WORLD ECONOMIC CHALLENGES:

Selected Topics of the World Economy

Organizations
Problems
Projects

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WORLD ECONOMIC CHALLENGES:

Global institutions: G8, G20, the IMF, the World Bank.

I.   Mainly-economic <u>*GLOBAL THREATS*</u>

1.   Global inequalities
2.   FINANCIAL CRISES (2008)
3.   Debt traps, debt-forgiveness.
4.   Aid / Conditionality Programs.

II. Non-mainly-economic <u>*GLOBAL THREATS*</u>

1. CLIMATE CHANGE / ENVIRONMENT
3 CONTAGIOUS DISEASES (AIDS)
3. NATURAL DISASTERS (Fukusima)
4. other ……

GLOBAL ECONOMIC INSTITUTIONS

- *G7 / G8 / G9? (with China)* ➔ *Now G20*

- *IMF*

- *WORLD BANK*

- *UNCTAD / UN*

- *OECD*

- *WTO*

Σημαντικά οικονομικά γεγονότα και η αναγκαιότητα *ΝΕΩΝ* θεσμών

1944-50: Συμφωνία Μπρέτον Γουντς
   Ίδρυση ΔΝΤ, Παγκόσμιας Τράπεζας
   Αργότερα ΠΟΕ, ΟΟΣΑ

1972: Κρίση Δολαρίου, G7

1980-90: Συναλλαγματικές κρίσεις Λατινικής Αμερικής: ΔΝΤ

1987: Χρηματοπιστωτική κρίση: Εποπτεία (Basel I)

1989-90: Κατάρρευση Σοβιετικών οικονομιών: EBRD

1999: Υιοθέτηση του Ευρώ: ΕΚΤ

2000: Χρηματοπιστωτική κρίση, Εποπτεία (Basel II)

2008: Χρηματοπιστωτική κρίση, G20, Εποπτεία (Basel III)

ΔΝΤ

Αρχικά: Στήριξη της συναλλαγματικής σταθερότητας

Παρέμβαση μετά από συναλλαγματικές κρίσεις

Διάδοση των οικονομικών της προσαρμογής:

1. Προγράμματα διαρθρωτικής προσαρμογής
2. Μείωση δημόσιου τομέα, ιδιωτικοποιήσεις,
3. ελεύθερη διακύμανση ισοτιμίας, ελεύθερο εμπόριο

Η "Συναίνεση της Ουάσιγκτον"

Παγκόσμια Τράπεζα

Αρχικά: Δανειοδότηση φτωχών χωρών

Εποχή Μακναμάρα1970-80: Από 20 ➔ 210 οικονομολόγοι

<u>Διάδοση των οικονομικών της ανάπτυξης</u>:
Συσσώρευση κεφαλαίου, υποδομές, επιχειρηματικότητα
Χρηματοδότηση και αποτελεσματικότητα επενδύσεων

Θεσμοί, εκπαίδευση, πολιτικό σύστημα

Προϋποθέσεις χορήγησης βοήθειας (αιρεσιμότητα)

EBRD

African Development Bank

Asian Development Bank

Sovereign Funds (Norway, Qatar, Iran)

Global inequalities

GLOBAL INCOME CATEGORIES

	Annual income ($)	Population	Life expectancy (years)
RIC	30.000	1 bn	82
Upper MIC	5.000	1.5 bn	74
Lower MIC	1.600	2 bn	73
PIC	500	1.5 bn	60

BIG CONTROVERSIES

1. *Climate change?*   - Only RIC pay

                       - Remote benefits

2. *Anti-poverty aid* to India, China?

   - Pay from economic growth
   - Reduce social damping
   - Upgrade working safety / rights

3.   *Aid conditional or unconditional?*

- US: Link to democratization
- WB: Link to governance / Anti – corruption
- EU: Link to Growth ? Reforms
- **China**: No links, No condition! (Just UN votes)

4. Commodity Production Agreements?

- Oil
- Narcotics
- Diamonds/minerals

- *Extraction transparency (EITI)*
- *Hydro-plants (Revenue sharing)*

GLOBAL AGREEMENTS

1997:   KYOTO PROTOCOL

2000:   MILLENIUM DEVELOPMENT GOALS (MDG)

- Health: Half Malaria by 2015
- Water: Provide drinking water to 1.5 bn by 2015
- Sanitation: Water to 2.1 bn by 2015

1985:   HIPC (Brady Bonds)

Ad hoc: G8 EITI Agreement
"Extractive Industry Transparency Initiative"

5. Debt crises

The debt trap

Debt repudiation

Debt discount
Haircuts, extensions

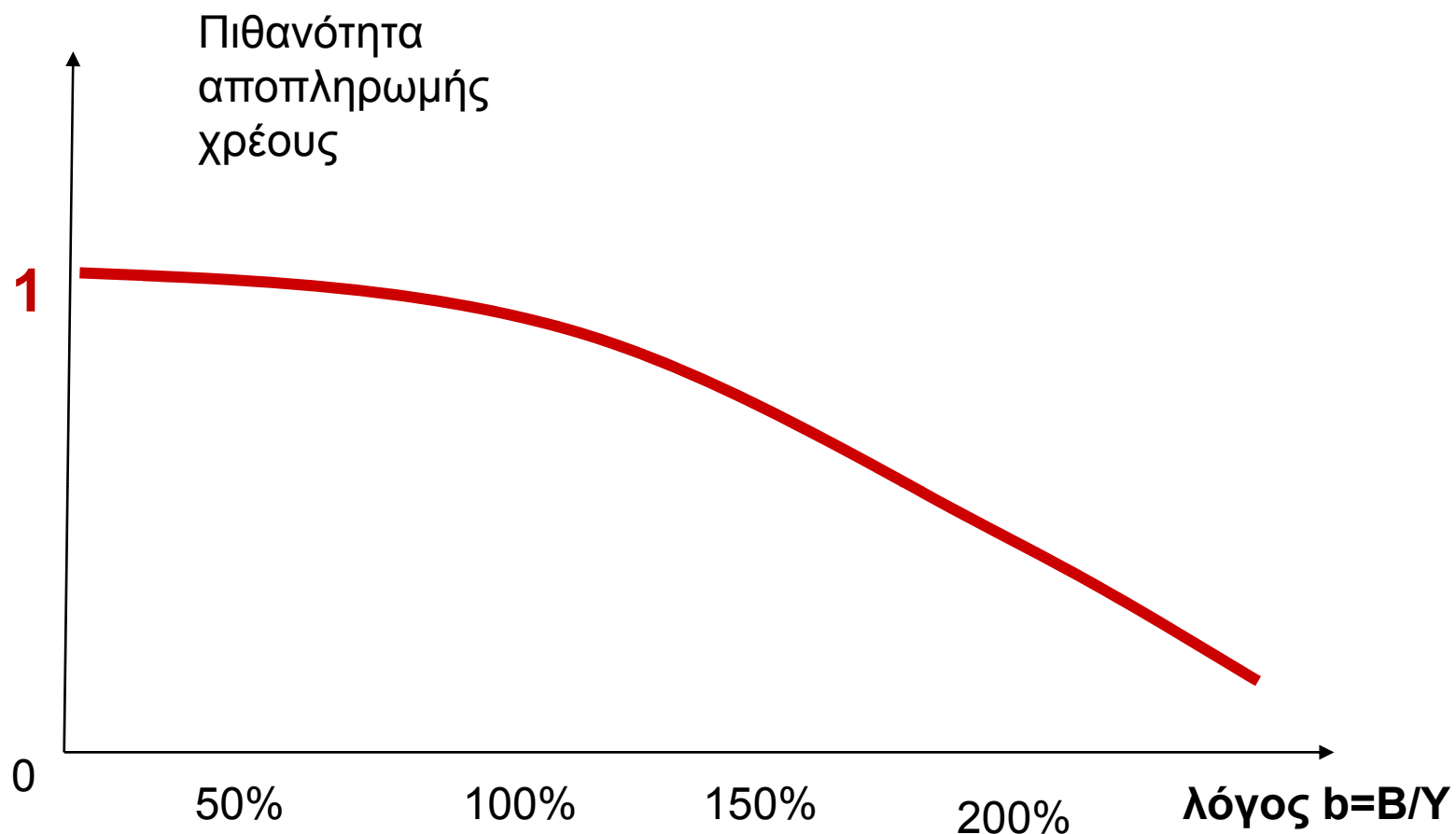Debt forgiveness

Moral hazard: Reneging strategies

Brady bonds
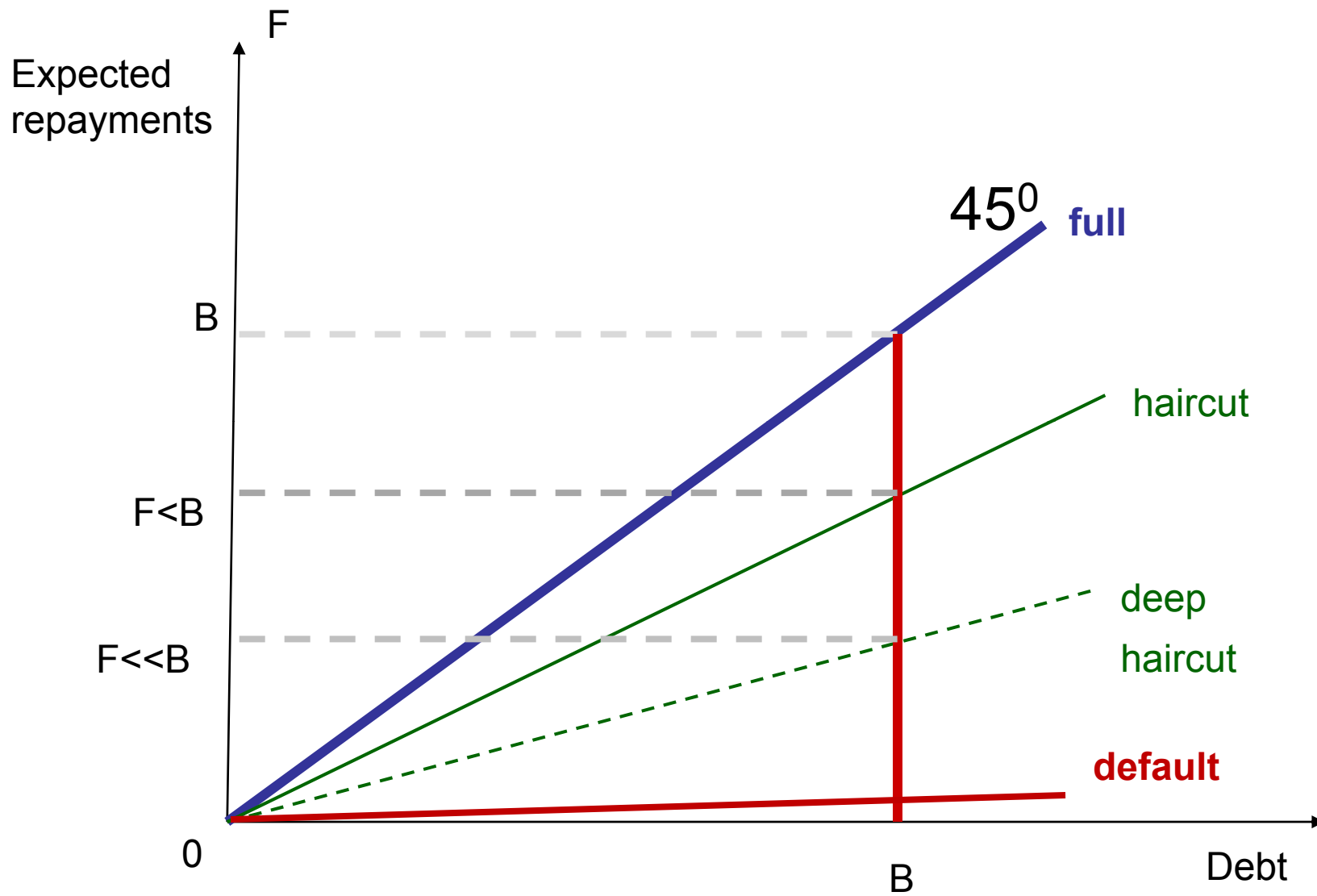
Πώς δημιουργείται η παγίδα χρέους

Υψηλά επιτόκια

- → πτώση επενδύσεων
- → μείωση ΑΕΠ → μείωση εσόδων
- → αύξηση συντελεστών φορολογίας
- → πτώση επενδύσεων και κατανάλωσης

→ πτώση ΑΕΠ

Αύξηση λόγου Β/Υ **→ υψηλότερα επιτόκια**

Πιθανότητα αποπληρωμής χρέους

1

0   50%   100%   150%   200%   **λόγος b=B/Y**

Expected repayments F = probability*B = p(B/Y)*B
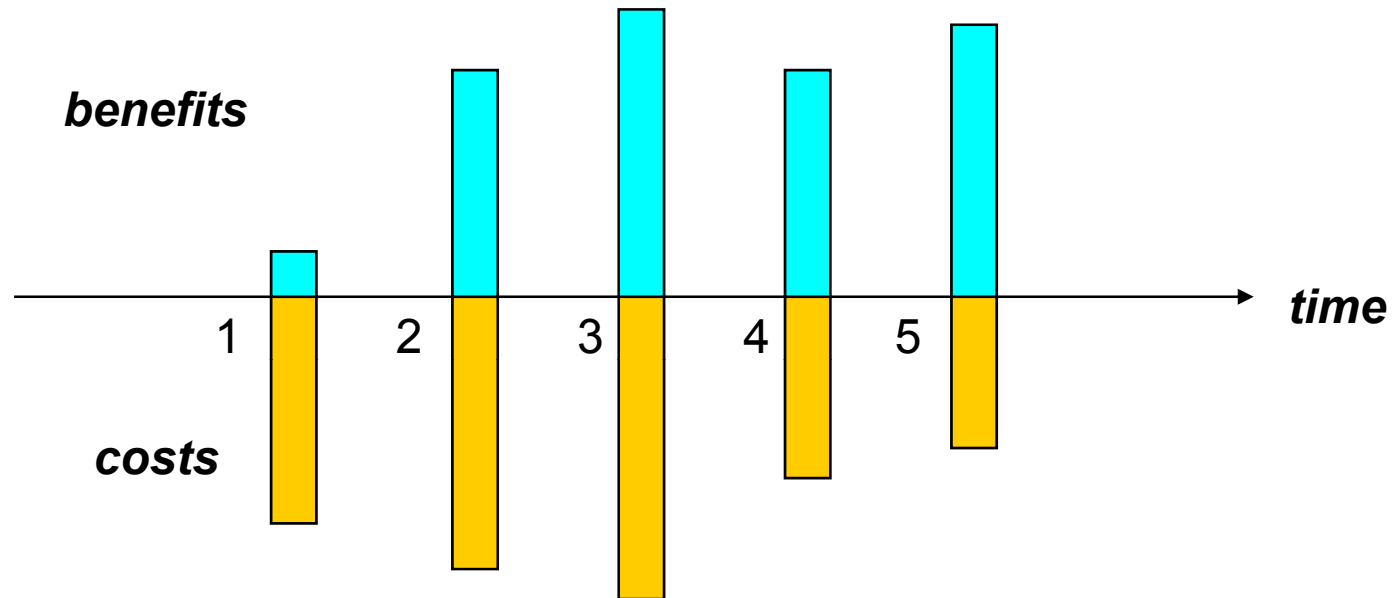
How you maximize expected payments ?

II: International aid

Project valuation techniques.

**Regional Development Banks
(EIB, EBRD, etc).**

BENEFIT- COST analysis

$$B = PV(benefits) = \sum_{t=1}^{T} (1+\rho)^{-t} \cdot Benefit(t)$$

$$C = PV(Costs) = \sum_{t=1}^{T} (1+\rho)^{-t} \cdot Cost(t)$$

BENEFIT- COST RATIO

$$BCR = \frac{B}{C} = \frac{PV\,(benefits)}{PV\,(Costs)}$$

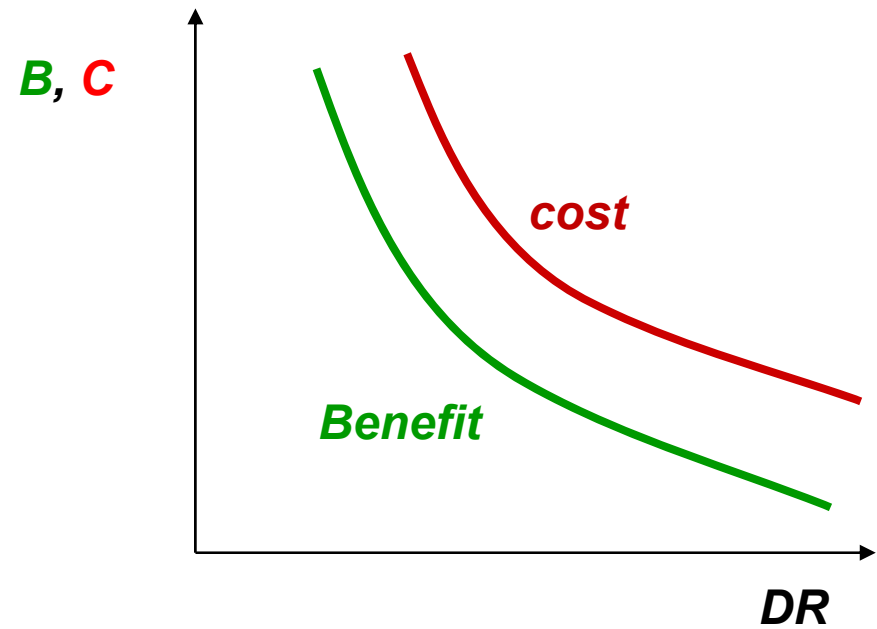$$\frac{\partial B}{\partial \rho} < 0, \qquad and \; \frac{\partial C}{\partial \rho} < 0$$

$$but \qquad \frac{\partial}{\partial \rho} BCR \qquad ambiguous$$

BENEFIT- COST RATIO:
Sensitive to Discount rate and time horizon

T→	10 years	50 years	100 years	200 years
Disc Rate				
1%	0.90	0.61	0.37	0.13
3%	0.74	0.23	0.05	.002
5%	0.61	0.09	.008	0

Table: How a price is discounted $1/(1+\rho)^t$

Selection of projects not easy.
Some cases are clear-cut, good or bad
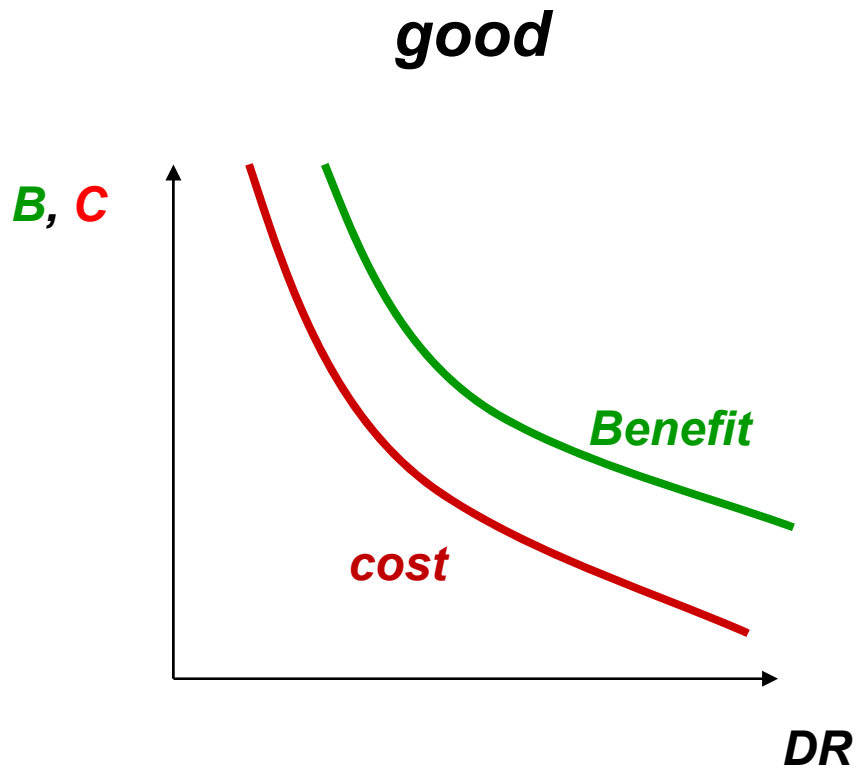
In several cases it depends on the discount rate.

Question: Who determines DR ?
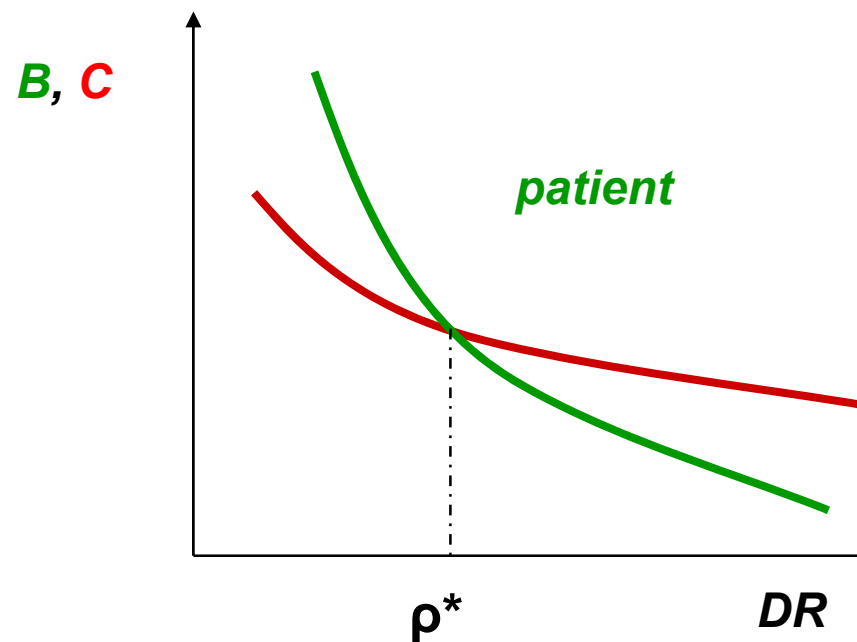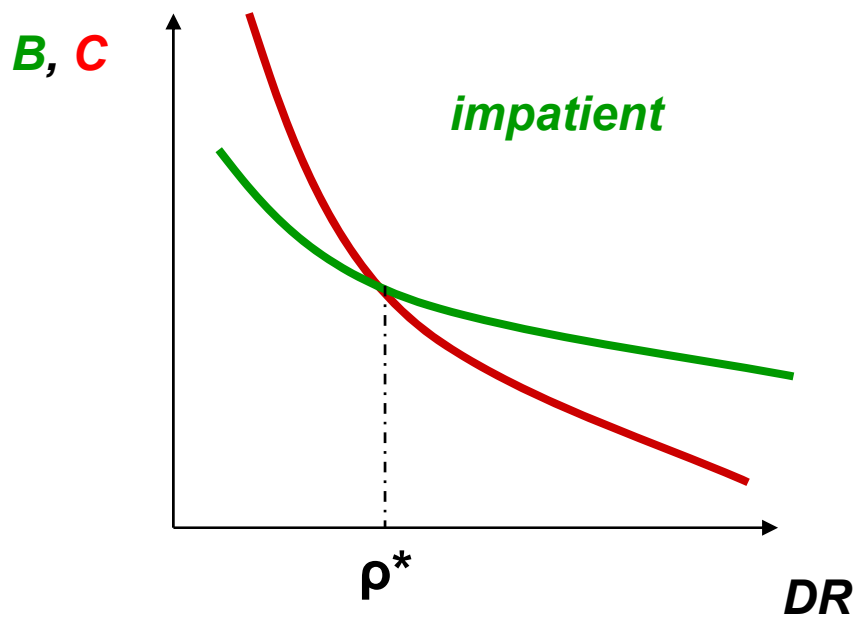
The attraction of Projects
benefits and costs

	Project	Medium-term	Long-term	Features
I	Back-loaded	🟩	🟥	*Clear beneficiaries*
II	Front-loaded	🟥	🟩	*Uncertain beneficiaries*
III	Early benefits	🟩🟥	🟩🟥	*Depends on disc. rate*
IV	Late benefits	🟩🟥	🟩🟥	*>>*

Farm subsidies: *For RIC:*   *Type II*

                         For PIC: *Type I*

Climate change: *Type II*

Education: *Type IV*

Subsidies by borrowing: *Type I*

Health-malnutrition: *Type III*

Other factors affecting B/C ratio

1. PROJECT UNCERTAINTY
Involve beneficiaries in managing risks
Example: Public-Private Partnership

2. RISK : Pay end-users

3. EFFECTIVENESS: Fight Corruption

I. GLOBAL THREATS

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2. *CLIMATE CHANGE / ENVIRONMENT*

3. *CONTAGIOUS DISEASES (AIDS)*

4. *NATURAL DISASTERS (Fukusima)*

II. POVERTY – related CHALLENGES

1. HUNGER – MALNUTRITION

2. DISEASES (AIDS, MALARIA, LBW: low birth weight)

3. ILLITERACY

4. WATER – SANITATION

5. ARMED CONFLICTS (Commodities – related wars, eg oil, diamonds)

6. POOR GOVERNANCE, CORRUPTION

III. <u>MUTUAL CHALLENGES</u>

- *MIGRATION*

- *TRADE BARRIERS and FARM SUBSIDIES*

- *TERRORISM*

- *TRAFFICKING (women, children, drugs)*

Why KYOTO doesn't work ?

1. Effects: exaggerated and uncertain

2. Discount rates used are set superficially low
(we are more impatient, and less caring for too remote generations)

1. Climate change brings <u>new</u> benefits, not just costs:
    - Northern Europe, less cold, less fuel
    - New extraction industries in Arctic / Antarctica

4. Unequal distribution of costs and benefits

➔ *Costs to be shared by BRICS, not just US, EU*

➔ *Future beneficiaries SHOULD pay the policies*

The economics of global diseases

At 2002:	57 m deaths	20% children
		•98% in PIC
		•60% comm. diseases
	18 m premature deaths of adults	30% in PIC 20% in RIC

Life-cost measurements

Life expectancy:	Female, non-smoker, RIC	83 years

(i) Avoidable deaths =

(Actual deaths) – (population)x(RIC death rate)

(ii) DALY = disability affected life years

Disease	Deaths pa	Geography	Infected
MALARIA	1 – 3 m in 103 countries	90% in SSA 75% children	500 m
AIDS	3 m	SSA (mainly), CIS, Asia, US	45 m in 2010
	Growth loss	Means	Value
MALARIA Benefits	- 1.3% pa	Nets, Pregnancy, drugs	Costs $ 140 bn Benefits $275 – 660 bn
AIDS	-1.2 %- 3.2%	Needles, Condoms, drugs	Costs$ 337 bn Benefits $ 871 bn

The economics of ILLITERACY
(lack of education)

INPUTS

Schools (+)

Teachers (+)

Enrollment (+)

Drop-outs (-)

OUTPUT

Competence

(vs OECD standards)

TARGET: Universal primary education

	SUPPLY POLICIES	
1	More schools	
2	Better teaching/teachers	
3	Impact evaluation	
	DEMAND POLICIES	
1	Raise family income	
2	Raise returns to education	
3	Reduce household costs (transfer, provide meals, waive fees, etc)	
	COVER children	120 m
	TOTAL COST	$10 – 27 bn

THE ECONOMICS OF WATER

	PIC	RIC
Households	30 lit/d	200 lit/d
Production (food, energy, etc)	2.000 lit/d	10.000 lit/d

MDG by 2015

Households	Drink	Sanitation
SSA	360 m	360 m
M East –N Africa	130 m	140 m
SE Asia + Pacific	910 m	1.400 m
Latin America	150 m	160 m
Various countries	30 m	30 m
TOTAL	1.580 m	2.090 m

WATER POLICY APPROACHES

1	Recycle waste water for small farming	
2	Farming in wet-lands	*"dambos"*
3	Small-scale irrigation	*manual pumps*
4	Local water management	
5	Desalination process	*Israel, Cyprus*
6	Dams (small: check-dams, big: hydro)	

Benefits = avoidance of loss (e.g. deaths, DALY)
+ new benefits (e.g. better life)

Losses:
– **Drought**
– **Hygiene-linked diseases:** 50% population in PIC

- 2 bn	parasitic diseases
- 300 m	serious illness
- 50 m	arsenic in water (Asia)
82 m	**DALY per annum**

Costs:	*Irrigation:*	**$ 110 – 180 bn**
	Sanitation + Water Supply:	**$ 12 bn**
Benefits:	**DALY:**	**$ 82bn**
	Double crops	

The economics of Armed Conflicts

1	Average period of war	7 years	
2	Conflicts per year	2 wars	
3	Fall in growth rate	- 2.2 %	
4	Output loss		*-16% GDP*
5	Recovery	16 years	
6	Period of suffer	23 years	
	TOTAL LOSS	*ρ = 5%*	*115% GDP*

Country A in civil war

Δgrowth = - 2.20%

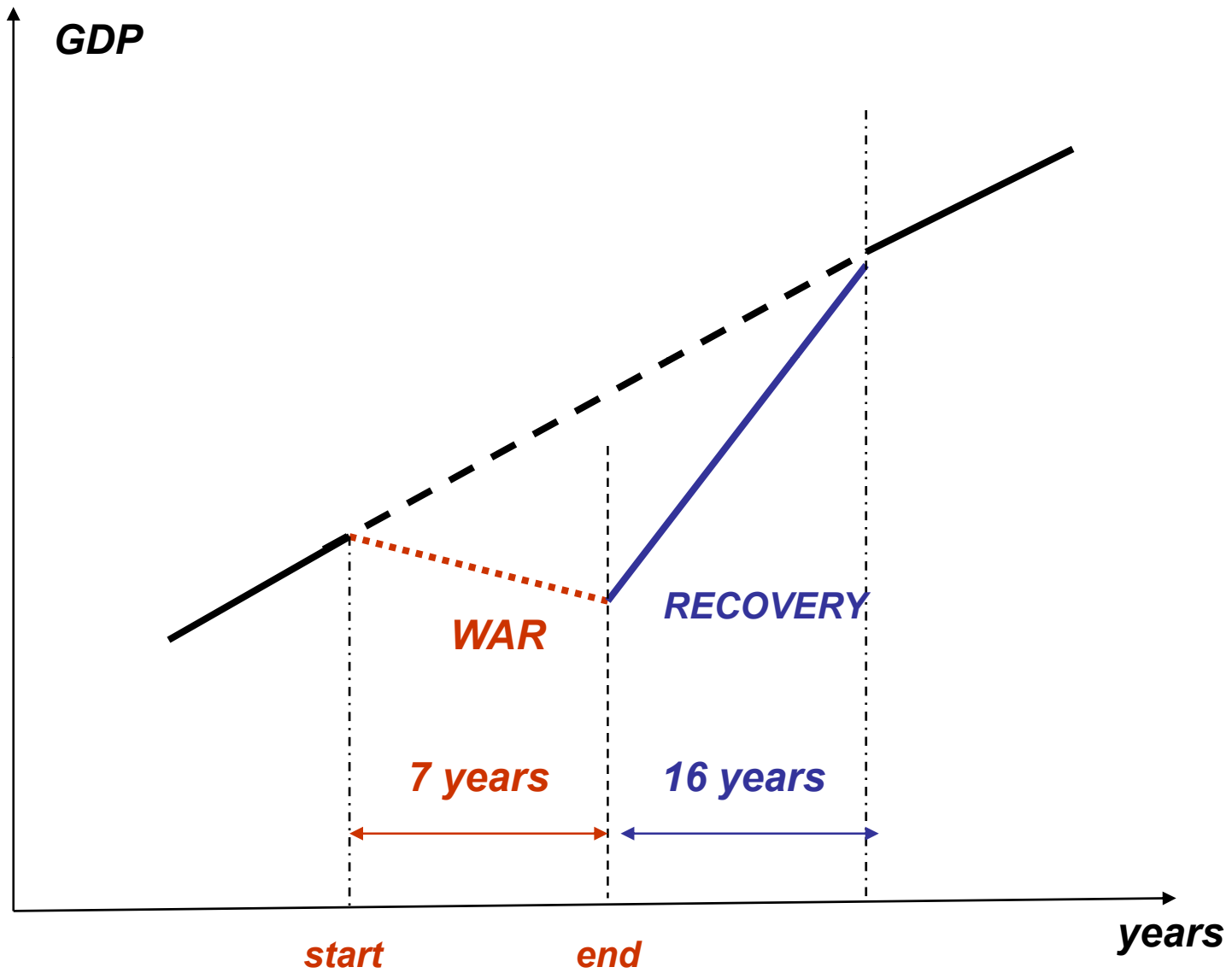**Country B**
In trouble

Δg = -0.9% pa

Country C
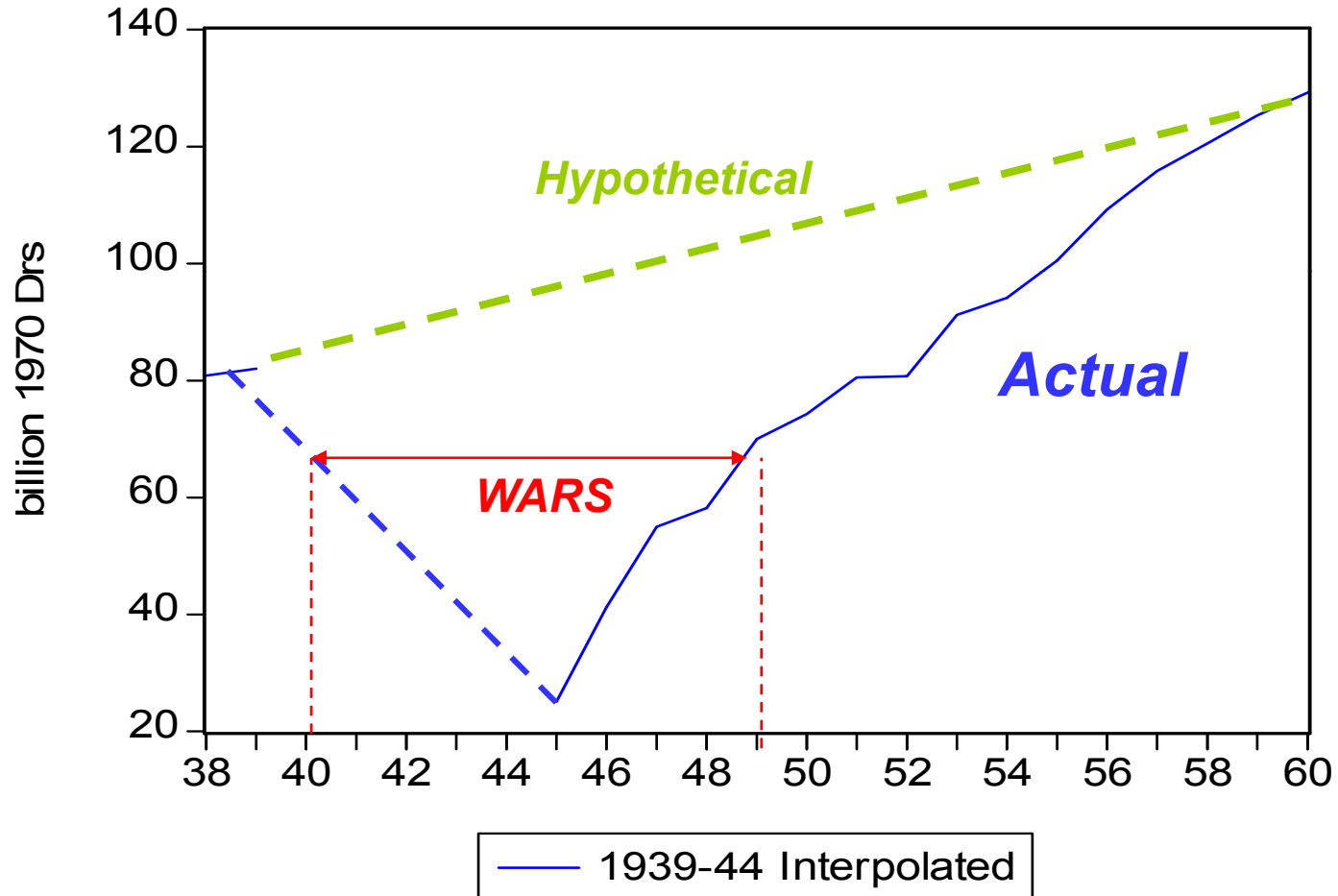In trouble

Δg = -0.9% pa

Country D
In trouble

Δg = -0.9% pa

Armed Conflicts and GDP

GREEK GDP IN THE WAR AND THE CIVIL WAR
Source: Bank of Greece 1978,Tb 45, and 1992, Tb 2a.

Hypothetical

Actual

WARS

billion 1970 Drs

1939-44 Interpolated

1939-1960 = 21 years= 8y wars + 13y recovery

	COSTS OF WAR	Details	Value

1	**REGIONAL**
	    - country
	    - neighbors
		Δg = -0.9% pa
		Avg. 3 borders
			PV = 43% GDP
			PV = 129% GDP

2	**MILITARY**
	    - country
	    - neighbors
		For 22 years:
		+ 0.4% GDP
		+ 3x(1/5) GDP
			Total for region
			
			= 14% GDP

3	**HUMAN** ***DALY = disability affected life years*** ***In PIC terms***	500.000 DALY ***1 DALY = $1.000***	PV = $ 5 bn
	TOTAL COST per war **for all involved countries**		**253% of GDP**
	Average GDP of all involved **Money COST per war**	$ 20 bn	 **$ 56 bn**
	avg number of new wars	*2 wars per year*	
	GLOBAL COSTS OF WARS	*Per year*	**$112 bn**

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