

The Political Economy of Economic Complexity: Theory, Data, Methods

Section 1

Introduction & motivation: drivers of socio-economic development

Claudius Gräbner ^{1,2,3}

¹University of Duisburg-Essen
Institute for Socioeconomics

²Johannes Kepler University Linz
Institute for Comprehensive Analysis of the Economy

³ZOE. Institute for Future-Fit Economies

EAEPE Pre-Conference
September 11-12 2019

Learning goals for the presentation

- Broad understanding of the concept of 'economic complexity'
- Knowledge of the most common measurement approaches
- Assessing potential applications of the Hausmann/Hidalgo measure for your own research
- Seeing some practical applications of the concept in applied research
- Understanding its limitations and its potential complementarities to other stream of thought
- Focus is not on the underlying mathematics & computational details
 - Exemplary code to create the figures in the presentation and code to compute the index yourself will be made available through the course homepage

Outline

1. General introduction & motivation: drivers of economic development
2. Introducing the *Economic Complexity Index* (ECI)
 - 2.1 Historical genesis
 - 2.2 How to compute economic complexity
 - 2.3 Theories underlying economic complexity
 - 2.4 Advantages and critiques of the measure
3. Practice: using data from the Atlas of Economic Complexity
4. Selected applications
5. Outlook: using economic complexity in your own research

Outline

1. **General introduction & motivation: drivers of economic development**
2. Introducing the *Economic Complexity Index* (ECI)
 - 2.1 Historical genesis
 - 2.2 How to compute economic complexity
 - 2.3 Theoretical underlying economic complexity
 - 2.4 Advantages and critiques of the measure
3. Practice: using data from the Atlas of Economic Complexity
4. Selected applications
5. Outlook: using economic complexity in your own research

The vantage point

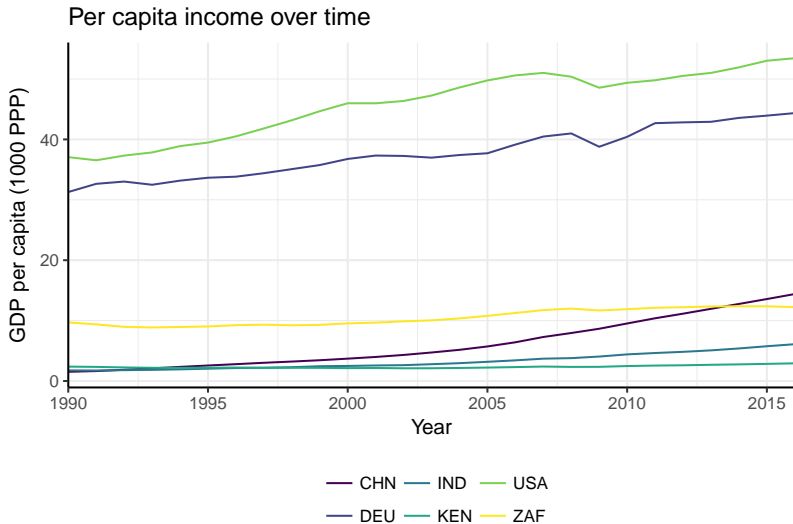
- The complexity approach to development (CAD) is a very high-level theory
- Its main motivation is the age-old question:

What makes a country rich?

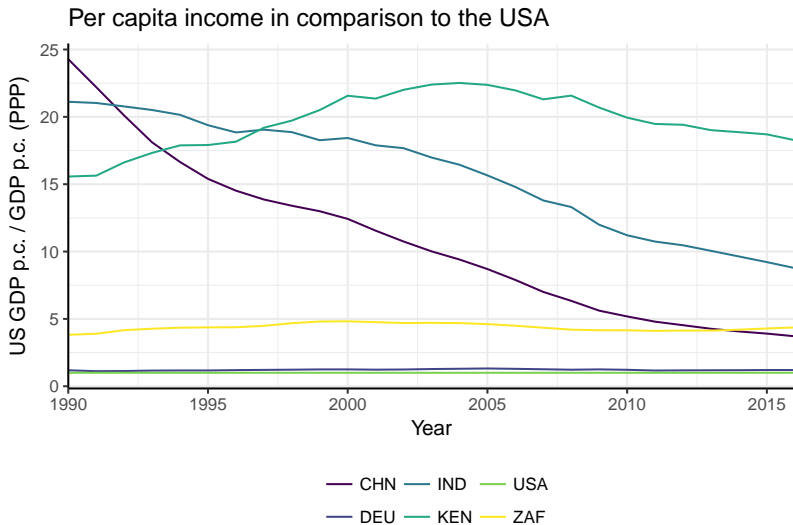
Why are some countries rich and others poor?

- This why it can be seen as a substitute for and/or a complement to classical theories of development

The unequal development of countries



The unequal development of countries



The vantage point

- The theory of economic complexity is a very high-level theory
- Its main motivation is the age-old question:

What makes a country rich?

Why are some countries rich and others poor?

- This why it can be seen as a substitute for and/or a complement to classical theories of development
 - Tries to remedy the shortcomings of some...
 - ...and tries to revive some 'classical' theories via the use of fancy methods
 - Thus, to understand better the motivation, let's recap some common theories

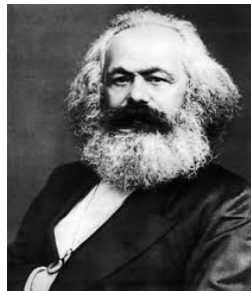
Theories of economics development

What high-level theories of economic development are you aware of?

- Let's collect ideas and connect the approaches after having introduced the ECI

Theories of economic development: Marxism

- Focus is on explaining (inter)national inequality
- 'Underdevelopment' is seen as a natural outcome of capitalism
- The 'success' of one country necessarily comes at the expense of another
- The reasons for 'underdevelopment' cannot (mainly) be found within the underdeveloped countries
- The reason lies within the capitalist logic and the headstart of the European countries in entering capitalism
- Solutions therefore focus on land reforms and changes in the capitalist system
- Strong case for (decent) industrialization to exploit increasing returns to scale
- Much focus on the struggle between 'developed' and 'underdeveloped' countries within in the international 'division of labor'



Karl Marx

Theories of economic development: Evolutionary Econ

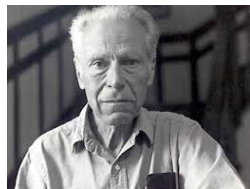


Joseph A. Schumpeter

- Economic systems constantly change (disequilibrium)
 - Progress judged as a process, not against a theoretical optimum
- The only way forward is that of `creative destruction`
 - Creates winners and losers
- The driving force for positive change is innovation
- Understanding this requires us to focus on the *co-evolution* of technologies, non-market institutions and industry structure
 - Strong relation to Veblenian evol-inst econ
- Catching-up means to *assimilate* knowledge about how things are done
- Such catching-up is often more difficult under today's institutions (TRIPS, WTO, etc.)
- Less focus on systemic relationships (today certain convergence with structuralism observable)

Theories of economic development: Structuralism

- Emerged in Latin America in the 1950s, now considerable overlap with EvolEcon
- Posits that the industrial structure determines the direction of economic development
- Development process: reallocation from low productivity to high productivity sectors where increasing returns to scale
- Globally, there are dominant *cores* and dependent *peripheries*, related to each other via global trade and payment flows
- The only way for the peripheries to escape their situation is technological upgrading
- In contrast to EvolEcon, much focus on macro and systemic factors
- Today the core-periphery thinking enjoys a revival (e.g. Simonazzi, Ginzburg, and Nocella, 2013; Gräbner et al., 2017; Celi et al., 2018; Gräbner et al., 2019), yet dichotomy between core and periphery becomes difficult to sustain (e.g. Gräbner et al., 2019)



Albert O. Hirschman

Theories of economic development: Feminist Econ



Ester Boserup

- Historical genesis from *Women In Development* to *Gender And Development*
- Critique of many growth models as vantage point
 - Models highlight aspects of the world, and neglect other
 - Those neglected affected particularly women
 - Unpaid labor, care work and services, power relations underlying preference formation, distribution of the benefits from growth etc...
- Use of gender as a key explanatory category to explain such and other socio-economic phenomena and institutions
- Thus, much overlap with Marxist and institutionalist approaches
- Since its awareness for the diversity of identities, strong exchange with post-colonial theory
- Many discussions about global justice and the need for transformation take place under this umbrella

Taking stock

- These approaches differ in their fundamental explanatory factors
 - Marx: capital & power
 - EE: change, ideas & entrepreneurial spirit
 - Feminist Econ: Gender & power
 - Structuralism: distribution of technologies & power
- They approaches could be substitutive or complementary to the CAD
- Comparing the potential contribution of the CAD with these theories (or others) will help us to appreciate its advantages and limits
- It also helps us understand where it comes from
- The CAD was motivated by the alleged shortcomings of these approaches
- It is also often framed as a *modern form of structuralism* and considered to be consistent with much of Marxism
- Before we enter these discussions we should learn more about the measures underlying the CAD

References I

Giuseppe Celi et al. *Crisis in the European Monetary Union. A Core-Periphery Perspective*. London: Routledge, 2018.

Claudius Gräbner et al. "Is Europe disintegrating? Macroeconomic divergence, structural polarization, trade and fragility". In: *ICAE Working Paper 64* (July 2017).

Claudius Gräbner et al. "Structural change in times of increasing openness: assessing path dependency in European economic integration". In: *Journal of Evolutionary Economics* forthcoming (2019).

Annamaria Simonazzi, Andrea Ginzburg, and Gianluigi Nocella. "Economic Relations Between Germany and Southern Europe". In: *Cambridge Journal of Economics* 37.3 (2013), pp. 653–675.