

Seminar 6

ECON4921- Institutions and Economic Systems

Elias Braunfels
(Oslo Economics)

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1. Explain why Gorodnichenko and Roland (2017) claim that individualism is good for long run growth.

Go on to explain how they test this empirically and how they can claim to find a causal relationship.

Assignment I-1

Individualist culture rewards personal accomplishments → incentivizes innovation

- ▶ Premise: innovation is an outcome of individual effort
- ▶ Innovation crucial for long term growth
- ▶ Collectivist cultures are good at coordinating production
- ▶ production organization good for limited growth

Assignment I-1

How do they test the theory?

Regression, cross country: log income per worker on individual culture

$$y_i = \alpha IC_i + \beta X_i + \varepsilon_i$$

- ▶ Hofstede's index of individual culture (based on survey questions)
- ▶ Control for other factors including institution
- ▶ Causality? → IV approach: frequency of certain genes, blood distance (difference in frequency of blood types to UK), historical pathogen
- ▶ Channel: interaction with institutions

Assignment I-2

2. In a VOX EU piece, Acemoglu and co-authors claim that the real engine of growth in the world are cut-throat capitalist countries and that the Nordic model can only survive if someone else is doing the hard work (see also their published paper). Explain their view and discuss it critically.

Assignment I-2

- ▶ Empirical observation: growth rates high in both types of countries
- ▶ Interconnected global
 - ▶ economics
→ institutional choices
 - ▶ technology
- ▶ Choices
 - ▶ Liberal route and specialization in certain sectors
 - ▶ Coordinated route and specialization in other sectors

Assignment I-2

Channel = interconnected technology:

- ▶ Liberal → incentives for innovation → push tech frontier
- ▶ Coordinated → base innovation and production on tech frontier

→ Less incentive for coordinated to innovate if one country does

→ Asymmetric equilibrium

Assignment I-3

3. In a reply, Maliranta and co-authors claim that contrary to Acemoglu et al.'s claim, innovation rates are much higher in the Nordic countries than in most other places. Explain their criticism of Acemoglu et al.'s paper.

Assignment I-3

- ▶ Emphasize: importance of high powered incentives
- ▶ Empirical argument
 - ▶ Data in Acemoglu et al. not adequate measures of innovation
 - ▶ GDP per capita (outcome, affected by: utilization of resources, public sector)
 - ▶ **US** patents
 - ▶ Triadic patents: patents filed for the same invention in the US, EU and Japan
 - ▶ Expenditure on research and development
 - ▶ Share of researchers in total employment
 - ▶ Stock of venture capital as a share of GDP
 - ▶ Labour productivity: rel to US, lower
 - Difference reduced when focusing on manufacturing

Table 1: Indicators of innovation activity, 2008

	USA	SWE	DEN	FIN
Triadic patents per million of population	48.70	88.30	60.50	63.9
Business expenditure on R&D, % of GDP	2.01	2.78	1.91	2.77
Researchers per 1000 of employed	9.50	10.60	10.50	16.20
Venture Capital, % of GDP	0.12	0.21	0.16	0.24
Worker reallocation, 2000-2007, %	43.30	32.0	45.50	39.80

Table 2: Labour productivity in 2007, % of the US figure

	SWE	DEN	FIN
Total economy	83	76	80
Market sector	89	75	86
Manufacturing excl. ICT industries	93	62	113
ICT	235	35	102
Trade	100	129	135
Transport and storage	50	73	82
Finance and business	74	70	38
Personnel services	48	92	58
Non-market services	67	79	63

Assignment I-3

- ▶ Reasons:
 - ▶ Nordics good at mobilizing resources: employment share
 - ▶ Public policies that support innovation
 - ▶ Weaker but not weak incentives (flat tax on capital income)
 - ▶ Safety net promotes risk taking
- ▶ Potential challenges to the continued success of Nordic model:
 - ▶ Reduced labor supply
 - ▶ Demographic change and labor mobility challenge generous welfare and pension system
- ▶ Requirements for success: efficient public sector and high employment

Assignment I-4

4. Discuss whether a Nordic style economic organization leads to more or less innovation, growth, and welfare than a more conventional capitalist approach!

Assignment II-1

1. What do Barth and Moene (2016) mean by complementary institutions?

Assignment II-1

Complementarity between

- ▶ pre-tax inequality and generosity of the welfare state
- ▶ \Rightarrow Complementarity between politics and markets (see mechanisms)

Assignment II-2

2. Explain the mechanisms through which a larger welfare state leads to higher wage compression

Assignment II-2

Welfare benefits empower weak groups in the labor markets

- ▶ reservation wage is larger \rightarrow lowest wages increase
- ▶ reservation wage effects bargaining power
- ▶ Wages of lowest productive employee depend on g :
 $w_i = g/(1 - gb)$
- ▶ Wages of strongest group do not: $w_i = p_i$
- ▶ Higher g increases w for weakest group by more than increase in g
- ▶ This narrows the wage gap from below
- ▶ Depends on assumption that low productivity workers have higher risk of unemployment

Assignment II-3

3. Explain the mechanisms through which wage compression leads to increased support for welfare spending. To what extent can this mechanism be combined with the fact that richer voters are less inclined to support the welfare state?

Assignment II-3

- ▶ Voters who become richer demand more welfare spending (normal good)
- ▶ Income distribution narrowed from below: higher wages for the low productive/high unemployment risk people
- ▶ Have higher risk of unemployment and thus will demand more for wage compensation: income loss higher, utility cost of insurance is lower
- ▶ Paradox because rich people vote more right? Only holds for a given distribution of pre-tax income
- ▶ Demand for social security affects political platform in political competition
 - ▶ Direct effect - within party agreement in respond to voters changed demands
 - ▶ Indirect effect - strategic response to other party

Assignment II-4

4. Barth and Moene's model can (in linear form) be written as

$$g_{it} = \alpha + \beta l_{it} + \varepsilon_{it} \quad (1)$$

$$l_{it} = \gamma + \delta g_{it} + \nu_{it} \quad (2)$$

- a Set the residuals to zero and solve the system of equations.
- b A shock to wage formation can be modelled as a change in γ . What is the effect of an equalizing shock, i.e. an increase in γ ?
- c What does it mean that the equality multiplier is 1.48?

Assignment II-4a

Set the residuals to zero:

$$g_{it} = \alpha + \beta l_{it} \quad (3)$$

$$l_{it} = \gamma + \delta g_{it} \quad (4)$$

Plug (4) into (3) and solve for g

$$g_{it} = \alpha + \beta(\gamma + \delta g_{it}) \quad (5)$$

$$g_{it} = \frac{\alpha}{1 - \beta\delta} + \frac{\beta\gamma}{1 - \beta\delta} = \frac{\alpha + \beta\gamma}{1 - \beta\delta} \quad (6)$$

Plug solution into (4)

$$l_{it} = \gamma + \delta \left(\frac{\alpha + \beta\gamma}{1 - \beta\delta} \right) \quad (7)$$

Assignment II-4b

What is the effect of an equalizing shock, i.e. an increase in γ ?

$$g_{it} = \frac{\alpha}{1 - \beta\delta} + \frac{\beta\gamma}{1 - \beta\delta} \quad (8)$$

$$l_{it} = \gamma + \delta \left(\frac{\alpha + \beta\gamma}{1 - \beta\delta} \right) \quad (9)$$

Derivatives:

$$\frac{\partial g}{\partial \gamma} = \frac{\beta}{1 - \beta\delta} \quad (10)$$

$$\frac{\partial l}{\partial \gamma} = 1 + \frac{\delta\beta}{1 - \beta\delta} = \frac{1}{1 - \beta\delta} \quad (11)$$

Assignment II-4c

What does it mean that the equality multiplier is 1.48?

- ▶ The equality multiplier summarizes the feedback between wages inequality and welfare generosity

$$m = \frac{1}{1 - \beta\delta} \quad (12)$$

$m = 1/(1 - ab)$ in the paper

- ▶ It means that an initial exogenous shock to g or l would in the long term lead to an additional increase in the same variable of 48% having worked through the system

Assignment II-4c

Barth and Moene (2016) Table

TABLE 1. Generosity and inequality. IV-regressions.

	(1) Inequality	(2) Generosity	(3) Inequality	(4) Unemployment generosity
Generosity	-0.374** (0.147)			
Inequality		-1.190** (0.235)		-1.097** (0.367)
Unemployment generosity			-0.296** (0.126)	
<i>F</i> -value first step	39.30	15.11	13.26	15.11
<i>P</i> -value Sargan	0.1317	0.6247	0.2510	0.9040
<i>N</i>	359	359	359	359

Notes: Standard errors in parentheses. Instruments for generosity are measures of right-wing power in government

Assignment II-5

5. What challenges do we encounter if we want to take this model to the data? How do Barth and Moene solve them?

Assignment II-5

What challenges do we encounter if we want to take this model to the data?

- ▶ Simultaneous/reverse causality

How do Barth and Moene solve them?

- ▶ IV approach:
 - ▶ Generosity: lagged right wing power in government, share of women in parliament
 - ▶ Wage inequality: lagged coordination in bargaining and workers conflict