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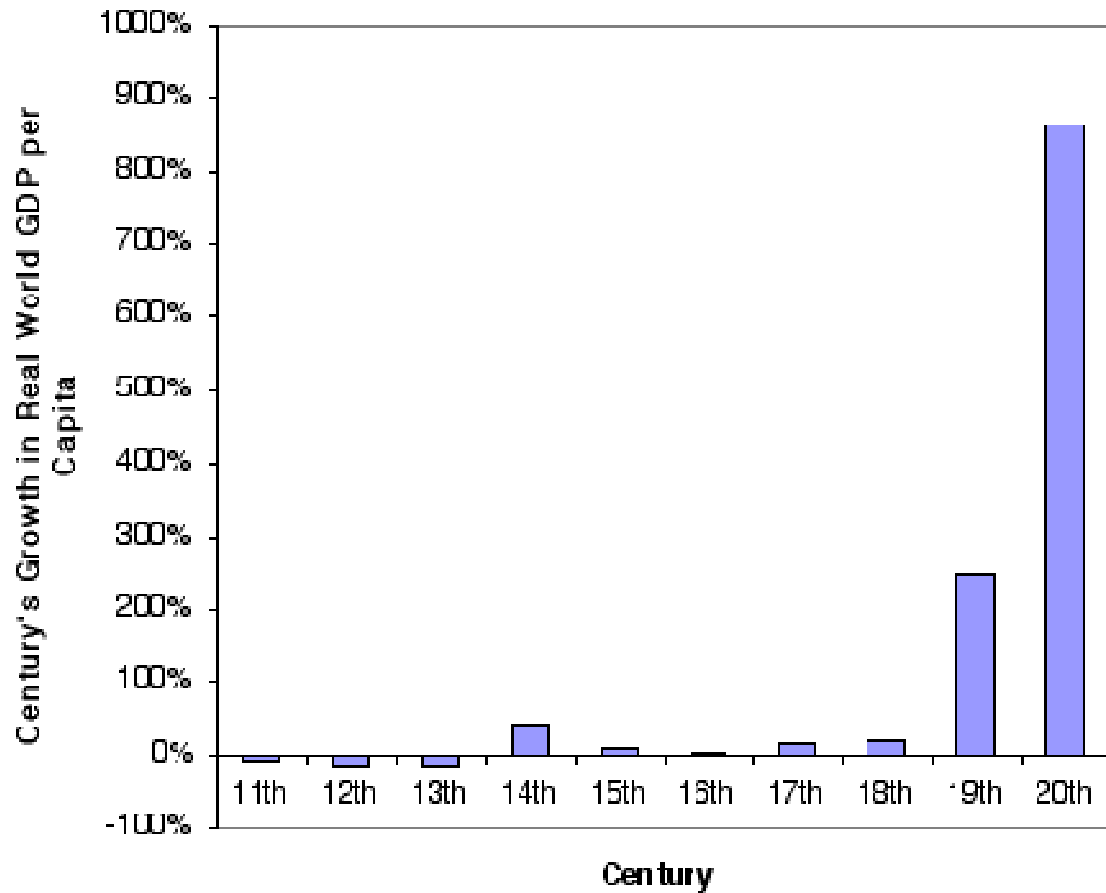
Is There a Growth Imperative in Modern Economies?

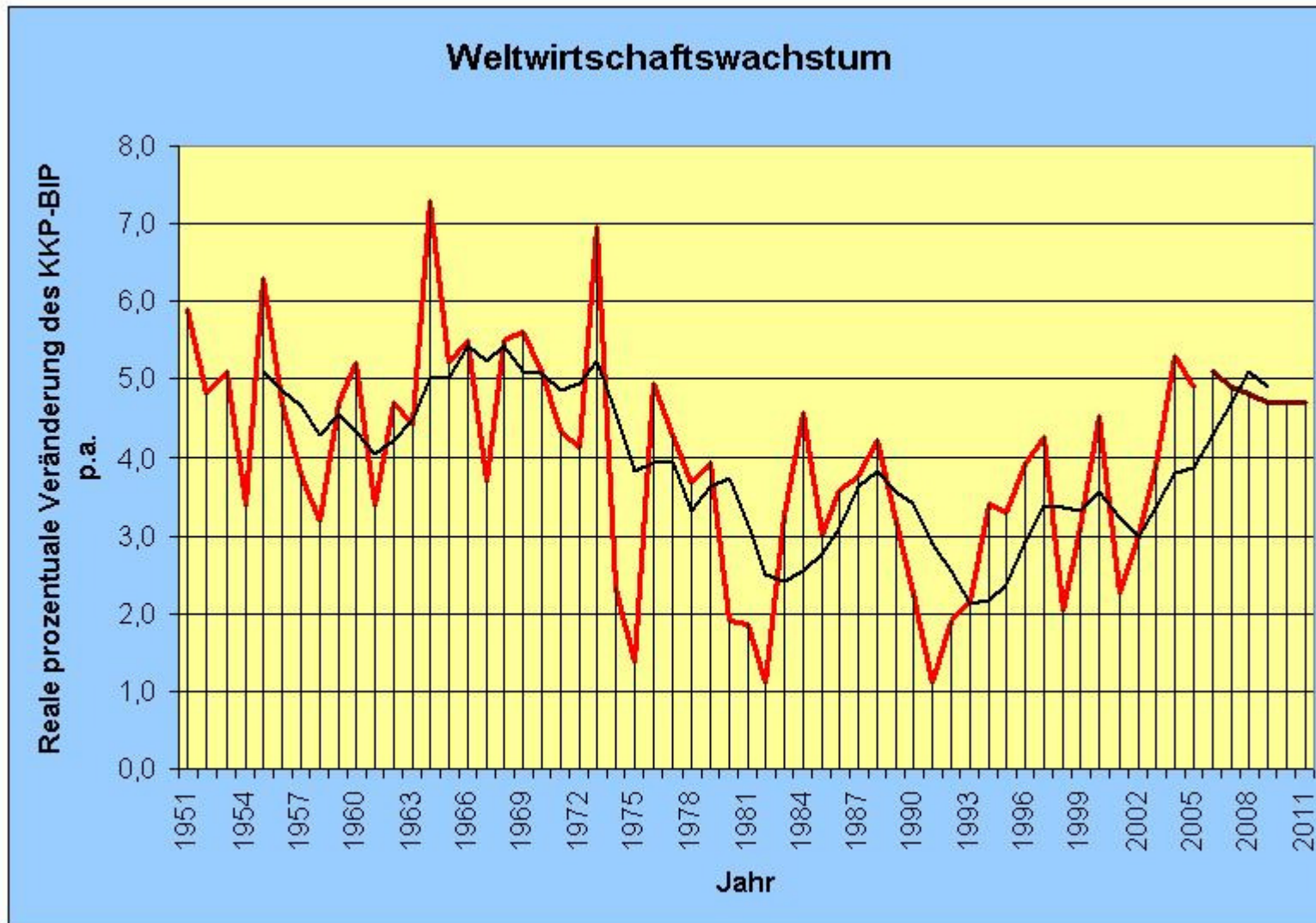
Prof. Dr. Mathias Binswanger

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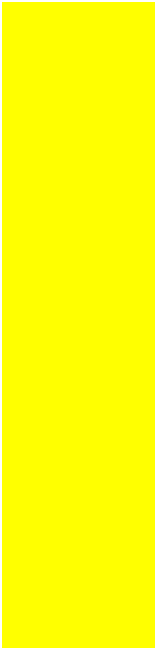
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Growth in Real World GDP per Capita, 1000-Present





With a growth rate of 4 percent per year GDP doubles in 17 years.



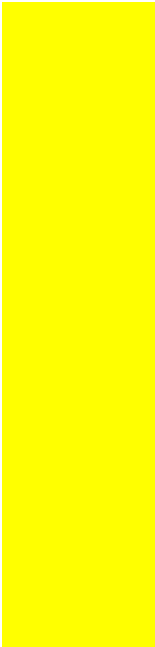
**Growth for the sake of growth is
the ideology of the cancer cell.**

Edward Abbey

Traditional Arguments in Favor of Growth

- Growth increases individual well-being
- Growth enables full employment
- Growth allows for financing the increasing number of retired people
- Growth is necessary to attract investors
- Other countries grow as well: therefore growth is necessary to keep pace with them.

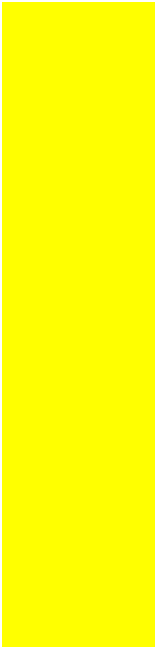
Escaping the Tyranny of a Zero-Sum Game



Growth is attractive because it allows everybody to get a share. Without growth an economy is a zero-sum game where, from a financial point of view, you can only increase your income if somebody else's income decreases.

Growth: Nice to Have or a Necessity?

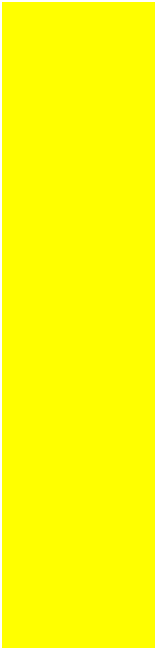
The Growth Imperative



According to mainstream economic theory growth is a matter of taste (Gordon and Rosenthal, 2003). It just reflects people's preferences and the technological possibilities. But if we analyze the monetary side of the economy, it turns out that firms will not be able to realize profits in the aggregate in a non-growing economy. Only a constantly growing economy enables constantly positive profits (Binswanger, JPKE, 2009).

1. How can an increase in investment spending be financed?

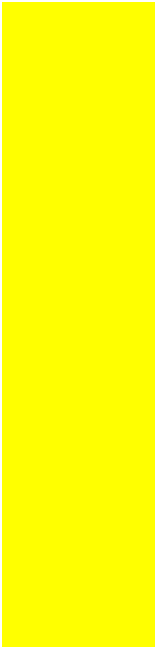
- The traditional view: by an increase in saving. But this is not possible ex-ante.
- The correct answer: by an inflow of money. In modern economies this inflow comes from new bank loans, which lead to the creation of deposits (money) at the same time.



“Credit expansion provides not an alternative to increased saving but a necessary preparation for it. It is the parent, not the twin of increased saving.”
(Keynes, 1939)

Money Creation: How Loans Make Deposits

Example: A firm receives a loan of 100'000 CHF from a commercial bank



Loans: +100'000	Deposits: +100'000
-----------------	--------------------

Money →

Deposits: +100'000	Loans: +100'000
--------------------	-----------------

← **Money**

2. How can firms, in the aggregate, realize profits?

The increase in aggregate spending (aggregate demand), which is caused by additional investment spending financed by bank loans, will increase firms' income. This income will exceed production costs of the previously produced goods and services.

Therefore, firms are able to realize profits.

3. Why are profits necessary?

Income must exceed spending, so firms can realize profits, which are sufficiently large to cover interest payments to banks and to pay a risk premium to investors. Nobody will invest in a firm without positive profit expectations and such a firm has no value on the stock exchange.

4. How does the economy grow?

Firms increase their productive capacities by investment, which enables them to produce more (and better) goods and services. Otherwise the increased investment spending will only cause inflation.

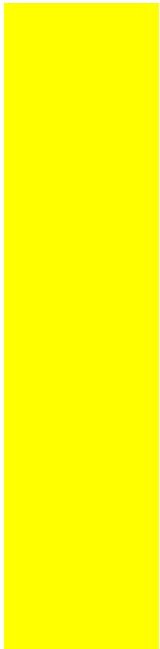
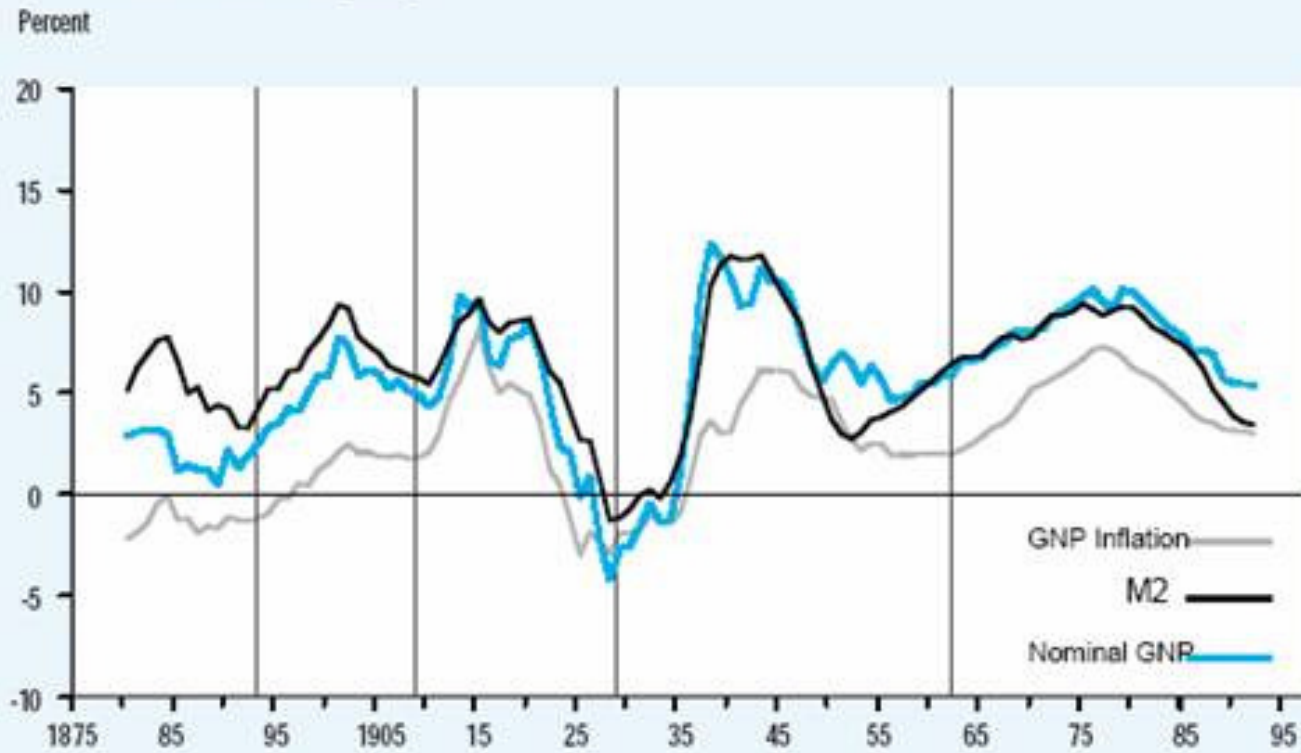
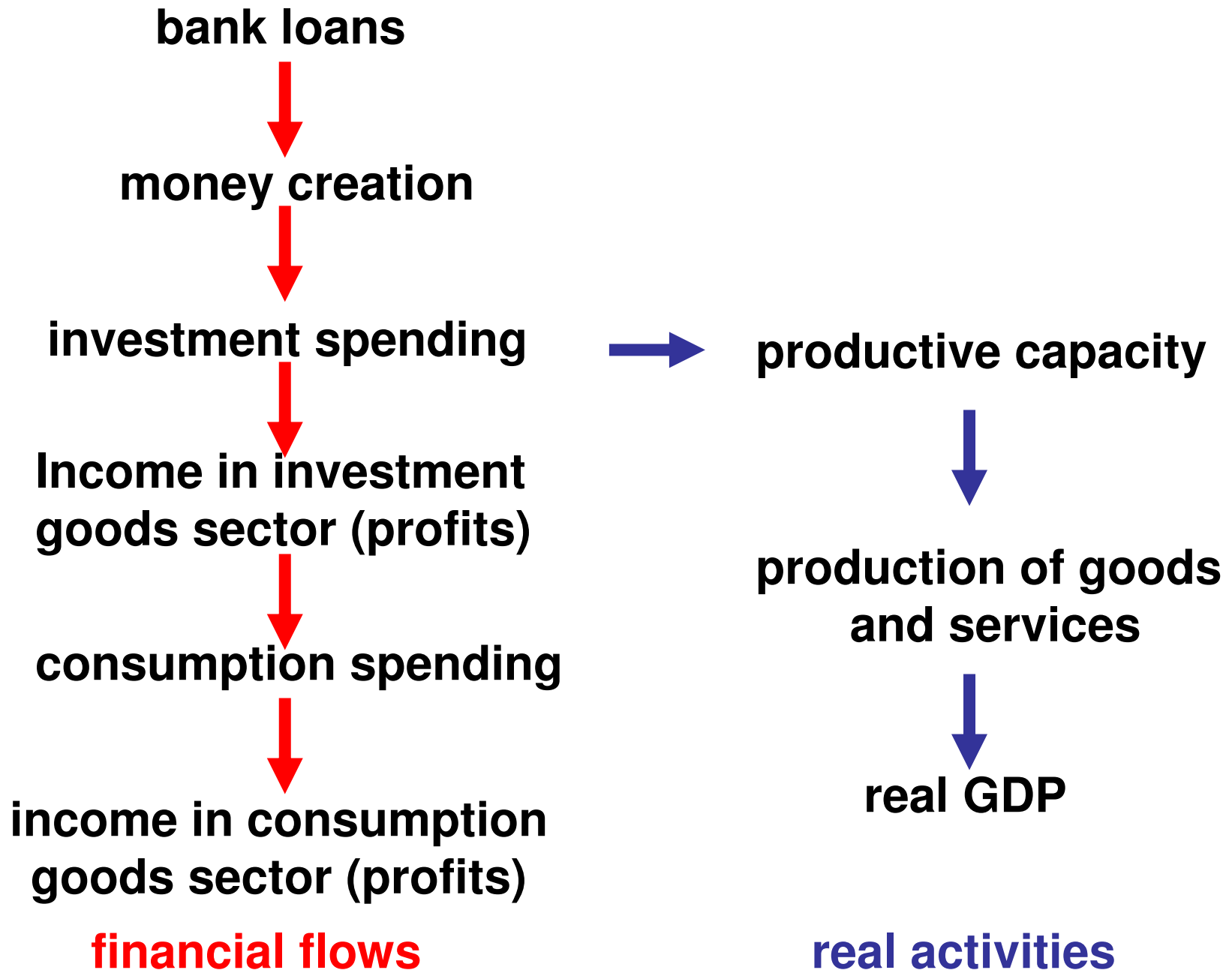


Figure 4

M2, Nominal GNP Growth, and Inflation (10-Year Averages)



The Growth Process



The Role of Interest Payments

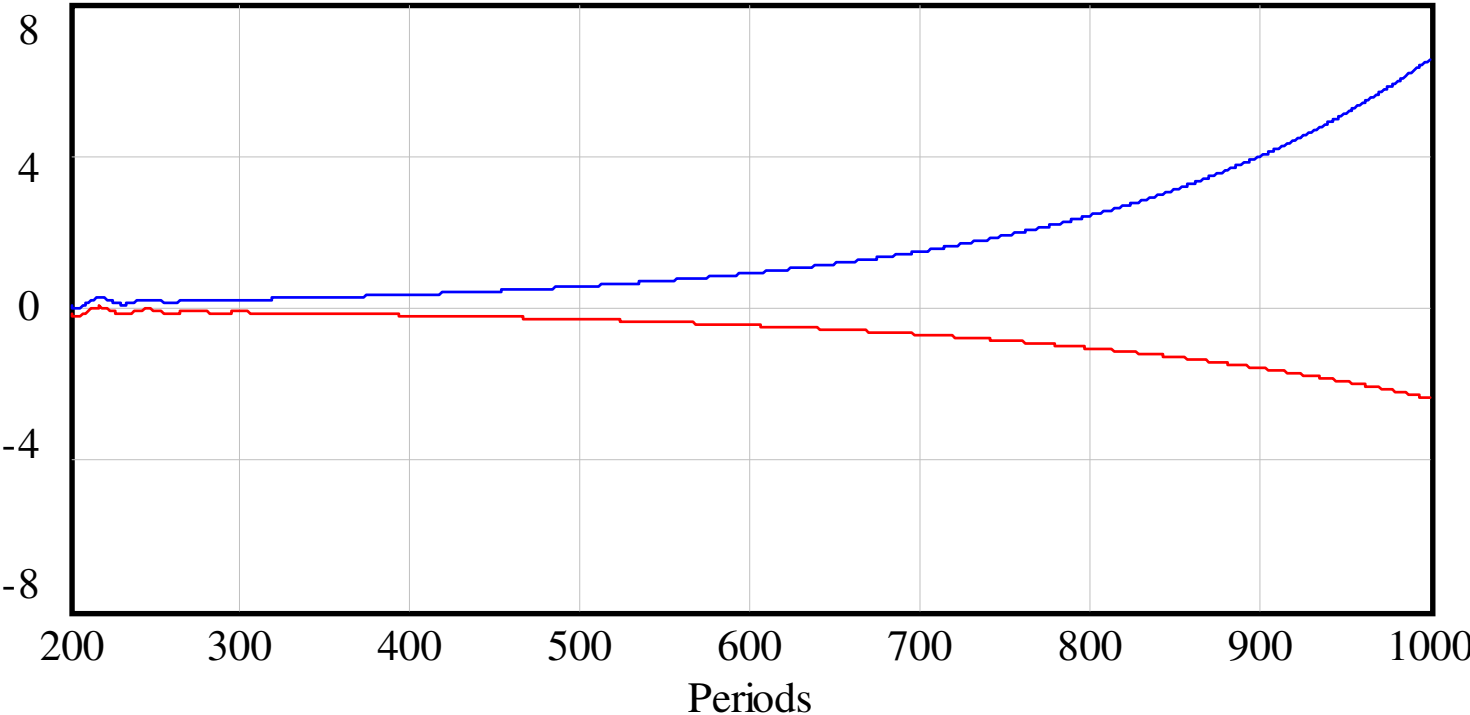
- Banks create money by providing new loans to firms.
- In exchange banks receive interest payments from firms.
- A large part of these interest payments are spent again in the economy as banks pay their employees, buy investment goods and pay out dividends.
- But a portion of banks interest income is not spent again as it is used to increase bank owner's capital.

Implications of the Growth Imperative

- There is a minimal growth rate of the economy which allows for positive profits (after interest payments)
- If the economy falls below this threshold growth rate, firms will stop investing and the whole economy gets into a downward spiral
- There is either a growing or a shrinking economy. A stationary economy (zero growth) is not feasible
- All these statements are true in the longer run abstracting from business cycle fluctuations.

Example from a Simulation of a Simple Economy Consisting of Households, Firms and Banks

Profit



growth rate of 0.5 percent

growth rate of 0.4 percent



Growth and Happiness: The Treadmills of Happiness

Mathias Binswanger

Die Tretmühlen

Wir haben immer mehr und werden

des Glücks

nicht glücklicher. Was können wir tun?



HERDER spektrum



Empirical Evidence I: Happiness Across Nations

Are people in rich countries happier than people in poor countries?

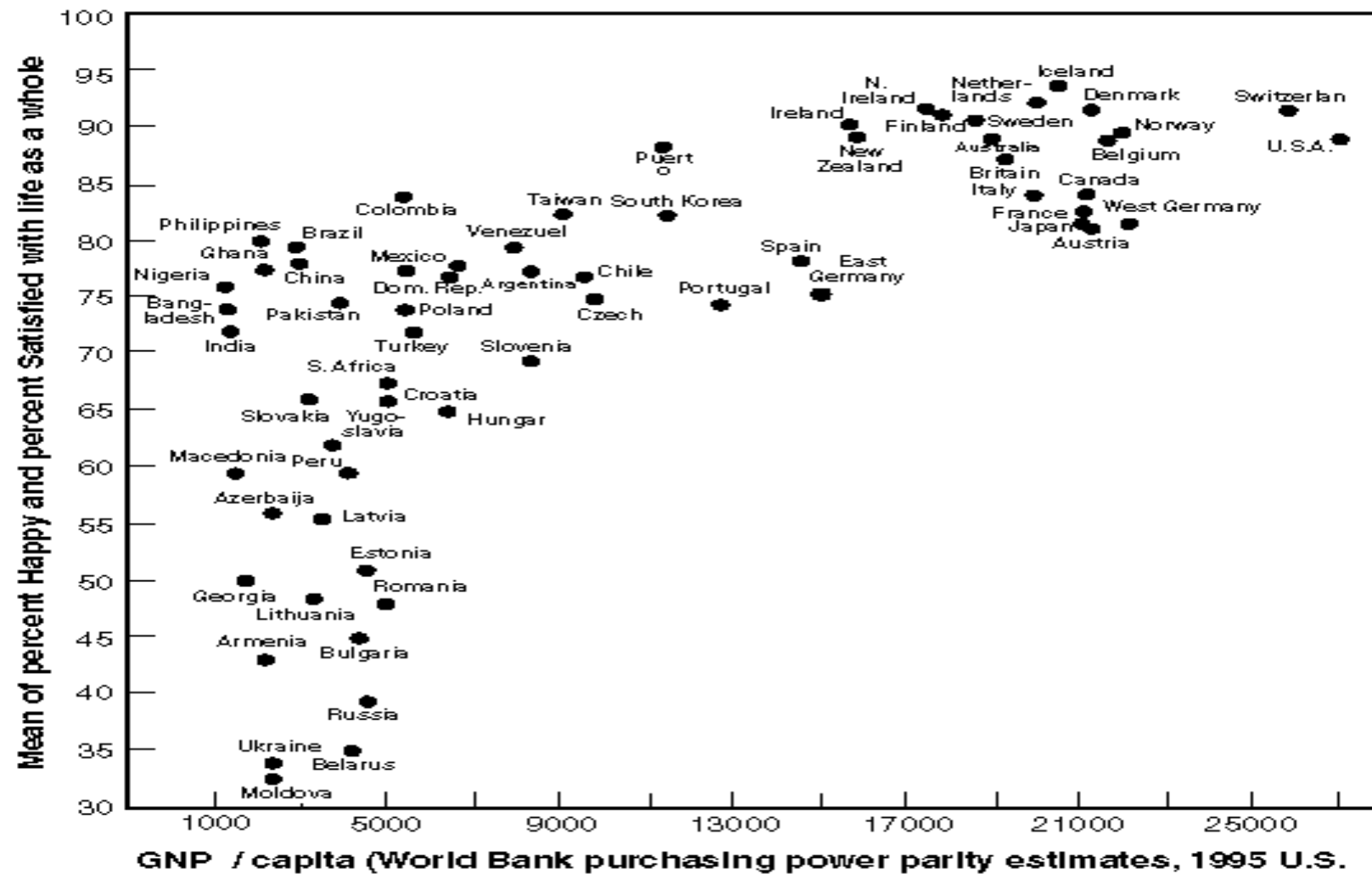
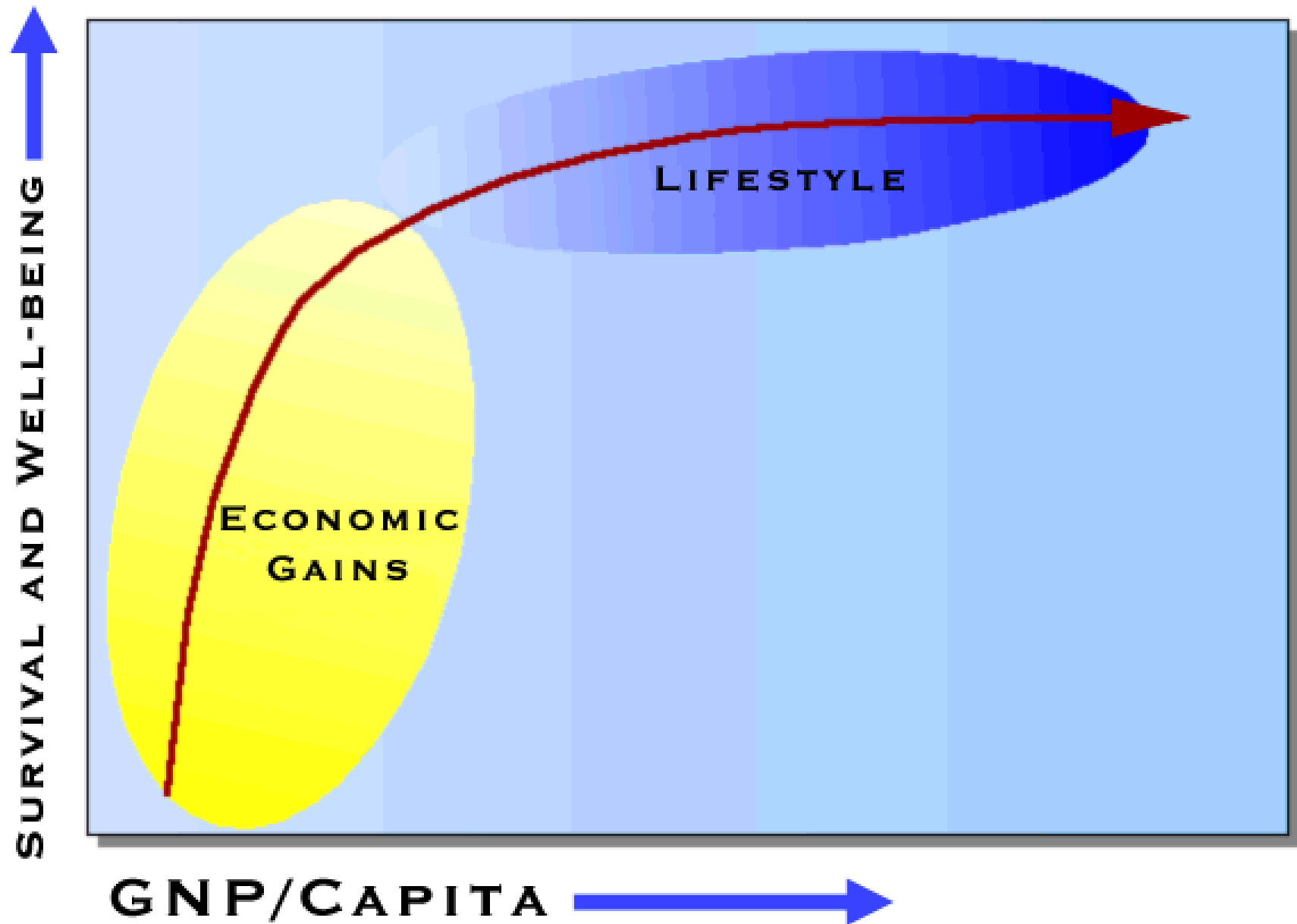


Figure 2. Subjective well-being by level of economic development.

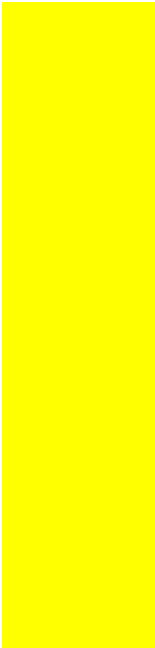
Source: World Values Surveys; GNP/capita purchasing power estimates from World Bank, World Development Report, 1997.

$R = .70$ $N = 65$ $p < .0000$



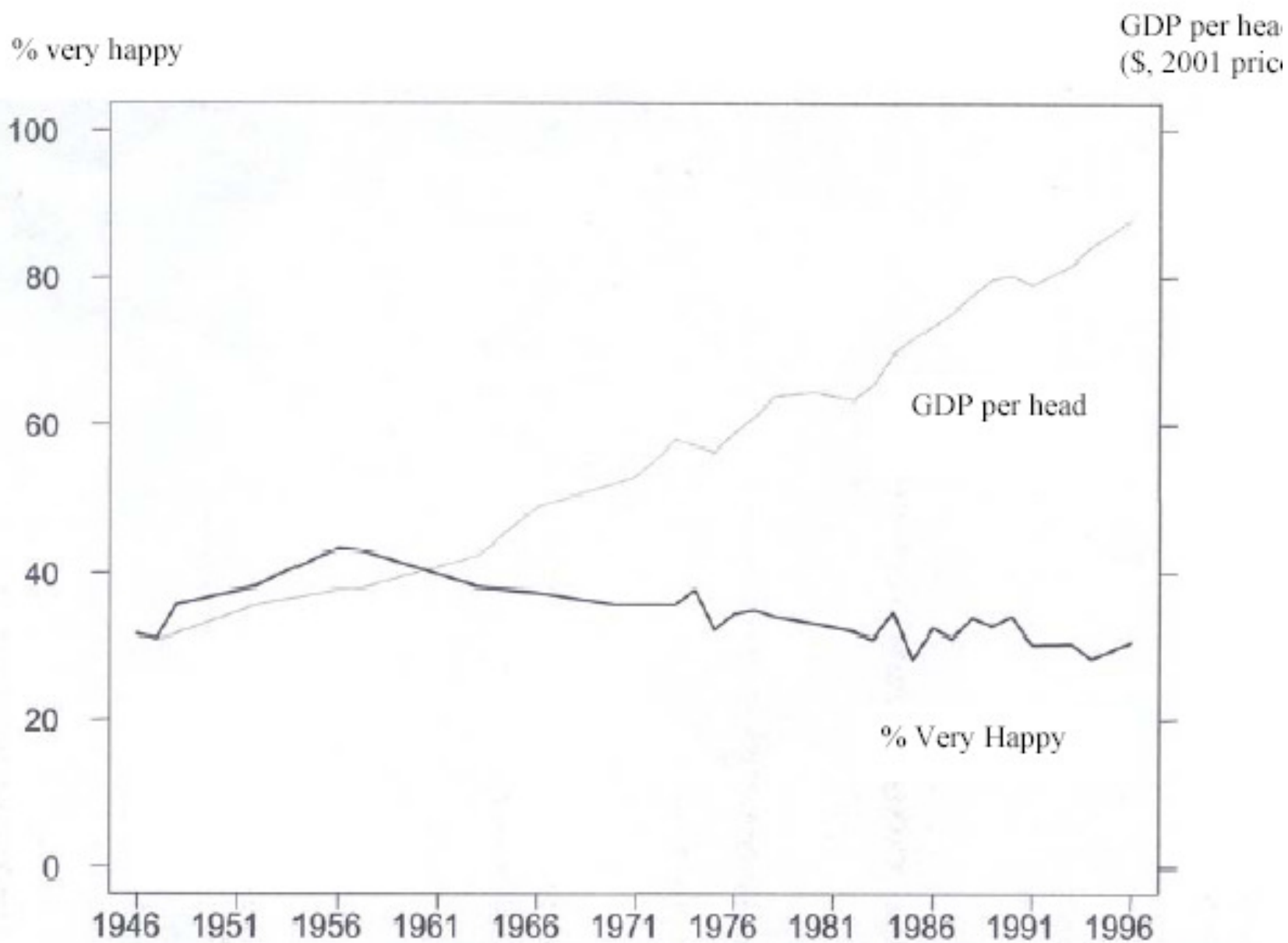
Source: R. Inglehart, 1997

Empirical Evidence II: Happiness Over Time



Is average happiness in a country
increasing along with income over time?

Income and happiness in the USA





Empirical Evidence II: Happiness Within a Country

Are rich people happier than poor people
in a country at a certain point of time?

Percent distribution of population by happiness at various levels of income, USA 1994

Total household income (1994 dollars)	Very happy	Pretty happy	Not so happy	Mean happiness rating
All income groups	28	60	12	2.4
Less than 10000	16	62	23	1.8
10000 to 20000	21	64	15	2.1
20000 to 30000	27	61	12	2.3
30000 to 40000	31	61	8	2.5
40000 to 50000	31	59	10	2.4
50000 to 75000	36	58	7	2.6
Over 75000	44	49	6	2.8



Empirical Evidence IV: Growth and Time Pressure

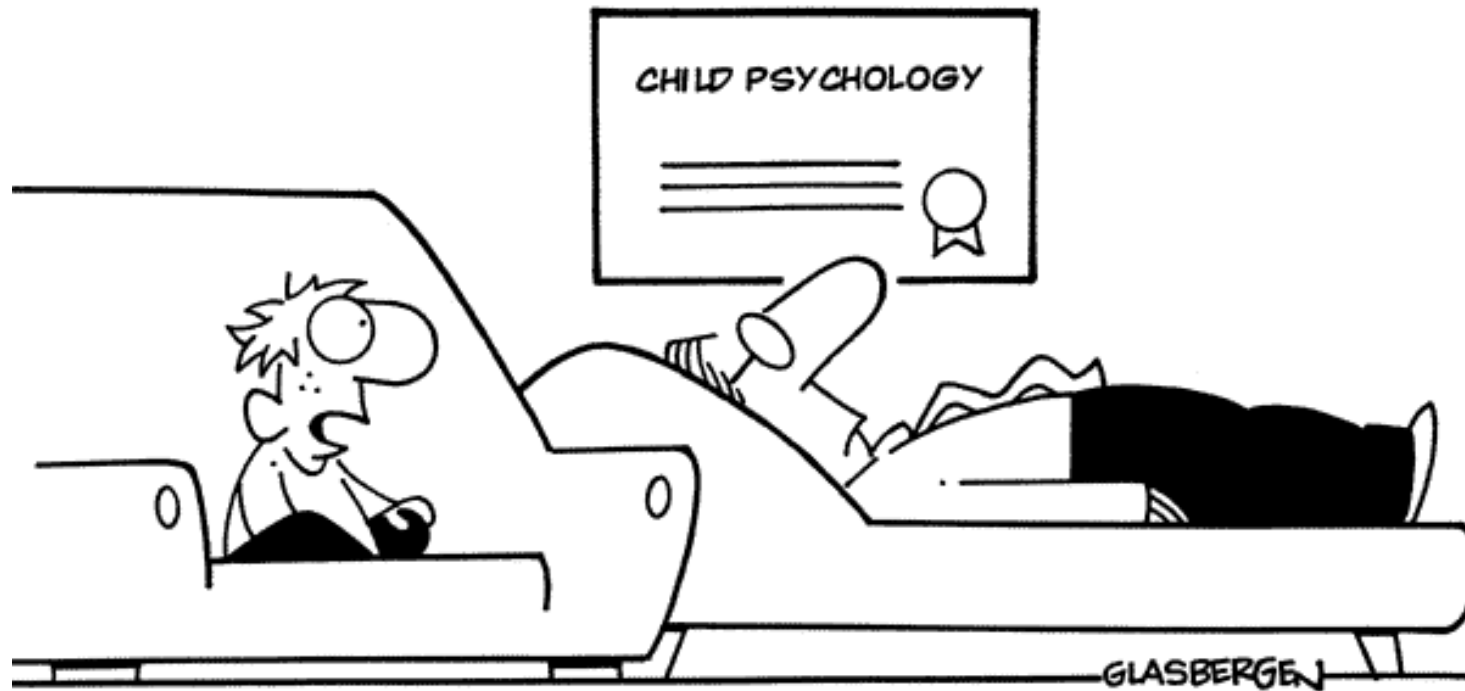
Is time pressure a pervasive phenomenon
in developed countries?

Do people feel increasingly stressed?

Results of Some Recent Surveys on the Development of Stress in Various Countries

<i>Country</i>	<i>Time Period</i>	<i>Stress Related To</i>	<i>Result</i>
USA (Godbey and Graefe, 1993)	1971 – 1992	Life in general	The percentage of the people who always feel stressed has increased from 22 percent to 38 percent.
Australia (Eckersley, 2000)	1990 – 2000	Life in general	The percentage of people who say that there is more stress in their lives in 2000 as compared to 1990 is 91 percent.
Germany (Garhammer, 2002)	1991 - 1999	Life in general	The percentage of people who report to be under frequent time pressure increased from 25 percent to 46 percent.
UK (Green, 2002)	1992 – 2001	Work	The proportion who “agree” or “strongly agree” that they “work under a great deal of tension” rose from 48 percent to 58 percent.
Canada (Duxbury and Higgins, 2001)	1991 – 2001	Work	The percentage of the workforce, who reports to be "highly stressed" has increased from 38 percent to 55 percent.

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"You're spending the best years of your life doing a job that you hate so you can buy stuff you don't need to support a lifestyle you don't enjoy. Sounds crazy to me!"

THE AMISH LIFESTYLE



Questions:



If different economic behavior would make people happier, why don't they change their behavior?

Why do people maximize income instead of happiness?

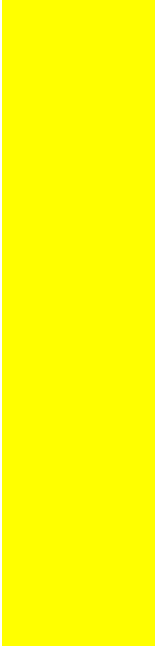
Answer: 4 Treadmill effects

- Positional Treadmill
- Hedonic Treadmill
- Multi Option Treadmill
- Time Saving Treadmill

But all these treadmills are essential for growth.

Adam Smith: Happiness by Growth Is an Illusion...

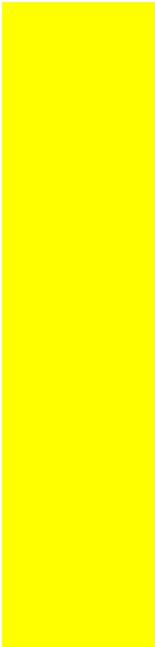
(Theory of Moral Sentiments)



“...Wealth and greatness are mere trinkets of frivolous utility, no more adapted for procuring ease of body or tranquility of mind, than the tweezer-cases of the lover of toys.... If we consider the real satisfaction which all these things [which we can get, when we become wealthy] are capable of affording, by itself and separated from the beauty of that arrangement which is fitted to promote it, it will always appear in the highest degree contemptible and trifling.”

... But this Illusion Is Good For the Economy

(Theory of Moral Sentiments)



“And it is well that nature imposes upon us in this manner. It is this deception which rouses and keeps in continual motion the industry of mankind. It is this which first prompted them to cultivate the ground, to build houses, to found cities and commonwealths, and to invent and improve all the sciences and arts, which ennoble and embellish human life..... The earth by these labours of mankind has been obliged to redouble her natural fertility, and to maintain a greater multitude of inhabitants.”

The Challenge

- Growth is needed for the proper functioning of the economic process.
- But the higher income due to growth does not increase people's well-being in developed countries.
- And there is a trade-off between growth and sustainability.

Open Questions

- What is actually the minimal growth rate, which is necessary for the proper functioning of an economy? Can we slow down the economy?
- Does the growth imperative disappear if we change the monetary system?

Table 1
Happiness in different activities

	Happiness (index)	Average hours per day
Sex	4.7	0.2
Socialising after work	4.1	1.1
Dinner	4.0	0.8
Relaxing	3.9	2.2
Lunch	3.9	0.6
Exercising	3.8	0.2
Praying	3.8	0.5
Socialising at work	3.8	1.1
Watching TV	3.6	2.2
Phone at home	3.5	0.9
Napping	3.3	0.9
Cooking	3.2	1.1
Shopping	3.2	0.4
Computer at home	3.1	0.5
Housework	3.0	1.1
Childcare	3.0	1.1
Evening commute	2.8	0.6
Working	2.7	6.9
Morning commute	2.0	0.4

Note: Based on Day Reconstruction Study. Average happiness is net affect.

Commuting and Satisfaction with Life

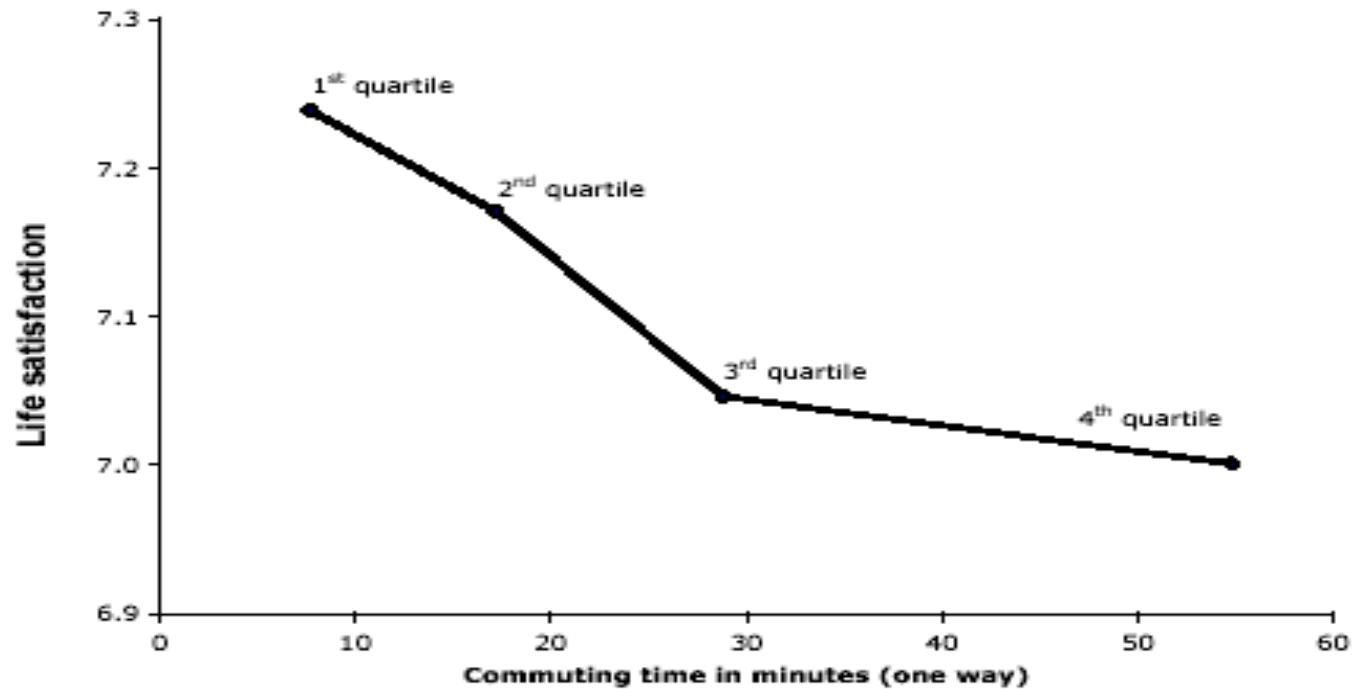


Fig. 4. Commuting time and average reported satisfaction with life, Germany 1985-1998

Data source: GSOEP.

Source: Frey and Stutzer (2004)