Washington DC
- GATT (1947); as of 1995 WTO, Geneva
- BIS established in the interwar years: trustee for German reparations; new role after the 1980s (club of ten=10leading OECD countries + Switzerland); monitoring of international financial markets, role in banking prudential supervision (Basle I Accord=8% minimum equity ratio, Basle II=EU Law:06)
- G-5 which was created 1975: Rambouillet =informal meeting of head of governments/presidents; now G8

Link between Integration, Globalization, Internat. Org.



of globalization makes integration attractive and generates call for role of International Organisations (IMF, WTO...): Can we shape globalization

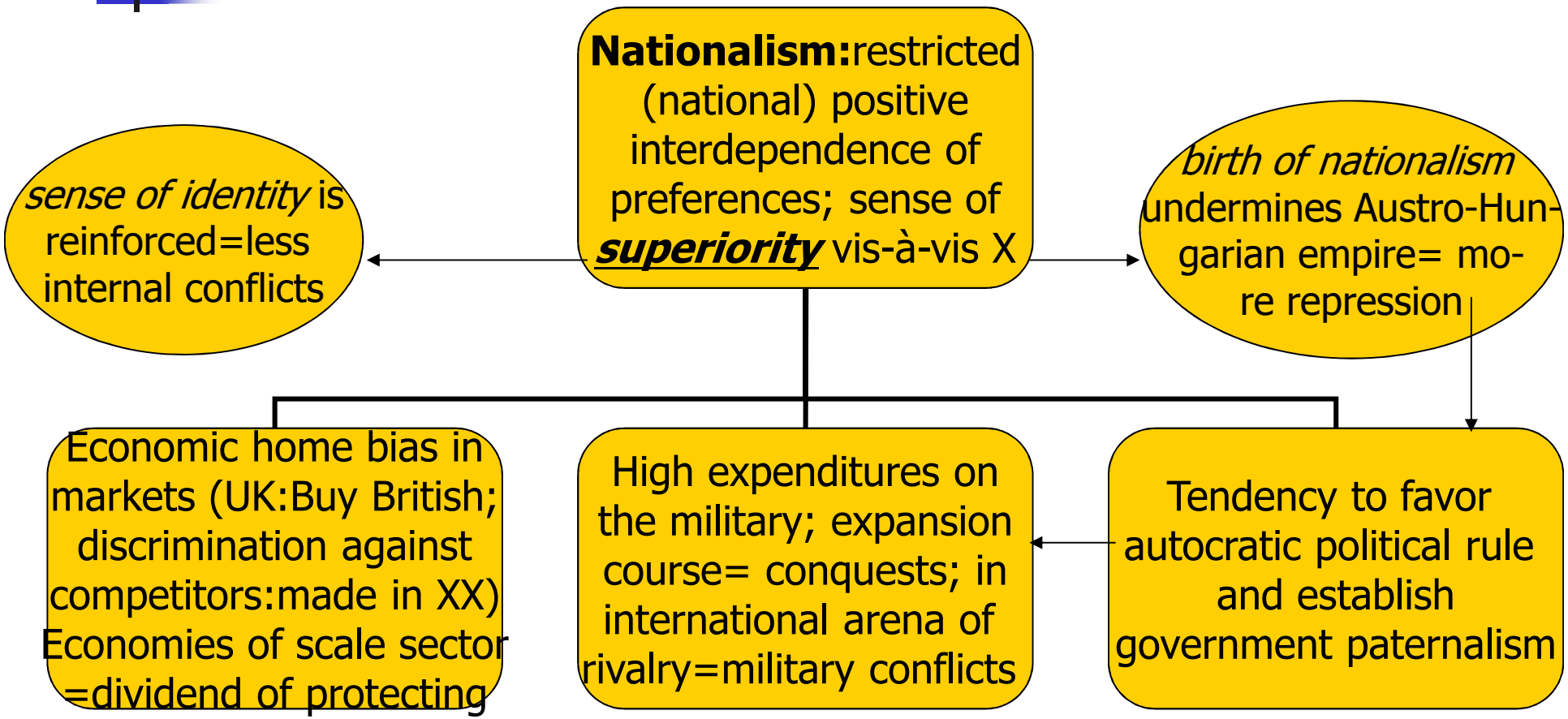
Key Links

- 1) creating regional integration clubs= double regional **liberalization which reinforces globalization**
- **2) problems with globalization could be incentives for regional integration -** e.g. several small open economies join an integration club in order to better cope with globalization; read: be more influential, more attractive for foreign direct investment and less vulnerable to potential problem of declining intensity of competition in individual country (as minimum optimum plant size has increased)
- **Global Organisations (IMF, BIS…) offer EU a more influential role, but also can work more effectively if number of member countries reduces in the context of regional integration schemes**

Basics of Prosperity in Modern World Economy

- Free trade in combination with sufficient international **liquidity for financing trade** (after 1958: $ dominant)
  - Realizing specialization gains and economies of scale
- **Liberal capital flows** with liquidity and solvency assured on the supply-side and demand sind (banks and government/central bank as actors)
  - Financing of investment, trade deficits and currenct account deficits
  - International investment brings diversification benefits, higher yields
- **Stable financial markets & banks** as basis of long term investment financing
- ***Capital accumulation, innovation (R&D), human capital, well motivated labor force, MNCs +competition***

Nationalism: Some Economic Aspects (adding to HG Johnson)



Modern globalization as a network phenomenon (including internet)

- Modern globalization means a stronger creater a stronger network through
  - enhanced trade relative to GDP
  - More capital flows relative to gross domestic product (GDP); capital flows consists (1) of portfolio capital flows which are influenced by expected relative rates of returns at home and abroad; (2) foreign direct investment of MNCs= investment of a firm abroad which can be M&A or greenfield investment
- *Migration: immigration of skilled/unskilled labor*
- *Cross-border emissions*
- Internet expansion= internat. exchange of information

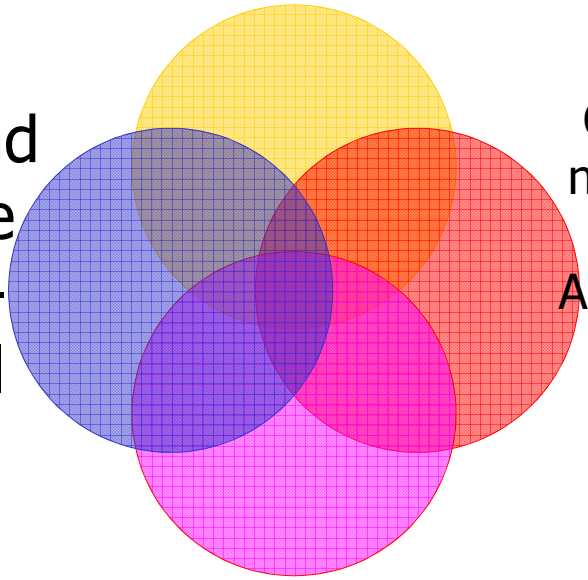
GDP= gross domestic product

China ‘s entry in world Economy: impact…

Basis of long term globalization perspectives

International Monetary System/How to deal with current account deficits

Expansion and stability of the internet; controlling global warming



Overcoming international debt crisis (eg Mexico/Latin America in the 80s); Avoiding North -South Divide

Coping with/avoiding financial market crises (no second 1929)

Explaining globalization: Analytical Basis Refers to Trade, Integration, Foreign Direct Investment

- Globalization dynamics strong since 1980s as
  - Foreign direct investment growth accelerated (MNCs!); could be related to rising R&Dintensity (R&D=research&developm) of production in OECD and newly industrialized countries
  - Rise of Asian NICs contributes to collapse of USSR: CMEA shares in world markets fall, export unit values fall; imports reduced= falling growth trend
  - EU single market 1992; WTO progress 1995 = **more trade**
  - 1978 China opens up as; otherwise country unable to achieve prosperity and to restore global political influence
  - US/EU pushing for world market economy (transformation in EE); WTO established in 1995; ASEAN adopts liberalization

Standard trade approach on the basis of Ricardo or HOS (no international factor mobility, but..

- Ricardo: international productivity difference= trade
- **Heckscher-Ohlin-Samuelson**(HOS): countries – with identical access to technology – will specialize in accordance with relative factor endowments; in context of capital K and labor L we define capital intensity k=:K/L. Country I with high k is „capital rich“ and will specialize on good with high capital intensity, import labor intensive good from country II where specialization is in labor intensive good(s). Long term: convergence of wage w=W/P=w*; r=r*

Multinational Companies and Globalization

- FDI increasingly important (FDI=share>10%)
- Trade in OECD is about 1/3 intra-MNC
- Ongoing offshoring dynamics (part of value-added chain is relocated to subsidiary abroad in the context of vertical foreign direct investment) also reinforce trade within MNCs; trade with intermediate products = vertical trade
- With OECD countries considerable asset-seeking FDI
- Product cycle trade also related to MNC (& innovation)

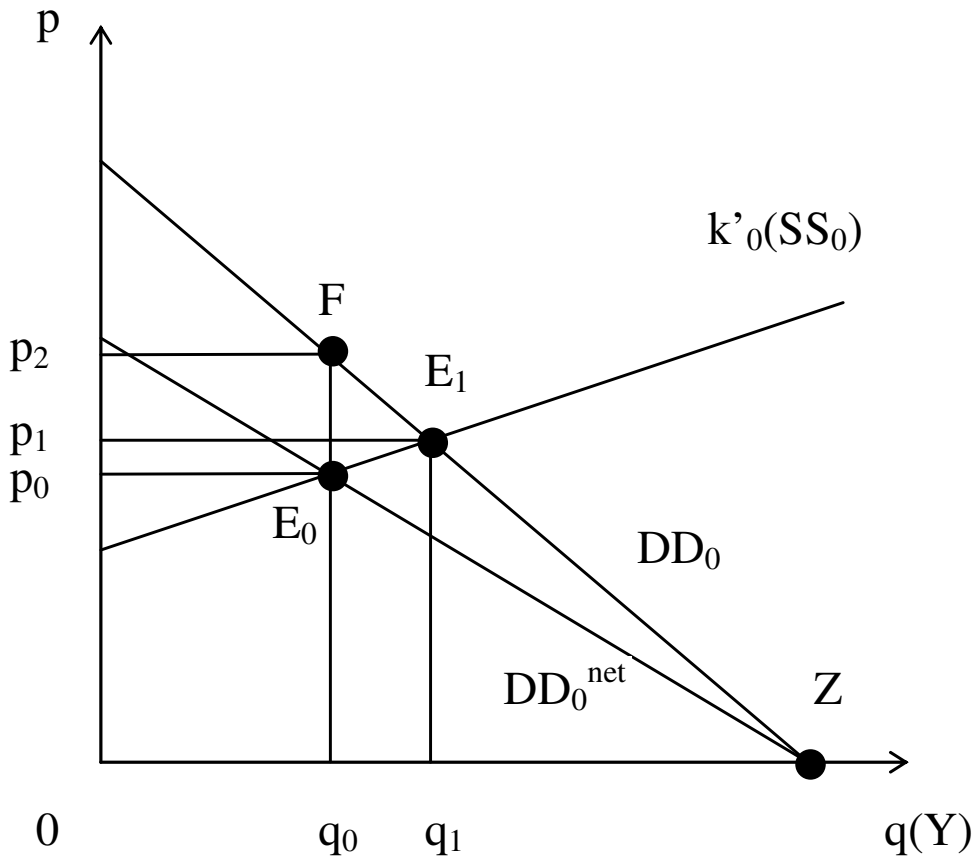
Monopoly, FDI, Trade (paradox: temporary „Schumpeter-monopoly“= reason for trade; product innovation v)

- *Product cycle trade* (VERNON): **Introduction, standardization and maturity stage** (market stages in context of product innovation)
- Produkt innovation in technologically/economically leading country I (eg US or FR/GER/JAP..); new product is launched in cooperation with national suppliers and foreign markets served through exports to coutries with lower per capita. Exports to country II and III and….; sectoral current **account/trade account surplus of country I.**
- In standardization stage: production in I and II where production in II – and exports from there to I and III (NICs) – increase over time wird in I- und II-Land produziert; decline of country I ‘s surplus
- In maturity stage: production fully relocated to III, imports from country III as cost competitiveness in markets for established products crucial. **Country I has sectoral trade balance deficit**, but also generates profits accruing from foreign subsidiaries; aggregate CA position=f(v/v*)

Concept of technological gap and related trade

- A) Product cycle trade (VERNON, 1966)
- B) POSNER (1961): assumption: as in HOS-approach, but sector-specific innovation lead (i) in country I & dynamic scale advantage in sector i; sektors i and j in countries I and II; export of i-products through company from country I (potential depreciation of currency of country II due to current account deficit). Over time imitation in sector i in country II, exports of country I in sector i will shrink.
- C) BURENSTAM-LINDER (1961): Profitable production of good i (good j in country II) in country I leads to i-exports (j-import in country I) where we have in both countries monopolistic competition: trade with differentiated products

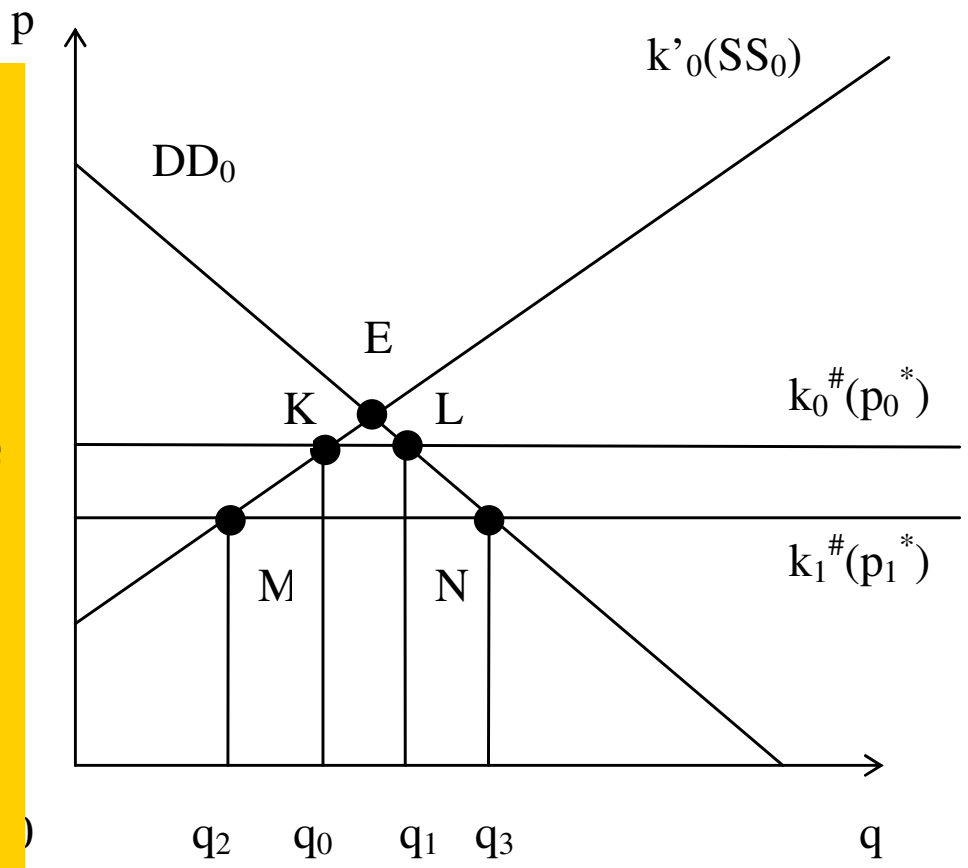
Theoretical aspects: Info costs /transactions costs (FE) – if those are reduced we will have an increase of production



DD_0 is the gross demand curve which reflects the overall willingness (including transaction cost) of demanders to pay.
DD^{net} is demand curve net of info/transaction cost.
Concerning info cost(<0): obviously demanders will pay effective price p_2, firms get only pecuniary payment p_0; difference is info-/transaction cost. If they fall to zero, we have a rise of q_1; and p_1

Fall of information/transaction costs abroad: imports will rise (distance MN instead of KL); inititally, abroad: k '*$_0$

If there is general fall of transactions costs on the side of all trading partners we have a fall of the world market price p*): as a consequence the import quantity will now increase from distance KL (q1 minus q_0)to MN (q3-q2); eg role of the internet in the world economy!!



Effects of international portfolio capital flows

- Effects viewed from an open economy:
  - Capital exports allow to achieve a higher rate of return = pressure on domestic banking system/system of financial markets to modernize
  - International portfolio investment allows efficient *diversification* (**lower portfolio risk** = benefits for risk-averse investors: privided investors have adequate strategy)
  - Capital imports allow firms often to get cheaper access at credits; however, there always is an exchange rate risk: Devaluation risk in the case of fixed exchange rate, depreciation risk under flexible rates
  - Short term inflows could quickly flow out if confidence crisis: it would be prudent to get more long term inflows

Benefits from FDI: Higher world income and higher per capita income y=: Y/L

- Foreign direct investment = investment abroad where we have as effects in host country:
  - Capital stock up (greenfield investment; production potential will rise)
  - Efficiency-enhancing effects through reduction of X-inefficiency and introduction of best practice, respectively
  - Technology transfer (typical for **international mergers & acquisitions**); full transfer requires majority ownership
  - Access to world markets trough rise of exports (often host countries attach export-related conditions on FDI inflows)

Exports, Licences and FDI

- Frim can serve foreign markets through exports, licences for partner firms abroad; or through FDI. Explanation for FDI is DUNNING who has emphasized „OLI“ approach:
  - 0=Ownership: necessary condition for FDI are ownership-specific advantages; eg technology lead, management technology = necessary advantages to compensate for natural disadvantage of being foreign producers in II.
  - L=Location advantage; necessary attractions in host country
  - I=Internalization advantage: compare transaction costs for the case of armth length transactions via markets with transations costs of intra-company trade; if all three conditions fullfilled, then FDI is best choice
- Licensing is rare exception as technology markets are quite imperfect; there is limited trade in technology/cross-licensing

OLI Approach (Eclectic Approach)

	Ownership advantages	Internalization	Locational advantages
Exports	No	No	No
Licensing	Yes	No	No
FDI outlfow	Yes	Yes	Yes

New Approaches for FDI Outflows

- International trading costs high= more FDI
- y*/y; more FDI as country abroad is producing with a higher capital intensity k = capital intensive industries will expand
- Y*/Y (relative size of country): much more FDI if additionally economies of scale
- Distance (D“) – beyond D“ only FDI;
- Vertical FDI: associated with offshoring and intra-company trade in intermediate products

EGGERT/KREIKENMEIER (2010)

- A New Modeling Approach: FDI, 2 countries, no trade: determining **wage of MNC versus wage in "normal firms"**
- Multinational wage premium is determined in a **general equilibrium model <u>with heterogeneous firms which draw productivity from "lottery" in home country</u>**
- International rent-sharing due to **"fair-wage preferences"** of workers (following ***Akerlof&Yellen, 1990***); idea of A&Y is that workers have an idea about the "fair wage" w#; if wage paid is lower than w# effort of workers is reduced in proportion to the wage gap. If w# (fair wage) is reached there is maximum effort of workers; labor in efficiency units is e" (effort) times L.

Further Assumptions

- Final goods sector: Perfect competition (CES-technology – constant elasticity demand for each variant of good)
- **Intermediate goods sector: Monopolistic competition**; fixed costs are identical across firms, but variable costs differ – as labor productivity differ across sectors ("Melitz structure"); fixed costs for setting up firm abroad
- Assumption is **that firm takes it productivity with it when it invests abroad;** F=**fixed costs for setup***

Wage premium for MNCs vs. normal (domestic) firms

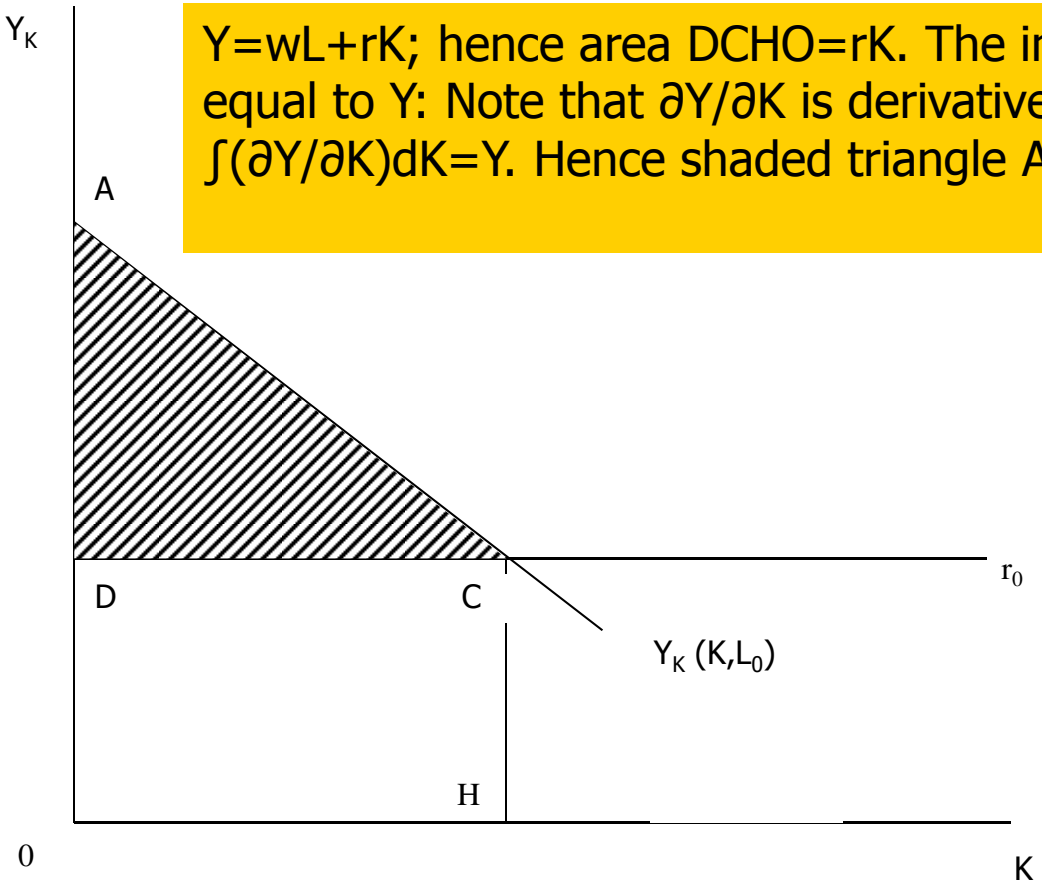
- Endogenous is productivity of firms: through global rent-sharing – referring to aggregate profits [from firm 1+ subsidiary firm 1*]): wMNC/wNon-MNC
- **Creation of subsidiaries in the intermediate product sector**
- Determination of fair wage: Total global profit of firm (kind of "natural cost disadvantage of – potential - MNC firm); AND national fair wage
- Paradox: Productive firms will become MNEs only if there are sufficiently high fixed costs (reflects assumption of global profit sharing)
- MNEs pay higher wages in both countries in the equilibrium

RESULTS

- Factors influencing the MNE wage premium:
- 1) composition effect: MNEs is more productive; 2)...
- Results (Empirical evidence in BUDD et al):
  - MNE wage premium increases monotonically in the fixed cost F of foreign investment
  - share of firms with MNE status is decreasing in F
  - MNE wage premium is larger in advanced country 1
  - Share of foreign MNC plants in country 1 (high income country) relatively smaller
  - MNE wage premium increases with fixed costs
  - Residual wage premium is only in country 2.

Benefits from FDI: Point of departure is neclassical production function Y(K,L); say $Y=K^{\beta}L^{1-\beta}$ [0<ß<1];

Y production, K capital, L labor; $\partial Y/\partial K:=Y_K$; in competitive markets profit maximization implies that $r=Y_K$; real wage rate $w:=W/P=Y_L$

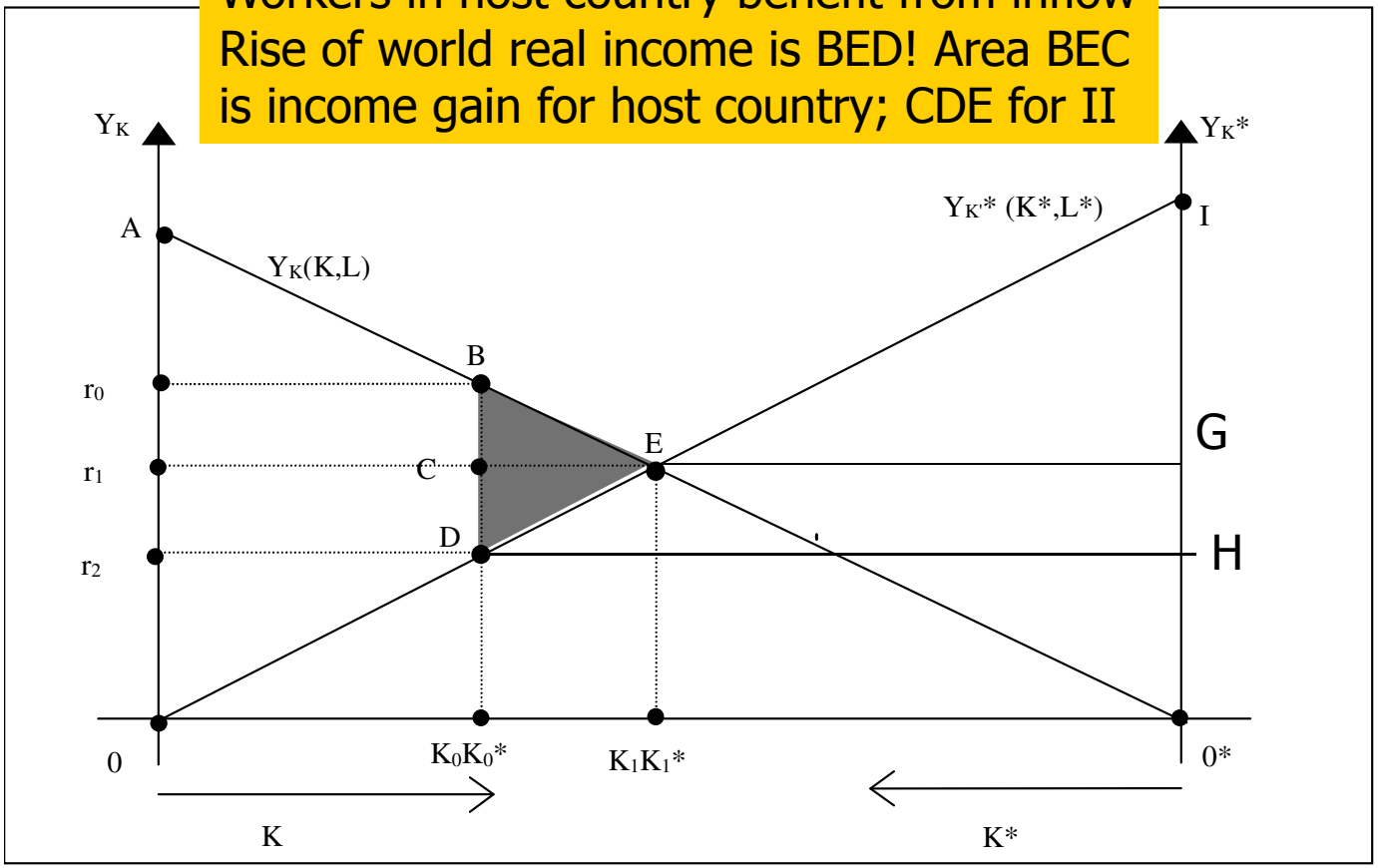


Y=wL+rK; hence area DCHO=rK. The integral over Y_K is equal to Y: Note that ∂Y/∂K is derivative of Y(K,L)! So ∫(∂Y/∂K)dK=Y. Hence shaded triangle ACD=wL;

McDougall Diagram: Economic effects of FDI; output, interest, factor incomes. Assume that Y(K,L); and in country II: we have Y*(K*,L*)

Workers in host country benefit from inflow
Rise of world real income is BED! Area BEC is income gain for host country; CDE for II

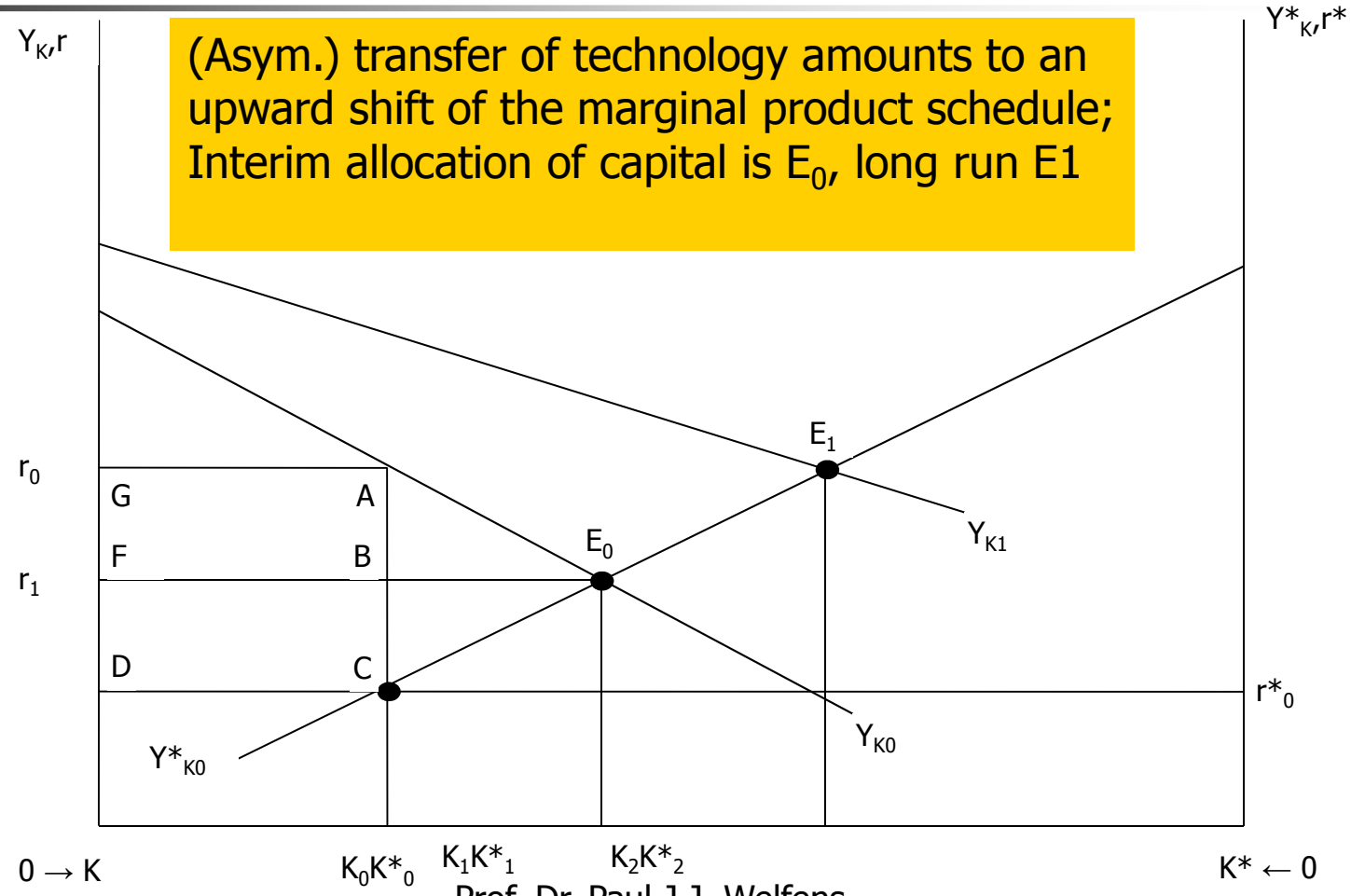
Initially K_0,K_0^*; inflow is K_1-K_0, workers gain (re-distribution between capital and labor) BDr_2r_0



Workers in source country lose EGHD, investors gain EGHD plus CDE

FDI and transfer of technology
(modified McDougall-Diagram)

FDI will raise per capita income in host country and in source country. Thus international trade will expand if X=X(y*,Y*) and J=J(y,Y)



Some issues for FDI Analysis

- FDI itself:
  - FDI become more generalized North-South phenomenon? Yes, in the decade after 1995 (mainly China effect); see UNCTAD
  - Has FDI become more a two-way street phenomenon? To a small extent (outside OECD core)
  - Has FDI outflow from South increased? Partly…
- FDI in a broader perspective
  - MIGA (arm of World Bank) active
  - OECD (OECD enhanced code not adopted/free FDI a problem in certain fields, eg culture)
  - TRIPS, trade related intellectual property rights linked to FDI
  - FDI of state-owned firms to some extent a problem within OECD; even more (?) with state funds (Norway, Russia, China, Dubai etc.)

Capital Accumulation Dynamics and Development of Output (exogeneous savings rate (s), capital depreciation rate δ and population growth rate n); at first case of closed economy

Savings is given by (1) $S = sY$

gross investment is $dK/dt+\delta K$;net investment is dK/dt and reinvestment is δK ($dk/dt = dK/dt - nk$; $k:=K/L$)

We impose equilibrium condition for goods market:

(2) $dK/dt + \delta K = sY$; (investment equals savings)

(3) production function $Y=K^{\beta}L^{1-\beta}$; (3 ‘) $y=k^{\beta}$

- (4) $dk/dt = sy - [n+\delta]k$; with $y=: Y/L$; $k=: K/L$; $n=(dL/dt)/L$
- (5) set $dk/dt = 0$ and thus $sk^{\beta}=[n+\delta]k$. This gives the so-called steady state equilibrium condition: k# as t goes to ∞)
- (6) $k\# = \{s/[n+\delta]\}^{1/1-\beta}$
- (7) $y\# = \{s/[n+\delta]\}^{\beta/1-\beta}$; higher s, lower n or δ good for y

Consider knowledge A (e‘ is Euler number)

- $y‘:= Y/(AL) = k‘^{ß}$ where $k‘:=K/(AL)$
- Exogenous is growth of L (population), namely n; also growth rate (a) of A(t)
- $y‘\# =(s/(a+n+δ))^{ß/(1-ß)}$
- $Y\#= A_0L_0e‘^{(a+n)t} (s/(a+n+δ))^{ß/(1-ß)}$
- Growth rate of output Y in long run is a+n
- There could be spillovers of technology: a* has impact on a

Will FDI contribute to international convergence of per capita gross national product?

- DUNNING ‘s assumption of ownerspecific technology advantage is in contrast to HOS model which assumes that country I and II have identical technology
  - With relatively high FDI inflow there could be accelerated convergence of k/k*;
  - But increasing FDI makes distinction between real GDP (Y) and national income Z important: Z= Y + net profits from abroad (case of net source country)

FDI and Foreign Trade

- Presence of MNCs ‘ subsidiaries means better access to world market for trade; should raise long term exports and short term imports (host country perspective)
- Having MNCs implies active involvement in intra-company trade
- If FDI inflows in country II raise Y through supply side effects we will see positive correlation of Y and FDI inflow; hence not easy to find clear evidence that FDI is positive function of Y*: as suggested by gravity equation: foreign investment outflow I** = a ‘Y+a“Y*+a ‘“D (D is distance)
- We may see real income effects and impact on real exchange rate – which in turn (according to FROOT/STEIN) could affect FDI inflows and FDI outflows; real exchange rate effects will have influence on imports of goods and services and on exports; plus net effect on current account balance which also will include net profits transferred/received.

System of Bretton Woods

- Fixed exchange rates (US as reserve currency which fixed $ to gold) but adjustable parities under the auspices of IMF: 1944-73; US suspended gold convertibility already in 1971
- 1973 Yom-Kippur War. OPEC oil embargo against USA plus Netherlands. Quadrupling of oil prices within a year (OPEC founded in 1960)

Oilprice shocks/Inflation

- Oil price shocks raised oil revenues of OPEC (*1960) in 1973 from $ 33 bill. $ on 108 bill., = 1/10 of global export revenue
- OECD countries faced issue how to react to oil price shock and deterioration of current account; and reduction of output as imports in real terms increased. Debate on options of expansionary monetary policy and/or fiscal policy
- Heavy problems for oil importing developing countries
- 1974 IMF ok for creation of substitution account which gave interest subsidy to poor countries with need to finance high current account deficits

May 1974 UN-Declaration

- Actions program for New International Economic Order: UN stated - see (JAMES, p.163) – that present order has not allowed to achieve long term and stable economic dynamics; the gap between North and South is increasing, present system was created before developing countries existed; system is likely to reinforce economic disparities in the world.
- UN proposal
  - Support of producer organizations from LCDs
  - Improving conditions for transfer of financial resources to LCDs
  - Special general assembly: proposal on “Charta of economic rights and duties of member countries“

G-5 as Alterantive to Pure Market System or UN-based New International Economic Order

- **G-5 summit: Nov. 15, 1975** in Rambouillet/Paris
- **Annual G7/8 Meetings,** Design international macroeconomic adjustment processes and institutional change; chaning topics of G5/G7/G8
- 1977, **1978 (Bonn)** pol. Pressure from US on countries with current account surplus (Germany+Japan): they should conduct expansionary monetary policy and fiscal policy. As regards monetary policy – Germany ‘s central bank Deutsche Bunesbank independent.
  - Chancellor Schmidt was afraid that fiscal policy also doubtful: multiplier would be small: dY/dG= j*/(s+j), at the same time high increase of debt likely.
  - **Japan and Germany finally agreed on expansionary policy**
  - **US promised to raise energy efficiency=reduction of US CA deficit**
- **EU: 1979 Start of European Monetary System (defining the ECU).** – systen was outside the EU – agreement among respective central banks as Schmidt was afraid that ratification could be difficult in EU countries

Mexico Crisis (I): case study for international debt crisis

- Paradoxically oil price explosion of 1979 triggered debt crisis in Mexico in 1979 – Mexico was/is major oil exporter.
- High inflation undermined overall export dynamics of Mexico – except for oil. End of 1980 devaluation of Peso, but high devaluation brought hardly any real deprecation as P increased; note q*=eP*/P
- USA had raised interest rates in 1980/81 which raised interest rates worldwide
- 1982: Mexico expected public deficit-GDP ratio of about 10%. New devaluation of Peso; this was linked with compensations for public servants + government employees

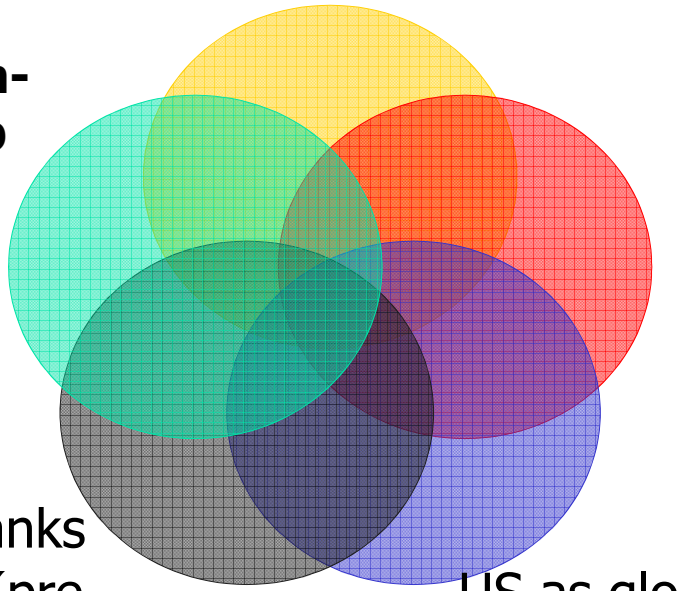
Solving the Mexican Crisis and Saving of the Global Financial System

- June 82: government obtains $ 2.5 bill. jumbo loan – with Bank of America as leader
- 12.8.82: Mexico ‘s minister of finance declares vis-à-vis IMF that central bank has run out of reserves (immiment depreciation?)
- Chief of US central bank, Volcker, suggests BIS emergency loan. US ministry of finance buys – at a discount – Mexican oil for higher buffer.
- 18.8.82 Mexican minister of finance declares that foreign debt is no longer honored; 90 day moratorium through banks
- 31.8.82: New president of Mexico introduces capital controls and adopts socialization of private banks = broadening of the Mexican crisis. Now IMF has to step in, gives large 1.3 bill $ loan, US 2 bill.; IMF requires private banks for bail in in Mexico!

Typcial set up of rescue operation

BIS gives loans

Mexico (country involved) comes up with adjustment policies/plans



IMF gives new loan

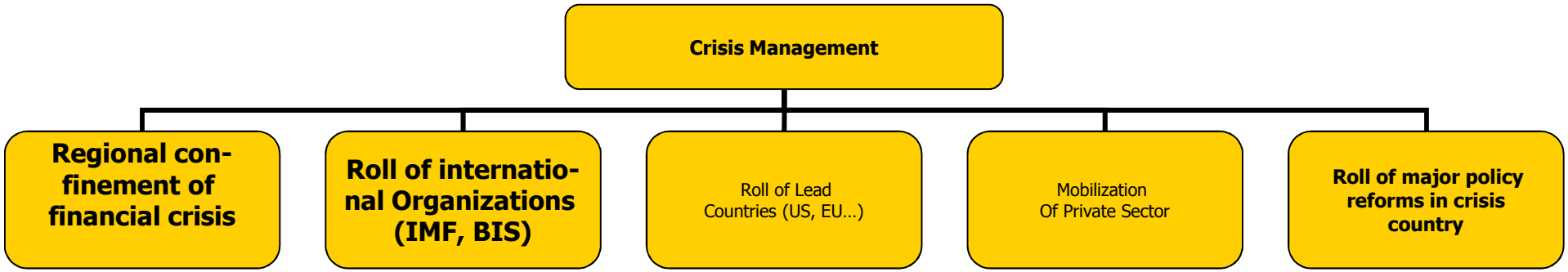
Private banks bailed in! (pressure from US and IMF)

US as global & regional leader gives bilateral loan

Overcoming the Mexian Crisis

- Banks (526!) hesistantly accept package – much under the pressure of US policy/ (if not government might impose stricter rules on banking!)
- December 1982: new Mexican president de la Madrid starts reform programme; devaluation, higher taxes. In 1983 GDP reduces by 4.2 %! Period of falling oil prices= new budgetary problems = r**un on Peso, current account deficit! New policy of export promotion through liberalization of the export sector;** GATT membership in 1986, privatization programme which works!, 1994 NAFTA membership
- In 1983 Argentina and Brazil also face problems (regionalization syndrom); 1984 Cartagena conference with 11 Latin American countries which call for more – and more - favorable loans; debate about moratorium on foreign debt, but Mexico says no since otherwise trade would die.
- **(US) Baker plan for 15 countries:** More loans from private banks+ raising US equity capital in World Bank as basis for more multilateral loans. Danger for US and global banking system – if major Latin American country would go bankrupt.
- Selling Mexican bonds at discount in secondard markets; US banks face depreciaitions. Debt reduction: Mexico exchanges bonds through 20 year loans. Debt-equity-swaps. 1988 **BIS; Basel I = 8% own capital rule.**

Some key issues – post-Mexican crisis - on globalization dynamics



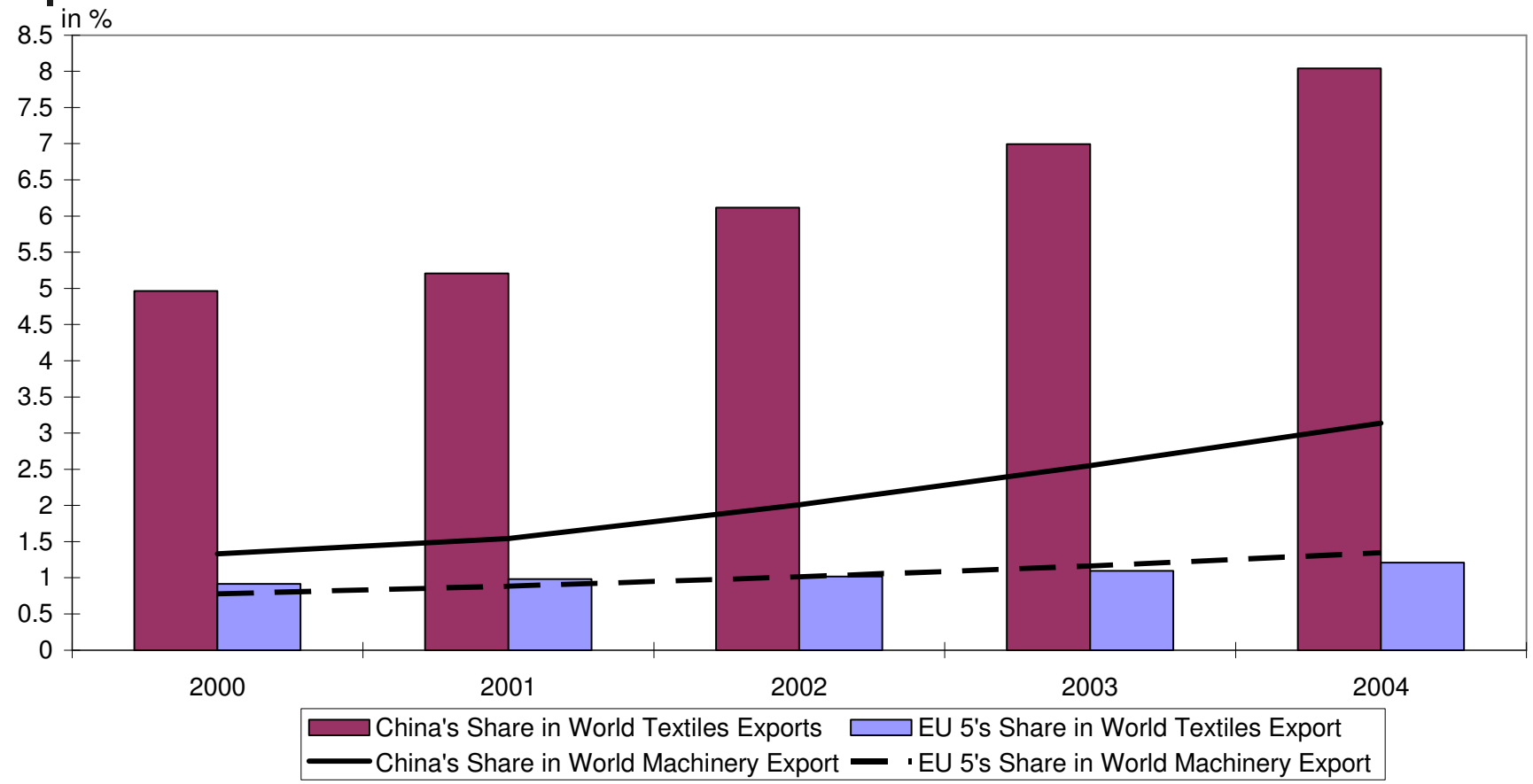
Facts I on modern globalization (WTO, 2004)

- ratio **exports to global GDP has increased from** 20% in 1990 to 30% in 2005; service trade share is 1/5 of total trade
- **Ratio of FDI flows to total gross capital formation** has increased from 5% in 1990 to 10% in 2003; however, *asymmetric regional breakdown of FDI* in world economy
- **Internet expansion**= more global transparence, more complexity; + e-commerce
- international **migration** as ongoing phenomenon
- Global **climate change** (eg Global Warming Problem; Kyoto)

Asymmetry of countries

- At the beginning of 21st century: USA is global leader (ca. 25% of global GDP): 300 mio. inhabitants; EU27 has 500 mio.; Japan 115 mio. inhabitants. Majority of global population of 6 bill. people have low income.
- Some countries with successful catching-up: Asian NICs in the 1970s and 1980s; China after 1978; Eastern Europe and Russia in the decade after 1995. Population of China: 1.3 bill, India about 1 bill. at the beginning of 21st century, but will exceed the number of China by 2050.

Comparing World Market Shares of Eastern European Countries and China



Source: UN Comtrade

Beginning of 21st century

- **China** has opened up since 1978; China ‘s growth rates close to 10%.
- **New Russia + Eastern Europe** in world economy in 1991: systemic transformation and foreign trade liberalization
- **Global population growth continues= success!?**
- **Fall of transportation costs and communication costs will continue:** impulse for more trade
- **Expansion of internet: creates new platform for trading and also enhances information about diversity and opportunities**

Globalization and systemic competition in the 21st century

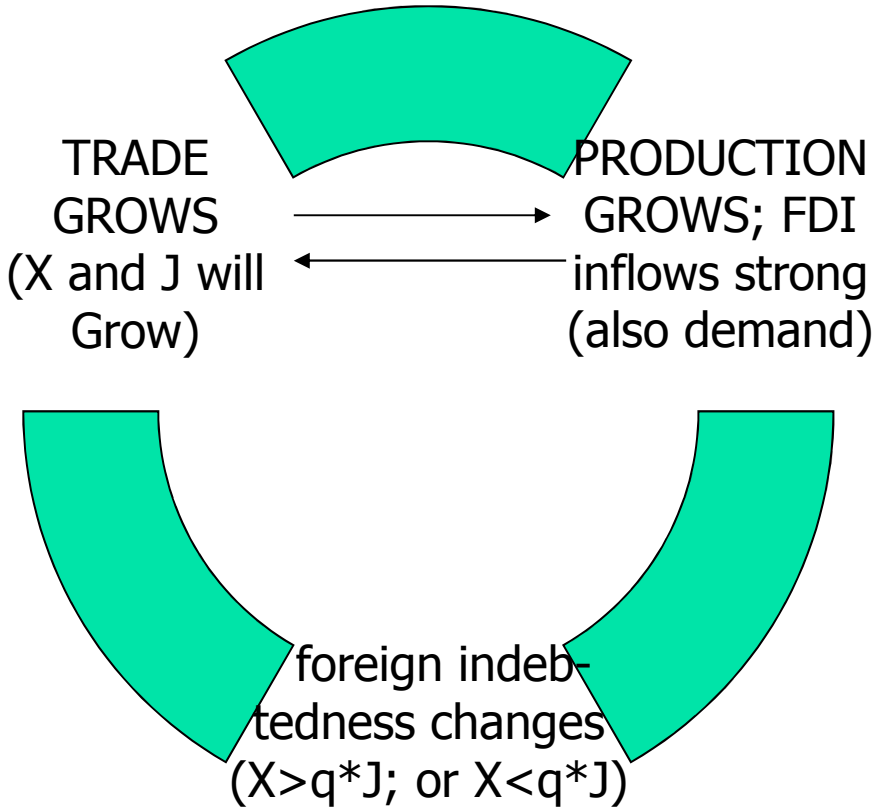
- **Global competition in goods markets; global competition in goods markets**: fight for market shares through price, quality and degree of novelty (innovation dynamics) of products
- **Quest for mobile capital** (refers to physical capital and human capital/skilled labor): US encourages students from poor countries to study and the US and stay there = brain drain; much in contrast to Germany where government is happy if foreign students – from non-EU countries – return home.
- With role of foreign diret investment increasing **corporate tax rates will reduce** worldwide form many years to come. Indeed, tax rates have fallen! *Consequence for government is that state has to be trimmed or tax on labor income must rise!*

Capital Flows

- Foreign direct investment: always long term and characterized by entrepreneurial commitment; greenfield invest-ment (new firm) vs. international M&As
- Ideal: 2-way-FDI!

- Porfolio capital flows (can be long term: maturity>1 year; or short term); typical investments are bonds or shares in foreign firms (share <10%)
  - Poor country:initially only
  - Interest rate parity $i=i^*+g_e$

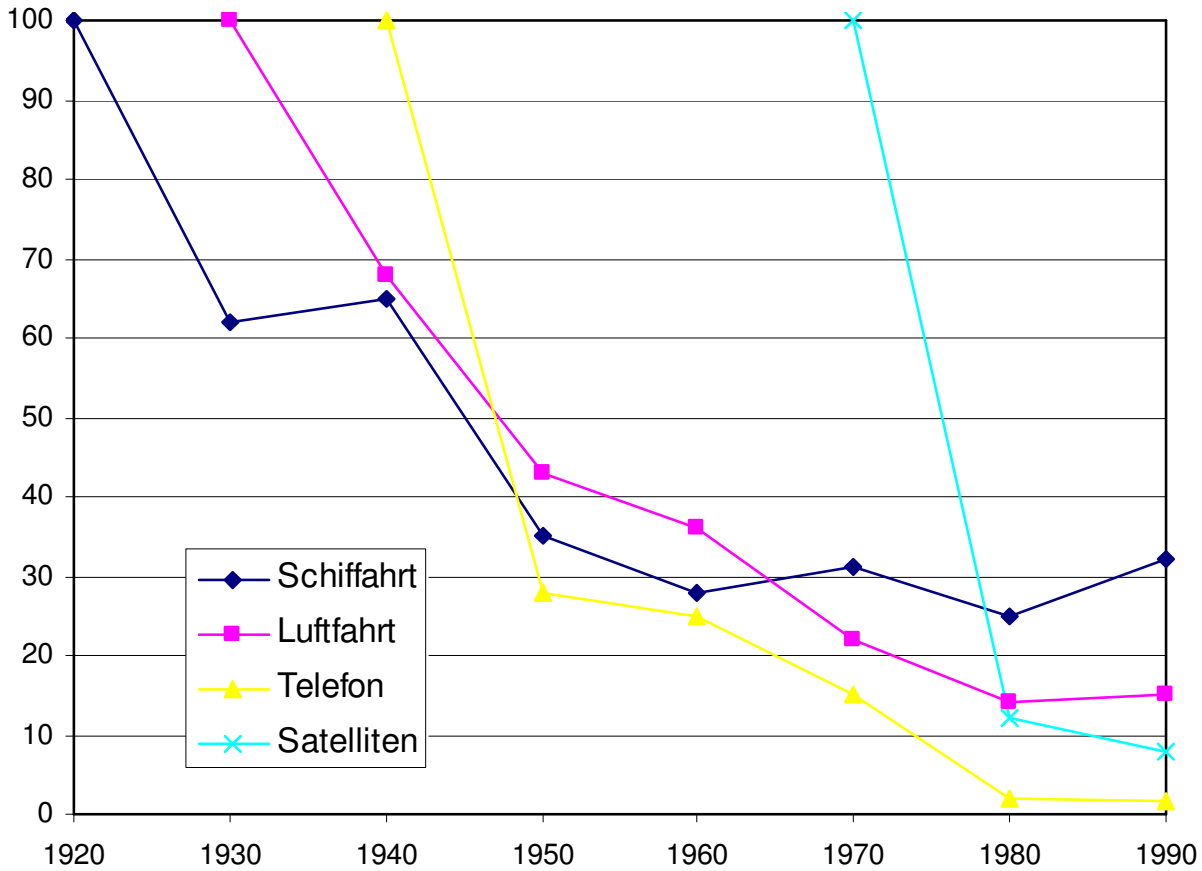
Dynamics of trade and GDP development



Transportation costs and market size

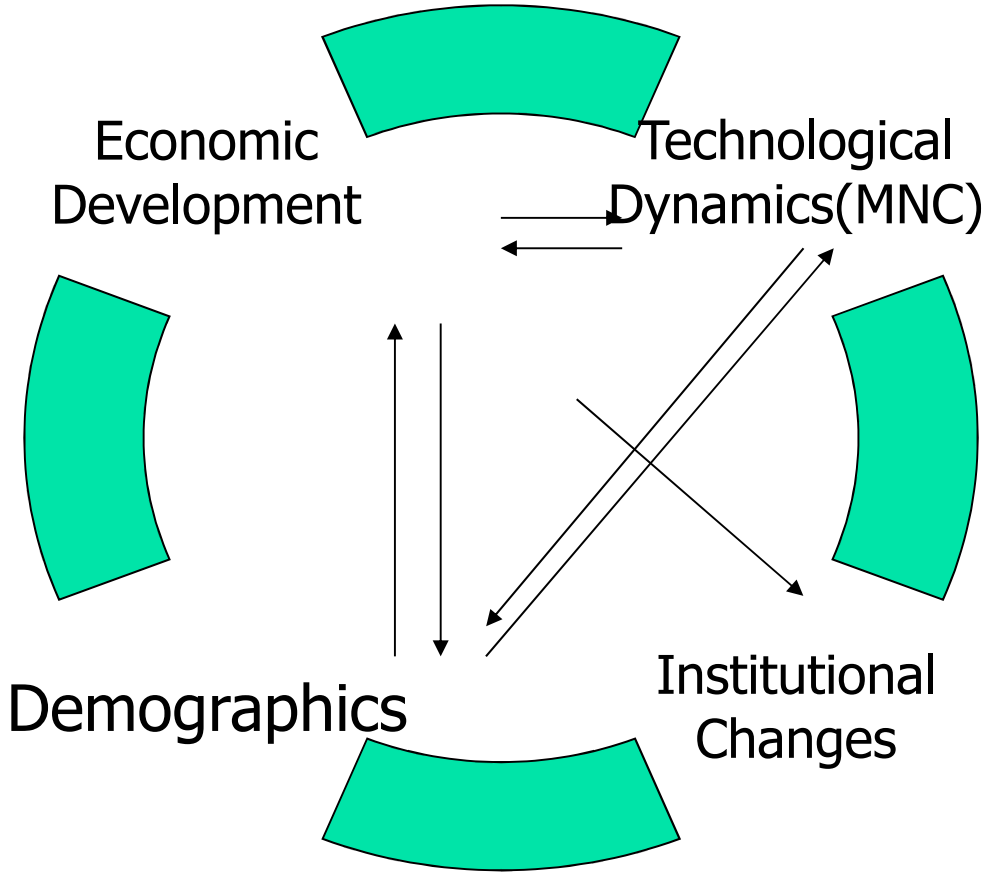
- Strongly falling transportation costs have created larger international markets (transportation costs ≈ tariffs).
- In larger markets more opportunities for combining economies of scale and product differentiation; the latter includes product innovations – with R&D costs recovered in larger markets
- Larger markets =pressure for consolidation= changing behavior in oligopolistic markets= positive output effects possible (Cournot-Duopoly switching to Stackelberg solution) or negative impact (from Stackelberg to Cournot duopoly); assumption: constant margional costs and linear demand curve – see NEUSCHELER, 2004, WiSt)

Fall of transportation/communication cost



Quelle: van Bergeijk/Mensink (1997)

Development of World Economy



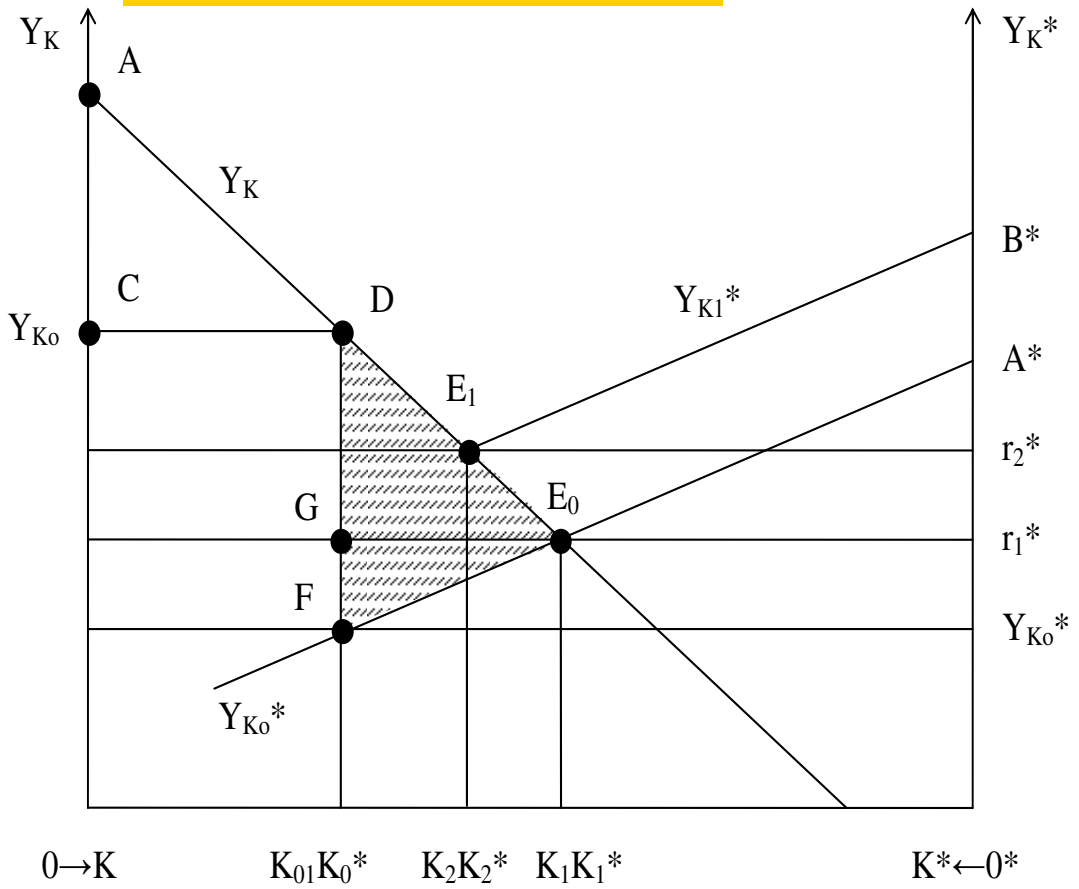
Technoglobalization: Global use of national R&D of company 1 in I: von Firma 1I; global generation of innovations; global cooperation...

- JUNGMITTAG, A. (2001), Techno-Globalismus: Mythos oder Realität?, List Forum
- Archibugi,D.; Iammarino, S. (1999), The Policy Implications of the Globalisation of Innovation, Research Policy, Vol.28,317-36
- Dunning, J.; Narula, R. (1995), The R&D Activities of foreign firms in the United States, International Studies of Management & Organization, Vol. 25 (1-2), 39-72
- OECD (2005), Science, Technology and Industry Outlook, Paris
- VEUGELERS, R. ET AL. (2005), Internationalisation of R&D: Trends, Issues and Implications for S&T Policies, Background report for the OECD forum on the internationalization of R&D (2005)

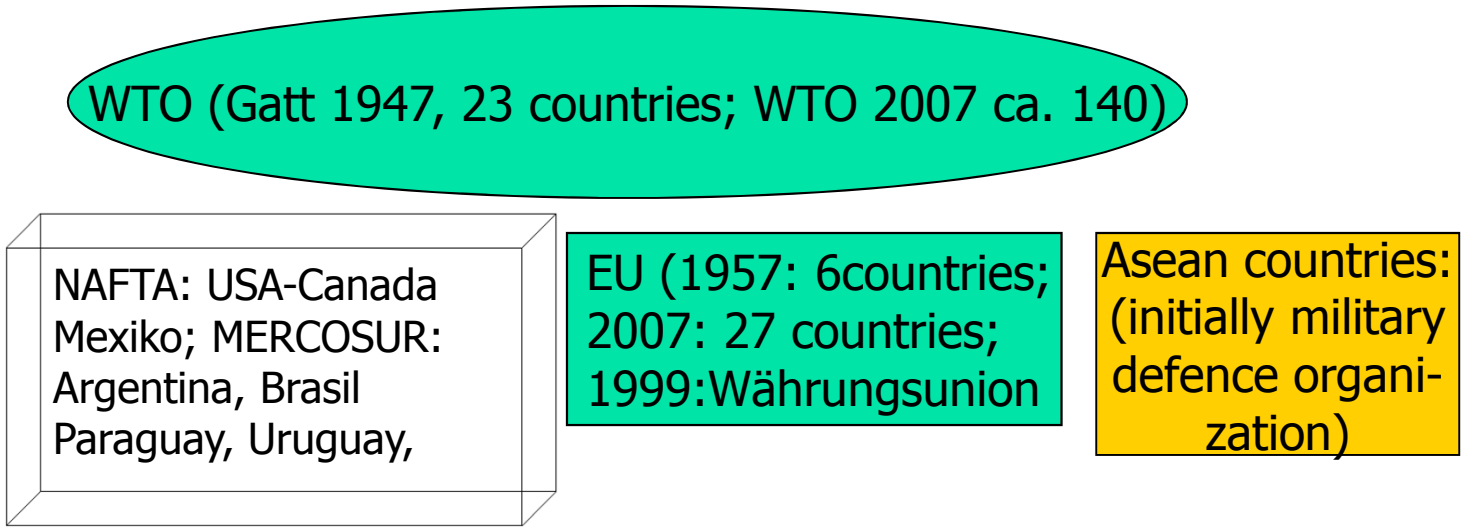
FDI (Asset-seeking) in Triad Perspective

- Analysis:.points of departure
  - 2 closed economies I, II (foreign country) with respective Y_K-schedules (Y_K; Y_K*)
  - Opening for FDI
  - High FDI inflow
  - MNCs from II absorb some of superior technologies from I so that upward shift of Y_K*-schedule occurs. Additional benefit is area $A^*E_oE_1B^*$

Area under Y_K is Y=rK+wL

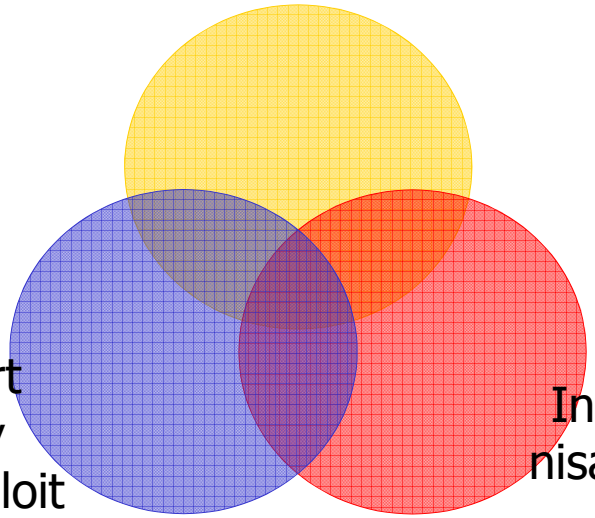


globalization and regional Integration



Globalization, Integration, International Organizations

globalization goes along with more intensive interdependence (intensive and flexible networks shaped through trade, FDI, MNCs, internet)



Integration=effort to increase policy autonomy & to exploit joint benefits from policy club

Internationale Orga-nisation as multilateral I institution (eg IMF): control, intervention

Integration (eg EU) as a strategy to maintain influence of policymakers=control globalization

Are IO an effective policy layer in global economci policy?

International Organisations with Broad Impact in World Economy

- Trade in goods and services (WTO)
- Convertibility, balance of payments problems (IMF)
- Prudential supervision (BIS)
- G-8, OECD and EU as actors for potential coordination of macroeconomic policy

International Organizations contribute to globalization; e.g. by pushing for liberalization (see IMF; Article IV consultations) and directly the WTO through broadening of membership and new liberalization rounds. BIS also crucial (but only 13 countries basically involved in shaping supervision rules; see Basel I rules and Basel II rules)

Globalization debate at the beginning of the 21st century

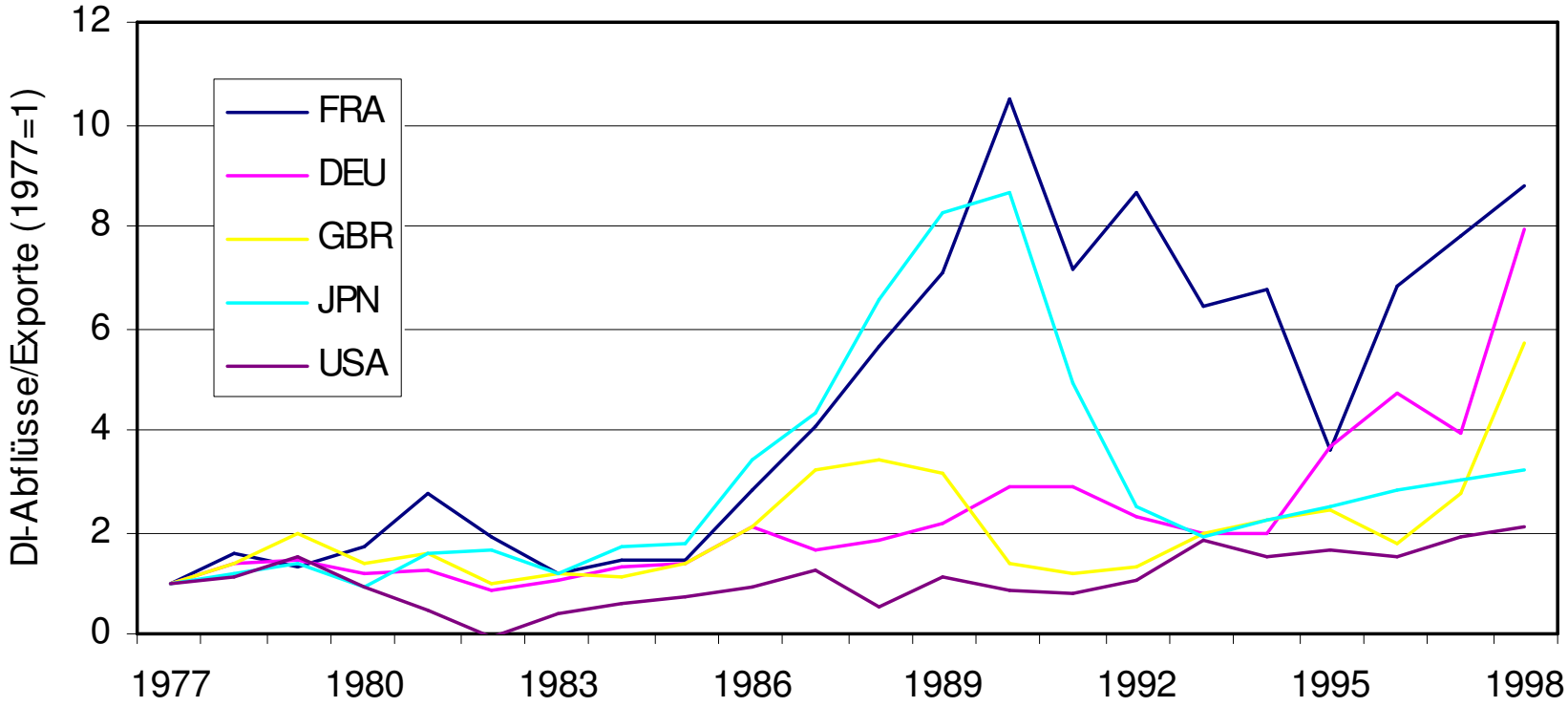
- **globalization** =more economic decision-making; China as a new powerful actor
- **actors:** MNCs plus major banks, governments, international organizations
- *Some negative prejudice: globalization is ideal scape goat for everything – global warming, earthquakes…; what are the facts?*

Globalization goes along with conflicts of interest. Which role should the EU play?

Facts on MNCs (MNCs=multinational companies)

- 65000 MNCs in 2001
  - with 850 000 foreign subsidiaries
  - 54 mio. employed (24 Mio. 1990)
  - 19000 $ bill. revenue= 2x global export in 2001 (1990: MNC sales and world exports roughly equal); sales ≠ value-added!
  - Stock of FDI (cumulated FDI inflows) rose from $ 1700 bill. in 1990 to 6600 bill. in 2001 (total assets 25 000 bill.)
  - FDI flows: 735 bill. $ in 2001 (1982: $ 59 bill.)
  - MNCs =1/10 of GDP and 1/3 of global trade
  - Top 100 (nonfinancial)firms stood for about ½ of sales and employment of MNCs in 2000
  - Among top 100 there were 5 from NICs (Hutchinson Whampoa (Hong Kong), Petronas (Malaysia), Cemex (Mexico), Petroleos de V. (Venezuela)

FDI outflows relative to exports



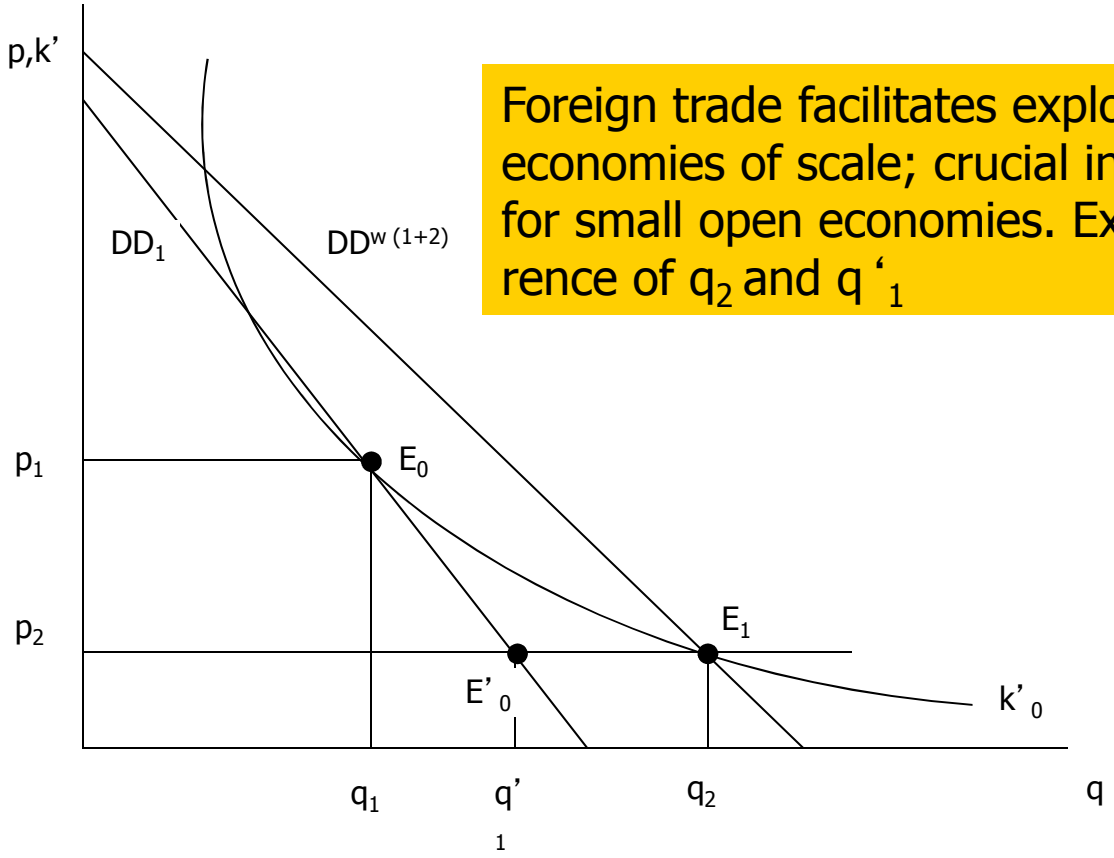
Normal Turbulence vs. Crisis Period

- Solving normal problems = standard challenge: countries which systematically do better than others attract FDI inflows and will prosper
- **Crisis managment:** In period of international crisis FAST and EFFECTIVE – and efficient – solutions needed (eg oil price shock;
  - Leadership necessary
  - Cooperation
  - Communication
- Specific Problem could be a **long term shift**, such as global warming: takes a very long time, requires truly global cooperation or at least consistent regional initiatives
- Another long term problem is North-South divide (eg in terms of internet access); which countries/governments/parliaments are interested and active in helping to overcome the problem. ROLE of NGOs; **and of ITU**

Theoretical Aspects of International Trade

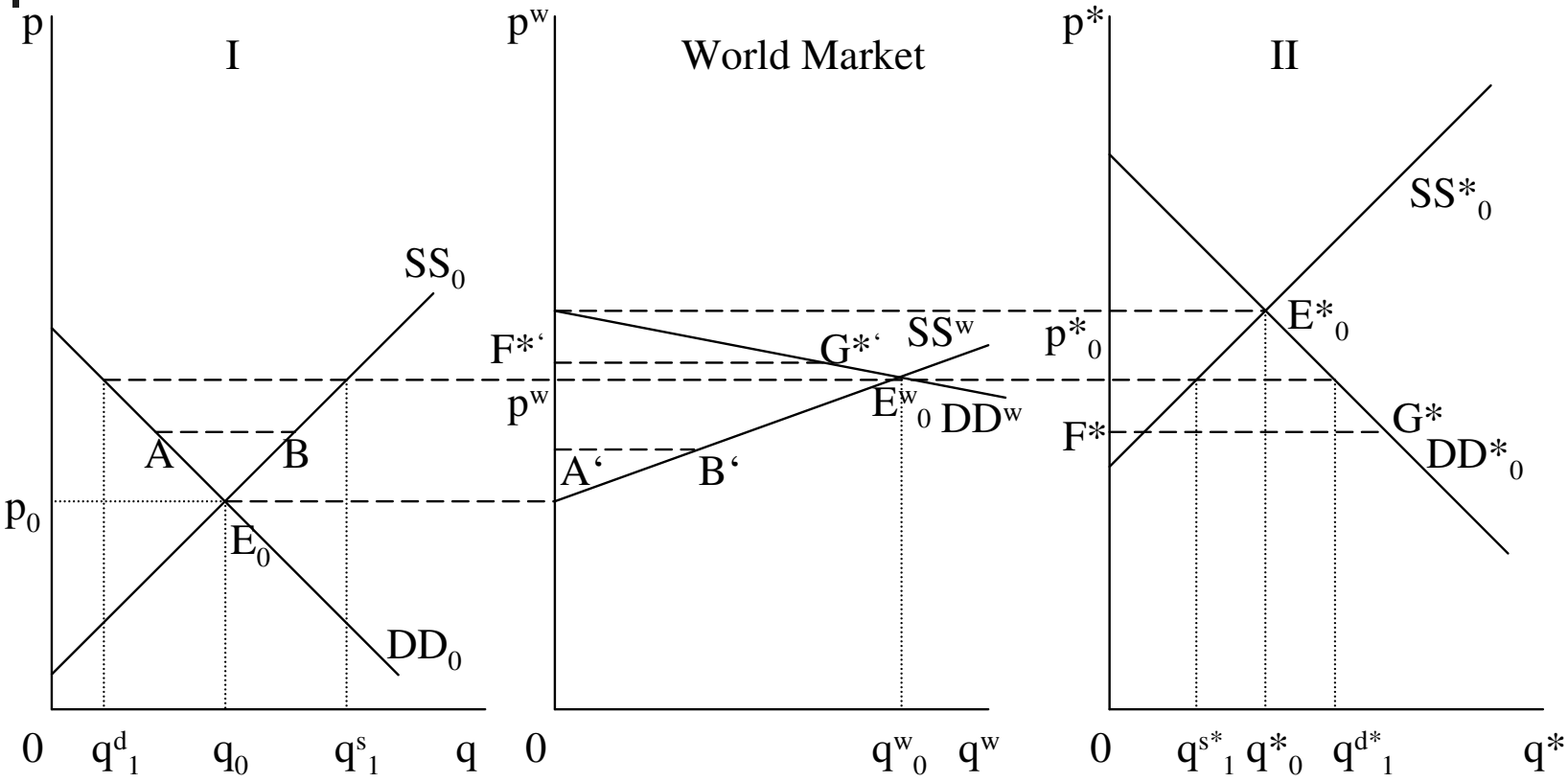
- Simple graphical analysis of opening up an economy (autarchy versus openness); **2 country model:** often two goods, two production factors
- **Point of reference for trade is autarchy.** We consider pricing effects, quantity effects, structural effects, innovation effects, income effects, unemployment effects, welfare effects
- Welfare effects: with reference to consumer surplus and producers surplus; alternative concept puts the focus on indifference curves

Economies of scale (falling k ‘ curve) and foreign trade (DD_1=domestic demand; DD* demand in country 2; global demand is $DD_1+DD^*=DD^{W(1+2)}$); note that $DD^*=DD^{W1+2} - DD_1$



Foreign trade facilitates exploitation of economies of scale; crucial in particular for small open economies. Export = difference of q_2 and $q‘_1$

Export market (country I) and Import market (Land II); normal marginal cost curve: p, p*, p^W is price in home country, in country II and in world market respectively.



Foreign trade theory (HOS and other approaches; HOS=Heckscher…: assumes 2x2x2; no international factor mobility, but mobility within each country)

- Approaches
  - Ricardo approach: trade based on productivity (technology) differences
  - Heckscher-Ohlin-Samuelson [identical technologies across countries; model without FDI]: Specialization based on relative factor endowment (measured through K/L). Country with high capital intensity K/L will specialize in production of capital intensive goods; country with relatively more labor (K*/L* low) will specialize after opening up more on labor intensive products &export those++; import capital-int. goods
  - New trade theory: trade in differentiated products, includes product cycle trade (VERNON, 1966)
  - New economic geography (emphasis on space/distance costs)

Implications of HOS

- Relative factor prices will equalize across countries (without capital flows or migration)
  - Competition in goods and factor markets
  - w/r=w*/r*; w real wage, r is real interest rate; y=Y/L, k=K/L
  - As y=f(k) and k=h(w/r) we have y=y*
- Adjustment mechanism is
  - Importing capital intensive goods = effective rise of capital intensity…
- **Globalization (according to HOS):**
  - No worries, trade will work
  - **But** nontradables; FDI, differences in technologies
  - Product innovations and economies of scale
  - Industrial policy, protectionism

What will happen as China enters world economy – according to HOS?

- China will specialize in labor intensive products (eg textiles, toys)
- US, EU, Japan will specialize more on capital intensive products = part of reality
  - But as China has FDI inflows new way to raise K*/L* (China) relative to EU
  - Chinese firms relocate steel machines from EU to China/apply lower environmental standards= cost advantage; ISSUE of (environmental) dumping. Strictly speaking: Dumping = sale below costs; indicator: sale abroad at prices smaller than at home

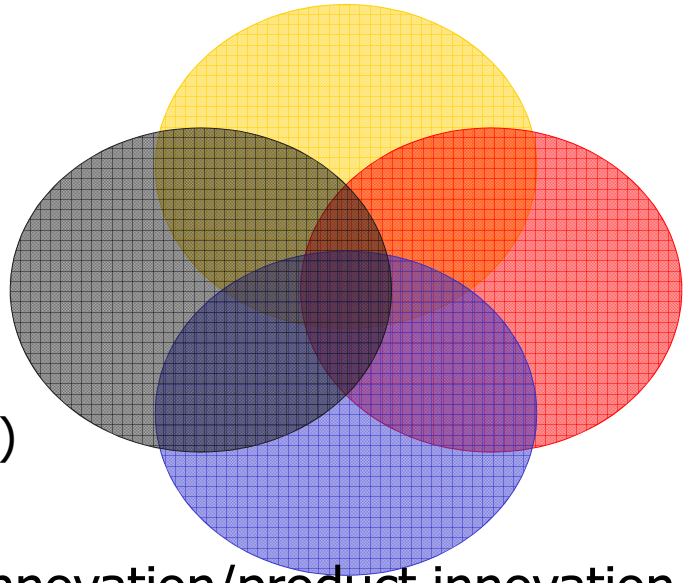
Adjustment mechanisms in catching-up process (EUV is export unit value)

- As per capita income y is rising: Nontradables relative price will increase =Balassa-Samuelson (BS) effect
  - Inflation rate higher than otherwise, will reduce r (for N-sector)
  - Wage push might result from BS effect, undermines international competitiveness
  - In catching-up process Y grows which allows better exploitation of economies of scale
  - If government stimulates R&D plus human capital formation, the export of innovative products will rise, EUV also
- If country attract high FDI inflows often negative current account in initial development stage: machinery & equipment imported; later – if export promotion policy – CA should improve
- CA>>0 should bring about real appreciation (q*=:eP*/P will fall: via de>0 or dP>0; P* given)

4 Options for correcting CA deficit

Devaluation: (in fixed exchange rate regime: both countries must agree/n countries have n-1 exchange rates!

Macroeconomic adjustment: raise r and tax rate, cut government exp. as X ‘=Y- [C+I+G] (absorption approach)



Protectionism; but restricted options for country with WTO membership

Policy tries to influence innovation/product innovation so that Export Unit Value will improve and thus export revenue will be raised.

globalization and economic advantages

- globalization in the sense of more trade and FDI could bring benefits through
  - Better use of economies of scale (static & dynamic)
  - Gains from specialization
  - Product differentiation:broader choice among goods
  - Enhanced import competition= more innovation and also efficiency gains (see BLIND/JUNGMITTAG)
  - More ambitious standards: set in world markets

Globalization advantages for open minds/investors/people

- Perceiving a greater variety of technologies, products, styles of management = learning
  - Provided that we are also willing to learn from small countries (or small innovative firms)
  - Provided that we adjust best practice models in adquate ways
  - Provided that we are – and can be – more mobile in the world economy as workers, managers etc.

Problems with globalization

- Economic opening up in NICs/LDCs not organized adequately; national policy failure or lack of IO support
- Structural shift in labor markets: OECD countries – reduced demand for unskilled labor:
  - Challenge for retraining
  - Challenge for education system
  - Challenge for migration policy
- Is the labor market in Europe flexible enough?
  - Wage flexibility
  - Regional labor mobility
  - Migration policy/social integration dynamics
  - EU countries differ: see Scandinavian countries, UK, Ireland, Spain +; Netherlands +; France, Germany; problems in Italy; Poland+ and many others

(More)Opening up in Poor Countries

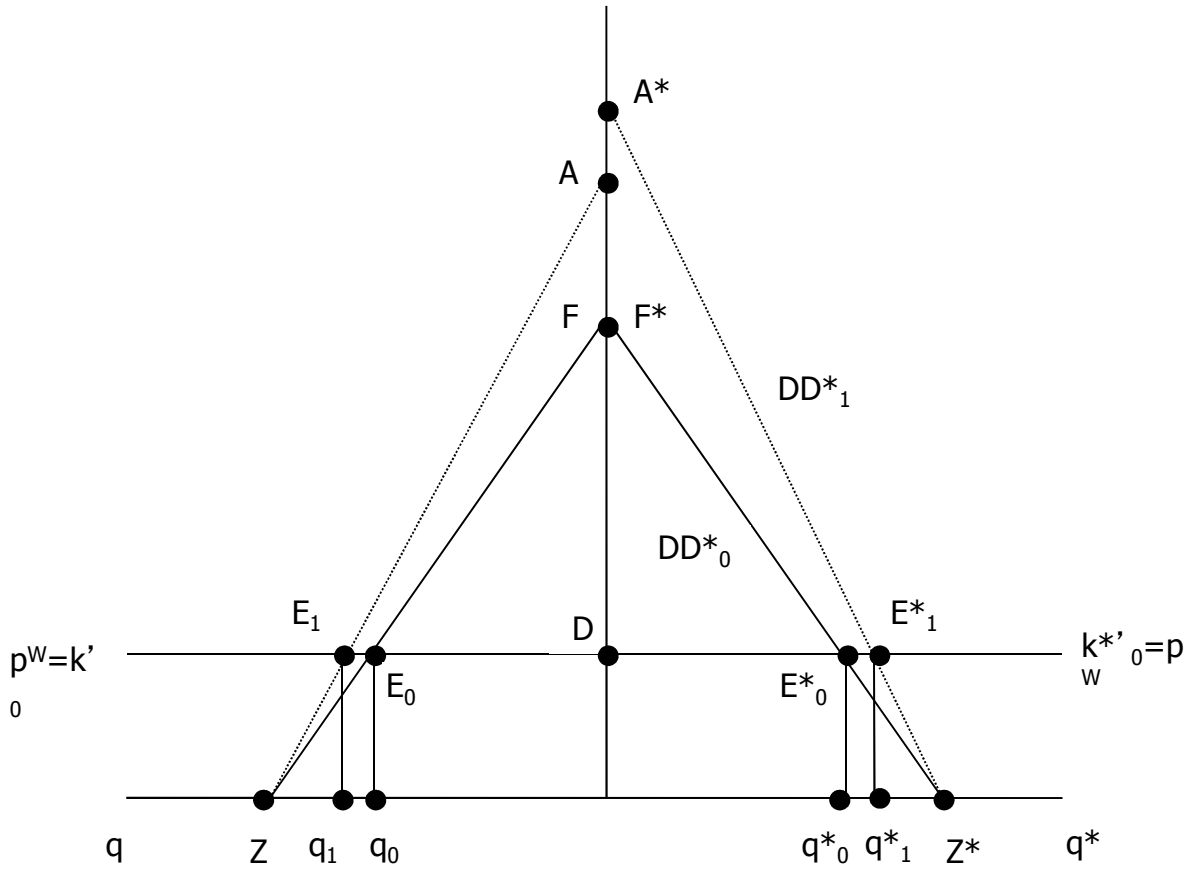
Problems with opening up

- Distortions in goods and factor markets, unemployment, shadow economy, corruption, high import tariffs (revenues), overvalued currency (black markets…), inflation
- Achieving convertibility (IMF normally will help)
- Opening up will bring about temporary unemployment in some sectors; in the course of expansion of inter-industrial trade there can be temporary unemployment (sector i expands, sector j and import-competing industry declines)
- Capital flow liberalization: massive outflows as potential problem (lack of confidence, poor quality of banking system and financial markets)
- Capital flow liberalization – here particular importance of exchange rate regime (fixed vs. flexible)
  - Flex: potential Overshooting problem (deviation from purchasing power parity PPP: e= P/P*); problems with high volatile short-term capital inflows
  - Rising external indebteness of firms and governments (sovereign debt), risk di*>0

Trade liberalization…

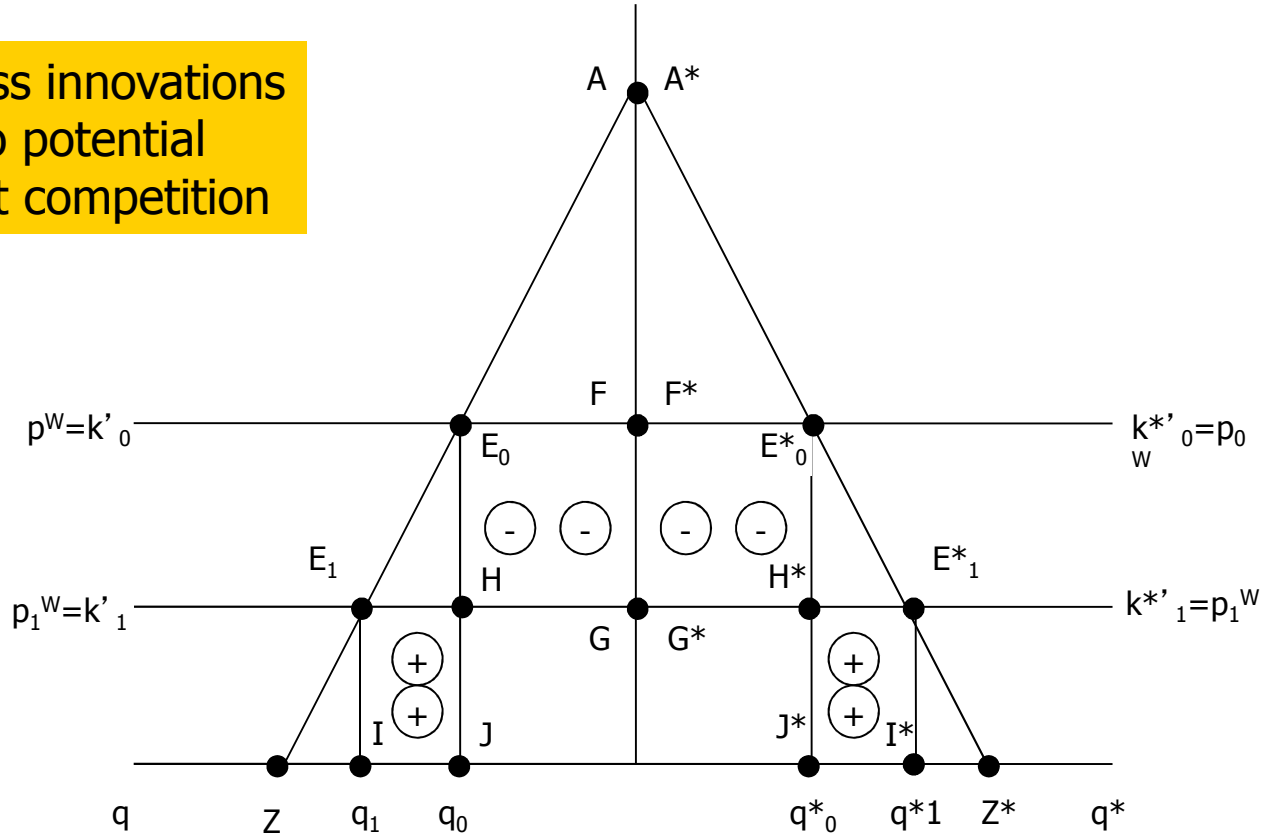
- Relative prices of tradables will adjust to world market; poor countries face agricultural protectionism of EU, US, Japan, Switzerland, Norway. If tradables prices fall in absolute terms= positive real income effect (unless full offset of nontra.)
- Tariff escalation for industrial products in OECD countries (raw material imports have zero import tariff, but intermediate products>0, final products >>0. Implies impediment for economic and technological catching up.
- Import protection often in heavily concentrated industries in poor countries
- Potential winners of external liberalization are consumers who are difficult to organize in the political system (many…, heterogeneous)

Product innovation in I and II (potential import competition)



Process innovations in country I and country II (downward shift of margional cost k ‘ and k* ‘)

Process innovations due to potential import competition



Innovation and Market Integration

- Integrated Markets
  - Higher pressure on specialization
  - Better opportunities to recover fixed costs through large production runs; particularly important for research and development (R&D)
  - Coordinated or supranational R&D support of government could also be useful
  - Joint standard setting in industry or through government (private public partnership: GSM in EU)

Integration theory and innovation policy

- 1. Forms of integration
- 2. Integration theory
- 3. Integration & competition
- 4. Integration, FDI and growth
- 6. Integration and Club Analysis
- 7. Monetary integration

Regional Economic Integration: Definition

- Removing barriers to trade and creating an institutional framework for regional cooperation in economic policy
- Goods markets: eliminating tariffs and quantitative restrictions (quotas), implementing non-discriminatory rules; freedom of establishment, liberalization of capital flows
- Creating joint policy areas – requires consensus! - or transfering competences from national policy layer to a special supranational policy layer

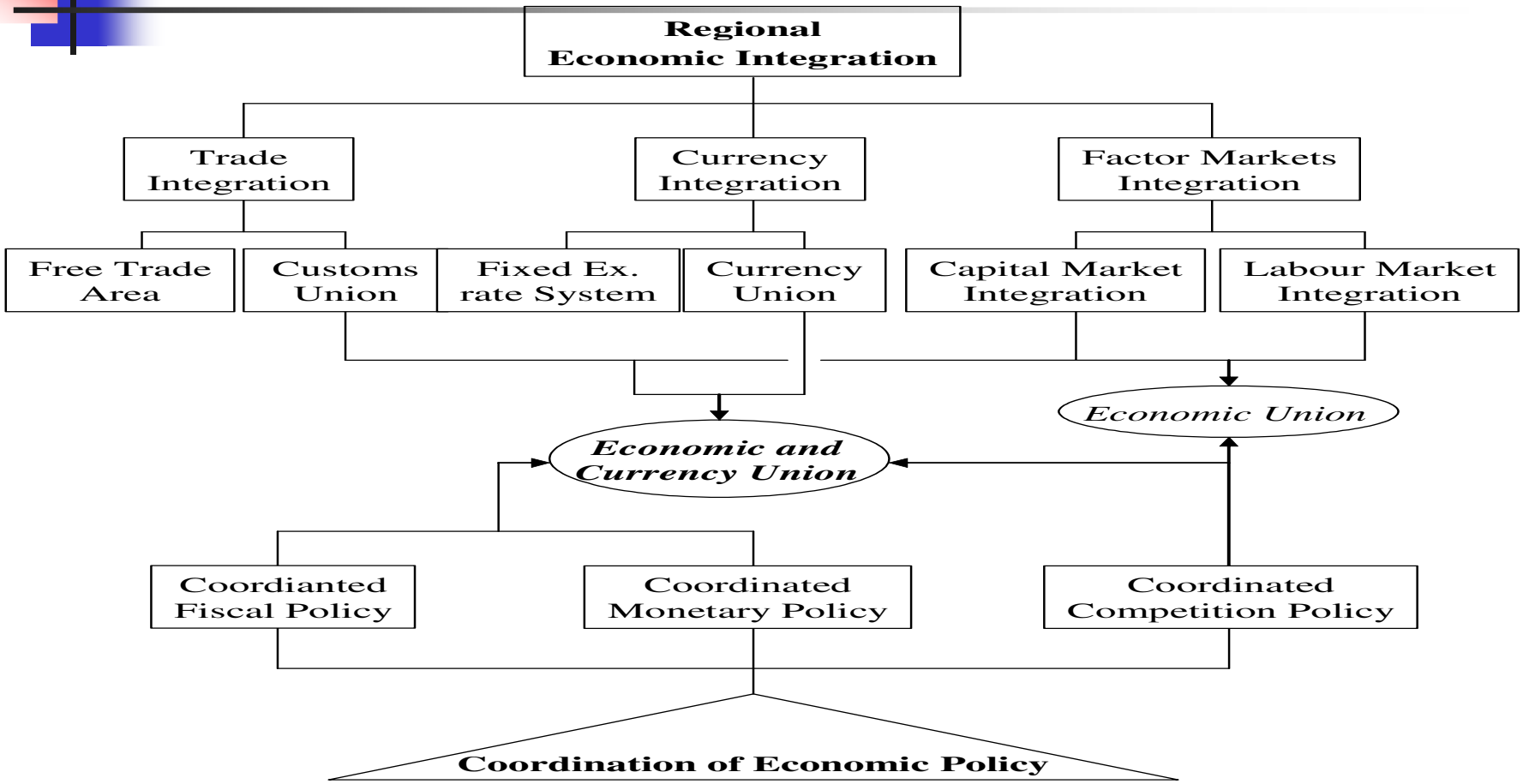
Integration Stages

- Preferential zone (preferences for some countries and some goods)
- Free trade area (Intra:=free trade; individual countries have individual external tariffs: EFTA)
- Customs union= free trade area+common tariff
- Currency union = absolutely fixed exchange rates or one money plus 1 central bank(€/ECB)
- Economic union: common competition policy+factor market integration

Customs Union: Basic Economic Effects

- **Trade creation:** more trade within the customs union than before CU
- **Trade diversion:** outsider countries which are not member countries will have less exports (more FDI inflows might result from this=tariff jumping); *source countries of FDI therefore less negatively affected from trade diversion than non-MNC countries!*

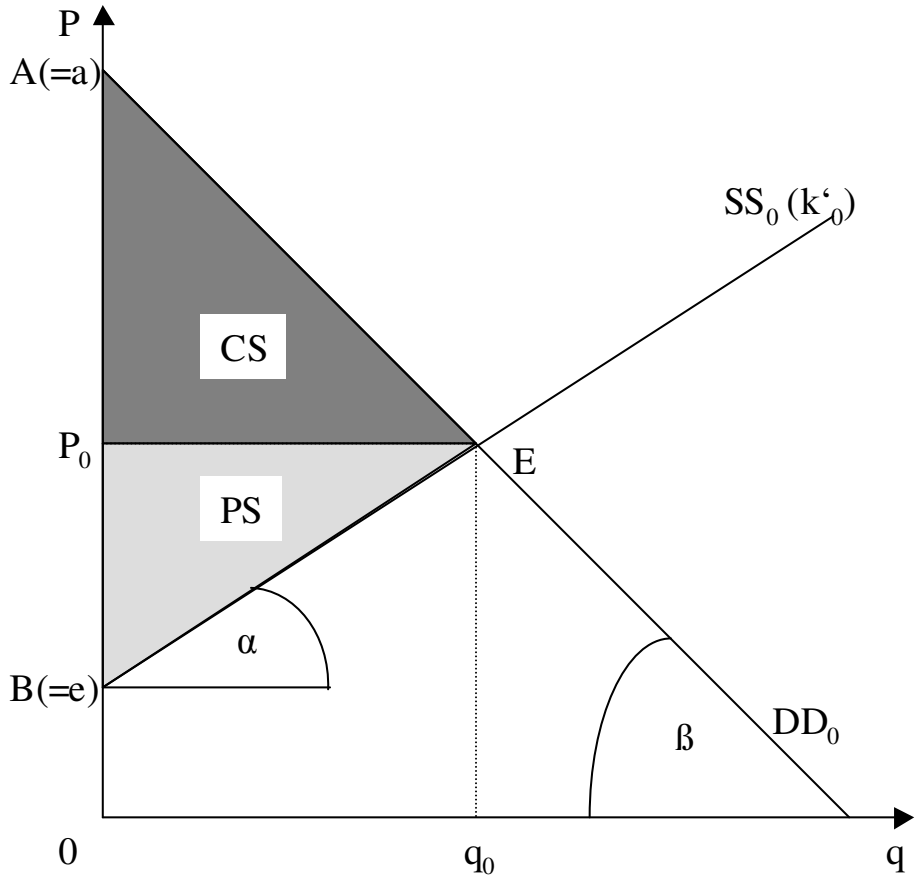
Integration



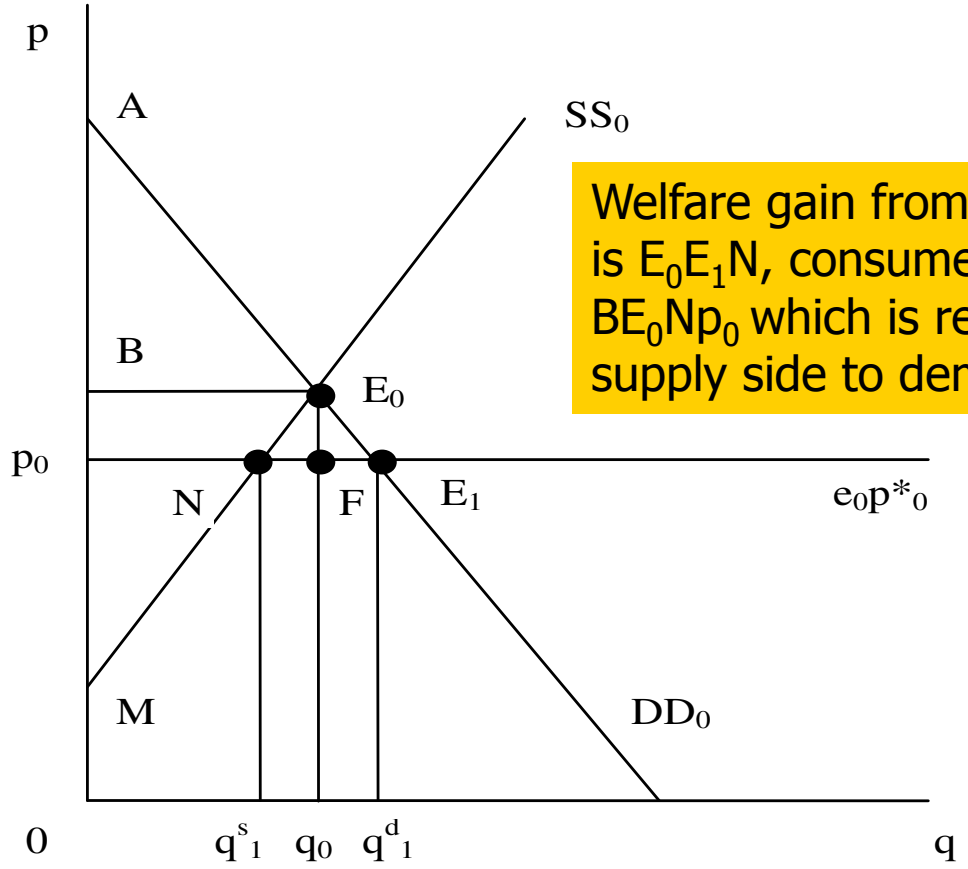
Intensity of Integration

- Consider the divergence between P and P*
- How intensive is trade between countries (as intensive as between regions with a country?) Kapitalverkehr (Frage nach home bias;
- How mobile are investments; see the Feldstein-Horioka-Hypothesis which argues that savings are largely immobile internationally. However, in EU mobility rising!

Welfare aspects (consumer surplus CS; producers surplus PS); policy measures should avoid to reduce social welfare = sum of CS and PS; but with FDI inflow part of PS goes abroad!



Free trade (case of import market; world market price p*, exchange rate e)



Welfare gain from opening up is E_0E_1N, consumers gain additionally BE_0Np_0 which is redistribution effect from supply side to demand side

Liberalization

- Tariff raises import price (in domestic currency units)=upward shift of the world supply curve
- Tariff reduces import value which improves the current account; however, under flexible exchange rates there will be an appreciation which amounts to downward shift of e and the world supply curve, respectively!
- Tariffs are market compatible: do not destroy the price mechanism.
- Reduction of tariff rates and non-tariff barriers through WTO
- Quota are not market compatible; one should eliminate quota and replace those by equivalent tariffs (welfare loss is smaller)
- Problems with dumping issues /countervailing duties
- Internet is wonderful free trade area (digital)

Digital Economic Integration and Globalization

- Internet has several key aspects
  - Digital networks created
  - Convergence= digitization of data/voice/images = larger and more competitive markets are created
  - Communities are created – based on various languages
  - E-business as a powerful new global field; e.g. Microsoft and Google, ebay, SAP, Dassault, Philips…
  - Larger markets= larger optimum plant scale=role of MNC++
- Opening up of telecommunications markets stimulates internationalization of telecommunications

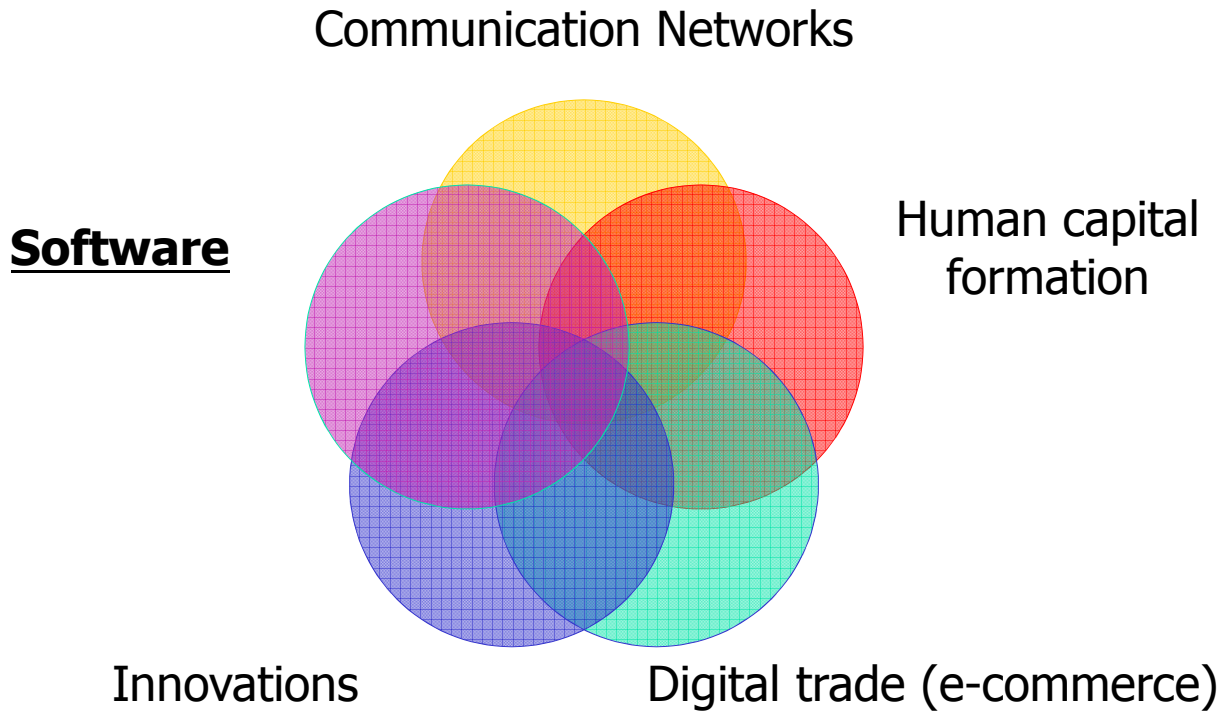
Lisbon Agenda

- EU has liberalized 1998 the telecommunications markets (framework directive; 2007 EU review)
- Lissabon Agenda 2000/2001: making the EU the most competitive knowledge based economy; emphasize digital market expansion
- ICT expansion is very dynamic sector

Digital World Economy

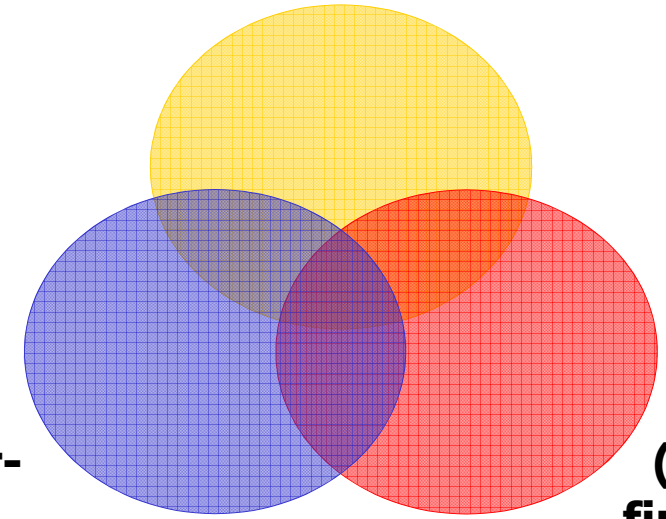
- International Exchange of Information via telecommuncations, TV and internet are expanding
- Increasing ubiquity through mobile telecommunication
- Internet reduces transaktion costs in markets, facilitates tradability of services
- Global competition for technological standards (eg GSM vs. US standards; UMTS etc.)
- Key role of information and communication technology (ICT)
- EU with strong emphasis on ICT/Lisbon Agenda

European Information/Knowledge Society



Role of the Internet

Networking in Industry and Business



Uploading information(hosts)

Internet users (info as input for firms, consumption for households)

Action plan of EU (and of member countries)

Internet should become cheaper, faster, safer

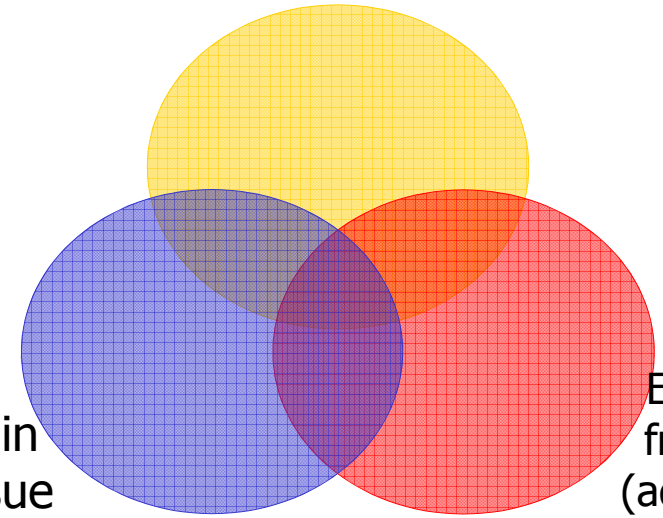
Investment in human capital

- smarter users for smarter networks

Stimulating use of the internet: E2010, e2010+, i2010

Globalization, Integration, IOs: EU Perspective

Intensified EU Integration gives greater economic and political weight in shaping globalization



Using membership in IO to optimally pursue EU interests (EU in WTO, but in IMF?..)

Exploiting experience from single EU Market (adjustment, innovation) to be more successful in global markets/eg GSM in Asia

Operative Action Plan: EU measures and actions of governments of member countries

Creating a Legal Framework in the EU

Financial Support for New Infrastructure

- Support by EU and national funds

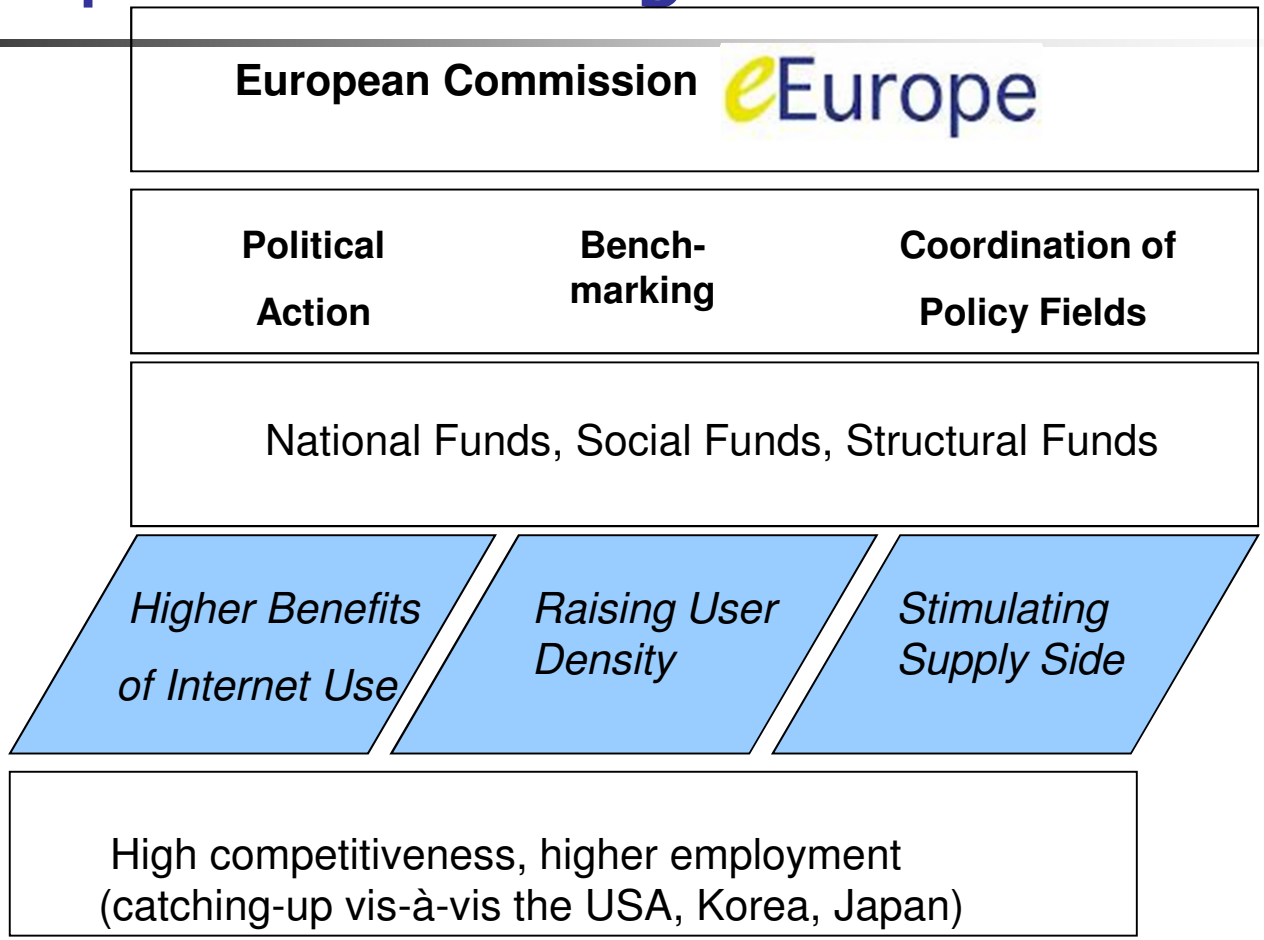
Coordination efforts and comparing performance

- Controlling the efficiency of measures taken and EU benchmarking

Spill-Over-Effects in Economic Policy

- Research focus more strongly centered on eEurope; eastern Europe on board!
- Further development in G8, OECD and WTO
- Development Policy: Fighting Digital Divide

Wachstum und Beschäftigung durch bessere Nutzung und Implementierung des Internets



Leader Country(ries)

- USA: traditional western leader/after the end of Cold War facing problems of terrorist attacks; problem with US unilateralism under George Bush Jr. Part of US society more in favor of multilateralism, but this is a short and weak tradition in the US
- US is biggest source country of FDI in the world
- US is one of the biggest host countries in the world
- US is military might No. 1
- US is internet leader and leader in ICT technologies
- US has strong Constitutional Basis and simple political system which is stable (effectively 2 party system)
- Part of US Administration seems to problems in understanding the intellectual and religious dynamics abroad, ability to build new digital bridges apparently limited (eg in Iran and Arab coutries)

EU as EU27

EU is

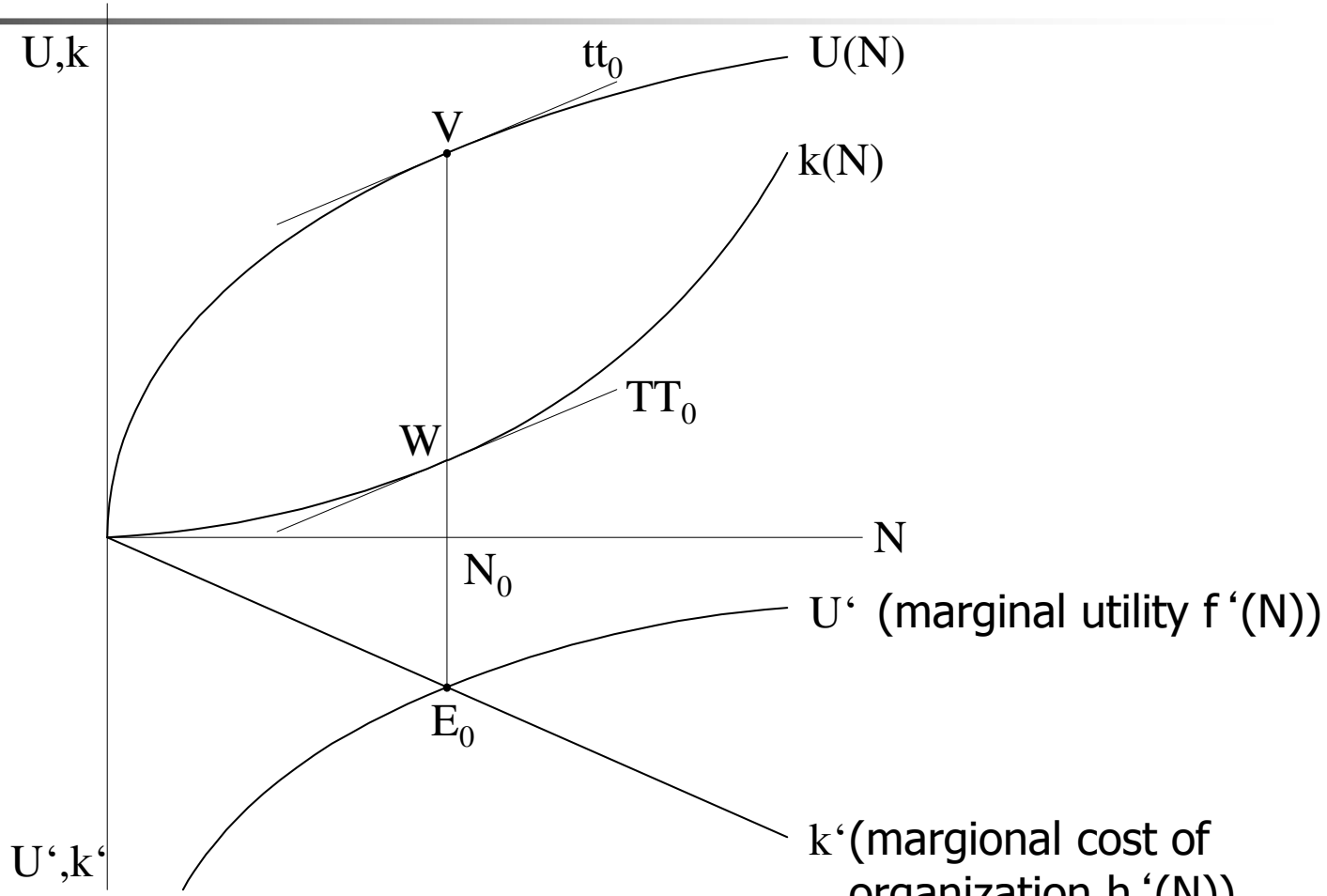
- Economically strong
- Rather weak political basis/constitutional problems
- In Mini Treaty undistorted competition no longer goal of Commission/EU
- New ethnical/minority conflicts in Eastern Europea accession countries (eg Slovak Republic and Hungary)
- EU Report on Turkish EU Membership with very short time horizon (no word about demographical dynamics, although Turkey in 2050 about 120 million)
- Unclear whether EP – oversized – is effective institution
- Commission ‘s work suffers from EU eastern enlargement(s) in the sense that it works slower than previously; whether Mini Treaty solves problem is unclear; EU weak in Global Information Summit (Tunis, 06)

Integration in Perspective of Theory of Clubs (1+2 corresponds to application of Buchanan/Tullock)

- 1) Rising utility of Club Membership as more members (number N) get on board, but margional utility falls as N grows.
- 2) Rising number of member countries mean – at least transitorily – that cost of achieving consensus is positive function of N (marginal consensus costs rise with N)
- From 1) and 2) it follows that there is an optimum size of club
- Implication: An ever larger Club can only function if supranational policy fields become more simplified and possibly also more restricted; opportunity for more supranational policy is rising if there is long term economic convergence across countries ***(Welfens, 2007b)***

Abb.: Optimal Club Size (utility maximization yields optimal number of countries N_o)

Marginal costs also might be negative function of age of Club (learning by doing) and benefit from endo-genous growth (Welfens, 2007b) N might rise over time



Unstable Club?

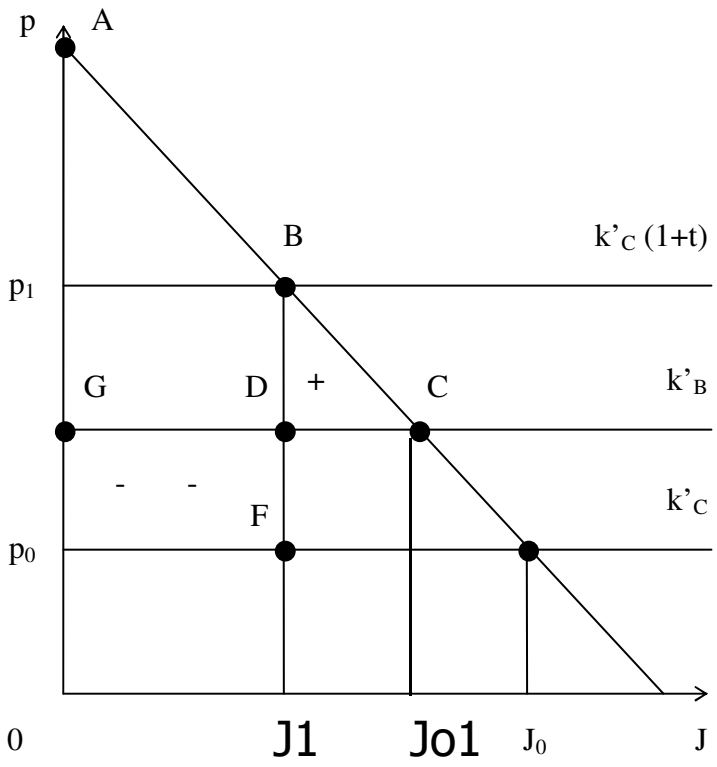
- 1) If net gain is small for member countries
- 2) If there are neighboring clubs which lure away member countries (EFTA/EU…)
- 3) If there is internal political instability (eg Spain?)
- 4) If political support of population reduces (NL, F)
- 5) If security is undermined by club building and deepening

EU Integration: Treaty of Rome 1957 GER,FRA,ITA,Benelux

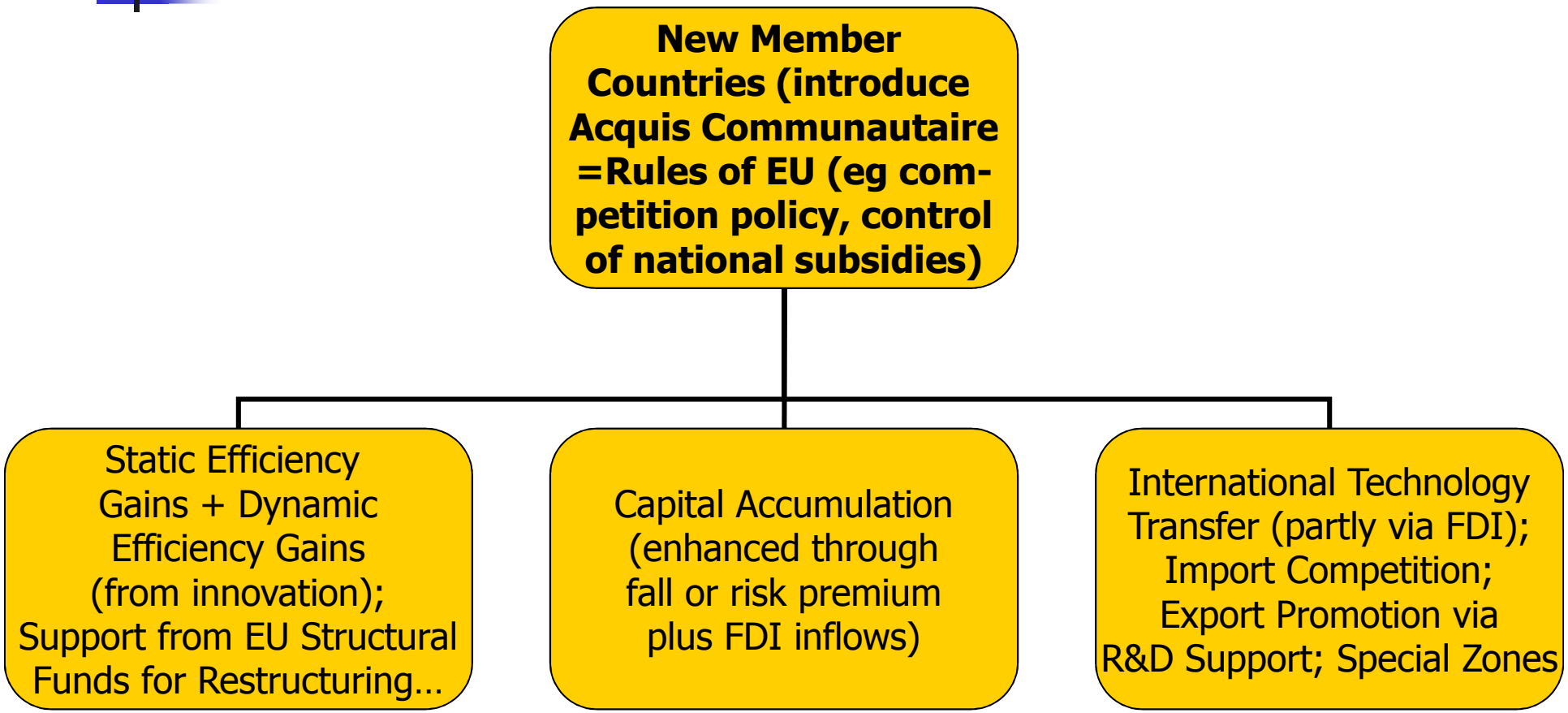
- 1952 European Coal and Steel Union (6 countries)
- 1.1.1958 *European Economic Community (plus joint peaceful exploitation of Atomic energy; the latter partly reflecting French interest to close technology gap in militarily relevant atomic technology)
- 1968 Customs union completed (but not in services)
- End of 1992 completion of single market programme= 4 freedoms: free trade in goods, in services, free movement of capital, free movement of people
- 1999 start of Euro and ECB (European Central Bank), 11 countries – out of 15 (UK and Denmark have opting out-clause)
- Note: US have often pushed for new GATT rounds after EU enlargement (eg EU enlargement 1972, and EU southern enlargement); also called for compensation – and received it; other countries would hardly get any compensation.

Vinerian Customs Union Analysis: Looking at Import Market with countries A,B,C; C was only supplier to A priot to CU (see k 'C(1+tariff)). After CU only suppliers from B – without tariff

Initial import is J1 which brings tariff revenue of $p_o p_1 BF$ anfallen,
Imports grow in CU (A+B) to J_{01}: B suppliers replace suppliers from C(Corea).
Rise of imports= trade creation
Welfare gain is
BCD plus Gp_1BD, but there also is welfare loss (no more tariff revenue): see $GDFP_o$;
net effect is unclear for A+B; and often also for A+B+C (world)



EU eastern enlargements (1.5.2004/10 countries and 1.12007/Bulg.+Rom.)=high growth in accession countries+ trade expansion in EU27



Regional Integration in 3 Country Setup

- Regional integration explicitly has to be analyzed in 3 country model (2 integration countries, one outsider)
- Trade integration often is between neighboring countries which reflects logic of gravity equation (with D for distance):
  - $\ln X_{ij} = a_o + a_1 \ln Y_i + a_2 \ln Y_j + a_3 D_{ij} + u_t$

What can we learn from EU eastern enlargement?

- Enlargement=introducing EU rules in accession countries: with adjustment requirements on institutional setup of economic order= stimulates economic catching up. But more members makes EU more complex and intransparent; problem with popular support in some countries; **EU identity?**
- **Future EU enlargements:** Balkans?/Ukraine/Turkey/Russia/Tunesia...(unclear field?)
- **European Economic Space** as alternative to EU membership (Island, Liechtenstein): EU without much political rights/without structural funds/full migration
- Which role for **Euroland?** Full monetary integration is bold step which requires broad consensus. Raise the price for latecomer members would be rational – so far not possible

Critics of globalization argue...

international economic disparities – in per capita income - are growing (?) due to globalization

- These are the facts (Data from Maddison, OECD):

  Income ratio richest (USA+Canada+Australia/Western offspring) to poorest region in per capita income y:

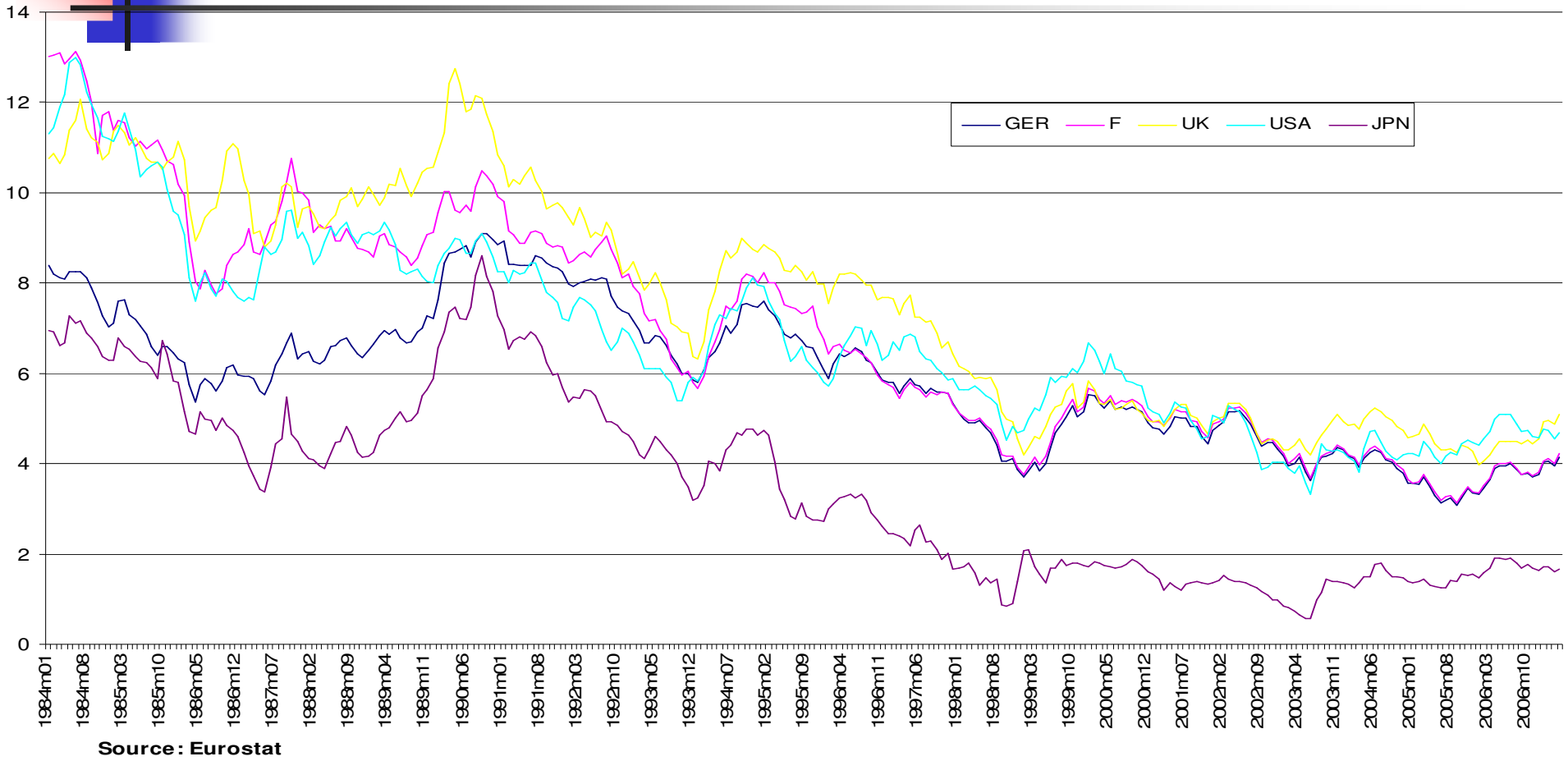
  - 1950: 17:1
  - 1973: 13:1 (y in Africa ≈in Asia without Japan)
  - 1998: 19:1 (incl. Africa); without Africa: 9:1

Africa is mainly a problem of political instability; civil war etc.; Asia is one of the winners of globalization, particularly China –some problems, but not glob.

Critics have argued that globalization brings more financial instability

- Expansion of banks and stock markets; brings efficiency gains – but also new links and international impacts: How about regulator in home country (and II)?
- Raising adjustment speed in financial market(s) and slow adjustment speed in goods markets and factor markets – or in terms of expectation formation (see Dornbusch Model on Exchange Rate Overshooting) brings problems
- Twin problems of maturity mismatch und currency mismatch in NICs/LDCs opening up („original sin“)

Longterm Interest Rate



Source: Eurostat

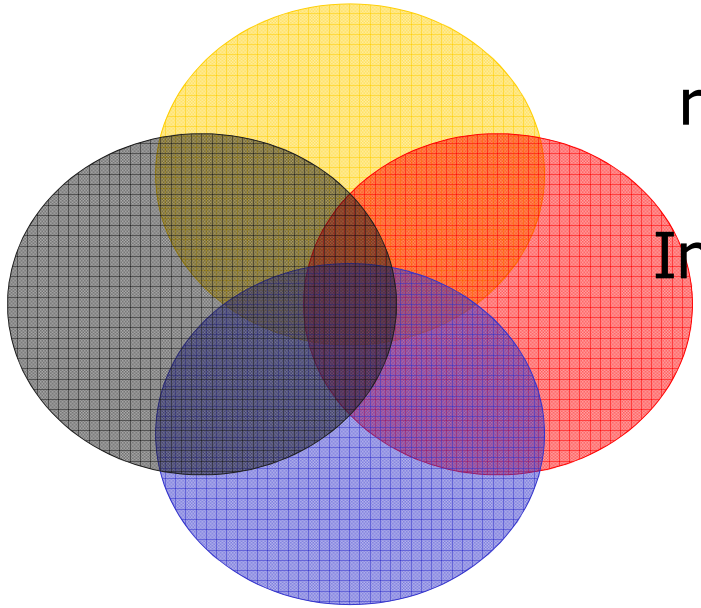
Main actors in prudential supervision: BIS and IMF plus national supervisory authorities

- BIS created after the Herstatt Bank insolvency the Basle Committee of Banking Supervision (active: G-10/2007 we have 13 countries, 9 from EU, Japan, Canada, Switzerland, USA)
- Basel I rule: 8% own capital requirement
- Basel II which is effective as of January 2008 (at the latest): more differentiated requirements taking into account more closely risk aspects of respective loan

A View on the 21st Century Perspectives: Financial Markets…

National Prudential Supervision

BIS Requirements



Self-interest of respective banks; Innovativeness, Internationalization (diversification/risk reduction plus rai-sing portfolio yield)

Ratings by Moodys, Standard & Poors, Fitch etc.

International Organizations

- Global: IMF – World Bank – Bank for International Settlements;
  - International Telecommunications Union (ITU)
  - G-8 bzw. G-20
  - Also OECD (with about 30 rich countries)
- Regional:
  - Asian Development Bank, EBRD, African Development Bank
  - EU, ASEAN, NAFTA (USA+Canada+Mexico (1994), Mercosur in Latin America etc.

International Organizations

- Efficient and effective division of labor; cooperation among IOs
- Role of EU as bilateral and international organization
  - EU, Russia, China, USA
  - World Summit on Information Society/WSIS (EU in weak position)
  - cooperation EU-ASEAN
  - cooperation EU-ASEAN-NAFTA etc., APEC

Removal of IMF

- Problem of **Moral Hazard** of private investors which might speculate on bail of of IMF in case of crisis (moral hazard is problem from insurance markets – incentive of client to cause „accident“)
- Without IMF there would be chaotic politization of international monetary issues; only big countries could pursue their interests. Many small countries…
- **More transparency** (formula for weights etc.) of IMF required
- **Accountability** should be reinforced/strange Russia case
- **Better organization** (with so many more menbers!)
- fair **burden sharing**!

Do we need the World Bank?

- As WB has **AAA-Rating** and gets funds in the international market – through bond emissions – at low rates= cheap credits for poor countries/project financing, WB is important;
- IS WB effective and efficient; does it take into account environment issues, globalization problems etc.?
- How successful are ist efforts in financial institution building

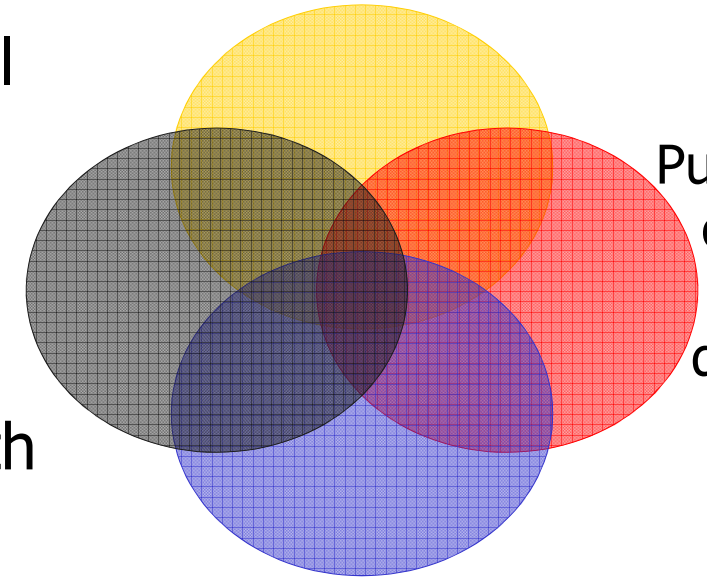
How different are interests?

- What is the mission/ideology and interest of
  - EU
  - US
  - Japan
  - Etc.
- Which role does culture play/different civilizations
- Are OECD countries willing to share top positions in IOs with representatives from NICs etc. (what are the consequences?)

Should we be optimistic? It depends (clear approach needed)

Understanding globalization dynamics worldwide

Bringing crucial countries on board in BIS, WTO, OECD (China, India, Indonesia, South Africa etc.)



Putting adequate focus on China (eg work-place safety stan-dards, green topics)

More emphasis on prudential supervision; more encouragement for global digital dialogue

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- WELFENS ET AL. (EU –ASEAN)

Gross Domestic Product Per Capita (PPP Figures: Top 10 and Bottom 10)

Why are there such large income differentials?
Will such high differentials cause international problems?
Are such differences sustainable?
What can governments do to stimulate catching-up?

GDP per capita in PPP international US $

		1990	2000
CHE	Switzerland	24154	28769
USA	United States	23447	34142
LUX	Luxembourg	21363	50061
ISL	Iceland	21343	29581
JPN	Japan	20183	26755
CAN	Canada	20122	27840
NCL	New Caledonia	19745	21820
NOR	Norway	19527	29918
DNK	Denmark	19513	27627
BEL	Belgium	19411	27178
BDI	Burundi	722	591
BEN	Benin	706	990
GNB	Guinea-Bissau	686	755
BFA	Burkina Faso	636	976
MLI	Mali	582	797
YEM	Yemen, Rep.	567	893
MOZ	Mozambique	521	854
ETH	Ethiopia	486	668
TZA	Tanzania	453	523
MWI	Malawi	445	615

Production, Productivity, Growth, Technological Progress

- Aggregate production is Y, population is L; thus Y/L=y is per capita income

- Y is determined from linear-homogenous production function Y=Y(K,L); with capital K and L as inputs. Linear-homogeneous means that z-fold increase of all inputs will raise output by factor z; marginal product of capital ∂Y/∂K indicates rise of output when K increases by 1 unit (net investment of 1); ∂Y/∂L is marginal product of labor. Profit maximization – in competitive markets – will lead to ∂Y/∂K=r; ∂Y/∂L=w=W/P (r is real interest rate, W is nominal wage, P is price level, w real wage rate)

- Note that Y/L and Y/K can also be interpreted as labor productivity and capital productivity, respectively

Medium Term and Long Term Analysis of Output Development

- Short term: K and L given, hence capital intensity is given
- With linear-homogenous production function Y(K,L) – and assuming competition - we have
  - y = rk + w

    Medium term: k hardly changing; r, w can adjust, in particular as a consequence of opening up, w can increase in poor countries

    Long term: capital accumulation through net investment dK/dt, capital intesity k could rise…

Characteristics of Cobb-Douglas Production Function [(dL/dt)/L:=g_L:=n]

- $Y = K^{\beta}L^{1-\beta}$, $0<\beta<1$; growth $g_Y = \beta g_K + (1-\beta)n$
- $\partial Y/\partial K = \beta Y/K$; as result of competition
- $\partial Y/\partial L = (1-\beta)Y/L$
- It is easy to show that profit maximization under competition will lead to $\beta=rK/Y$ (share of capital in gross domestic product Y); and $1-\beta=wL/Y$
- Cobb-Douglas is linear-homogenous

Neoclassical Basics of Economic Growth (in a setup with Harrod-neutral progress A(t))

- Production function $Y=K^{\beta}(AL)^{1-\beta}$; $0<\beta<1$
- Hence $y'=Y/AL = k'^{\beta}$
- Technological progress (with e' as Euler number) is labor-augmenting A(t) $=A_o e'^{at}$
- Abroad (country II, *): $Y^*=K^{*\beta}(A^*L^*)^{1-\beta}$
- Technology as in home country I
- Gross investment $I = dK/dt + \delta K$ where δ is the depreciation rate;

Using efficiency units of labor AL (growth rate of L is n), deriving solution…

- (1) $I = dK/dt + \delta K$; net investment is dK/dt
- (2) Savings $S = sY = I$
- Goods market equilibrium (in setup with government budget balance =0 and net exports = 0 as long term equilibrium conditions) requires that gross investment I is equal to savings S=sY
- (3) $dK/dt + \delta K = sY$ or after division by AL
- (3.1) $[dK/dt]/(AL) + \delta K/(AL) = sY/(AL)$

- Define $k' = K/(AL)$, $y' = Y/(AL)$
- (4) $dk'/dt = [dK/dt]/[AL] - (ak') - (nk')$
- Insert (4) in (3.1) and take into account that $sy' = sk'^{\beta}$

- (3.2) $dk'/dt + (a+n+\delta)k' = sk'^{\beta}$

Differential Equation in k‘(t): Steady State Equilibrium k‘#

- We obtain a differential equation for k‘(t), where C_o can be determined from the initial conditions: t=0
- (5) $k‘(t)= \{[C_o e^{‘-(a+n+\delta)(1-\beta)t}]+ [s/(a+n+\delta)]\}^{1/1-\beta}$
- This equation will converge with t approaching infinity to long term (steady state value) k‘#:

  (5.1) $k‘\#=[s/(a+n+\delta)]^{1/1-\beta}$
- Hence (5.2) $y‘\#=[s/(a+n+\delta)]^{\beta/1-\beta}$
- Per capita income $y\#=Y/L =A_o e^{‘at} [s/(a+n+\delta)]^{\beta/1-\beta}$

Some Critical Remarks …

- Steady-state solution is for $t \rightarrow \infty$; so relevance of such long-term result might be limited in the context of discounted utility U maximization: $U=\sum e^{-\psi t} y(t)$
- The higher the time discount rate ψ, the more important the short term, thus the transition process might be more important than steady state solution

Results Explain Why y in Poor Countries Smaller than y* in OECD

- Long-term per capita income y positively depends on
  - initial level of technology A_o,
  - growth rate of technological progress: a (the exponential term a with the Euler number dominates a in the denominator)
  - savings rate s (read: gross investment rate)
- Long-term per capita income y negatively depends on
  - growth rate of population: n
  - capital depreciation rate: δ

Steady-state Per-capita Income Ratio y/y* (* for foreign variable)

- $y/y^* = A_o e^{‘at} [s/(a+n+\delta)^{ß/1-ß}]/\{A^*_o e^{‘a^*t} [s^*/(a^*+n^*+\delta^*)]^{ß/1-ß}$
- Hence domestic y will be smaller than y*
  - if savings rate s (investment rate) <foreign s*
  - if technological progress a < foreign a*
  - if growth rate of population n>n*
  - If depreciation rate $\delta > \delta^*$

Problems in Poor Countries

- **Savings rate is low**, as there are often confidence problems in banking system (moreover, savings ratio might depend positively on y/k ratio and with low initial average capital productivity Y/K there are limited savings and investment opportunities in poor countries)
- **Initial level of technology is low** (if A is complemen-tary to human capital – so that L is heterogenous -, raising the level of technology will be difficult)
- **Growth rate of technological progress low**: partly due to insufficient public investment in education, lack of public and private R&D expenditures

Further Problems in Poor Countries

- **Growth rate of population is high** (compared to OECD countries) which depresses growth rate of per capita income
- **Capital depreciation rate** might be higher than in OECD countries (eg due to nonoptimal repair service)

Economic Policy Options to Stimulate Real Convergence I

- Real international economic convergence requires y=y* in the long run
- Modernization of banking system is important, including acceptance of some foreign banks plus improved prudential supervision = solving the confidence problems will help to raise s (and I/L)
- Government & private spending on research and development (R&D) important for techn. progress

Further Policy Issues

- Government might try to reduce growth rate of population (to some extent this endogenously comes through urbanization, better education – encouraging contraception); optional strategy to introduce social security system – in particular pension system – so that having many children is no longer a need for parents to survive retirement age

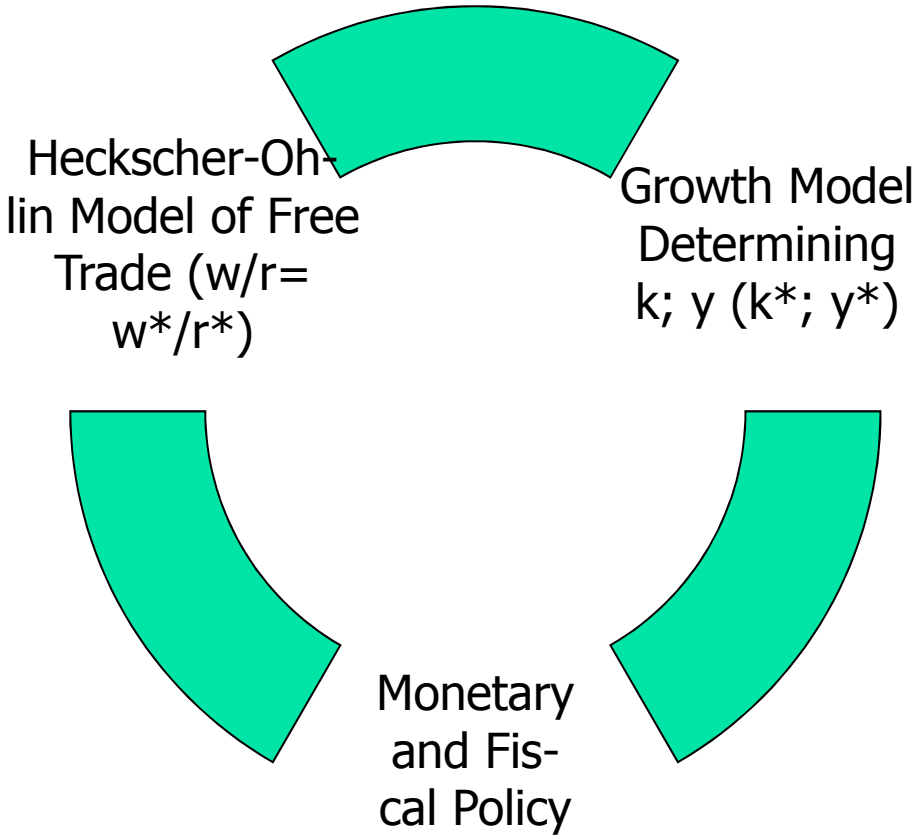
Further Policy Measures to Spurt Growth

- Government might encourage firms to optimize maintenance/repairs of machinery and equipment so that depreciation rate will fall (again better education of workers will help!)
- Government could try to stimulate technology transfer and encourage imitation so that A(t) will rise faster than initially

Heckscher-Ohlin Theory: 2 Countries, 2 Input Factors, 2 Goods

- Assumption: Linear homogenous production functions in country I and II
- Technology for I and II idential
- No international factor mobility
- National factor mobility
- Profit maximization
- Relative prices in I and II will differ under autarchy. Q: What happens after opening up?

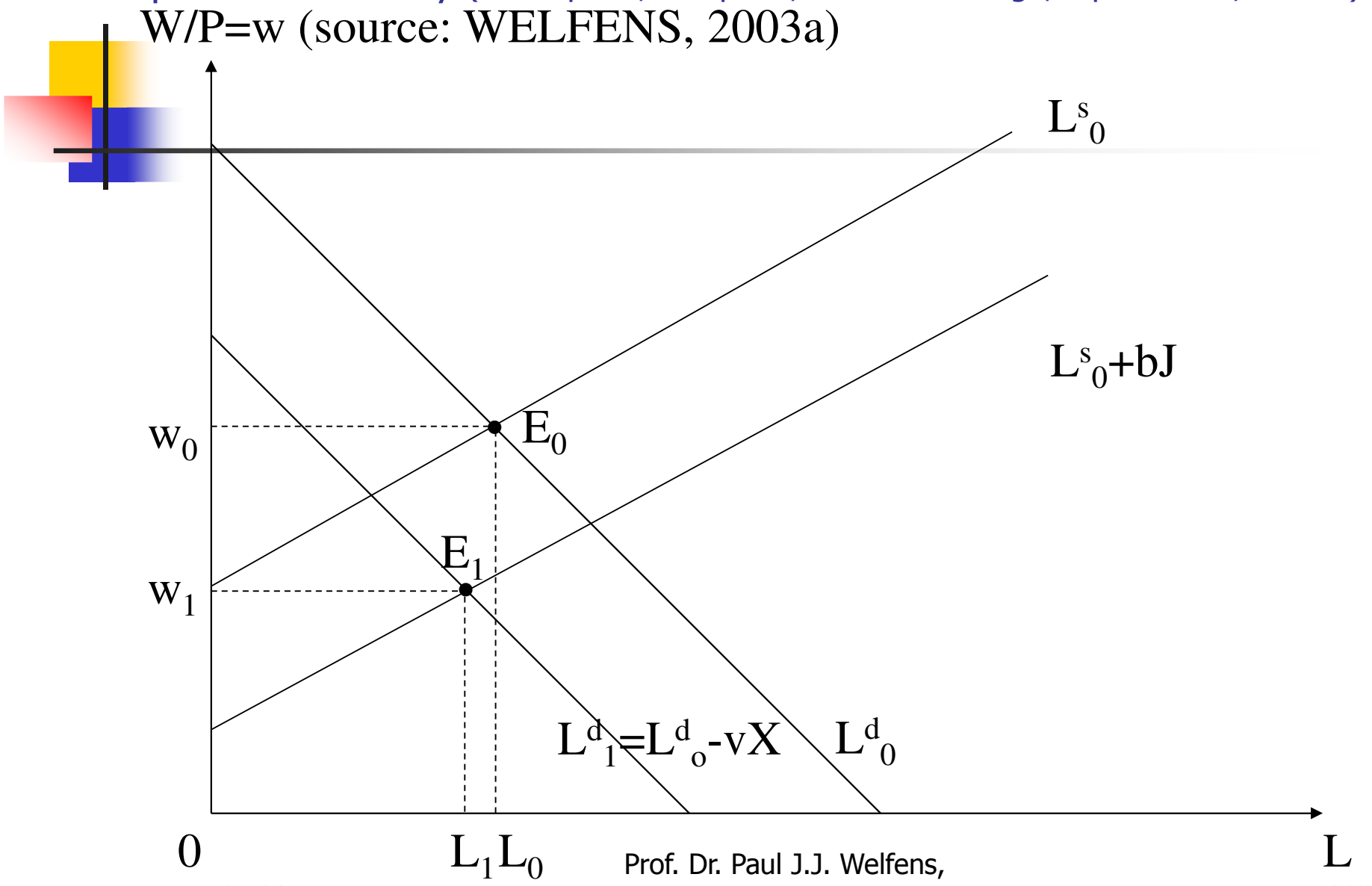
Neoclassical Growth AND Trade Analysis plus Economic Policy



Implications of HOS Analysis: Free Trade Equalizes Relative Prices and Factor Price Ratio

- Relative abundance of labor (or capital) decisive: Abunance measured by K/L:=k. Country with relati-vely high k is dubbed capital rich; the country with low k is highly endowed with labor
- Opening up will bring uniform relative price $p_1/p_2=p_1^*/p_2^*$
- Country I which is labor-abundant (II: capital abun-dant) will specialize on labor intensive production (capital intensive production) and exports. As II imports after opening up more labor intensive imports effective labor (emboddied in imports) supply is up so that w/r will fall. In I which faces effectively higher supply of capital – due to imports of capital intensive goods - w/r will rise! Tendency for factor price ratio to equalize!

Effective Labor Market: Switching from Autarchy to Free Trade in a Capital-rich Country (J is imports, X exports, W nominal wage, P price level, L labor)



Two-Country Growth AND Trade Model (WELFENS, 2007a)

- Assumption 1:Cobb-Douglas production functions at home and abroad identical
- A2: Free trade, but no international factor mobility; according to Heckscher-Ohlin-model free trade – and profit maximization – will bring international equalization of real wage-real interest rate ratio w/r: so w/r=w*/r*
- A3: Asymmetric 2-country-model (small&large)

Two-country Model (foreign country II large; k defined as K/L, y=Y/L)

- Profit maximization implies
  - (I) $w=(1-ß)Y/L = k^{ß}$;
  - (II) $r = ßY/K = k^{ß-1}$
  - (III) $w/r = [(1-ß)/ß]\ k$ so that $w/r=f(k)$; $k=h(w/r)$; also $w/r=f(k')$
- Property of linear-homogenous production function (eg Cobb-Douglas):
  - (IV) $y= rk +w$; futhermore (IV') $y' = rk' +w$
  - (V) $y'/w = (r/w)k' +1$
  - (VI) $y'^*/w^*=(r^*/w^*)k'^* +1$

    As free trade according to Heckscher-Ohlin brings about $r/w=r^*/w^*$ and $k(w/r)=k^*(w^*/r^*)$ RHS of (V)=RHS of (VI); therefore LHS of (V) = LHS of (VI) and since $y(k) =y^*(k)$ iff $k=k^*$ we have $y=y^*$; once k^* and hence w^*/r^* is determined in country II, w/r and long term equilibrium k in country II automatically determined: full dependency from II since

$k'^{*\#} =\{s^*/(a^*+n^*+\delta^*]\}^{1/1-ß}$! Thus s(...) is endogenous!!

21st Century Perspectives

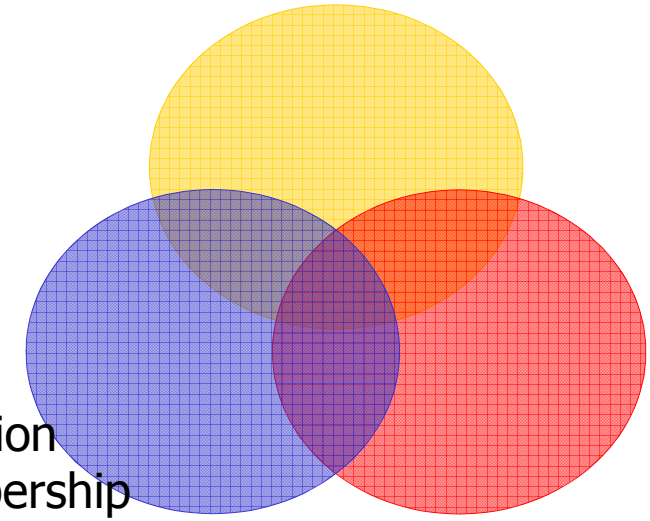
- After the end of the Cold War the political discipline of the bipolar world (USA vs. Soviet Union) is gone = less discipline in western world and in post-soviet world; expansion of western world
- Revival of religious influences as a long term phenomenon (partly an exception: China)
- Digital world economy which facilitates community building plus international export of religious beliefs
- Internet world emphasizes pictures/images/media

Regional Integration (example of customs union)

- Regional integration brings
  - Trade creation for the countries integrating= more trade among CU countries which raises y,y*
  - Trade diversion for outsiders which reduces y**
  - Customs union also can bring dynamic benefits in the sense of more intensive competition (erosion of national monopoly positions) and hence intensified innovation dynamics – including regional technology spillovers
  - What happens if there are more and more regional trading blocs? (or what if there is full global free trade?)

Issue: Global Free Trade is First Best?

Invitation for breaking up of countries (see Spain, Russia etc.)



2-stage Liberalization with Conditional Membership in CUs is Best Option!?

Fair Sharing of Burden

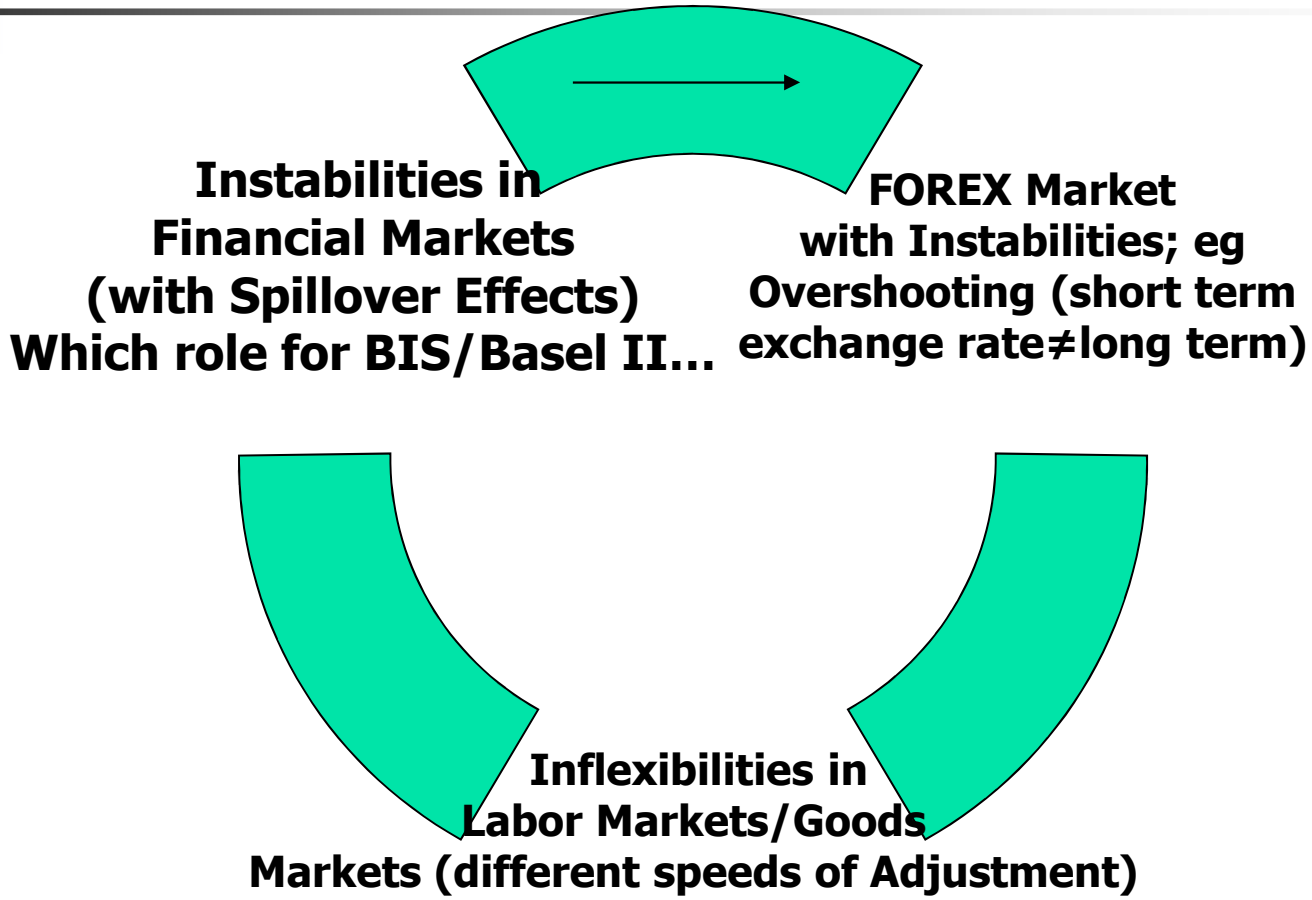
How Much Globalization is Sustainable/Stumbling Blocs?

- Debate: Will regional integration undermine global free trade (WTO?
  - Building Blocs vs
  - Stumbling Blocs
  - Integration of Integration Areas? This would be interesting option (new EU foreign policy approach/Welfen 2007b)

WTO and GATT

- WTO created on 1.1.1995; success to previous „International Agreement“ GATT (General Agreement on Trade and Tariffs);
- WTO = GATT + GATS (General Agreement on Trade in Services) + TRIPS (trade related intellectual property rights)
- Council of Minister; unanimous vote required =inefficient. Problems with DOHA round, liberalization effort could fail; worries about „fast track“ in USA etc.

Problems with Instabilities (selected); Challenge for BIS, IMF, national governments…



International Organisations

Theory, Economic Relevance, Reform Options

(2007/08)

Suggested readings: chapters A+B in Tilly, R.; Welfens, P.J.J. eds. (2000), Economic Globalization, Inernational Organizations and Crisis Management, Heidelberg and New York: Springer

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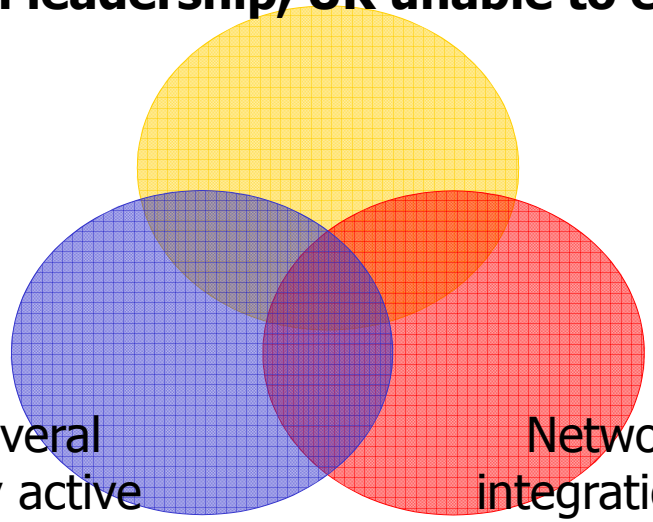
Definition of international (governmental) organisations

- International organisation = multilateral or su-pranational institution with activities in the field of international relations; member countries >2; **alternative to IO activity is bilateralism** which potentially is attractive for large countries. Types of IO
  - multilateral= several countries; & IO has limited autonomy (e.g. IMF, World Bank) and statutes may be changed rather easily
  - supranational = internationale organisation to which member countries have transfered part of traditional competences (e.g. EU which has exclusive powers in the field of trade policy).

Global governance: options

Hierarchical approach = Dominance (eg UK: 19th century, but after rise of US in late 19th century there was lack of global governance in interwar years; US not interested in global leadership, UK unable to exert global leadership)



Multilateral system: several countries and IOs jointly active
Most IOs became active only after 1944

Networked system of regional integration clubs (potential option; e.g. NAFTA-MERCOSUR-EU-ASEAN-etc.)

Challenge is to create an **International Public Good**; a public good allows many or all countries to share benefits (no rivalry of „consumption"); free-rider problems…

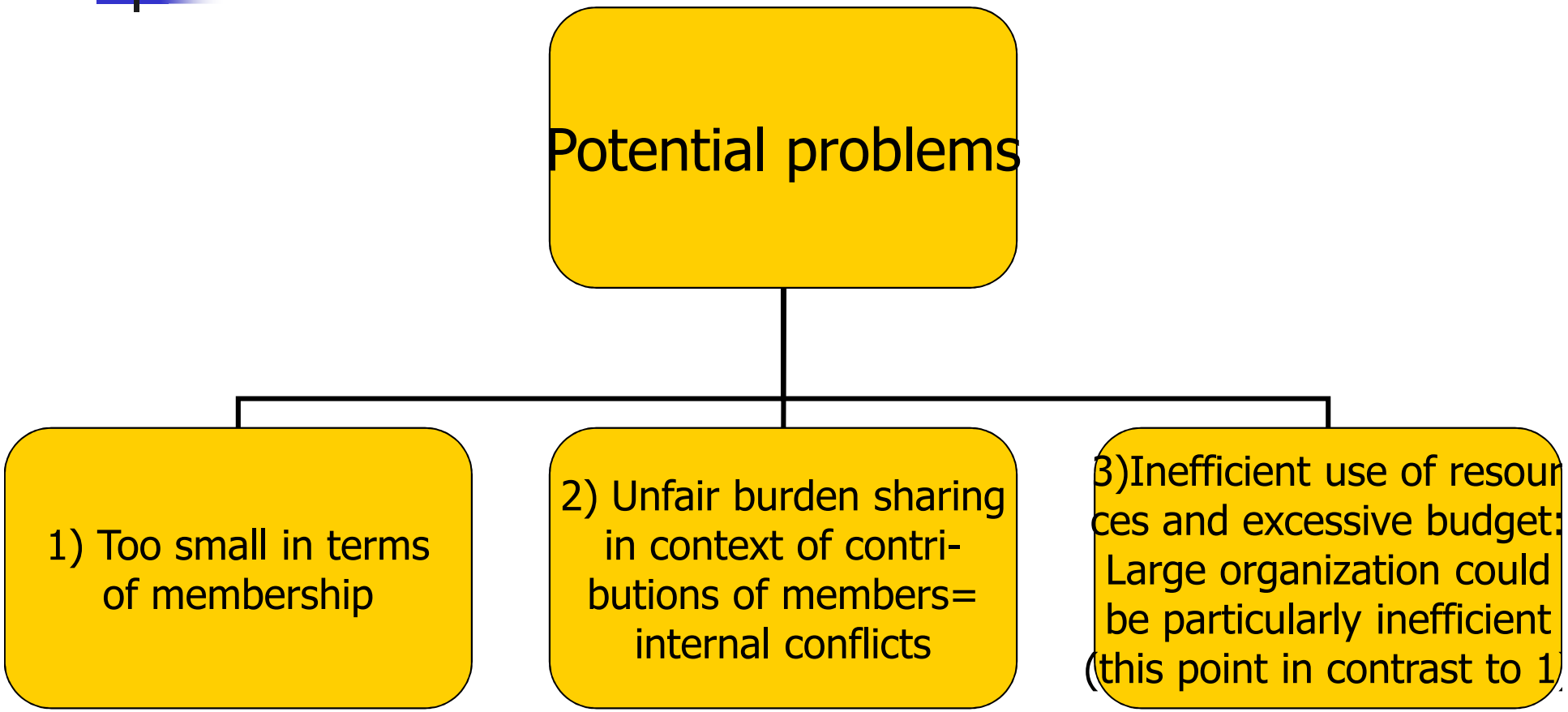
Problems with Provision of Public Good

- **As many/all countries can share benefits** there is potential **bias in revealing of preferences** (eg avoiding global warming: How important is this international public good for country i=1,2…n); strategic issues
- **free rider problem** (see US in the case of Kyoto Protocol). It is difficult to establish a system with adequate financial contributions from all those who benefit

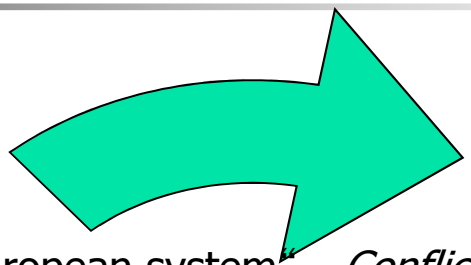
Problem with Provision of (International) Public Goods

- In a system characterized by dominant country the dominant players imposes financing on „partners“ – if all agree;
  - after Vienna Congress of 1815 and creation of Holy Alliance which wanted to jointly shape international order there was regional problem after 1834; US/president Monroe (US independence 1776) said no to European claim to dominate Latin America. Japan prefered isolationism
  - global system with all countries involved only at end of the 20th century (when China joined WTO and many east European countries IMF/WB)

Problems with international public goods



Why expansion of trade raises the need for international cooperation



TRADE EXPANSION in a „European system“ of rivalryand with new players (eg Japan) In the 19th century (from 1814 to 1914)

Conflict of interests between merchant(s) and country X or between governments of X and XX

Options to solve conflict

MILITARY POWER or

(PRIVATE) DISPUTE SETTLEMENT

or INTERNATIONAL COOPERATION (e.g. via conferences)= reduction of uncertainty = stimulating TRADE

History of International Organisations

- Vienna Congress = Concert System/Holy Alliance: France, Russia, Austria, Prussia which suppressed liberalism; but not UK
- Interest in institutions facilitating trade (e.g. gold standard) and international organisations – often with focus on specific issue – increased in Europe, Asia and North America
- Various cases of cooperation:
  - Special case of cooperation in „Germany“ is Deutsche Zollverein of 1834
  - Standardization – 1875 cration of the Bureau International des Poids et Mesures in Paris = stimulating international trade and innovations
  - Rhine convention 1831, Danube convention of 1856 (after Crimean War)
  - Latin Currency Union of 1863 (France, Belgium, Italy, Switzerland)
  - Foundation of International Telegraphy Union in 1865 (ITU), Universal Postal Union estalished in 1874; by 1871 European time table railways
  - International property rights/patent laws: through convention of 1880, followed six years later by the establishment of secretariat in Berne; non-discrimination of foreigners

Concert of Europe Powers

- 1815 Vienna, 1818 Aix la Chapelle, 1822 Verona; broke down after 1822 as Britain did not support the system; after the Crimean War in 1856 the Concert was revived and accepted a protocol on the protection of trade in time of war; also joint appointment of a director-general of the Danube River Commission; 1664 Concert powers decided in Geneva that military hospitals in the field should be neutralized during wars. 1878 Congress at Berlin: Romania, Serbia, Montenegro become independent; Austria obtains the protectorat on Bosnia & Herzegovina; Russia obtains Bessarabia (Dnjepr area), Britain gets Cyprus…

Hague Conferences/Court

- **1899 Hague Conferences** – 26 nations signed the 1899 Convention on laws and customs of war on land; later experience showed problem with implementation. New Hague Court – active since 1902 – contributed to peace through arbitration (Russia-Britain in 1905; France/Germany in 1909); by 1907 44 nations had signed the Convention

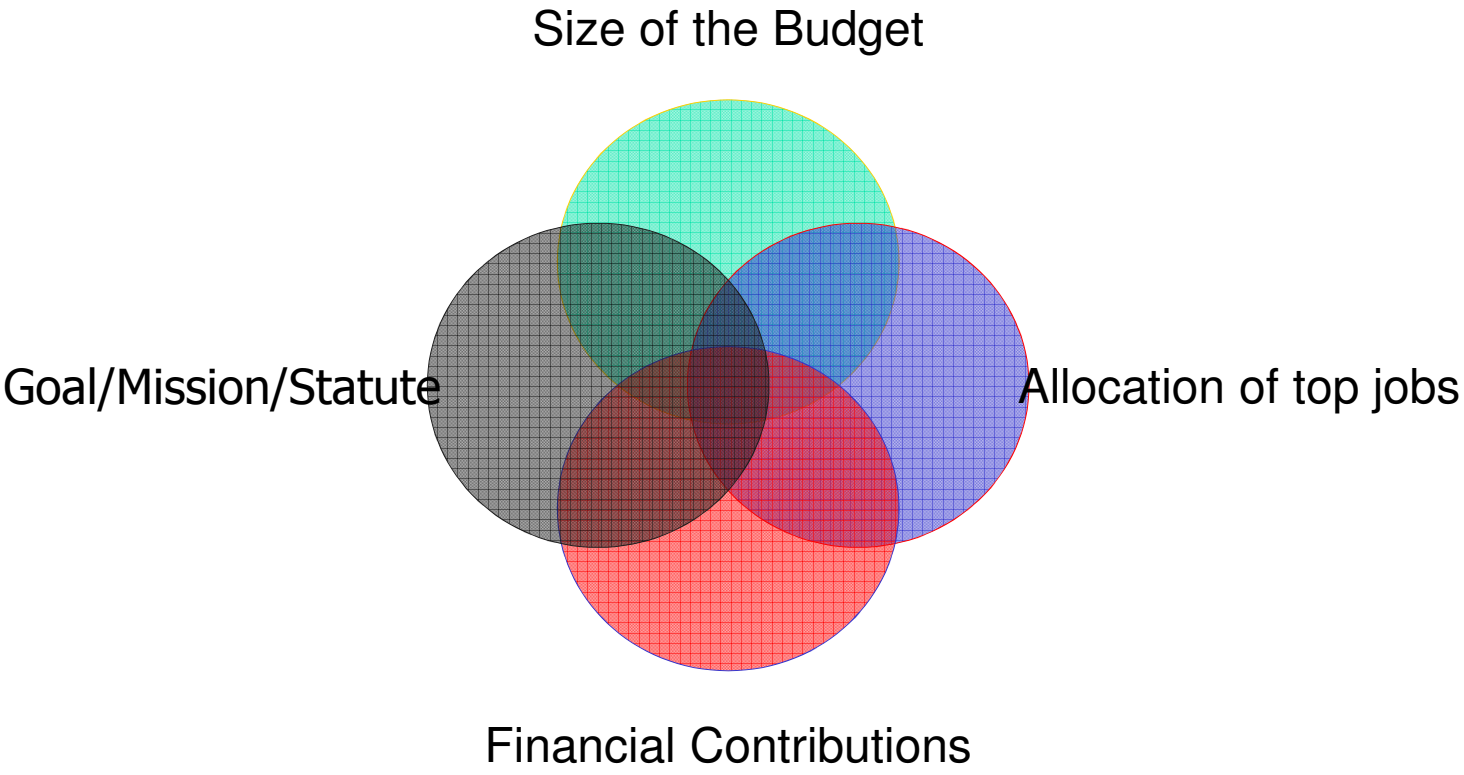
Problems with the efficiency of international organizations

- Cooperation is rather easy
  - If the number of countries is rather small
  - If the countries are rather homogeneous in economic terms (per capita income) and no major ideological differences exist (e.g. pro-liberal stance vs. protectionist policy stance)
  - If there is accepted leadership within the group of countries
  - If several issues can be combined in package deals (single issue organizations not always ideal although there are, of course, specialization gains in such organizations)

The Radius of International Organisations

- Regional: a) see regional integration approaches or Rhine convention; or Asian Development Bank or EBRD, London = rather limited number of „stakeholders“ and member countries – often makes sense
- Global: 21st century =200 countries; in practice often 150+ (e.g. UN, IMF, World Bank, WTO, BIS (?), Paris Club (settling problems with international public debt; rescheduling of debt); see also London Club which deals with international private debt

Some Politico-economic Aspects of IOs



Selected Key Fields for IOs

- Maintain liberal foreign trade:
  - IMF – helps to establish convertibility and helps in periods with balance of payments crisis (gives loans to deficit country); & monitors exchange rate regimes – prior to 73…
  - WTO membership: most-favored nation clause (dates back to Cobden-Chevalier Treaty of 1860 France/Great Britain)
- Capital Flows: IMF relevant for capital flows; Bank of International Settlements active in prudential supervision of banks (Basle II Accord)
- International property rights: Principle of reciprocity, but difficult to implement for all countries
- International Security (regional; see NATO as a good example; global arena: UN)

Problems with Patent Laws/International Property Rights

- Netherlands lacked patent law at all from 1869-1910; Philips thus successful producer of lamps (having not to pay royalties to Swan/Edison)
- Switzerland also had no patent law until 1887 – like Netherlands free rider on international technological progress; could even attract some producers from abroad willing to violate patents of others, namely through production in free-riding country Switzerland
- US would not tolerate similar exceptions in 21st century
- Partly self-enforcing principle of reciprocity:
  - Country which allowed violations of IPR faced the threat that the country ‘s patents would not be enforced abroad
  - However, country could try free-riding if expected incoming royalty payments small while free exploitation of many foreign patents generates high benefits; but very difficult if you want to export products to US (could deny market entry; HP vs. Jp chipmakers in 1970s/80s)

Monetary Unions

- Latin Monetary Union and Scandinavian Monetary Union also were created in the context of political ends; also note that Deutscher Zollverein of 1834 was followed by Austro-German monetary union of 1857 (but war between Prussia and Austria came in 1866)
- Italy ‘s political unification of 1870 and that of Germany in 1871 has seen prior monetary unification

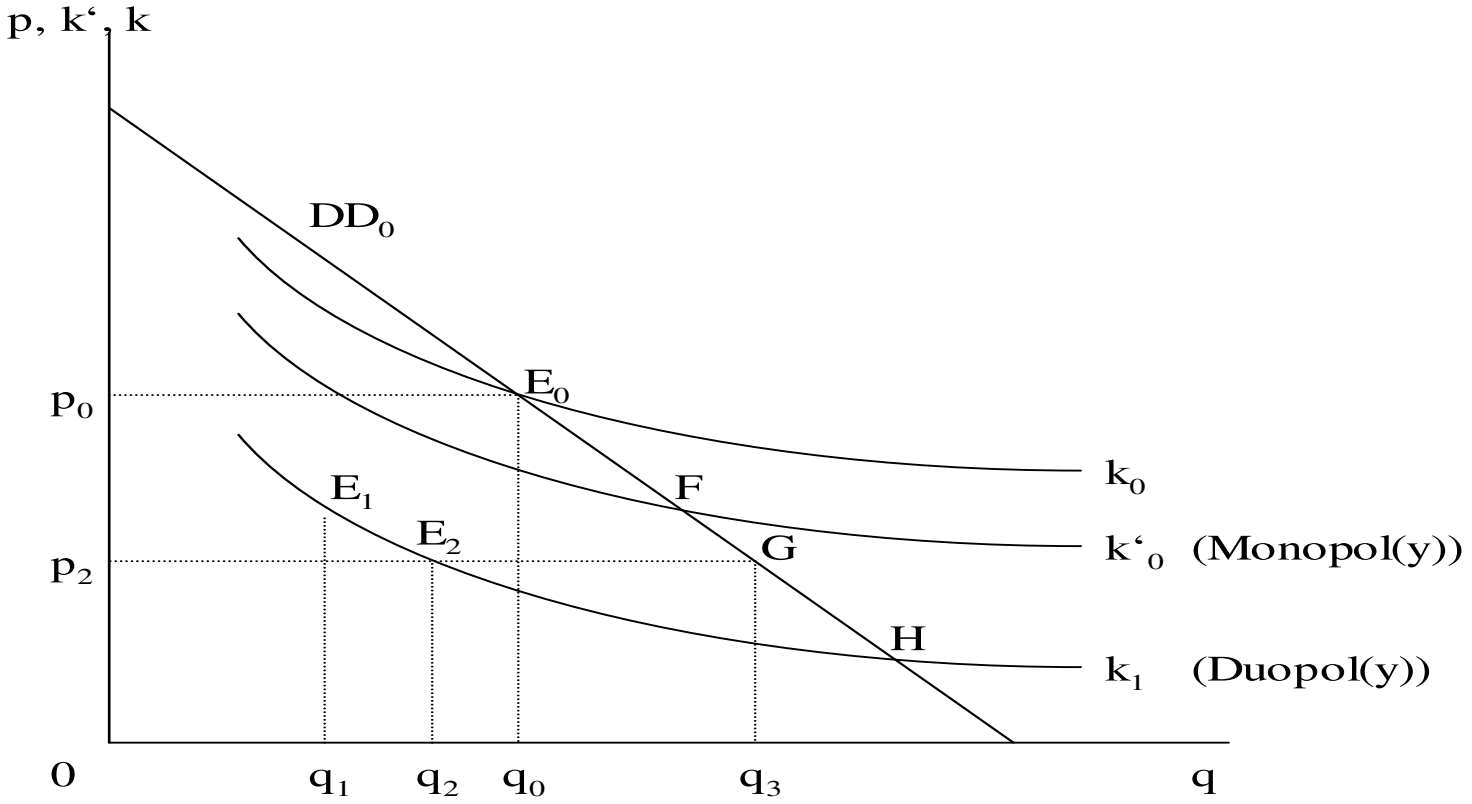
Activities of IOs

- Solving routine problems on the basis of statute
- Conflict resolution
- Crisis management in certain periods – requires skills, legitimacy and competences as well as experience (learning by doing)

Effiziency of IOs?

- Topic of vertical division of labor (e.g. national, multilateral, global) and adequate exploitation of comparative advantage of institutions
- Clear mandate, transparent access procedure
- Limited number of member countries
- Economies of scale? (global vs. regional IO)

Static vs. Dynamic Scale Economies as Aspects of IO (in combination with locational competition and systems competition, respectively)



If innovations are relatively important regional IO is ok

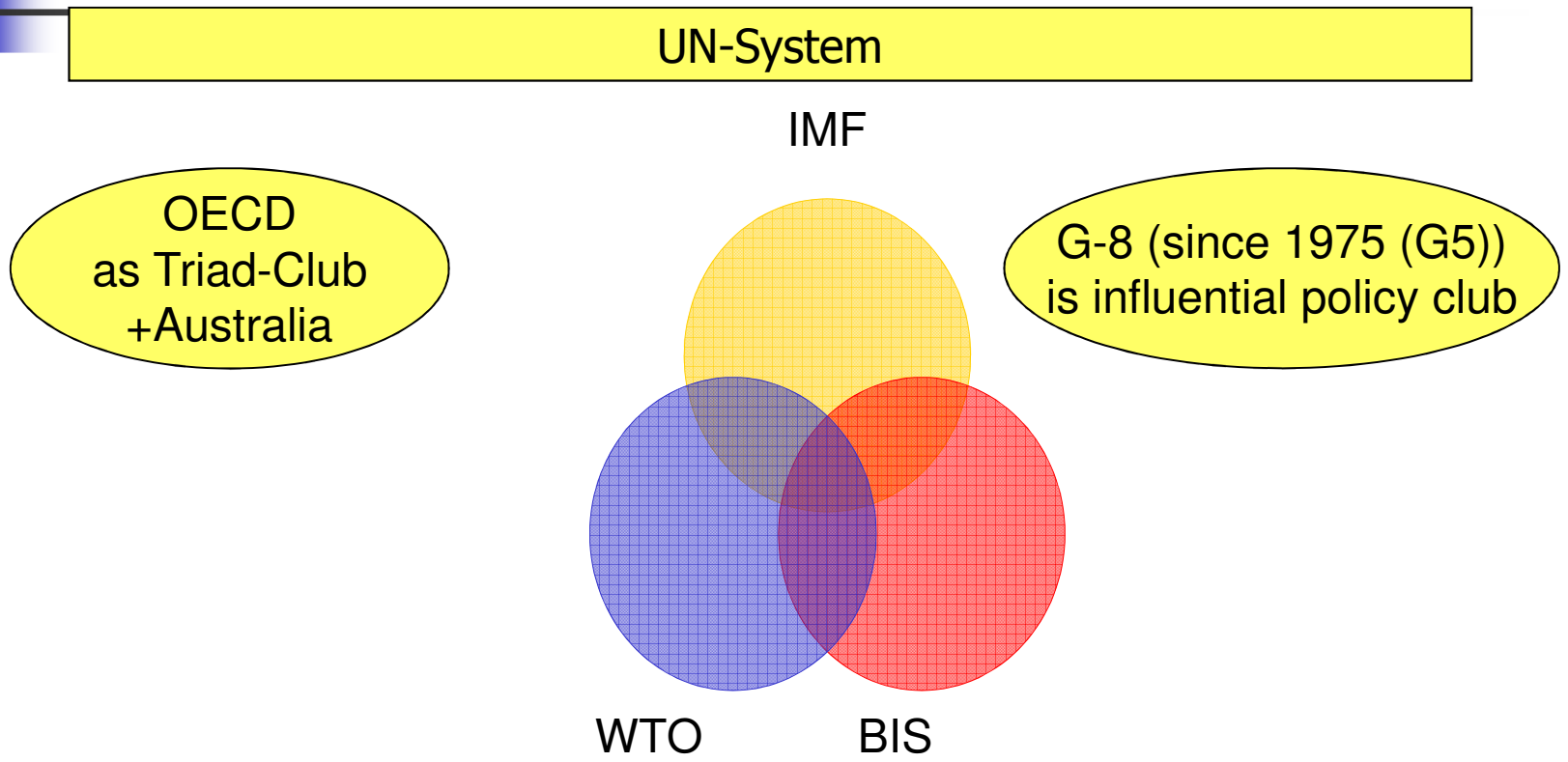
Globalisation since the 1980s

- Rising role of portfolio capital flows since 1970s & strong increase of foreign direct investment (multinational investment) since 1985; NGOs critical against **MNCs and IOs**
- Ratio trade-GDP rises; increasing share of intra-industrial trade; share of trade in services is rising (not least due to ICT expansion)
- Migration as an old & NEW problem for Europe
- Global environmental problems; how serious?
- New challenge is digital dimension/internet

International Organisations at the beginning of the 21st century

- All global IOs with seat in the US (UN, IMF, World Bank) or Western Europe (BIS, Paris Club)
- Leading/dominating role of US in IOs
- G-7/G-8 (*G5 1975) meetings important and often criticized; initial purpose no longer existing – doubts that those countries=the leading economies (China?)
- EU has influence in IOs, eg in WTO,but rarely effective actor (not in the Tunis ITU Digital World Summit)...
- Regional Economic Integration: EU, also NAFTA, ASEAN, MERCOSUR etc.

World Economy in the 21st century; global IOs, regional integration clubs



Key Challenges of Global Organisations

- IOs face the problem of rising number of member countries= less efficient governance
- IOs are shaped by few major countries: USA, EU, Japan – and increasingly China
- Regional IOs might become more important if regional trade expands and clear mission can be stated + leadership
- To which extent will global IOs cooperate: some doubts about IMF – World Bank - BIS
- Organisations of the private sector gaining importance
  - Eg Delaware/London: International Accounting Standards Board which sets IFRS (international financial reporting standards, relevant for firms and banks)
  - Internet – see ICANN
- IOs face increasing pressure critical voices, eg Attac

Some Key Issues

- Can developing countries become more influential (e.g. role of China, India, Brazil, Indonesia, South Africa etc.) at the global level
- Will regional integration schemes in developing countries/newly industrialized countries work?
- What is efficient + effective global governance: which mix of global and regional institutions is optimal
- Will countries come up with adequate financing of IOs (eg US at the UN); will large countries dominate IOs?
- Which role for China in global IOs?
- Which role for EU in global IOs

EU with problems in IO

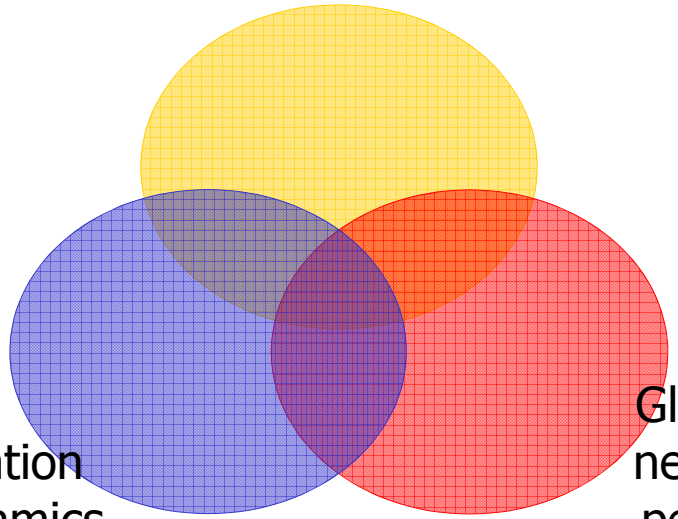
- EU27 is relatively heterogeneous; this problem could become less important in the course of long run economic convergence
- EU27 lacks basic consensus (Constitution, failed in referenda in F, NL); if constitutional problem could be solved it will be easier for EU to pursue interest at the global level; **mini constitution is rather weak project**
- EU27 has serious fiscal transparency problem: Still unclear what is the sum of supranational EU funds plus national funds assigned to field x (see the Kosovo War after which the US at some point threatened that they would pull out troops as „Total EU“ (EU plus member states) was allegedly spending less than promised; budget transparency missing in „Total EU“
- US government argues that private NGOs ‘ spending abroad is part of the overall US support for poor countries (**hybrid foreign policy approach** of the US; see Foreign Policy 2003)

Optimistic Perspective

- **Digital Integration** as a new perspective for global economy; digital world needs rules + entrepreneurs + functional markets + adequate IO involvement
- ICT and internet as fascinating new world
  - Raising creativity/innovativeness and productivity
  - Stimulating internationalization through fall of transportation and communiation costs
  - Creating more freedom in terms of options for networking
  - Allowing new forms of digital democracy and participation

Interesting Policy Options if EU could be reformed

EU is reinforced through globalization dynamics(self-perception and global policy impact?)



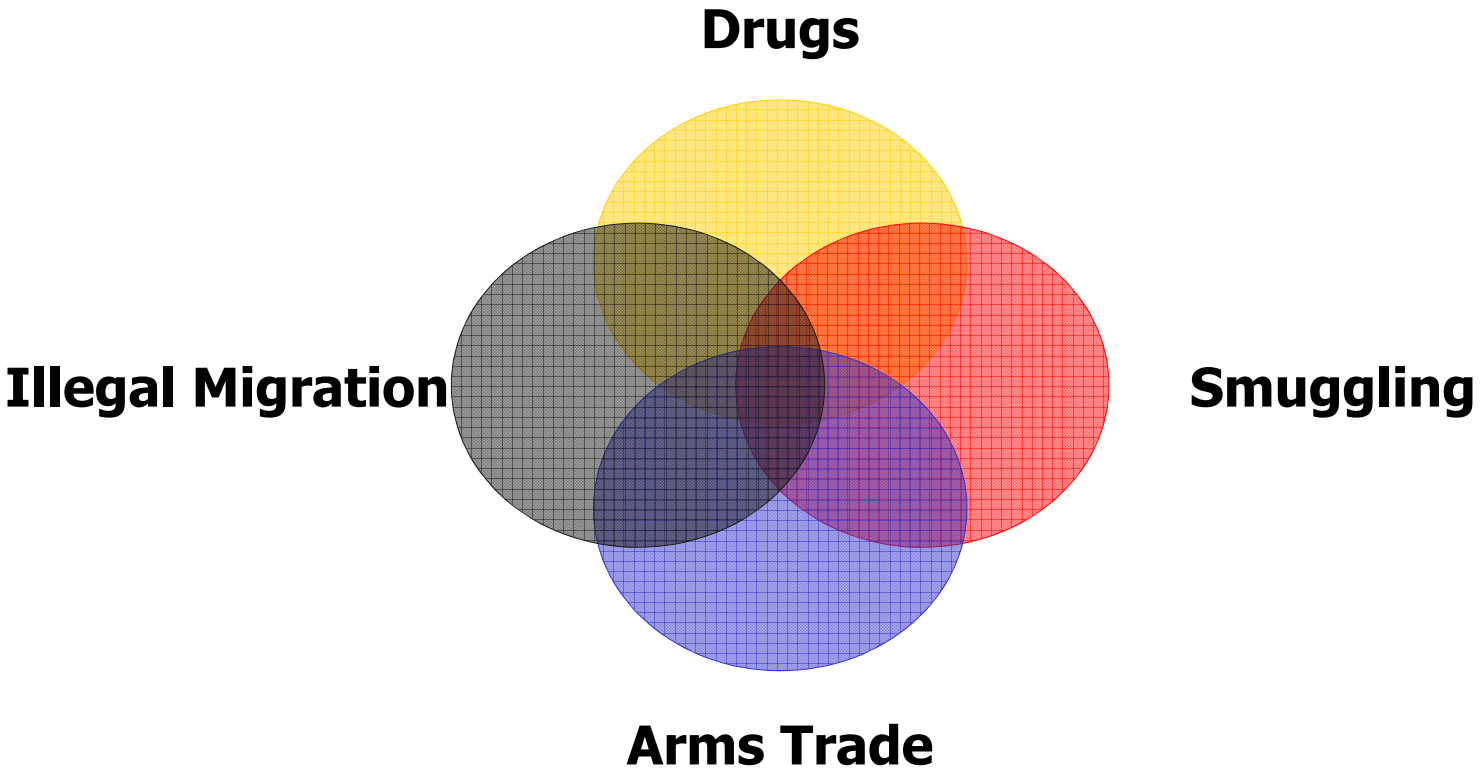
EU reinforces globalization but cannot control dynamics

Globalization undermines EU club as people perceive EU mostly as lame duck

Optimistic View

- EU has high economic weight
- European Social Market Economy restores full equilibrium despite ageing society
- European Parlimant (with 750 seats) is reformed and works effectively with less than 600
- EU budget reformed with more emphasis on R&D, infrastructure projects, network (framework) regulation – telecommunications, energy, railways - and standard setting
- Euro News becomes free TV for all Europeans (with broader programme)
- EU countries develop consolidated fiscal expenditure system
- Eurozone remains stable in terms of low inflation rate
- EU digital society fully developped as knowledge society and internet democracy
- EU constitution is adopted

Black Markets/Shadow Economy in Globalization



Drug traffic as a dangerous challenge

- Billion dollar business is drug smuggling (with Columbia, Mexico, Afghanistan as major source countries)
- Cocoine and heroine consumption increasing: drug addicts become criminal as they need at least 1000 Euro per month while they lose ability to work or have a stable family
- Italy, UK and other countries with problems
- China ‘s opium problem as a warning example; decline of China in the Middle Ages strongly influenced by Opium(trade)

- Illegal drug traffic goes along
  - With corruption (police, military, politicians)
  - With murder (gang fighting)
  - With money laundering (enormous amounts of money from profits

  - Shadow economy is not the same as criminal activity/drug trade; shadow economy means to avoid taxation, social security and regulations

Appendix: Two Sector Neoclassical Model: Rise of ω Raises Relative Price of I-Goods

- (1) $Y = C + pI$; $p = P^I/P^C$; (2) $Y^i = F^i(K^i(t), L^i(t))$, i= C, I
- (3) $dK/dt = F^I - \delta K$
- (4) $K = K^C + K^I$; (5) $L = L^C + L^I$
- (6) $y = Y/L$
- (7) $K/L =: k = [K^C/L] + [K^I/L] = k^C[L^C/L] + k^I[L^I/L] =$
  - 7.1 $k = [k^C - k^I][L^C/L] + k^I$ as $L_I/L = 1 - [L^C/L]$; standard assumption is that capital intensity in C-sector is larger than in I sector
  - 7.2 $k = [k^I - k^C][L^I/L] + k^C$
- Thus (8) $[k-k^I]/[k^C-K^I] = [L^C/L]$; the share of those employed in the consumption goods sector is a postiive function of k and a negative function of k^C-K^I.
- (9) $L^C/L = [k - k^I]/[k^C - k^I]$; (10) $L^I/L = [k-kC]/][kI-kC]$
- (11) $w = \partial F^C/\partial L^C = pF^I/\partial L^I$; (12) $r = \partial F^C/\partial K^C = pK^I/\partial L^I$; (13) ω+ ki = Fi/F ‘i; due to 12 now (14) PI/PC = p=F ‘$_C(k_C)$/F ‘I(kI)
- (15) (PI YI = sYP; P=PIaPC(1-a)
- (16) $I =: Y^I = sY/p^a$
- (17) ki=Ki/Li; (18) yi=Yi/L, (19) li=li/L; i=C,I; Definine (20) ω =r/W
- (21) $C/L_C = FC(KC/LC)$; C/L =FC [LC/L] or generally Yi =Fi(ki) li; yC= FC(kC)[k – k^I]/[k^C- k^I];
- yI = FI [kC-k]/][kC-kI]
- p=F ‘C(kC)/F ‘I(kI)=[FC/FI]{[ω+kC]/[ω+kI]}$^{-1}$=[c/(1-c)]]{[ω+kC]/[ω+kI]}$^{-1}$ =[c/s][ω+kI]/[ω+kC]; dp/dω= {[ω+kC]-[ω+kI]}/[ω+kC]2>0 if kC>kI!

Macroeconomic Analysis: C is consumption;(0<c<1);I investment, G government consumption, X exports, J imports; I=b/r

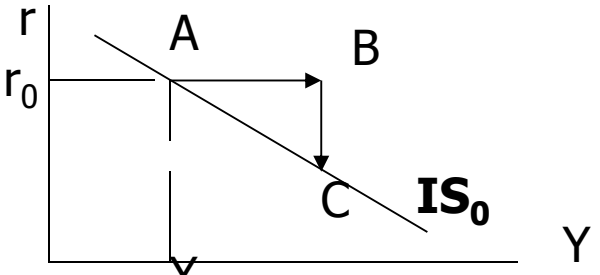
- Assume underemployed economy
  - Aggregate demand C(…)+I(…)+G+X‘(…) determines Y; exports positive function of q* and Y*
- *Y= cY[1-τ]+I(r)+G+[x(q*)Y*-q*j(q*)Y]*

=Equilibrium condition: goods market

In foreign country we have

Y*=C*(…)+I*(…)+G* – [J(…)/q* + X(…)]

- IS= goods market equilibrium(G, tax rate τ exogenous)



- Links between small open economy 1 & country 2 through
  - q*, exports of goods
  - ? I(r, q*, MNC*/firms*)
  - Is tax rate exogenous?

Basics of Macro Analysis (home country produces cars)

- Uses side of GDP given by

  Y = C + ***I*** + G + X-q*J (ex post analysis;*I is actual real investment; no distinction between planned investment and unplanned investment*)

C is real consumption of private housholdes, G is real government consumption, X is export (real), J is import quantity

- Y output (GDP= gross domestic product =value-added within country); **q***J= imports J **expressed in domestic units; see definition of q***(cars/chips)
- q*=eP*/P (e is nominal exchange rate €/$; P price level, *foreign); q* is international relative price; J=j(q*)Y; ∂j/∂q*<0 so that rise of q* will bring about higher import quantity

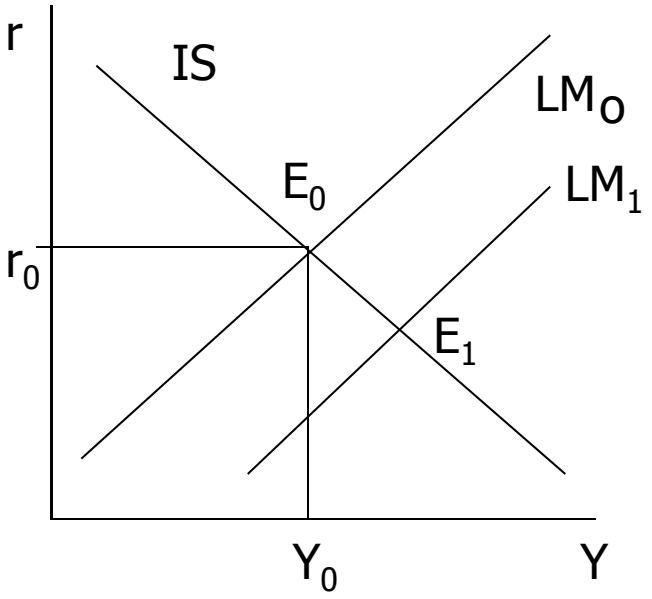
Globalization in the sense of taking into account FDI in macro models is new issue (Welfens, 2007a)

- If enhanced locational competition – due to higher role of MNCs – drives down (corporate) tax rate τ in OECD and elsewhere, then
  - Government expenditure G relative to Y will decline (as G= τY tax revenue)?
  - ?*Social market economy* (Sme) of the EU type will disintegrate: G/Y falls!
  - Social market economy makes more globalization/internationalization acceptable? What Sme mean 21st C.?
  - To which extent is FDI part of overall investment; which implications?
- MNC activity means more international outsourcing and more offshoring (production in foreign subsidiaries)=more com-plex world economy= efficiency+,fragility+?
- More MNCs/FDI brings global income gains & catching up of poor coun.
  - Slimmer Sme possible
  - Lower tax rate no problem

Money Market Equilibrium; note: i is nominal interest rate; r is real rate= i minus inflation rate π=(dP/dt)/P

- **Money market equilibrium** (LM) :
  - Real **money supply** is M/P where M is nominal money supply
  - M is controlled by central bank provided there is system of flexible exchange rates
- Real **money demand** $m^d=m^d(Y,i)=hY-h'i$; here h, h ' are positive parameters
- Equilibrium $M/P=hY-h'i$; note that $i=r+\pi$ (Keynesian approach $\pi=0$); money market equilibrium line LM. After rise of M or fall of P new LM curve (see LM_1) so
  - Interest rate falls
  - Real Income Y will rise
  - New General Equilibrium point is E_1 (Equilibrium both in goods market&money market

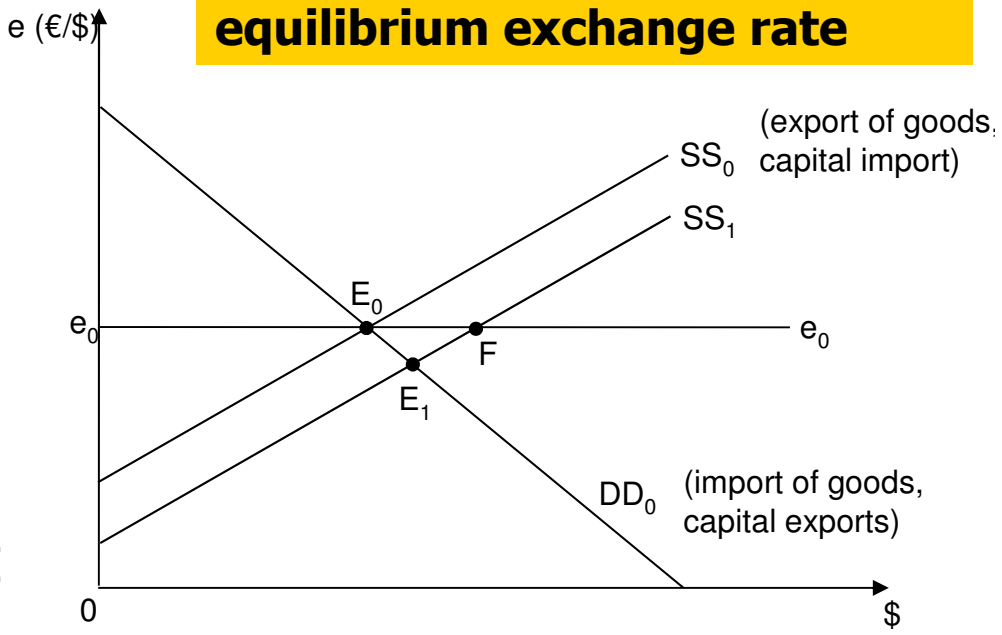
- General Equilibrium in Closed Economy



Foreign Exchange Market (if fixed exchange rate system/parity e_0 a rise of supply (SS_1) implies excess supply=intervention of central bank

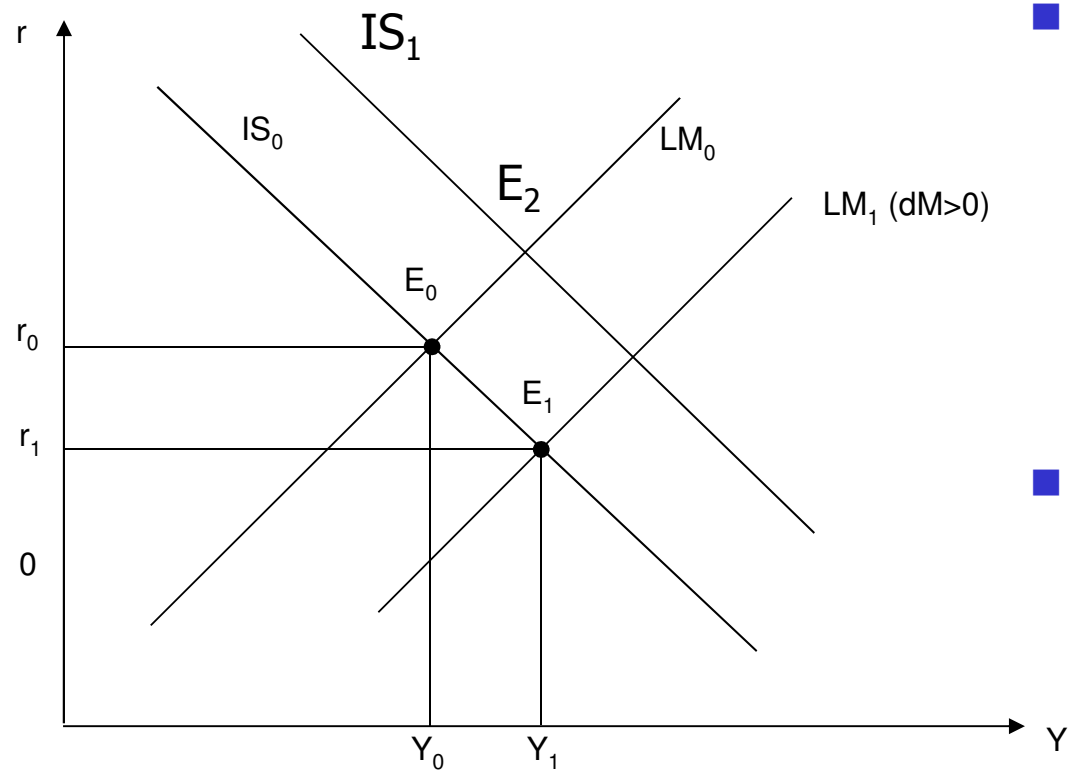
- Flexible exchange rate system= markets determine equilibrium exchange rate e (see point E_0; or point E_1)
- Fixed exchange rate system: government sets parity (fixed rate e_0), central bank guarantees through intervention in FOREX market (see E_0F is excess supply if new SS_1). Buying $ (=foreign reserves of central bank rise) means expansion of M!!

Supply and demand determine equilibrium exchange rate



General Equilibrium with Goods Market, Money Market (+Bonds Market) and Foreign Exchange Market;

Y=cY(1-τ)+ b/r +G; IS curve (or $I=I_0 - b\,'r$)

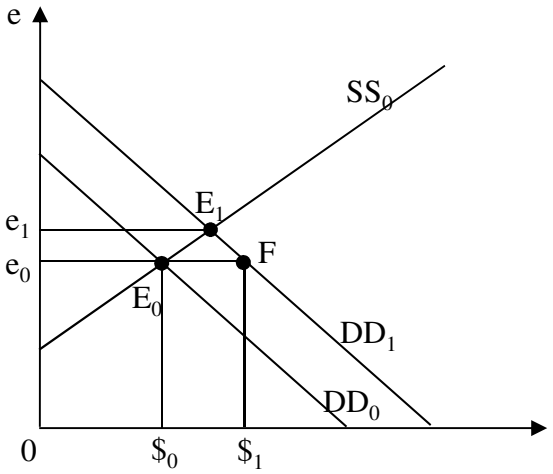


LM curve: M/P = hY – hi (and i=r)

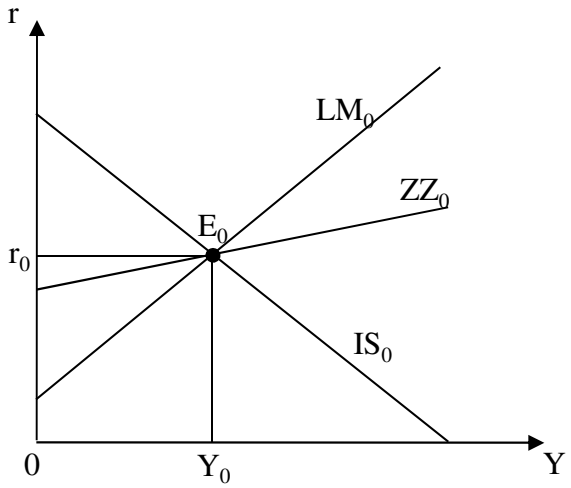
- Expansionary Monetary Policy: dM>0 or dP<0 (used to be the case in first globalization);
- Expansionary Fiscal Policy=shift of IS(IS_1) dG>0, dτ<0: Y+, r+ (or**dG*>0;=dY*>0**)

Equlibrium condition for FOREX market; devaluation means that all import goods more expensive.Net exports of goods =: X‘; *globalization implies higher interest elasticity of capital flows!*

- Foreign Exchange Market (shift of DD curve)



- Net imports of goods -X‘(q*,Y,Y*0)= net capital imports Q‘(i/i*0): **ZZ curve** shows equilibrium – *it is the more flat the higher ∂Q‘/∂i/i**



Focus on equilibrium in one market = *partial equilibrium*; equilibria in all markets= **general equilibrim model**

- 6 Macro markets:
  - Goods market
  - Labor Market
  - Bonds Market
  - (Stock Market)
  - Money Market =mirror of all other markets: paying with money!!
    - And in open economy
  - Foreign Exchange Market

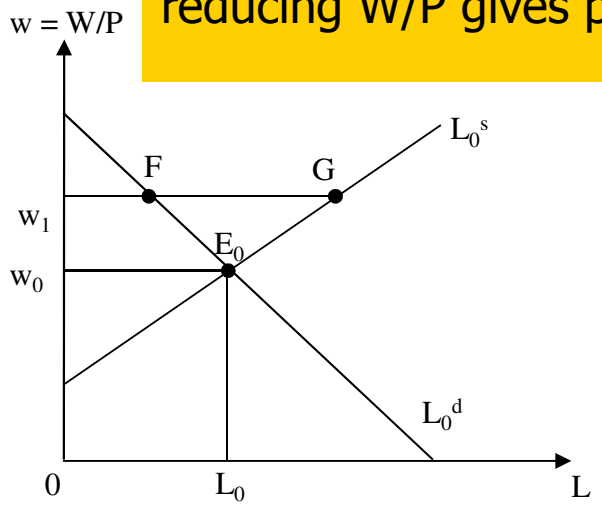
  Due to **Walras' Law** – if you analyse n markets under equilibrium conditions it suffices to look at n-1 markets (interdependency linked to consistency of individual plans)

- In explicit two country market we have 2x5 macro markets plus 1 foreign exchange market
  - We need 11 independent equilibrium equations
  - Goods Market: $Y = cY+G + I(r) + X'(q^*,Y,Y^*)$; X' is net exports; I is negativ function of real interest rate r; consumption C=cY; $\partial X'/\partial q^*>0$
  - Money market: $M/P = Pm(Y,i)$; i nominal interest rate i= real rate r + $+\pi$ (inflation rate); m is real money demand: $\partial m/\partial Y>0$; $\partial m/\partial i<0$; M is nominal money stock, P is price level (so M/P is real money supply)

Labor Market(s): full employment vs. unemployment

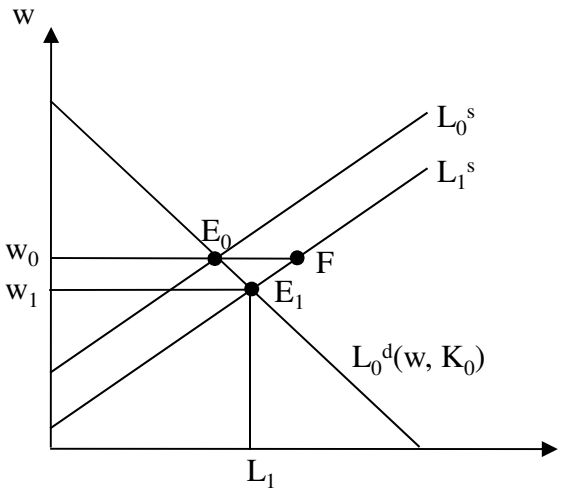
- Simple Labor Market

FG is excess supply in goods market for case real wage=w_0; reducing W/P gives point E_0



Note: Labor demand curve L^d reflects wish of firms to hire workers

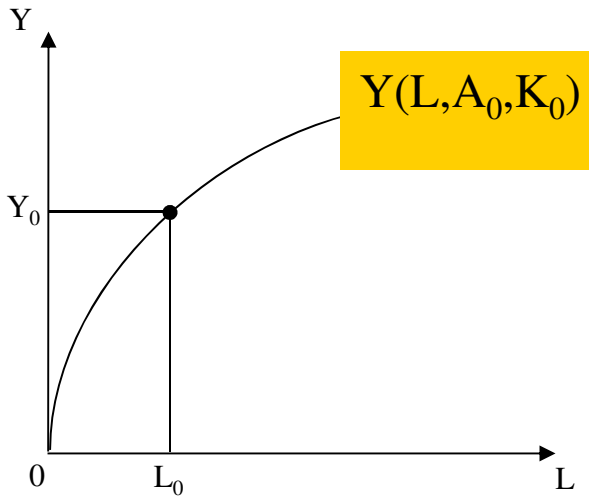
- Shift in labor supply
  - eg immigrants



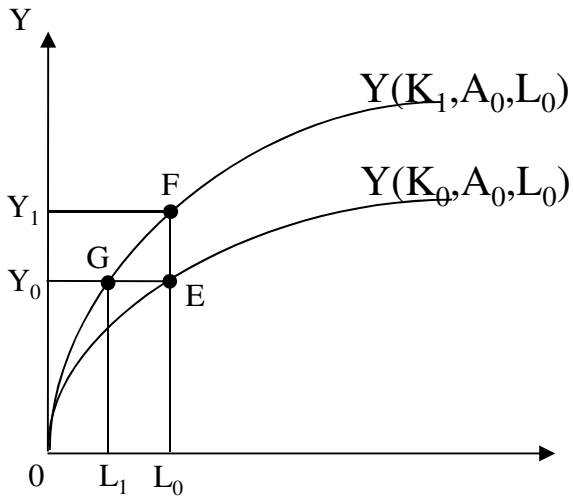
We get a rightward shift of L^d curve if K is raised; full employment in F

Production Function (Y output, K capital, A level of technology, L labor): Y=f(K,A, L); Cobb-Douglas [0<ß<1]: $Y=K^{ß}(AL)^{1-ß}$; note $y=:Y/L=A^{1-ß}k^{ß}$ (k=:K/L capital intensity)

- Production function, output, labor demand



- Production function: rise of K



Long term GDP (Y) determined by macro production function; A is labor-augmenting, could also be capital-augmenting; in poor countries A=A(A*, cumulated inward FDI,…)

Net capital inflows…

- S= sY(1- τ) + s ‘(1- τ*)Y*
- S/(AL) = sy ‘(1- τ) + s ‘(1- τ*)y ‘#*(A*L*)/(AL)
- d(k ‘/k* ‘)/dt = (dk ‘/dt)/k* ‘ – (k ‘/k* ‘²)dk* ‘/dt
- S/(AL)= sy ‘(1- τ) + s ‘(1- τ*)y ‘#*

- Alternatively savings in economy with FDI inflows:
  S = s[Y(1-τ) + αß*(1- τ *) Y*]
  - y ‘#= [s ‘(1-τ) + αß*(1-τ *)y ‘*(AL)/(A*L*)]/(n+a+δ)
  - y ‘/y* =

Many thanks for your kind attention

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