

Schumpeterianism in our Times: The CNSE-Approach

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Introductory Remarks

In the history of economics there exist two schools of thinking with an own and profound methodological background

➤ **Classical Economics**

(A. Smith, 1776)

➤ **Schumpeterian Economics**

(J.A. Schumpeter, 1911,1942)

Classical Economics: Main Characteristics

- Homo oeconomicus (rational individuals)
- Homogeneous individuals /representative agents
- Perfect information
- Perfect competition
- Market system with flexible prices
- Reversible time
- Short and long term perspective with exogenous technology
- Aggregation from micro to macro level
- Money as a neutral economic medium
- No government interventions necessary

Classical Economics in a Nutshell

- Homogeneous individuals and the price mechanism in a market system are responsible for an efficient allocation of resources
- within a set of constraints,
- resulting in equilibrium solutions on the micro and the macro level of an economy,
- without any government interventions.

Orthodox Schumpeterianism: Main Characteristics

- Using a general heuristic based on the Darwinian principles variation and selection
 - Relying primarily on long term economic processes
 - induced by dynamic agents willing to change the economic world via innovations (product, process, marketing, organisational)
 - stemming from technological and social inventions
-
- SCHUMPETER MARK I (1911): Economic development driven by dynamic entrepreneurs and innovation (product, process, marketing)
 - SCHUMPETER MARK II (1942): Economic development driven by corporate management in large industries and routinized innovation processes (Nelson/Winter, 1974, 1982)

Orthodox Schumpeterian Economics in a Nutshell

- Entrepreneurship and innovation are responsible for development
- by removing and overcoming limiting constraints (and setting new ones)
- Entrepreneurs (corporate managers) trigger a wave of innovations and imitations occurring in „swarms“ and
- inducing the economy to move through phases of „prosperity and depression“ (business cycles)
- thereby producing waves of „creative destruction“.

From Classical to Neo-Classical Economics (1)

➤ The contribution of Keynesian Economics:
Macro economic coordination failures

- Market rigidities
 - Inflexible prices
 - Imperfect market competition
- Information deficiencies
- Propability and expectation problems

From Classical to Neo-Classical Economics (2)

- The contribution of Welfare Economics:
Failures in the allocation of resources
- Public goods (Samuelson)
- Merit goods (Mustgrave)
- External effects (Coase)

From Classical to Neo-Classical Economics (3)

➤ The contribution of Monetary and Financial Economics:

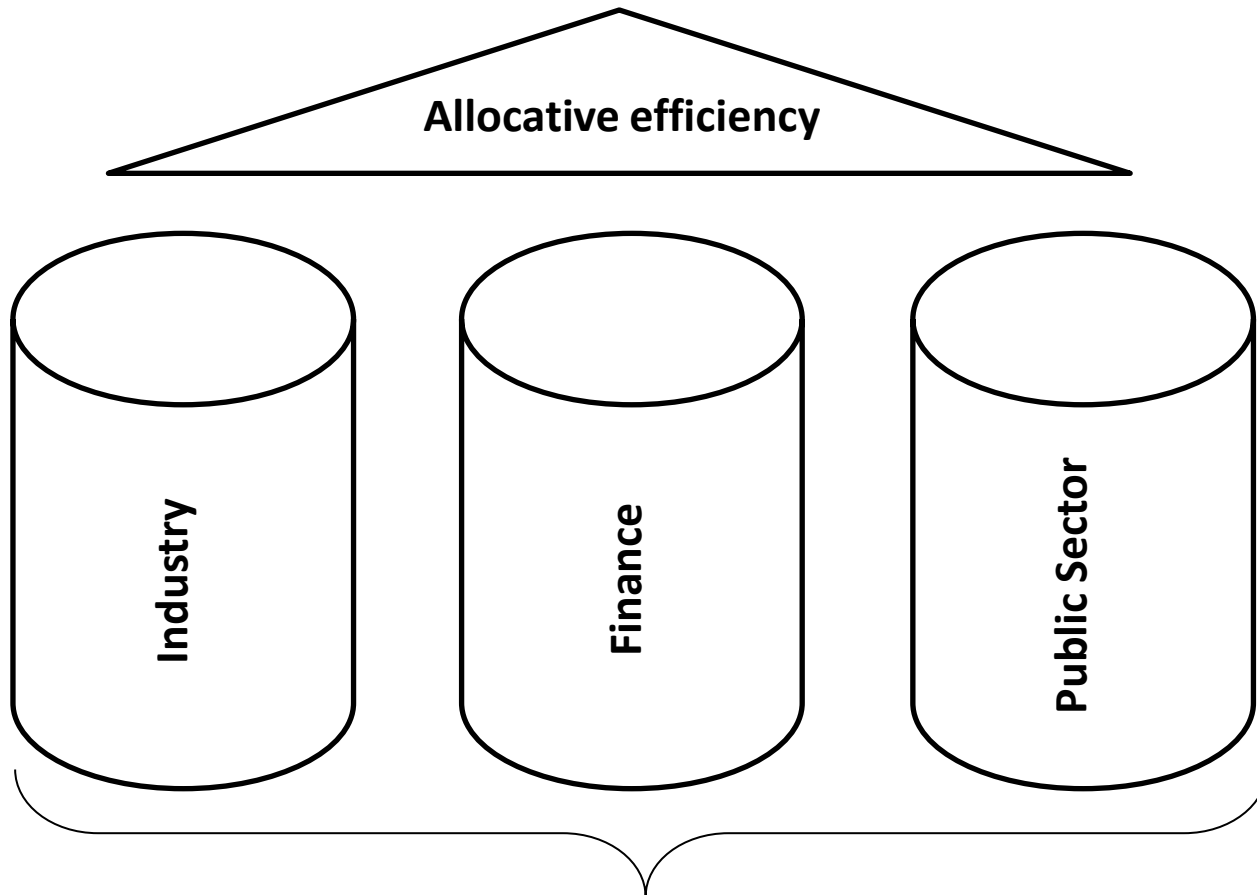
Failures in evaluating the relevance of money and financial assets

- Money as an own, important variable in the economic system (Friedman)
- Banking and financing as necessary tools of allocative efficiency (Fama)

The three pillars of Neo-Classical Economics (1)

- Classical Economics is focussing mainly on the real sector of an economy
- Keynesian and Welfare Economics is adding government or the public sector as a second important pillar to the economic system
- Monetary and Financial Economics is elaborating the importance of financial institutions as a third pillar

The three pillars of Neo-Classical Economics (2)



Orientation towards a stable economic equilibrium with ingiven limits: optimizing current values

Neo-Classical Economics in a Nutshell

- Neo-Classical Economics has to offer a comprehensive and systematic approach concerning the functioning of a socio-economic system
- Based on the principle of the individual rationality and
- Optimization within given economic limits
- According to the principle of price coordination on different markets (goods, services, financial, political)

From Orthodox to Neo-Schumpeterian Economics: Main Elements (1)

NSE uses Darwinian ideas and Schumpeterian insights as metaphors for analyzing and explaining capitalistic development. It is mainly characterized by:

- Heterogeneous agents with limited rationality, various talents, competences and capabilities (potentials)
- (True) uncertainty
- Historical time (irreversibility, path dependence)
- Emergence and diffusion of novelties
- Driven by creation, imitation and selection
- Dynamic, unbalanced growth and development with processes of
 - catching up
 - forging ahead
 - leap frogging

From Orthodox to Neo-Schumpeterian Economics: Main Elements (2)

- Learning and knowledge building as central elements
- Micro-, macro feedbacks (non-linearities)
- Aggregate phenomena are emergent properties of interactions on lower levels (micro, meso)
- Importance of meso-level
- Evolutionary competition
 - Schumpeterian innovation competition
(creation of variety via entrepreneurial innovation)
 - Hayekian market competition
(process of discovery and selection through market forces)

NSE in a Nutshell

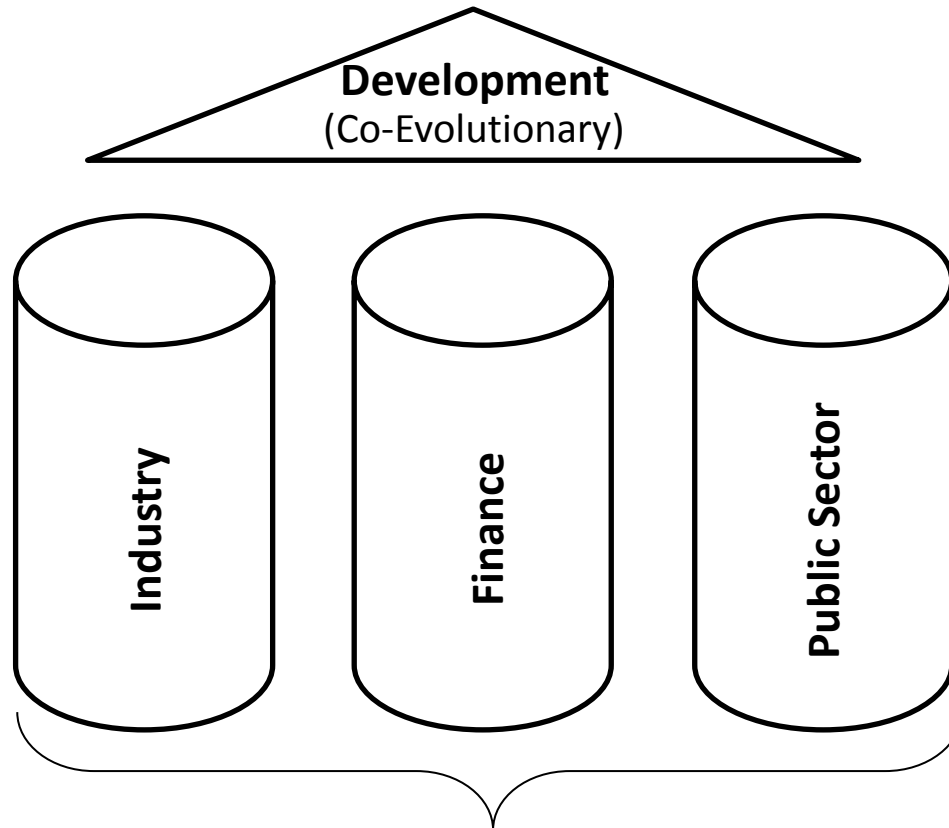
Neoschumpeterian economics deals with dynamic processes causing transformations of economies driven by the introduction of novelties in their various and multi-faceted forms. Characteristic features are:

- *Quantitative and qualitative change (structural transformation)*
affecting all levels of an economy
- *Punctuated equilibria*
periods of smooth and regular development are followed by periods of radical change and transformation (geographic regions, technological areas...)
- *Pattern formation*
dynamic and complex processes to be observed are not erratic but spontaneously structuring

From NSE to Comprehensive-NSE (CNSE)

- NSE is still far from offering an integral theory of economic development
- Most research is primarily concentrated on the real economic sphere.
- Development, however, is also influenced by the monetary and the public sector.
- As Neo-Classical Economics, CNSE is aiming at developing a consistent economic theory which helps to understand change and development in an overall socio-economic perspective.

The 3 Pillars of CNSE (1)



Orientation towards the Future: Uncertainty -> Institutionally even distributed

The 3 Pillars of CNSE (2)

- Relevance of future-orientation between the single pillars as well as the interrelated processes between them.
- Many points of contacts between the pillars, which occur as interphases and as intersections
- In this way the socio-economic system is driven or hindered in a non-deterministic and co-evolutionary way.

CNSE in a Nutshell

CNSE has to offer a consistent theory dealing with **dynamic processes** causing **qualitative transformation** of economies driven by the **introduction of novelties** in their various and multifaceted forms (technological, institutional, organisational, ecological and social dimensions) and **the related co-evolutionary processes**.

These processes are not restricted to industry only but also include the **financial** and **public** sphere of an economy (Hanusch and Pyka, 2007)

Institutional Aspect in CNSE

In institutional respect behind CNSE stands the idea that development takes place in a kind of economic system in which the three pillars have to fulfill a proper role based on Schumpeterian norms and rules

Proper Role of the Real Sector in CNSE

- Foster at all times the knowledge-oriented progress and the profit situation of companies through
 - Innovation
 - Parallel investments
 - Dynamic efficiency
- In this way, generate wealth and welfare for the society („unseen hand“ of the „innovation fabric“)

Proper Role of the Financial Sector in CNSE

- No short-term decoupling from the real economy spurred by speculation, but
- Medium- and long-term oriented strategy
- Sustainable financial accompaniment of the real sector
- Encouragement of innovative and successful companies and sectors

Proper Role of the Public Sector in CNSE

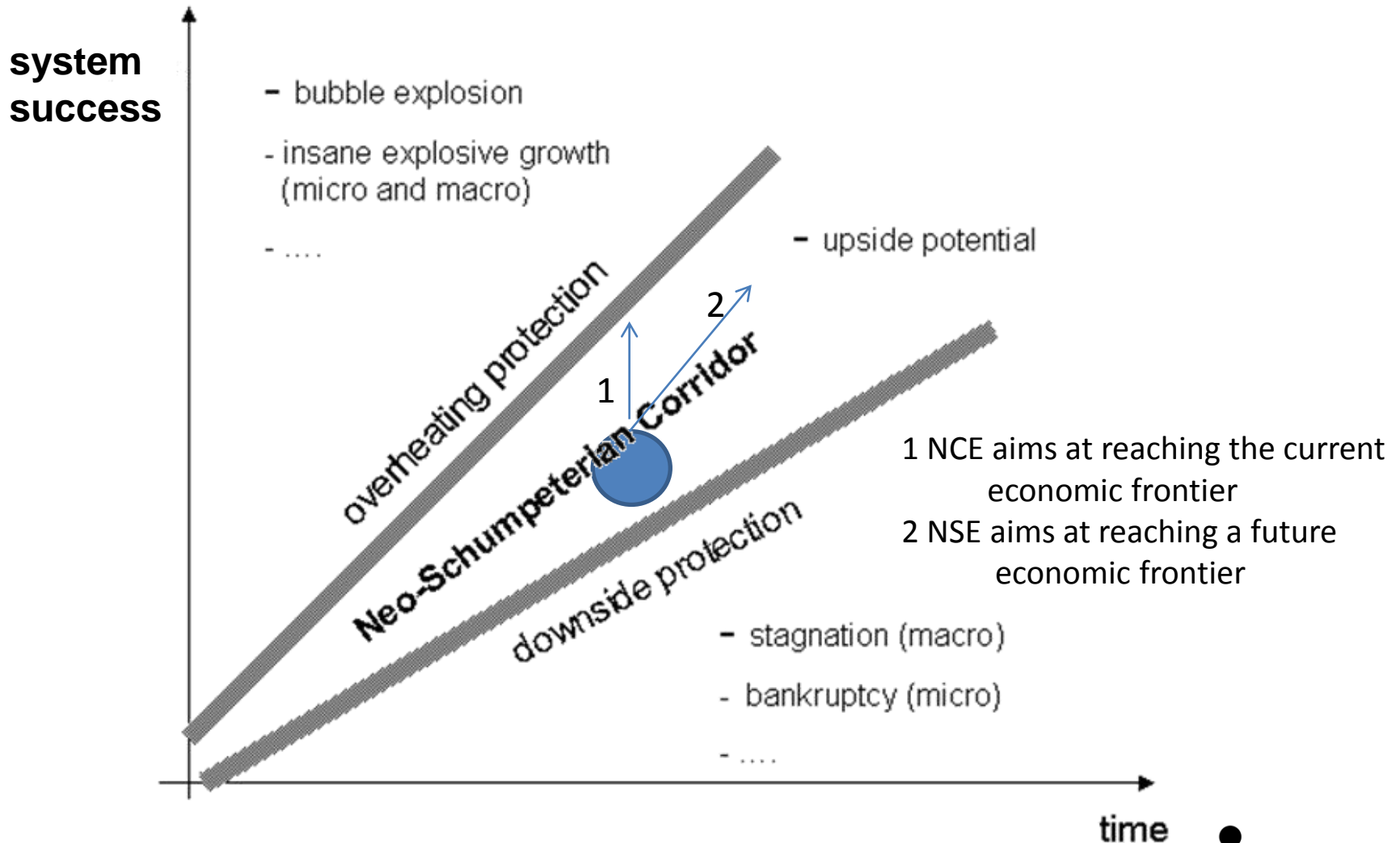
- Support the evolutionary development of the sectors through governmental activities
 - On the revenue side of the budget (e.g. growth and progress oriented tax system; sovereign debt limited to public investment)
 - On the expenditure side of the budget (e.g. provision of public and meritoric goods supporting and enhancing the co-evolutionary process)
 - Future-oriented policy measures
- Monitor and control the future-oriented, long-term symbiosis of the real and the financial sectors
- Establish an adequate intelligence system for that purpose
- Develop appropriate public sector governance

Development Aspect in CNSE

The Neo-Schumpeterian Corridor (1)

- How progress and dynamics play together in CNSE can be illustrated with the so-called „Neo-Schumpeterian Corridor“
- This is an open space of development for companies as well as economies
- They can move freely and choose a success-based position dependent on their specific Schumpeterian preconditions

The Neo-Schumpeterian Corridor (2)

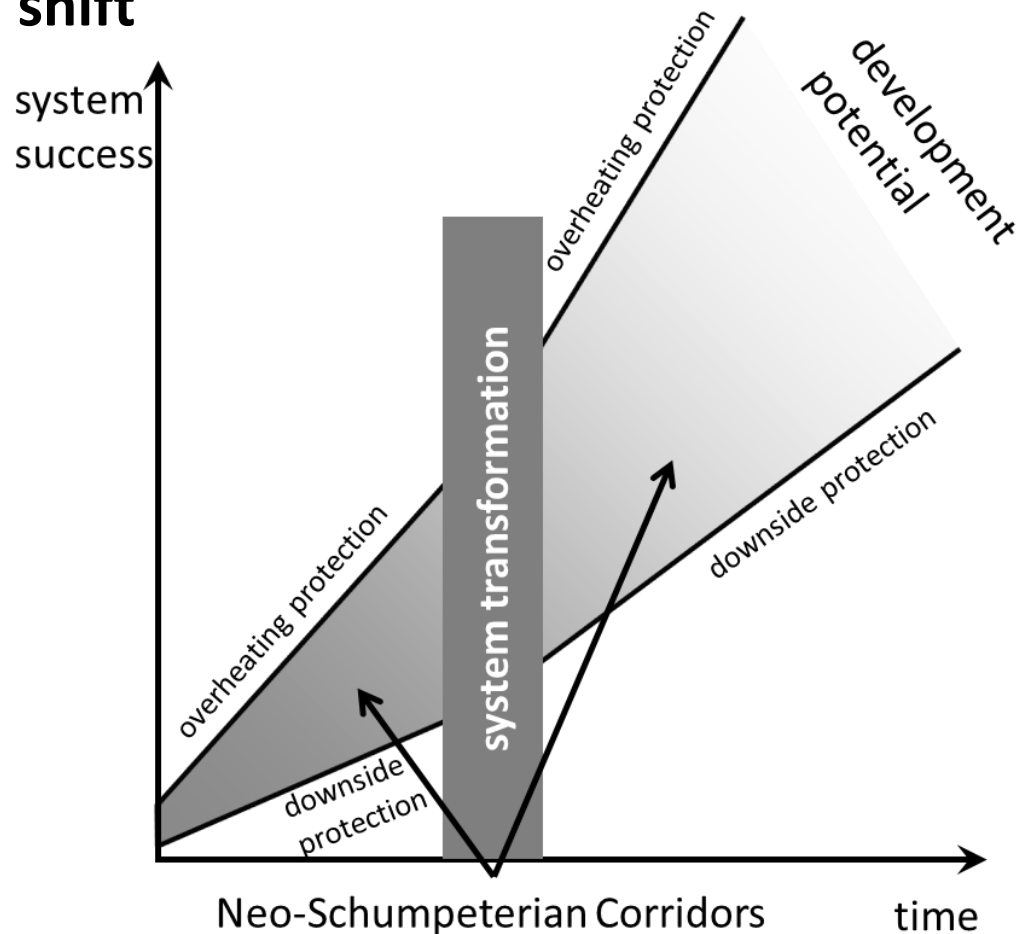


The Neo-Schumpeterian Corridor (3)

- The freedom to use the potentials of development in the corridor gives leeway for radical as well as minor (technological) changes (progress)
- Radical changes can bring forward a profound transformation of the whole system (disruptive process)
- The corridor may find a new course, eventually widening its development potential
- e.g. change from:
 - steam power to electricity
 - nuclear energy to regenerative energy
 - analog appliances to digitalized devices
 - a connected to a hyper-connected world
 - a national currency area to a multinational unified one

The Neo-Schumpeterian Corridor (4)

- System transformation
- Structural shift



Neo-Schumpeterian Corridors
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Malfunctioning of Economic Systems

- Malfunctioning of economic systems will result in deficiencies of success or crisis phenomena
- In a Schumpeterian context two main failures may occur:
 - Dysfunctioning of innovation process
 - Disorderly „co-evolutionary fabric“

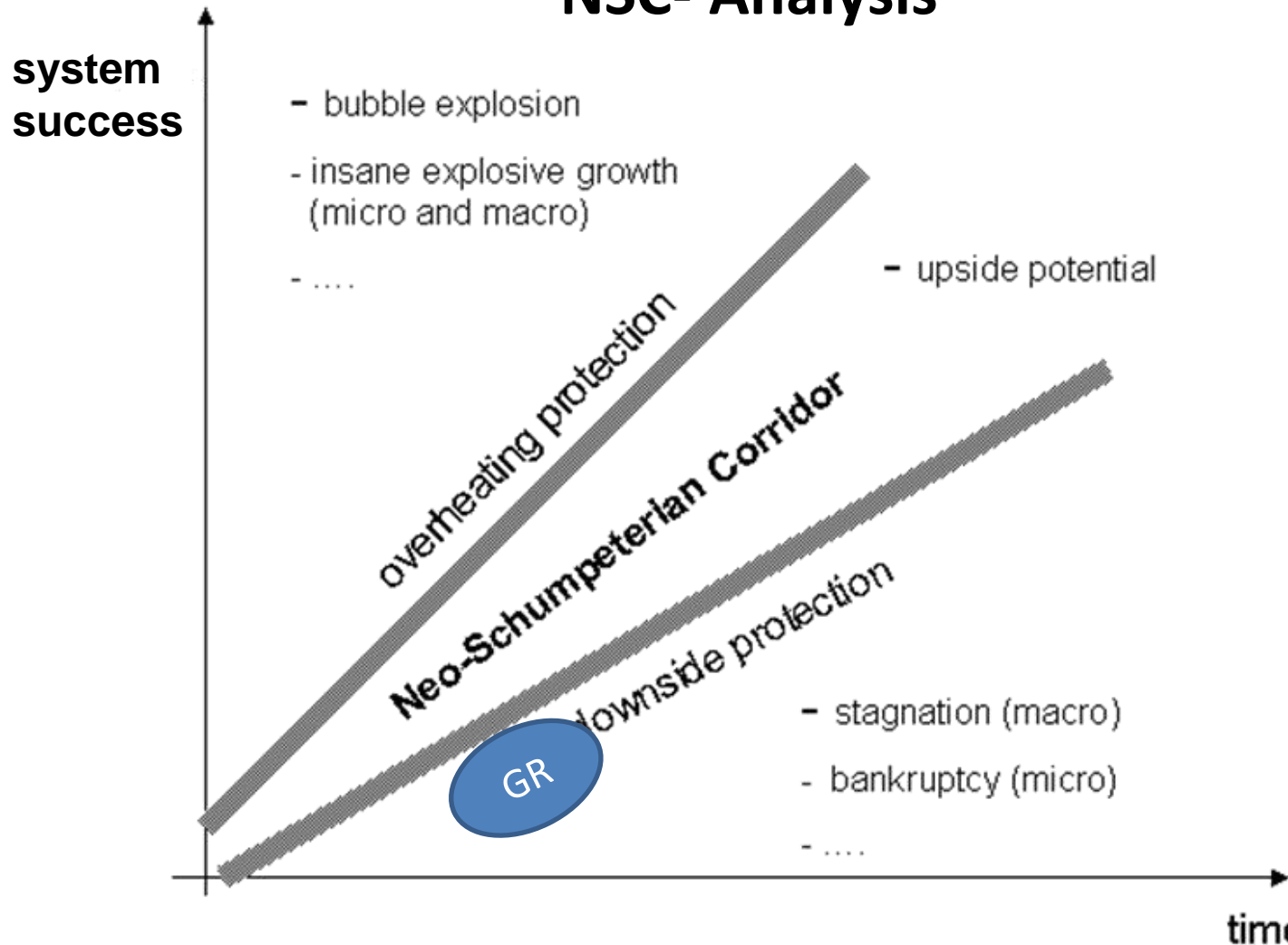
Explanation of Malfunctioning using CNSE (1)

Dysfunctioning of innovation process in the NSC

➤ **Too little success of the economic system**

- resistance to innovation
- decreasing risk propensity
- insufficient investment in knowledge building

Too Little Success: The Greek Economy (example) NSC- Analysis



The Greek Economy

Situation in the NSC

- Greece is situated beneath the lower boundary of the NSC with negative GDP growth rates
- It has fallen back from the status of an advanced into one of an emerging or developing country
- So, eventually, a development strategy would apply better suitable for catch-up economies than advanced ones
- If it wants to hold its advanced development status it has, first of all, to rely on the solidarity and financial help of other countries in the Euro-zone, because the Keynesian medicine can't work anymore (insolvency of the public sector)
- To get back in the NSC it has from a Schumpeterian viewpoint to follow three main policy goals

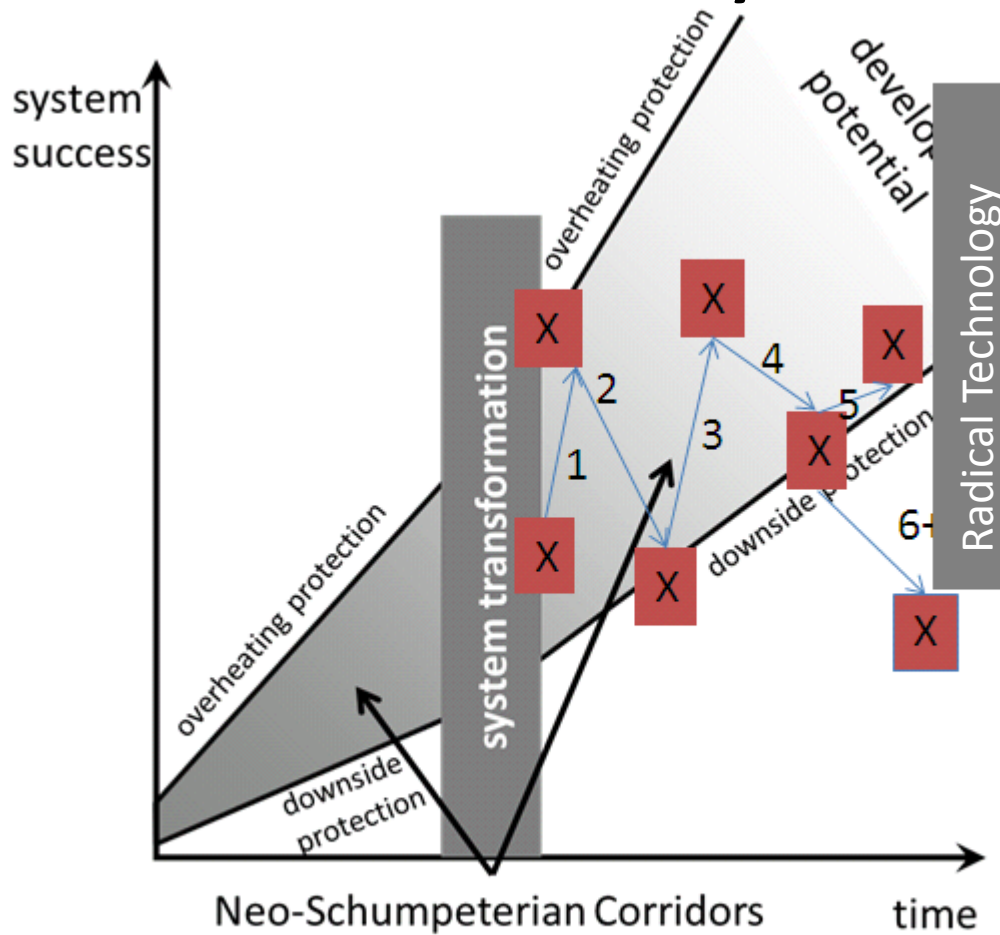
Explanation of Malfunctioning using CNSE (2)

Dysfunctioning of innovation process in the NSC

➤ **Too high success of the economic system**

- overheating „novelty production“ (disruptive radical innovation process)
 - overoptimism
 - sinking risk-awareness
- neglecting the destructive potential of innovation
 - misunderstanding of the complex nature of radical innovations in the business, financial and public sector
 - problems of adaptation to structural change
- shortening time horizon (futurity deficiency)
- promoting greed and exuberance
- carelessness concerning uncertainty and risk

Too High Success: The US Economy (example) NSC-Analysis



The US Economy: NSC-Analysis

Phases of Development of the Current Global Crisis

US-Economy:

Phase 1: Boom in the US-ICT-industries (1990s)

Phase 2: Boom and crash on stock markets (about 2000)

Phase 3: Boom in the real estate market (2001-2007)

Phase 4: Crash in the banking and the financial sector
with global spillovers (2007-2008)

Phase 5: Current economic stagnation (2008....)

European Economies:

Phase 6: From financial to public sector debt crisis (2008....)

Phase 7: From public sector to EURO-crisis (2010....)

The US Economy

Situation in the NSC

- The US economy is situated at the lower boundary of the NSC (low growth economy)
- It is on the brink of transforming from an industrial into a knowledge based and digital social-economic system
- It is also on the brink to use successfully a new radical technology in producing energy: fracking

Explanation of Malfunctioning using CNSE (3)

➤ *Disorderly „co-evolutionary process“*

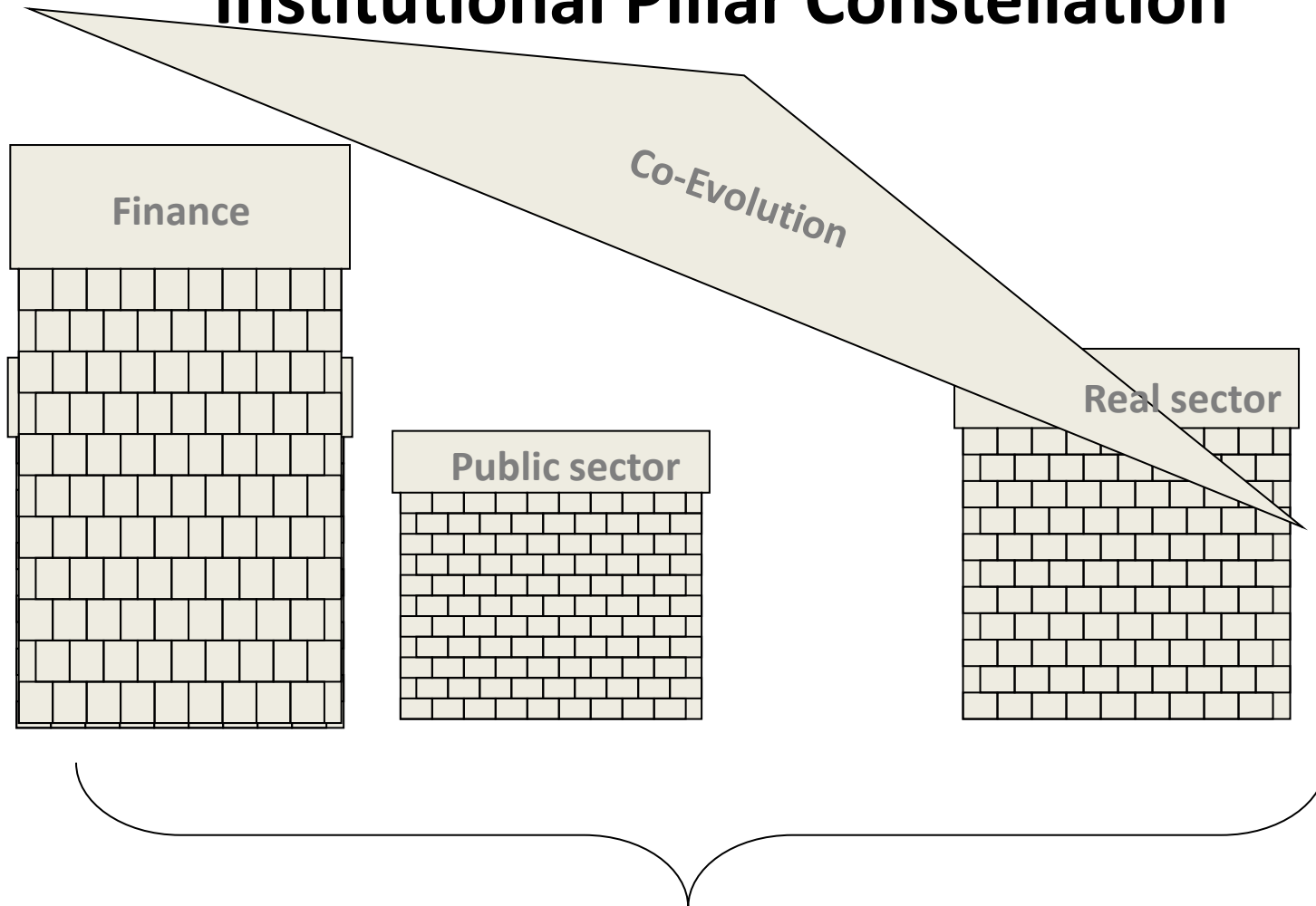
- neglecting proper pillar roles
- unbalanced (loop-sided) co-evolution
- decoupling of single pillar developments from an integral co-evolutionary process
- too high institutional integration
- ...

The US Economy (example)

Co-evolutionary situation:

- A severe reason for the sluggish performance of the US economy can be assigned to a disorderly co-evolutionary process
- It suffers from an unbalanced (loop-sided) co-evolution
- The financial sector is dominating more and more the whole economy
- Decoupling of the financial from the real sector
- Close connectiveness to the public sector as a consequence of FED-policy:
 - Monetaring public debt
 - Holding down interest rates

The US Economy Institutional Pillar Constellation



Orientation towards the future: enabling innovation and coping with uncertainty

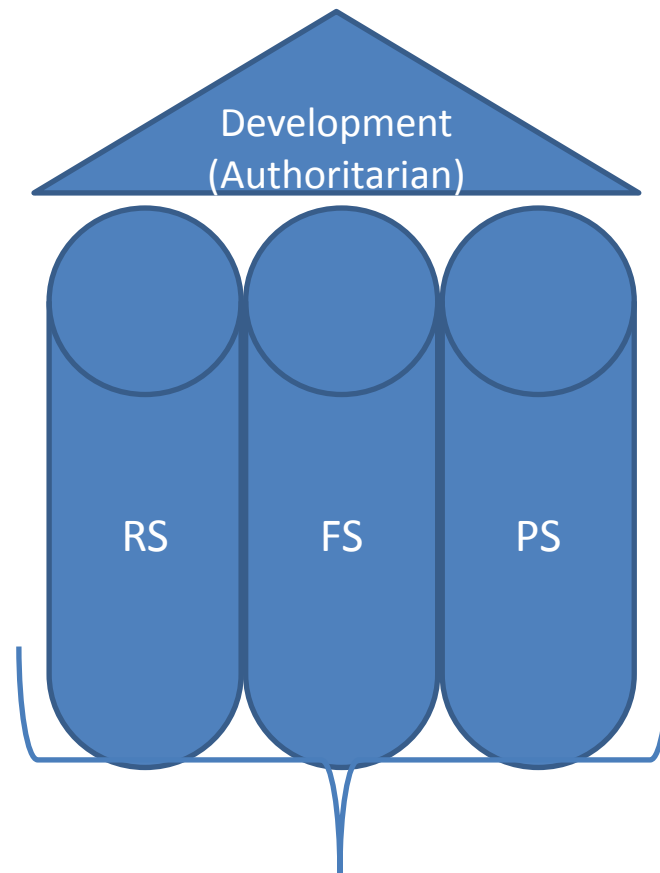
The Chinese Economy (example)

Co-Evolutionary Situation

- A huge obstacle for the Chinese transformation process is its institutional configuration
- The pillar constellation is linked together in an extremely close manner and characterized by an institutionally pooled handling of uncertainty
- China has to leap forward and to install a new growth model in order to make sure its miracle continues
- This growth model has to be a Schumpeterian one based on entrepreneurship and innovativeness
- To follow such a model it would have to cut the strong links between government, finance and business
- Forcing companies to become globally competitive on the basis of entrepreneurship and creativity
- Transforming banks into commercially oriented, risk-sensitive financiers

The Chinese Economy

Institutional Pillar Constellation



Orientation towards the future: Uncertainty -> Institutionally pooled

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Conclusion (1)

- To understand and explain development of economic systems CNSE can be used as an analytical framework
- In such a framework two main reasons for development deficiencies are important:
 - *malfunctioning of the innovation process*
 - *disorderly „co-evolutionary process“*

Conclusion (2)

A Neo-Schumpeterian approach of economic policy has to formulate goals and find instruments which focus on

- *the economic situation in the NSC*
- *the co-evolutionary constellation of an economy*

Literature

- **Hanusch, H. and A. Pyka**, “Principles of Neo-Schumpeterian Economics”, in: *Cambridge Journal of Economics*, 31, 2007, pp. 275-289
- **Hanusch, H.**, „Fighting the Crisis: Public Sector Governance in a Comprehensive Neo-Schumpeterian System“, in: *Homo Oeconomicus*, Vol. 27 no. 1/2 (2010) pp. 89-104