Summary

-Comparative Economics and Business Systems-

Inhoud

Lecture 1

General idea of comparative economics:
'Institutions influence behaviour and behaviour influences outcome.'

How can you explain differences within countries?
For example: 'Why are some countries rich and other countries poor?'
An answer could be because of differences in institutions.
Institutions are the rules of the game and influence choices and therefore outcomes. It is everything within society that influences our behaviour.

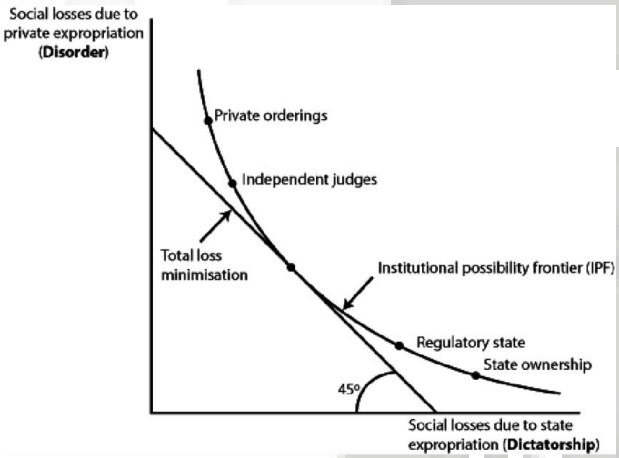
Institutions consist of:
- **Informal constraint** (Fashion, taboos, traditions, etc.)
- **Formal rules** (Laws, property rights, regulations, etc.)

Is there a perfect institution? → No! All countries differ, so there is no 'one size fits all' policy.

Comparative economics is about comparing alternative economic systems.
Old comparative economics → Socialism vs Capitalism.
However, the socialistic system kind of disappeared since the fall of the Soviet Union.
New comparative economics → Differences within capitalistic policies

In every institutions there are two extremes:
- **Completely free market**: More efficiency and lower government costs, but more disorder.
- **Completely controlled market**: Less disorder, but (too) powerful government (dictatorship).

Every country has to choose an institution somewhere between these two extremes.



The **Institutional Possibility Frontier** (IPF) is a theoretical framework that shows the trade-offs between costs of disorder and costs of dictatorship. This is a convex curve. However, the IPF is different for every country and therefore every country has another optimal point due to differences in civic capital (culture, quality government etc.).

Lecture 2

Acemoglu et al. (2005)

Basic question of the paper:
'Why are some countries poor and other countries rich?'

Standard growth theories are not sufficient to answer this long term differences between countries.
In the short run, capital, labour and technology determine productivity. However, only these

factors cannot explain long term economic growth.
These differences in production factors can be explained by savings ratio, preferences or exogenous technology growth. The authors do not deny this, but they are symptoms of economic growth and not the cause of economic growth.

But what does explain these differences?
Fundamental causes of economic growth:
1. **Geography**→ starting point→ little influence on long-run growth
2. **Culture**→ Lack of evidence of causal relationship
3. **(Economic) Institutions**→ Behaviour→ Growth

Economic institutions influence behaviour and therefore growth. They also influence the distribution of resources.

$$\text{economic institutions}_t \implies \begin{cases} \text{economic performance}_t \\ \text{distribution of resources}_{t+1} \end{cases}$$

Economic institutions are designed (endogenous) by political power.
Political power → Conflict of interest → Commitment problem → Non-optimal outcome

$$\text{political power}_t \implies \text{economic institutions}_t$$

2 types of political power:
De jure political power: Power because of institutions (Judges, parlement, etc.)
De Facto political power: Power because of (economic) surcomstances (CEO, rich people, good network)

$$\text{political institutions}_t \implies \text{de jure political power}_t$$

$$\text{distribution of resources}_t \implies \text{de facto political power}_t$$

Therefore the system will **reinforce itself and will be stable**.

$$\begin{array}{rcl} \text{political institutions}_t & \implies & \left.\begin{array}{l} \text{de jure political power}_t \\ \& \\ \text{de facto political power}_t \end{array}\right\} \implies \begin{array}{l} \text{economic institutions}_t \\ \text{political institutions}_{t+1} \end{array} \implies \left\{\begin{array}{l} \text{economic performance}_t \\ \& \\ \text{distribution of resources}_{t+1} \end{array}\right. \\ \text{distribution of resources}_t & \implies & \end{array}$$

Economic institutions will not change because of the system itself, but from an **exogenous shock**.

Measuring institutions:
Property rights→ equal opportunities
There is a correlation between GDP per capita and property rights protection.

However, there may be:
1. Reverse causality
2. Omitted variable bias
3. Lack of natural experiments (North vs. South Korea, the colonial 'experiment')

Why institutions differ:
1. Efficient institutions view→ Still inefficient institutions→ Hypothesis cannot be true
2. Ideology view→ Could be true in short run→ Not true in long run, because the lack of changes in the long run when it is not optimal.
3. Incidental institutions view→ Most institutions are designed→ Cannot explain long-run differences
4. Social conflict view→ Because institutions will not change without an external shock→ Biggest reason of differences between institutions.

Lecture 3

Hal & Soskice (2001)

Developed countries have different institutions, but still have roughly the same performances. How?

Possibilities:
- Deviations from "best practice"
- Multiple "optimal" clusters

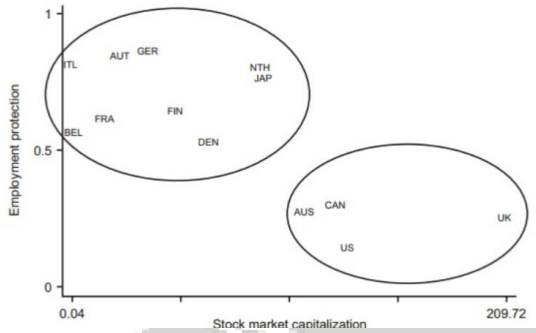
How does the economy deal with certain institutions?
The authors pick **five spheres** to explain differences between countries:
1. Industrial relations: Negotiation about wages and working conditions
2. Vocational training and education: Companies want right skills→ Individuals decide how much and where to invest
3. Corporate governance: Companies are looking for financing, financiers are looking for security.
4. Inter-firm relations: Horizontal and vertical relationships with other companies.
5. Employees: Companies want: Good quality staff, works well together, no opportunistic behaviour

Two extreme examples are used:
1. **Liberal market economies** (LME)
-Companies coordinate their activities mainly through markets
-Companies are assessed on current profits and public information
-Example: The United States
2. **Coordinated market economies** (CME)
-Companies are more dependent on non-market relationships
-Strategic interaction instead of competition
-Companies are assessed more on long-term performance and relational information in company financing (banks)
-Example: Germany

The path that is being followed is significantly different, but performance is about the same

In these market economies, there are complementary institutions.
Complementary institutions: The presence of one institution enhances the efficiency of another institution.

Institutional Complementarity



The two market economies are compared with each other with regard to the five spheres.

Start in one of these extremes→ Development of institutions in same category→ Clusters of institutions
Example:
LME→Financing through stock market and short term results→ Ability to change fast→Long term employment protection would be a mismatch
Institutions stimulate strategic behaviour of companies

Inter-firm relations
CME:
Information sharing
Reputation is important→ strong business associations
LME:
No informal information sharing between competing companies

Employees
CME:
Employees are encouraged to share information→ Schooling of employees→ Hold-up problem and it is interesting to buy them away→ Different industrial relationships are needed than LME
LME:
Compensation of managers often based on shares and/or options
Labor markets are very volatile

Industrial relations
CME:
Wages based on sectorial negotiations and quality
Employees have considerable power
Social contract
LME:

Relationship between company and employee is a market relationship with short-term contracts.

Vocational training and Education
CME:
Long employment contracts→ Less labour mobility→ Increases importance inter-firm relationships
Outcome: Less product competition, and more focus on product differentiation
LME:
Less attractive to learn specific knowledge

Corporate governance
CME: Banks→ not completely based on public information and current profits
LME: Markets→ based on public information and current profits

Comparative institutional advantages:
Countries have comparative advantages because of differences in institutions.

How to measure comparative advantages? → Innovations

CME→ Good for incremental innovation→ Slow, long term innovation
LME→ Good for radical innovation

Schneider & Paunescu (2012)

Schneider & Paunescu
Two-step approach is needed
Find proof for claims, however there should be more than 5 spheres.

Lecture 4

(La Porta et al., 1998)

Well develop financial markets→ Good predictors of economic growth

Agency theory→ Two assumptions:
1. Principal and agent have conflict of interests
2. There is asymmetrical information

Perfectly efficient market→ Value of the company is not affected by the method of financing

Good protection of shareholder and creditor→ Easier funding→ Better economy
So: Protection of shareholders and creditor→ Economic development

Bank-based VS Market-based systems
Bank-based system→ Banks are the largest lenders
Market-based system→ Financing by numbers of anonymous investors

However, these systems are **just observations and not causes**

Cause of differences in development→ Legal families
Commercial laws can often be traced back to two 'legal families':
1. Common Law:
Adapt general principles to specific cases
→Flexible (Positive)
→Less certainty (Negative)
2. Civil Law:
Provides clear comprehensive codes
→Greater influence of government
→Weak protection of property rights

Idea of the paper:
Common Law→ Better protection investors

Example
Common Law:
Problem with a company→ Sue the company yourself
Civil Law:
Problem with a company→Go to the police→ Government sues the company

To test and measure this theory, two indexes are used:
1. Shareholder rights
→Protection against bad behaviour of management
→On average, common law countries have more shareholders rights
2. Creditor rights
→Power that increases the change that they will get paid back their loans
→On average, common law countries have more creditor rights.

Apparently, shareholder rights and creditor rights appear not to be substitutes for each other.

Another way of measuring the protection of investors:
How good are these rights enforced? → How easy is it to get your right?
Civil Law still scores low on enforcement

Can there be stated that law-systems cause changes in economic outcomes?
Not directly because:
-Legal families are purely exogenous, however:
Creditor rights, rule of law etc. can be partially endogenous

Lecture 5

Knutsen, 2012

Is democracy good for economic growth?
→ Cannot observe the same country being a democracy and not being a democracy
→ Hard to answer, still no prove

A correlation does not necessarily show a relationship, because too many other factors.
In group variation:
-There are large differences in growth rates between countries with similar levels of democracy.
Lack of a natural experiment:
-Controlled for economic, social, cultural, historical and other political factors.
-Impossible since there are too many different factors

Five main channels through which being a democracy vs. being an authoritarian regime could influence economic growth:
+ means positive for being a democracy
- In favour of being an authoritarian regime
1. Property rights protection (+)
- Redistribution (-) versus checks on power and expropriation (+)
2. Investment (+/-)
- Richer capital owners (-), Property rights (+) and human capital (+)
3. State autonomy (-)
- State capacity &autonomy (-), special interest groups (-), time horizon (-), political competition & reputation (+)
4. Predatory rulers (+)
- Commitment problem (+), Modernization (+), Checks and Balances (+)
5. Technological change (+)
- Less hierarchy (+), Learning (+), Open debate (+), Freedom (+)
- Dictators want to keep the population stupid

Causality between democracy and economic growth→ still hard to proof, because of endogeneity, omitted variables, etcetera.
In general→ Two main type of conclusions: No effect, or positive effect

Democracy or Authoritarian regime
- Many developed countries started with limited political rights→ Maybe the need of 'dictatorship' in early stages of development?
However, autocrats will steal wealth→ democracy can be a check on power
- Democracy is expensive
- You probably need to have a certain level of human capital to have a well-working democracy
- Maybe first growth and because of good economy a democracy (endogeneity)

Barro (1995)

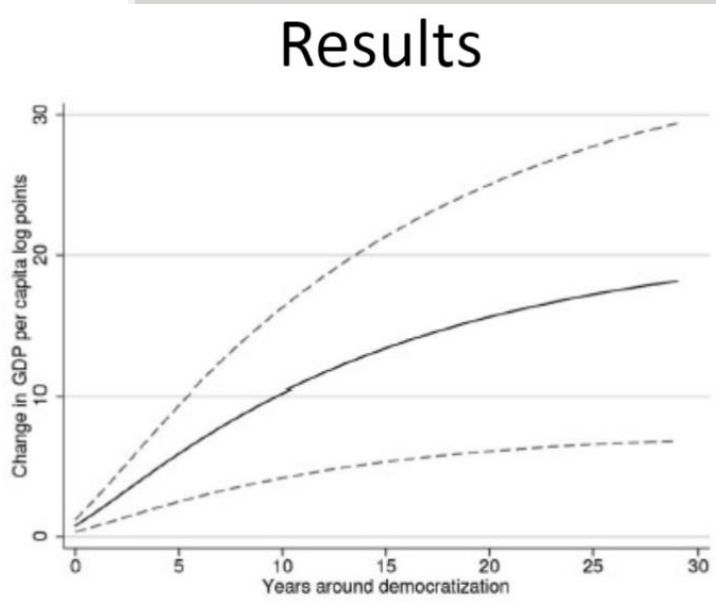
One of the problems in research on democracy on economic growth:
→Convergence
-With similar values for all other variables, poor countries tend to grow faster than richer countries.

Outcome paper Barro (1995):
- Indirect effect between Democracy and Economic Growth
- Medium levels of democracy are positive for growth
  High levels of democracy are negative for growth
  So indications of nonlinearity

- Maybe endogeneity between economic growth and democracy
- Exporting democracy won't be key to economic growth, it will not last with insufficient development.

Acemoglu et al., (2019)
You need to correct for fixed effects.
Adding country fixed effects changes research question from 'between' to 'within':
-From: Do countries with higher levels of democracy have higher economic growth?
-To: Is an increase in democracy (within a country) associated with more growth in that country?

Authors claim that country-fixed effects and using lags of GDP is the solution.



Findings: (Corrected for the probability of becoming a democracy and many other factors)
Democracy increases economic growth. See the figure above.

Lecture 6

La Porta (1999)

Why do some countries have a 'good' government and others don't?
How do you measure the quality of a government?
What determines the quality of a government?

There is not one measurement of the quality of a government.

From an economics perspective:
A good quality government is good for economic growth.

The government is formed by institutions→ Where do institutions come from?
Three theories:
Economic theory:
Institutions are created when it is efficient that they arise.
Not interesting where it comes from→ It is a circle, because endogeneity→ Cannot claim causality
Political theory:
Institutions are designed by the parties with power to retain this power and/ or become richer.
The more divided a country is→ Leading group will take care of their own group→ Lower quality of government
Cultural theory:
Institutions stem from 'beliefs' that shape our actions and shape the government.
Religions→Channels through which differences in government quality can be explained.

5 Different ways through which government quality can be measured:
1. Standard economic idea:
Government should protect property rights and make sure the market works→ And then steps away

2. Government must do what it does efficiently and effectively
→Efficiency of bureaucracy

3. Governments must deliver public goods→ Quality public goods
Public goods cannot be delivered by the market alone

4. Government spending on transfers and government size→ More difficult variables
Can be a good or a bad thing

5. A government must provide political freedom→ Democracy

Hypothesis Economic Theory: Absence of good exogenous variables→ We cannot test this

Hypothesis Political Theory (1): Greater ethnic diversity→ More incentives to amass resources for the group with power→ 'Worse' government

Hypothesis Political Theory (2): Legal systems
→Socialist laws: More interventionism→Lower efficiency
→Common law: Less interventionism and higher efficiency
→Civil law: Between Socialist and Common Law

Hypothesis Cultural Theory:
Protestant countries→ 'superior' economically, because of incentives of hard working, not complaining etc.
Catholic and Muslim countries→ More intervention, less efficient, lower quality public goods and less political freedoms→ Less quality of institutions

Conclusions:
-Rich countries have a 'better' government than poor countries
Problem: What was first?
-Ethnolinguistic homogeneous countries have a 'better' government than ethnically heterogenous countries.
-Quality government common law countries > Quality government socialist and civil law

countries
-Quality government protestant countries > Quality government Catholic or Muslim countries
-'Good' Governments are often larger and collect relatively more (but efficient) taxes

Alesina et al., (2001)

Why doesn't the US have a European-style welfare system?
Looked at:
-Social spending
-Transfers

Economic theory:
-Altruism increases redistribution
-Political power poor increases redistribution
-Expected income increase→ Decreases redistribution
-Income uncertainty→ Increases redistribution
-Capital mobility

Political Theory:
-Law system (property rights protection vs state)
-Geographical representation& Population density→ Comparisons to your neighbour

Behavioural Theory:
-Believes about 'the poor'→ Why are people poor?
US→ Because they do not work hard enough
Europe→ Because they are not lucky (where are you born?)
-Racial distribution/group distribution
Group bias

Conclusion paper:
-No solid economic evidence for differences
-Political and behavioural factors far more important
-Americans redistribute less because:
Political system prevents redistribution
Majority believes redistribution favours racial minorities
Majority believes everyone has fair chances, being poor is a choice

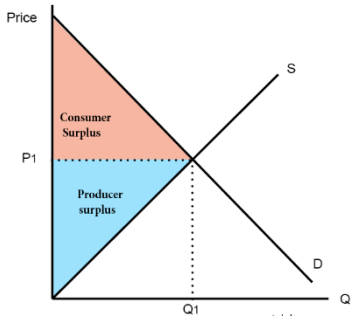
Lecture 7

Entrepreneurship

Per Bylund:

- What causes poverty?
  - Nothing. It's the original state, the default and starting point. The real question is, what causes prosperity?
- What is economic growth/prosperity?
  - Economic growth means that an economy's ability to satisfy people's wants, whatever they are, increases
  - So value creation → what is value?
- What is entrepreneurship?

- It is about delivering goods and services that consumers value
  - Figuring out what consumers value (now and in the future)
  - Finding the best way to deliver this value



Value

- Main problem of governments is that they focus on costs rather than value → companies are value (and future value) focussed
- But value is hard concept to grasp and measure

Acs et al (2008)

- Entrepreneurship is important for economic development
  - Employment, innovation and welfare effects (value creation)
- The types and effects of entrepreneurship differ given the institutional context and level of development
  - For example difference between "opportunity" and "necessity" entrepreneurship
- Institutions and development affect entrepreneurship
  - Quality of governance, bureacracy, corruption, access to capital and other resources, culture etcetera
- Important to understand this interplay between institutions (formal and informal), development and entrepreneurship
  - Lot of policy aimed at the importance of "the entrepreneur".
  - But no one size fits all policy

Entrepreneurship and economic development

1. **Factor driven stage**
   - Competition through low cost efficiencies in the production of commodities or low value-added products
     - High and increasing rates of self-employment
2. **Efficiency driven stage**
   - Competition through production efficiency → economies of scale
   - Need for capital, large markets, (medium) educated population
     - Decreasing rates of self-employment
3. **Innovation driven stage**
   - Competition through innovation → process- and product-innovation
   - Export-orientated, less focus on size, highly educated workforce, more focus on research, intellectual property rights and knowledge diffusion
     - Increasing rates of self-employment

Why different levels of entrepreneurship in the different stages of development?

- In stage 1 (factor driven):
  - Mostly "necessity" entrepreneurship
- In stage 2 (efficiency driven):
  - Economies of scale, therefore higher capital-labor ratios in (larger) firms
  - Therefore higher wages in firms (employment) relative to entrepreneurship
- In stage 3 (innovation driven):
  - Decline in manufacturing, increase in service industries → less importance for economies of scale and capital-labor ratio → smaller firms

- More innovation in “entrepreneurial” industries and new technologies (IT) decrease market transaction costs

In-between conclusion: In order for economies to move into the innovation-driven stage, it is necessary for them to develop environmental conditions that improve (the quality of) entrepreneurship.

In other words: the institutional framework

Measuring entrepreneurship

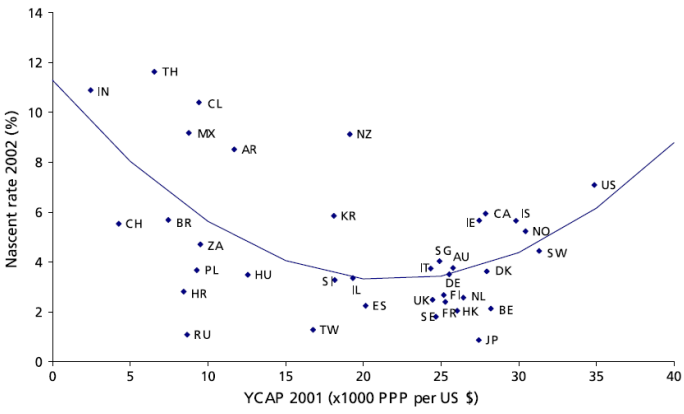
- So very important to research relation between institutions, entrepreneurship and development
- But how to measure the quantity and quality of entrepreneurship?
- This paper is introduction to book using the “Global entrepreneurship monitor” (GEM)
  - Yearly survey among 1.000-27.000 adults (per country) in 60 countries
  - Goal: To measure the level of start-up activity or the prevalence of nascent firms and the prevalence of new or young firms that have survived the start-up phase.
  - Advantage: normal national statistics hard to compare
  - Problem: how to compare types of entrepreneurship between countries in different stages of development

NECI index: national entrepreneurship context index

Entrepreneurship and development

Hypotheses:

- Negative relationship between entrepreneurship and economic development in low-income economies
- Also negative relationship in beginning/middle of efficiency-driven stage → people try to move from entrepreneurship to wage work
- Positive relation when development reaches innovation driven stage → people move from wage work to entrepreneurial work
  - So an u-shaped curve?



Entrepreneurship measurement

- Less developed economies score relatively high on all levels of entrepreneurship
- Furthermore:
  - Model useful in explaining decline in self-employment in developing economies
  - Still lacks understanding of role and effect entrepreneurship in later stages
- Therefore distinction between:

  - Opportunity entrepreneurship (starting a business to exploit a perceived business opportunity)
  - Necessity entrepreneurship (starting a business because you were pushed into it)
- The ratio between opportunity and necessity entrepreneurship seems to offer clear positive relationship with development

The complex global entrepreneurship context index (CEC)

Index combining 26 measures of entrepreneurships and types of entrepreneurship

Bosma et al (2018)

- In an entrepreneurial society, institutions channel entrepreneurial talent toward "productive entrepreneurship".
- Productive entrepreneurship: any entrepreneurial activity that contributes directly or indirectly to net output of the economy or to the capacity to produce additional output
- Entrepreneur organizes available resources to generate value
- Institutions determine if, how, and under what conditions entrepreneurs can access resources and can create innovation and growth
- Complex system of institutions supporting "productive entrepreneurship" are called "entrepreneurial ecosystem"
- However, both "productive entrepreneurship" and the quality of institutions (institutional ecosystem) are hard to measure.

Empirical results

- Lot of studies estimate relationship between a proxy for entrepreneurship and economic output or growth → most find positive relationship
- But these suffer from endogeneity bias, lack of evidence of causal relatonship, and include too broad or too narrow measures of entrepreneurship
- Furthermore lack of attention for complexity of relationship → probably depends on context and quality (not quantity) of entrepreneurship
- Solutions (besides collecting better data)?:
  - Latent (hidden inferred variables) class models → identify quality of institutions based on marginal effect of institutions on growth
  - Use algorithm to construct institutional-quality adjusted index of entrepreneurship
  - 3SLS models: system of equations that estimates productive entrepreneurship and relation with growth simultaneously

Some theory and literature

- Institutions (formal and informal) influence behaviour and are "fundamental cause" of economic development
- Institutions also drive the allocation of entrepreneurial talent
- Institutions → entrepreneurship
  - Regulatory dimension (laws and regulations concerning finance, labor, business etc)
  - Cognitive dimension (knowledge and skills of population concerning entrepreneurship)
  - Normative dimension (cultural view of entrepreneurship)

- Three main channels for relationship entrepreneurship and growth
  - Innovation creation
    - Creating new knowledge
  - Innovation diffusion
    - Spreading existing knowledge
  - Competition
    - Incentives for efficient use of resources and knowledge

The model

- Authors think that you cannot analyse relationship between institutions, entrepreneurship and growth in seperate models
- This should be analysed in unified framework
  - Estimate relationship between quality of institutions and economic growth by improving the 'quality' of entrepreneurship (productivity)
  - While taking into account other channels (production factors) through which institutions might affect growth

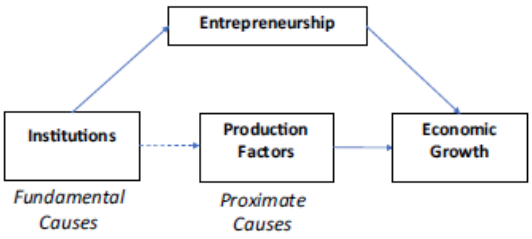


Fig. 1 Institutions, entrepreneurship, and economic growth

Step 1: Estimate 'standard' growth model

$$\Delta y_{it} = y_{it} - y_{it-1} = (\gamma - 1) y_{it-1} + \beta_1 s_{it} + \beta_2 (n + g + \delta)_{it} + \eta_t + \mu_i + \nu_{it}, \quad (1)$$

- y= GDP per capita
- s = saving rate → capital (physical and human capital)
- n, g, δ = population growth, technology growth and depreciation
- η, μ = year- and country dummies (fixed effects)

Step 2: add measures of entrepreneurship to this model

$$\Delta y_{it} = (\gamma - 1) y_{it-1} + \beta_1 s_{it} + \beta_2 (n + g + \delta)_{it} + \beta_3 ent^j_{it} + \eta_t + \mu_i + \nu_{it} \quad (2)$$

- ent = different measures of entrepreneurship
- Problem: no attention for possible endogeneity

Step 3:

  - Create a channel where institutions affect entrepreneurship (institutions that are expected to enhance productive entrepreneurship)
  - While taking into account the impact of 'traditional' input factors

$$\Delta y_{it} = (1-\gamma)y_{it-1} + \beta_1 s_{it} + \beta_2 (n+g+\delta)_{it} + \beta_3 ent_{it}^{j} + \eta_t + \mu_i + \nu_{it} \quad (3a)$$

$$ent_{it}^{j} = \alpha^0 + \sum_{k=1}^{K} \alpha^k ins_{it}^{k} + \sum_{m=1}^{M} \alpha^m X_{it}^{m} + \varphi_t + \omega_{it} \quad (3b)$$

- 3SLS: both equations are estimated simultaneous instead of separate (as in 2SLS)

→ now entrepreneurship in equation 3a is that part of entrepreneurship that can be explained by the quality of institutions

- X = set of control variables
- Note = only year-fixed effects, not country-fixed effects in equation 3b!

The data

- 25 EU countries for period 2003-2014
- Entrepreneurship:
  - TEA: Total Early-Stage Entrepreneurial Activity
  - TEAopp = opportunity-motivated rather than necessity-motivated TEA
  - TEAgro = high growth expectations TEA
  - EEA = entrepreneurial employee activity
- Institutions:
  - SGOV = size of government (higher value = smaller)
  - REGB = regulation of credit, labor and business
  - FINS = financial stability
  - SKIL = perceived knowledge and skills to start business
  - FEAR = fear of failure
  - CARE = entrepreneurship as good career choice

Results

- Proxies for regulatory and cognitive institutional aspects improve quality of entrepreneurship
- The relation between (productive?) entrepreneurship (predicted by quality of institutions) and economic growth is positive and significant.
  - Also 10 times larger than in single equation!
- Together, this supports the hypothesis that entrepreneurship is a channel while institutional quality is a fundamental cause of economic growth.
- Also importance of human capital decreases: education should be more aimed at entrepreneurship/innovation less on 'only' cognitive skills?
- Size effects:
  - Increasing perceived skills by 10% → 0.5% points more growth per year
  - Increasing regulatory quality by 10% → 1.1% points more growth per year
- However, as always, interesting findings, and new 'direction' of research, but far more research is necessary (according to authors)

Lecture 8

Nickell et al., (2004)

What explains differences in unemployment levels within (OECD) countries over time?

Theory:
- Unemployment determined by real demand in economy
Institutions only moderator
- In the long run, unemployment grows toward a level consistent with stable inflation
- Unemployment differences linked to:
Effectiveness and efficiency of matching in labour market
Wage increases in times of excess supply of workers

What can affect unemployment rates?
→ **Unemployment benefit system:**
- Level of benefits
- Length of entitlement
- Coverage and strictness of the system
→ **Wage determination**
- Collective bargaining power
- Labour unions
- Extension laws
- Coordination
→ **Other factors**
- Employment protection
- Labour taxes
- Owner occupation

Empirical thoughts:
Cross-section→ Variation in data 'between' countries
Panel data→ Variation in data 'within' countries (over time)
If institutions are stable→ All differences already captured by country fixed effects→ So you correct for averages within countries
Developments captured by productivity growth over time→ Correct for time trend
Correct for unobserved shocks→ Year fixed effects
Interaction on institutions→ Interaction effects.

Explain patterns of unemployment:
- Changes in institutions (more important one)
- Interaction between shocks and institutions

Want to look at long-run, so control for:
Factors influencing short-run deviations in unemployment→ Institutions explain trend

<u>Labour demand shocks</u>
Every level of unemployment that deviates from long-term unemployment that we cannot explain
→ Demand shock

$$\ln ET_t = \beta_0 + \beta_1 \ln ET_{t-1} + \beta_2 \ln ET_{t-2} + \beta_3 \ln ET_{t-3} + \beta_4 \ln YQ_t + \beta_5 \ln WTP_t + \varepsilon_t$$

Equation is corrected for the trend, because looked at 1, 2 and 3 years before→ Corrected for GDP→ Corrected for Unit labour cost
- Every part of unemployment that cannot be explained by the long term trend, GDP or unit labour cost is captured in the residual→ This residual is the shock→ Take is as a control variable in the other model.
<u>This formula will not be asked on the exam, but way of reasoning is important</u>

Results:
+ means increase unemployment
- means decreases unemployment

→ Employment protection (+) (Long-term unemployment)
→ Employment taxes (+) (Lower positive effect in countries in countries with good coordination)
→ Benefit ratio, duration and interaction between them (++) (Most important one)
→ More people become member of a trade union (+)
Institutions affect long-term averages in unemployment rate ratios

Institutions do explain, but what does it tell us?
Keeping institutions stable to simulate a world with no institutional change
→ 55% of all changes in development of unemployment (in OECD countries) can be explained by changes in institutions
So by keeping institutions stable→ Explanatory power decreases by 55%
The part (55%) that can be explained by institutions is decomposed in 4 different types of institutions:
- Benefit system: 39%
- Labour taxes: 26%
- Labour union: 19%
- Employment protection: 16%

Conclusion:
→ Unemployment is determined by aggregate demand
→ Institutions affect shift in long-term demand and therefore affect unemployment
→ Broad movements in unemployment can be explained for 55% by changes in institutions
Remarks:
How to measure institutions?
Endogenous reasons for differences in institutions?
Only unemployment is measured, they do not take into account:
Participation, quality of jobs, wages, inequality, etc.

Jaumotte & Osoria (2015)

Inequality

Certain level of inequality could be positive→ Hard work will be rewarded
High levels of inequality are bad for economy
No-one knows the optimal level of inequality

Main (suspected) causes for increasing inequality over time:
- Globalization & technological progress
→ They are skill-biased→ Comparative advantages→ Different effect in demand for high-skilled and low-skilled workers
But these are global phenomena→ Should expect same changes in inequality in most countries→ This is not the case
- Financial deregulation and marginal tax rates→ Explain partly, but not enough

Measurements in the paper:
- Top income shares
- Overall income distribution → GINI index

Controlled for:
Market forces

Focus is on 2 institutions:
- Minimum wages
- Labour unions
Argument: Both of them could lower inequality

Differences between gross and net income inequality→ Redistribution

Conclusion:
- Probably labour union density is a measurement for a bigger story
It may be symbolising overall developments that are happening in our society
Changes in institutions→ Top-earners are doing better
- Strong association between decline in labour union density and increase in inequality
- Minimum wages can be associated with overall income inequality
- Because we are changing institutions within countries all over the world (more liberal)→ It seems to have an effect on income inequality.
- Be careful: These institutions affect more than only income inequality→ unemployment

Lecture 9

Human capital→ 'Quality' of humans in society→ Most easily captured by education

Traditional growth theories:
Economic growth depends on physical capital per worker, the amount of labour and technology
Technology= Productivity not explained by physical capital ant the amount of labour (Economies of scale)

Productivity also depends on the quality of labour→ Human capital
Human capital theory→ Individuals **and society** benefit from investment in people.

What is the effect of education on personal income and economic growth?

Impact on growth:
- Directly due to improved productivity → Higher income
- Indirectly through positive externalities→ taxes, behaviour, etc.

Individual human capital:
-'Efficient' labour market→ Wages reflect marginal productivity of a worker
- Not all markets are efficient
→ Finance wage premium→ Market imperfection→ Profits are for the investors, employees etc.
→ Losses are for society
So: Employers can pay higher salaries, because when it goes wrong society pays for it.

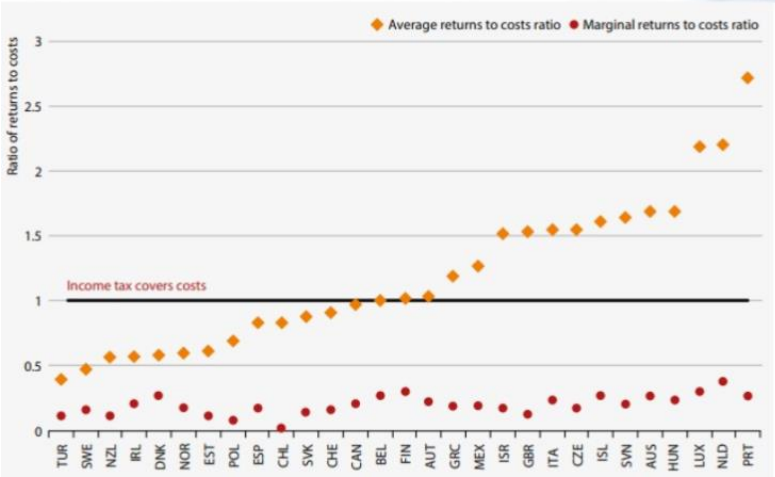
Education seems to be a good investment for the individual as for (in most cases) society as a whole.

Education as private investment

FIGURE 2: **COLLEGE LABOUR MARKET PREMIUM VERSUS BREAKEVEN EARNINGS PREMIUM**

Education as public investment

FIGURE 3: **RATIOS OF GOVERNMENT INCOME TAX RETURNS TO COSTS**



Government invests in education→ Receives higher taxes in the future

Barro (2001)

What is the role of education in long-term economic growth?
Dy = F(y,y*)
Dy = Growth of GDP per capita
y = GDP per capita

y* = Long run level of y (growth potential)
Many factors influence y*: Institutions, technology, government policies, etc.

Other factors:
- Initial level of GDP per capita→ Nonlinear relation→Higher GDP per capita, the lower future growth
- Government consumption, the government can do 3 things:
Invest, use it for social security, consume things
- Rule of law→ Quality of institutions
- Openness (and interaction with GDP per capita
- Inflation
- Fertility rate
- Investment ratio
- Terms of trade

Keeping al these factors constant, what is the relationship between education and economic growth?

TABLE 1—PANEL REGRESSION FOR GROWTH RATE

Independent variable	Coefficient
Log(per capita GDP)	0.107 (0.025)
Log(per capita GDP) squared	−0.0084 (0.0016)
Male secondary and higher schooling	0.0044 (0.0018)
Govt. consumption/GDP	−0.157 (0.022)
Rule-of-law index	0.0138 (0.0056)
Openness ratio	0.133 (0.041)
(Openness ratio) × log(GDP)	−0.0142 (0.0048)
Inflation rate	−0.0137 (0.0090)
Log(total fertility rate)	−0.0275 (0.0050)
Investment/GDP	0.033 (0.026)
Growth rate of terms of trade	0.110 (0.030)
Numbers of observations:	81, 84, 81
R^2:	0.62, 0.50, 0.47

- Inverted U-shaped relation between GDP per capita and growth→ Richer countries grow on average slower than poorer countries
- Negative relation Government consumption and growth (10% → -1.6%)
-Positive relation Rule-of-Law, they use 7 ways to measure it. When you increase one with one step, this will lead to a 0.2% higher growth rate
-Positive relation openness
-This positive relation decreases with GDP per capita (0 at GDP per Capital, so before positive, after negative)
-Small negative relation with inflation
-Negative relation with population growth
-Positive relation with investment
-Positive relation with terms of trade improvement

Conclusion:
-Growth is positively related to the starting level of average years of school attainment
-Author interprets this as evidence for importance of technology diffusion
-No clear effects of primary education and female education
→ Maybe because male and female schooling is highly correlated and the effect is already captured by male education?
→ Difference indicates lower development

→ Can work through fertility
-Quality of education is more important for growth than quantity of education.
Quantity of education→ Years of schooling
Quality of schooling→ Test scores

Lee & Lee (2018)

What is the possible role of education (human capital) in reducing income inequality
- Education is a major determinant of lifetime earnings
Unequal distribution of parent's income→ Educational inequality→ Income inequality
Government spending on education→ Educational equality→ Income equality

The paper is about inequality **within** countries.
Inequality within countries is increasing, inequality between countries is decreasing

However: Educational attainment is increasing, educational inequality is decreasing, but income inequality is increasing?

Increase in the average education does not tell anything about the distribution of it.
Two explanations of wage inequality:
→Composition effect (Increases wage inequality):
Wage inequality increases initially because of increase in proportion of more educated workers.
→Wage compression effect (Lowers wage inequality):
When supply of educated workers increases (relative to demand), the education premium will decrease.

How to measure?
Educational attainment: Years of education, percentage population in schooling, public spending on education, etcetera.
Educational inequality: Standard deviation of schooling and Education GINI coefficient.

The higher educational inequality→ The higher income inequality
More people are now higher educated→ Wage compression effect should occur→ Still wage inequality is increasing→ It seems that there is more and more demand for high skilled labour→ Still higher wage inequality

In most of the world wage inequality is increasing, except for South America
All over the world, average education is increasing and educational inequality is decreasing

Kuznets curve
- Early stages of economic development→ Income inequality increases, due to the emergence of new industries with high productivity levels and corresponding high wages.
- As income per capita increases→ Inequality will decrease because a bigger part of the population finds its way into these industries.
'Dream': Income inequality is not a big problem, because at a certain level of income per capita it will decrease.
Probably the Kuznets curve does not hold.

Results paper:
- Wage inequality in East Asia has increased.

- This is because of economic growth, globalization and technological progress.
- Educational inequality lowers this slightly, but not enough to compensate.
- Direct effect of educational attainment maybe different than indirect effect.

Conclusion:
- Global economic developments (growth, trade, technology) increase income inequality
We are developing→ We are becoming more globalized and technology is increasing→ Increase in income inequality within countries
- Education has the potential to counter this
- There is a direct effect of educational equality and an indirect effect of education attainment
Education attainment→ Less educational inequality→ Less income inequality
- Suggest large role for public spending on education
Ideal society: A society where everybody could get education for free. Your success in education is only determined by your own intelligence and motivation and has nothing to do with the situation you are born in

Lecture 10

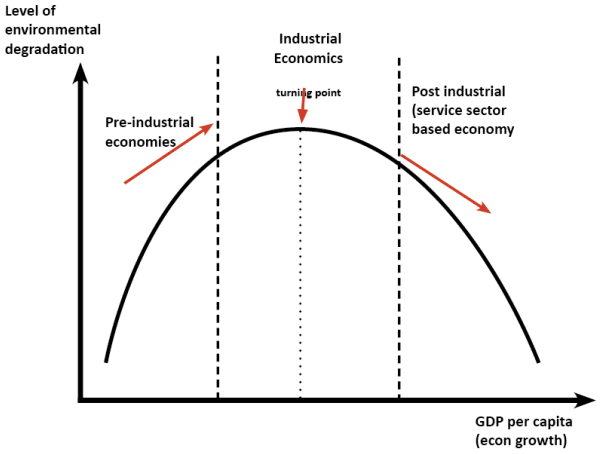
Economics and the environment (in general)

- Economic behaviour causes environmental damage
  - Market failures:
    - Externalities
    - Common goods & public goods
    - Imperfect information
    - Missing markets and prices
    - General problem: private benefits versus social costs
- The environment can be seen as a "scarce" good
  - How to deal with this in the most efficient way?
  - Well-designed environmental policies implement the least-cost ways of reducing environmental damages and balance the cost of reducing environmental damage against the benefits.

- The economists' solutions:
  - Regulations
  - Quotas on pollution (externalities)
  - Taxes on pollution (externalities)
    - Internalization of external costs (prices)
  - Property rights (Coase theorem)
    - Cap & trade: Tradable emission allowances
    - Advantages:
      - Externalities are priced (and tradable)
      - This incentivizes firms, industries and countries that can achieve reduction the most efficient (cheapest) to do this first.

Wawrzyniak & Doryn (2020)

- The detoriation of environmental quality is one of the most pressing problems in the world
- Governments and policy makers try to reduce emissions, but emissions increasingly come from developing economies
- Since Grossman and Krueger (1991): Environmental Kuznets curve (EKC)
  - Inverted U-shaped relationship between pollution and per capita income
  - Environmental pressure increases up to a certain level as income goes up
  - After that, environmental pressure decreases with income



Environmental Kuznets Curve

- Environmental pressure increases faster than income at early stages of development and slows down relative to GDP growth at higher income levels
  - Economy develops from 'clean' agrarian economy to polluting industrial economy to 'clean' service economy
  - Tendency of people with higher income having higher preference for environmental quality
  - The effectiveness of regulatory institutions improves with income
- There is rich literature on the topic (theoretical & empirical)
- There is some empirical proof for EKC, however:
  - No consensus about income level after which environmental pressure starts declining
  - No consensus about relative or absolute decline in environmental pressure
  - Evidence weaker once accounting for trade related (imports) emissions

Wawrzyniak & Doryn (2020)

- Study goes one step further than the existing literature studying the economic growth-emissions nexus
- Authors study this relationship against the background of institutional quality.
- They argue that it is not the increase in per capita income (alone), but the institutional factors accompanying economic growth.
- Problem: correlated
- The paper examines the impact of per capita GDP on CO2 emissions, conditional on the quality of institutions.

Methodology and data

Standard approach in literature to test EKC hypothesis:

$$\ln Poll_{it} = \alpha_0 + \alpha_1 Y_{it} + \alpha_2 Y_{it}^2 + \alpha_3 EC_{it} + \varepsilon_{it}$$

For an inverted U shape → Y must be positive and Y^2 must be negative!

This paper:

- 93 emerging and developing countries between 1995-2014
- Energy consumption highly correlated with pollution → authors use renewable energy consumption and fossil fuel energy consumption.
- Add FDI per capita inflows and remittances per capita as control variables

$$CO2_{it} = \alpha_0 + \alpha_1 Y_{it} + \alpha_2 Y_{it}^2 + \alpha_3 CO2_{it-1} + \alpha_4 FF_{it} + \alpha_5 RNEW_{it} + \alpha_6 REM_{it} + \alpha_7 FDI_{it} + \mu_t + \varepsilon_{it}$$

Find "evidence" that Y is positive and significant and that Y^2 is negative and significant.

Role of institutions

- Authors add interaction between "Institutional Quality" and GDP per capita to the estimation
  - Government effectiviness
  - Control of corruption

$$CO2_{it} = \beta_0 + \beta_1 Y_{it} + \beta_2 QI_{it} + \beta_3 Y_{it} QI_{it} + \beta_4 FF_{it} + \beta_5 RNEW_{it} + \beta_6 CO2_{it-1} + \beta_7 REM_{it} + \beta_8 FDI_{it} + \mu_t + \varepsilon_{it}$$

However, institutional quality and income could be correlated, that's why coefficient of income is now lower. However, the interaction effect shows a negative coefficient.

The marginal effects

- In general they do not find very significant results for their conditional hypothesis → maybe to do with relatively low quality institutions in sample
- Authors calculate the marginal effect of GDP per capita on emissions per capita for different levels of institutional quality
- This means that they calculate the change in CO2 emissions when GDP per capita increases for different levels of institutional quality

$$\partial CO2/\partial Y = \beta_1 + \beta_3 QI$$

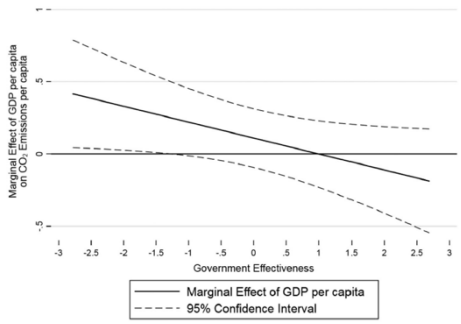


Figure 2. The marginal effect of per capita GDP on CO_2 emissions as government effectiveness changes based on estimation with time fixed effects (reduced specification). *Source:* own calculations.

Conclusions

- Economic growth itself does not solve the pollution problem
- Institutional background needs to be taken into consideration
  - Countries with weak institutions might not experience decline in emissions with economic growth → high quality institutions are a condition
- Main problems:
  - No "within country" analyses
  - Only developing and emerging economies
  - Multicollinearity

Cohen et al

- UN Climate Change Conference 2017:

"sought to maintain the global momentum to decouple output from greenhouse gas emissions"

- Big question is to what extent "decoupling" is actually happening?
- First 'crack' at the data not very optimistic

Contributions of the paper:

- Authors decompose GDP growth and emissions into 'trend' and 'cyclical' part to investigate elasticity between growth and emissions more deeply
  - Short-term fluctuations versus long-term trends
- Authors consider the effect of international trade on the elasticity between growth and emissions
  - Distinction between production- and consumption-based emissions
- Authors relate cross-country differences in elasticities to country characteristics and policies

DATA

- Data between 1990 and 2014 for the twenty largest Greenhouse Gas (GHG) emitters
  - 74% of global emissions, 63% of global population, 77% of global GDP
- On aggregate level these are largest consumption- as well as production-based emitters
  - But advanced economies have lower production-based emissions and emerging markets have lower consumptin-based emissions
- Broad measure of emissions: CO2, methane, nitrous oxide and fluorinated gases
- Two measures of environmental policy: (i) Germanwatch Climate Change Performance Index (CCPI) and (ii) EY's Renewable Energy Attractiviness Index (RECAI)

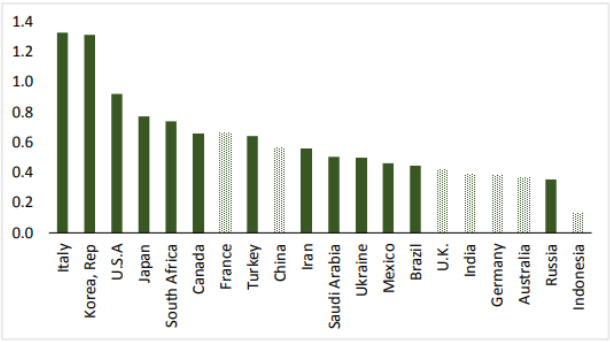
Some econometrics

Change in emissions and a change in output! → rough elasticitiy between green house gases and gdp growth

$$\Delta e_t = \alpha + \omega \Delta y_t + u_t$$

Authors use "Hodrick-Prescott filter" to decompose values into trend- and cyclical-part

Figure 1.a: Response of emissions growth to output growth, top 20 emitters



Change in cyclical emissiions $e^c_t = \beta^c y^c_t + \varepsilon^c_t$ and change in cyclical output

Change in trend emissions and change in trend output

$$e^\tau_t = \gamma + \beta^\tau y^\tau_t + \varepsilon^\tau_t$$

Conclusion

- Simple descriptive analysis using trend decomposition
- The long-term trend elasticity between GDP growth and emissions is 0.4
- For advanced economies this is reaching 0
- Taking consumption based emissions into account weakens the decoupling
- But countries made significant progress in decoupling growth from emissions

Lecture 11

Guiso et al., (2006)

How do(es) (differences) in culture explain (differences) in economic outcome?

There is little attention for culture in Economics

Definition culture: Those customary beliefs and values that ethnic, religious and social groups transmit fairly unchanged from generation to generation.

Two reasons:
- Focus on transfer between generations (to make it exogenous)
- Selects two channels through which culture can influence the economy: 'prior beliefs' and 'values or preferences'.

Again: Is there causality?

Culture→ Expectations (beliefs) or preferences→ economic outcomes

There is always a possibility of reverse causality in culture→ focus on aspects of culture that are inherited and not voluntarily collected→ culture must be exogenous

Your culture is a given, it changes slow. Because:
-Parents tend to teach their children what they have learned from their parents
-No one has the incentive to change culture→ People with power have this because of the culture
(-Certain values are inefficient. However, when it increases it will not change that fast)

Approach study:

Culture and religion are heavily correlated, because they are bounded to the place you are from.
Religion and ethnicity are good proxies for culture.
Culture→ Beliefs & Preferences→ Economic outcomes
Religion & ethnicity→ Beliefs & Preferences→ Economic outcomes

How does culture affect beliefs & preferences?
Trust can be used as a proxy for prior beliefs.
(Generally speaking) the measurement of trust: Can you trust strangers?

Control-variables: Health, age, gender, education, social class, religion (for ethnical background), income, country and time dummies.

Outcomes:
Religious people seem to trust more than non-religious people
Where your ancestors come from influences your trust.

Religion and ethnicity can partially explain the level of trust.

When moving to another country, you still keep your culture (and therefore trust etc.). This will be there for generations. Therefore, the background of your family (who lived in another country) of generations ago still influence your culture today.

How do beliefs and preferences economic outcomes?

-The amount of trust influences transactions.
The more a culture looks like your culture, the more you trust him

Causality culture→ Trust→ Economy

-The amount of trust influences entrepreneurship
You need a lot of trust to become an entrepreneur (contracts, employees, etc.)
Trust can be endogenous: therefore instrumental variable analysis.

Instrumental variable analysis/ Two-stage least squares:
-You make a model and use the expected value of that model to use in another model. So you do not use the observed value of a variable, but the expected value (that comes from the first model). By doing this, you make sure the effect is due to the relation and not due to other factors.
-Step 1: Make a regression and therefore get an expected value of the dependent variable
Step 2: Put the expected value (old dependent variable) in a new regression

Example (This is **NOT** an example from this paper, but from lecture 2):

- First stage: Institutions = $\alpha + \beta$*Settler mortality $+ \varepsilon$
- Second stage: Development= $\alpha + \beta$*Institutions (IV: Settler mortality) $+ \varepsilon$

Conclusions:
-Culture is not too vague to be tested.
-Reverse causality plays no role, because culture is exogenous.
-Performing two-step research identifies the channel though which culture influences the economy.
→Culture→Beliefs and preferences→ Economic outcomes

Gorodnichenko & Roland (2017)

'Their paper is one big robustness check'

What is the role of culture in the residual of growth equations?
Authors argue Individualism versus Collectivism is an important factor.

Individualism:
-Emphasizes the importance of personal freedom and achievement. (Achievement is rewarded)
-Leads to more innovation
-Is dynamic, so is always ahead of a collectivistic society
-Individualism→ Innovation→ Growth
-Radical innovation
-Advantageous in higher stages of development

Collectivism:
-Emphasizes embeddedness of individuals in a larger group. (Group over individual)
-More coordination
-Static
-Collectivism→ coordination→ production
-Incremental innovation
-Advantageous in early stages of development

Because culture is endogenous and therefore instrumental variables are needed.
You want something that is exogenous, which does correlate with culture. Therefore it can be used to explain culture, which explain economic outcomes. But is not influenced by economic outcomes themselves.
→ This is hard
Example:
Authors: Genes don't affect culture, genes are a proxy for culture due to correlation with culture.

Conclusion:
-Culture is important to explain differences in income between countries
-Individualism over-time has a positive effect on economic growth
Keep in mind:
Doing research is not about answering a load of questions, but about answering one question very carefully.

Lecture 12

There is no perfect measurement to measure (economic) outcomes.
GDP is no perfect measurement, but what are the alternatives?

Subjective research becomes more important→ Surveys etc.
Problems subjective research:
-How to measure? (role of culture in grading)
-Institutions→ Objective well-being→ Subjective well-being?
-Role of income?
→Why do you need income? Mostly take happiness from capital and not from income
→Relative income
→Experiences (also relative?)
→Easterlin paradox: Countries with a higher income are happier. However, the paradox shows that an increase of the level of income does not make people happier.
-Aggregate outcomes
-Cross-country vs within country (Easterlin paradox?)

Bjornskov, Dreher and Fischer (2010)

Test the effect of institutions on well-being

Legal and economic institutions (protection)
→Important in the beginning of development

Political institutions (inclusiveness)

→Important in later stages of development
Right to demonstrate, free press, etc.

First finding:
Positive relationship between honest and efficient government and Life satisfaction
Second finding:
Indication that institutions matter more for life satisfaction in higher stages of development.~

Two kind of factors between the 8 different measurements:
Economic factors and political factors
-Economic factors matter at lower levels of development
-Political factors start to become more important in higher stages of development

Conclusion:
Positive relationship between institutional quality on subjective well-being
→Countries with higher levels of institutions have a higher life satisfaction (controlled for many variables)
→Hard to separate specific institutions

Quality legal system increases life satisfaction

Democratization increases life satisfaction, especially after a certain income level

Spruk & Keseljevic (2016)

Happiness is not life satisfaction:
Happiness changes faster
However, it is a good proxy for life satisfaction

People need freedom to make their own choices
-H1: Economic freedom has a positive effect on average subjective well-being over time.
Outcome: Yes
-H2: Rising economic freedom improves subjective well-being over time.
→Many variables can influence subjective well-being, so hard to measure.
Use of 'extreme bounds analysis'→ You have your main variable, then look at many control-variables. Only when the result has the same direction and is significant in all estimations, it holds.
It seems to be significant.
-H3: This is not due to omitted variables or endogeneity
→Due to extreme bounds analysis, no omitted variables bias
→Is there endogeneity?
Use of instrumental variables analysis

Conclusions:
-Cross-country institutional differences are related to cross-country subjective well-being differences.
-This is (extremely) robust for different combinations of control variable
-However, an increase in economic freedom can be associated with a decrease in subjective well-being

What should you can and know?

Please keep a close look at Brightspace for the latest information about the exam.

Can:

-Explain the following aspects:
Institutions
Institutional possibility frontier
Controlled market vs. free market
De jure political power
De facto political power
Liberal vs. coordinated market economies
Agency theory
Common law vs. civil law
Democracy vs. authoritarian regime
Human capital
Individualism vs. collectivism
Easterlin paradox
Extreme bounds analysis

Know:

-**The theory/ idea that is behind the paper**
-The way of reasoning
-How an instrumental variable analysis/ two-stage least squares works
-How institutions influence the economy
-How variables such as institutions and culture can be measured
-What proxies are
-What kind of problems can occur during a study and why (such as):
Omitted variables
Reversed causality
Endogeneity
Heteroskedasticity
-Why institutions and culture change very slowly
-The basic question of the paper with the conclusion
-The difference between causality and correlation
-The differences between cross-section and panel data analysis (Between vs. within)
-What control-variables are and why they are used
-Know what a robustness check is
-How to read and take conclusions from a correlation table

All questions will be about explanation and/ or application!

The grade will depend on the quality of your explanation and argument.

Examples of exam-questions:

In the paper by Acemoglu et al. (2004) the authors state that the wealth of (later colonized) countries in 1500 can explain differences in wealth of these same countries in the present. Explain their reasoning.

The work of LaPorta et al (1998), claims that current differences in for example the size of capital markets can be explained by differences in legal origins between countries. Explain this reasoning

In their paper, Guiso et al (2006) come to the conclusion that religion has an effect on economic development through trust. Explain why and how trust has an effect on economic development and what the role is of religion is in here?

The papers of Spruk & Keseljevic (2016) and Bjornskov et al (2010) both investigate the role of institutions in subjective well-being. Both use a method in which they estimate multiple models with different combinations of independent variables. What is the general idea behind this method?

Disclaimer

Disclaimer ESV Nijmegen makes an effort to keep the content of this summary up to date and where needed complements it. Despite these efforts it is still possible that the content is incomplete or incorrect. The offered material is a supplement for studying next to the appointed literature. The material is offered without any guarantee or claim for correctness.

Tips and remarks about the summary can be send to secretaris@esvnijmegen.nl