

# “Knowledge and wealth : an overall framework”.

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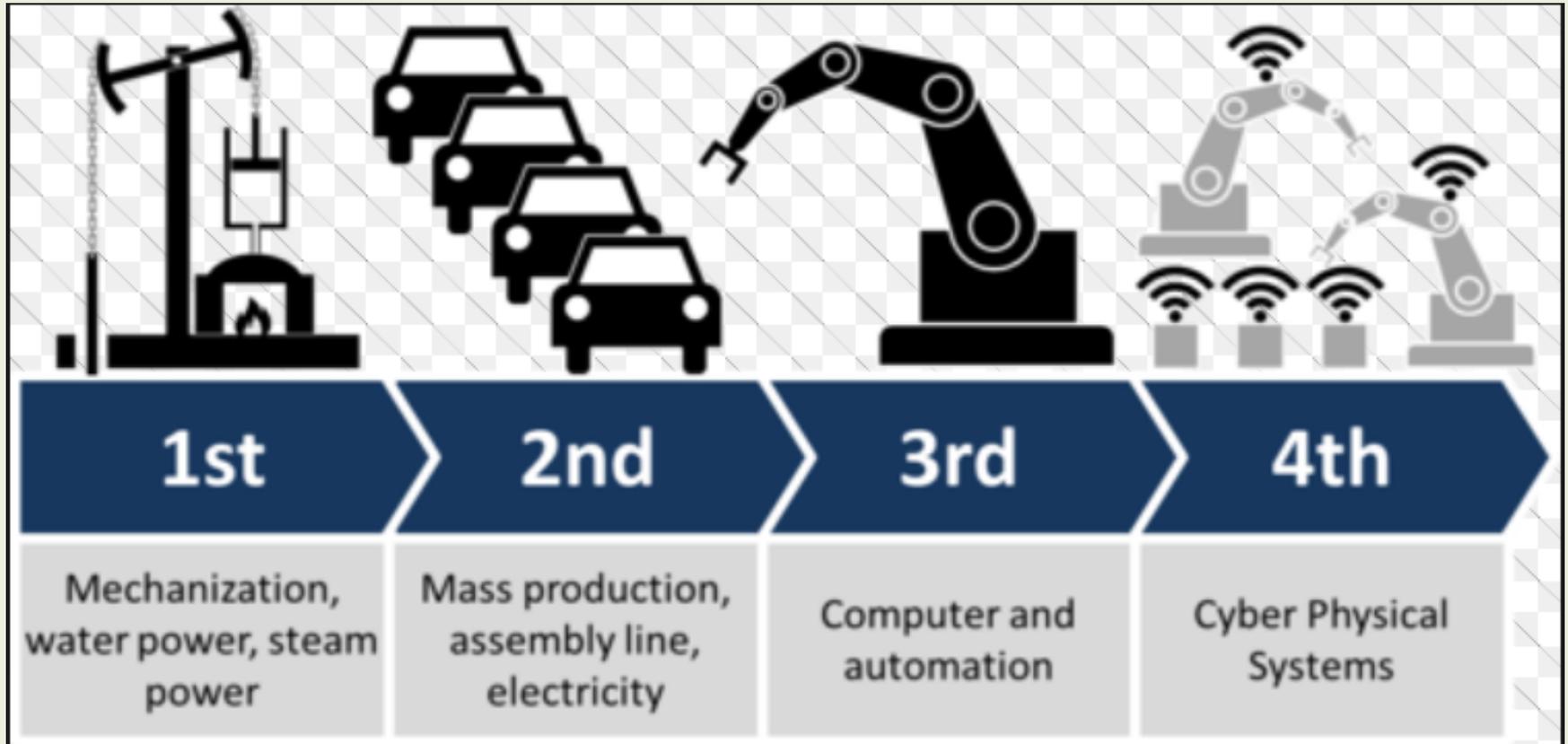


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2. Intangibles as fundamental factors of wealth creation.
3. Wealth Creation in the Knowledge Economy: Theoretical foundations
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# 1. The Fourth Industrial Revolution and the Knowledge Economy context

# The fourth industrial revolution



There are three reasons why today's transformations announce the arrival of a Fourth and distinct industrial revolution: **velocity**, **scope**, and **systems impact**.

Source: Wikipedia

# INDUSTRY 4.0

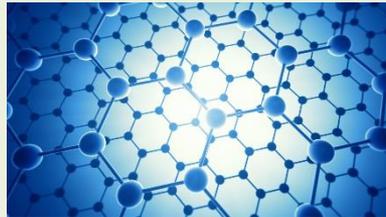
## Industry 4.0: Enablers



Artificial Intelligence



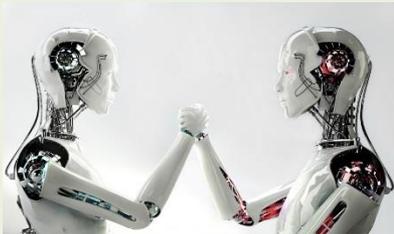
3-D printing



Nanotechnology



Autonomous Vehicles



Robotics



Internet of Things

## Four pillars of the KE :

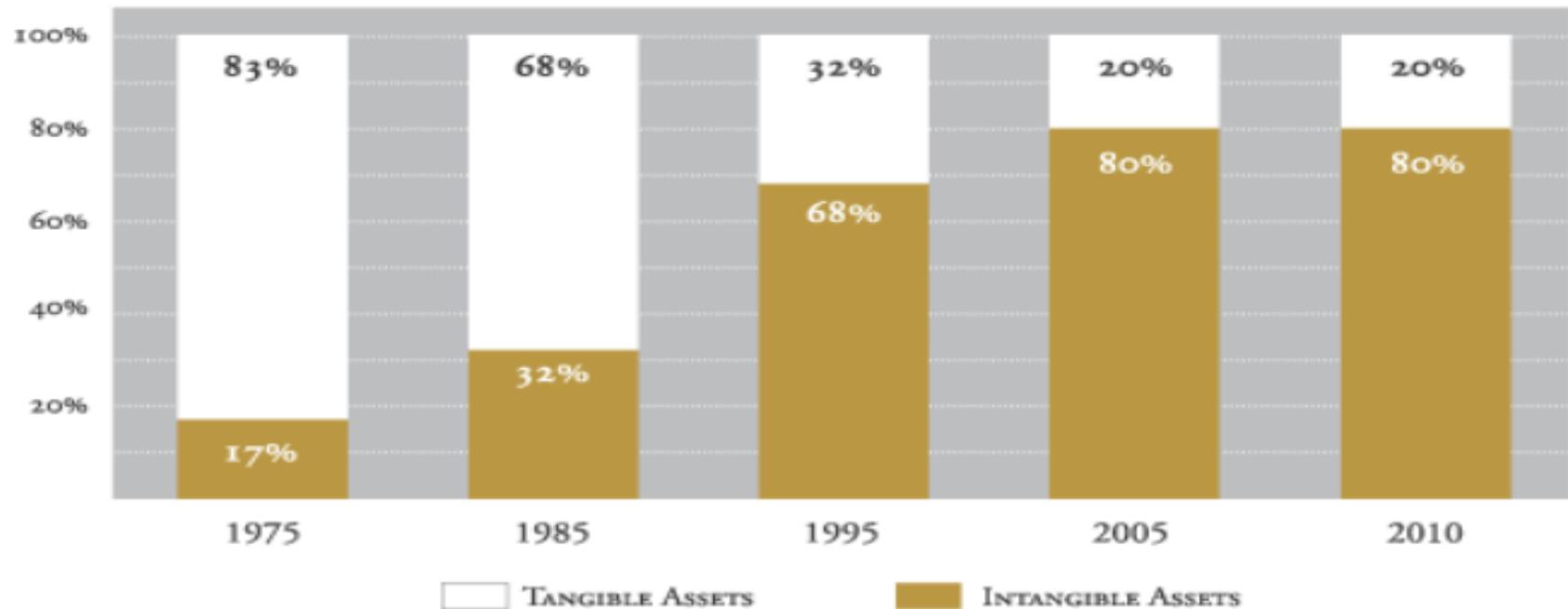
1. An Economic incentive and institutional regime that provides good economic policies and institutions, which promote efficient allocation of resources and stimulate creativity and incentives for the efficient creation, dissemination, and use of existing knowledge.
2. An educated and skilled labor force that continuously upgrades and adapts skills to efficiently create and use knowledge.
3. An effective innovation system of firms, research centers, universities, consultants, and other organizations that keeps up with the knowledge revolution, taps into the growing stock of global knowledge, and assimilates and adapts new knowledge to local needs.
4. A modern and adequate information infrastructure that facilitates the effective communication, dissemination, and processing of information and knowledge.

## **2. Intangibles as fundamental factors of wealth creation.**

# INTANGIBLE ASSET MARKET VALUE

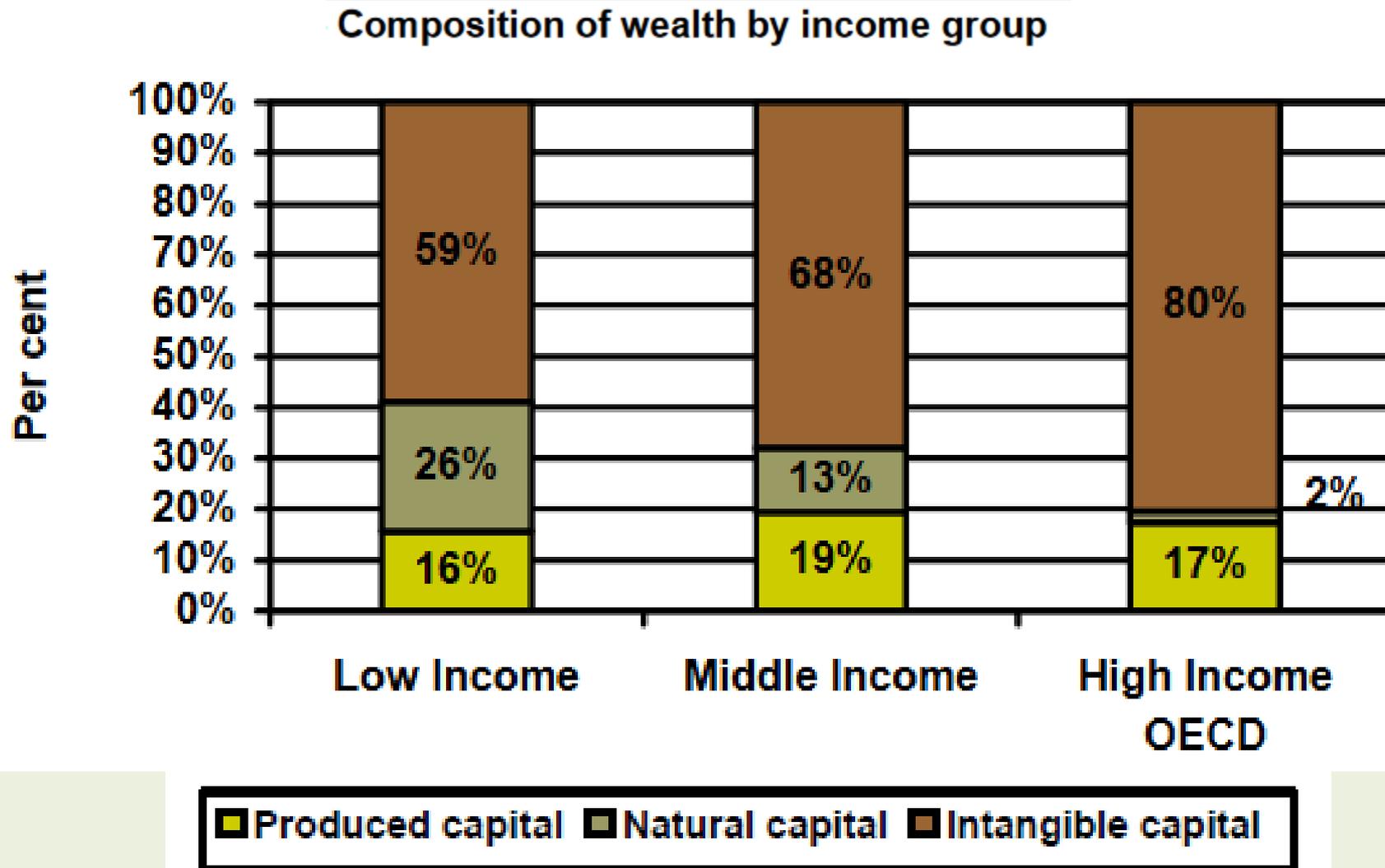
Within the last quarter century, the market value of the S&P 500 companies has deviated greatly from their book value. This "value gap" indicates that physical and financial accountable assets reflected on a company's balance sheet comprises less than 20% of the true value of the average firm. Our further research shows that a significant portion of this intangible value is represented by patented technology.

**COMPONENTS OF S&P 500 MARKET VALUE**



Source: Ocean Tomo

# Where Is the Wealth of Nations?



Note: oil countries excluded

Source: Where is the Wealth of Nations?: Measuring Capital for the 21st Century, ©2006 The international Bank for Reconstruction and Development/The World Bank

### **3. Wealth Creation in the Knowledge Economy. Theoretical foundations.**

# Basic definitions

## Wealth Definition

- A measure of the value of all of the **assets of worth owned by a person, community, company or country.**
- Wealth is the found by taking the total market value of all the physical and intangible assets of the entity and then subtracting all liabilities.
- For national wealth as measured in the national accounts the net liabilities are these owed to the rest of the world.
- **Wealth is the present value of the expected stream of future utility that an entity could hope to extract from tangible and intangible resources available, assuming these resources are and will be managed in an effective and efficient way.**

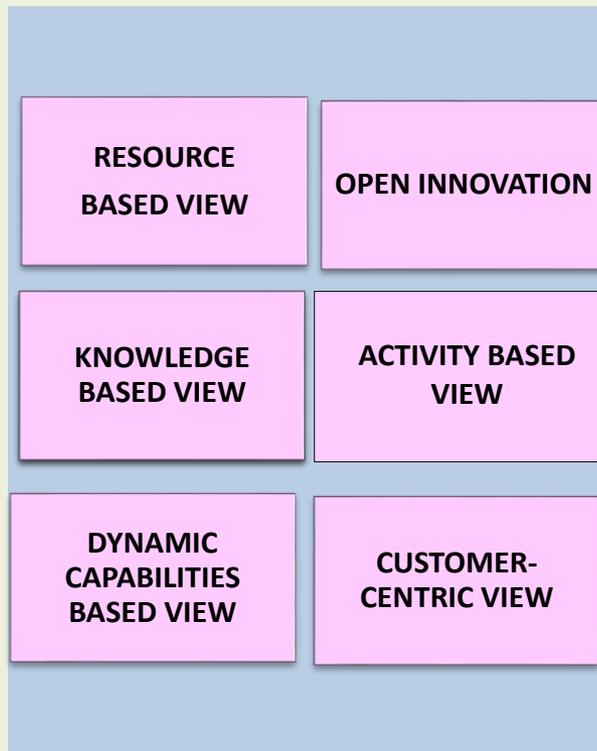
## Good and bad wealth

**Good wealth** consists of assets that are created, distributed and used in a manner that respects human dignity and promotes the common good, thus leads to increases in well-being.

**Bad wealth** consists in assets that are accumulated in an unjust manner (using force or fraud), is distributed in a manner that benefits only elites and excludes the poor and marginalized, and is used to create invidious distinctions and not for the common good.

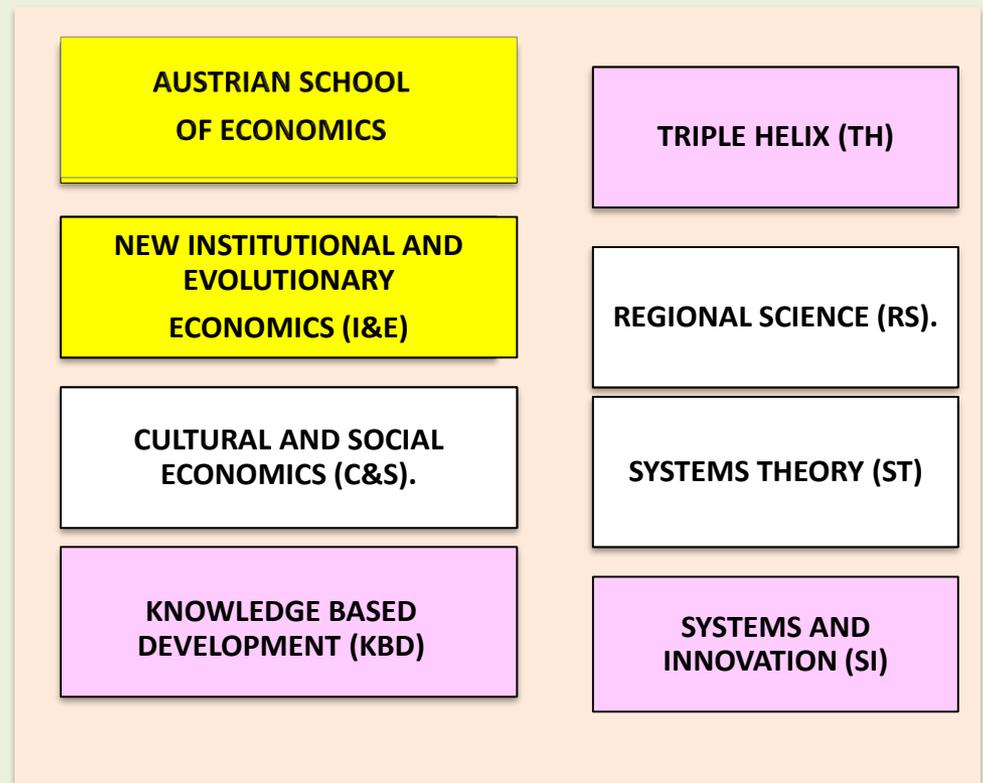
# Wealth creation in the Knowledge Economy: Theoretical Foundations

Micro Level (Enterprises)

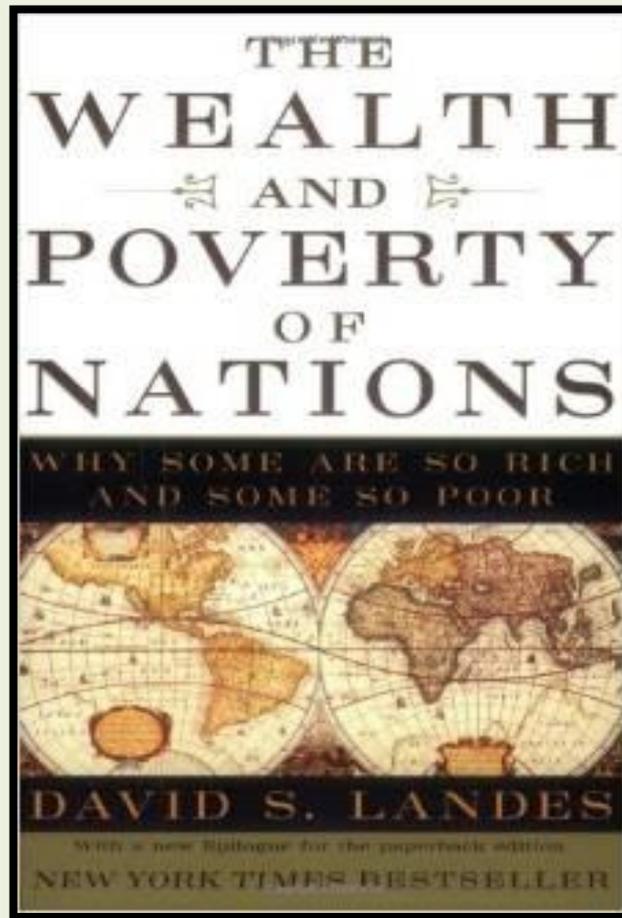


INCAS, ICBS (OICBS, IICBS), SCBS.

Macro Level (Cities, Regions, Nations)



CADIC, CICBS, RICBS, NICBS



The Wealth and Poverty of Nations:  
Why Some Are So Rich and Some So  
Poor Paperback - May 17, 1999  
by [David S. Landes](#) (Author)

**“Growth without technological advance is not good; it represents short-run advantage that will be paid for in long-run retardation”.**

**David S. Landes**

Source: Neef, Dale (1998) *The Knowledge Economy*. No. 5 Landes, D. “*Homo Faber, Homo Sapiens: knowledge, technology, Growth, and Development*” pp 53-73 Butterworth-Heinemann, USA.

# Society theoretically best suited to pursue material progress and general enrichment

1. Knew how to operate, manage and build the instruments of production and to create, adapt, and master new techniques on the technological frontier.
2. Was able to impart this knowledge and know-how to the young, whether by formal education or apprenticeship training.
3. Chose people for jobs by competence and relative merit; promoted and demoted on the basis of performance.
4. Afforded opportunity to individual or collective enterprise; encourage initiative, competition, and emulation.
5. Allowed people to enjoy and employ the fruits of their labor and enterprise.

**These standards imply corollaries:** gender equality (thereby doubling the pool of talent); no discrimination on the basis of irrelevant criteria ( race, sex, religion, etc.); also a preference for scientific (means-end) rationality over magic and superstition (irrationality).

# Political and social institutions that favor the achievement of these larger goals

1. **Secure rights of private property** the better to encourage saving and investment.
2. **Secure rights of personal liberty**- secure them against both the abuses of tyranny and private disorder (crime and corruption).
3. **Enforce rights of contract**, explicit and implicit.
4. **Provide stable government, not necessarily democratic**, but itself governed by publicly known rules (a government of laws rather than men). If democratic, that is, based on periodic elections, the majority wins but does not violate the rights of the losers; while the losers accept their loss and look forward to another turn at the polls.
5. **Provide responsive government**, one that will hear complaint and make redress.
6. **Provide honest government**, such that economic actors are not moved to seek advantage and privilege inside or outside the marketplace. In economic jargon, there should be no rents to favor and position.
7. **Provide moderate, efficient, ungreedy government**. The effect should be to hold taxes down, reduce the government's claim on the social surplus, and avoid privilege.

# Political and social institutions that favor the achievement of these larger goals

**This ideal society would also be honest.** Such honesty would be enforced by law, but ideally, the law would not be needed. People would believe that honesty is right (also that it pays) and would live and act accordingly.

**More corollaries :** this society would be marked by geographical and social mobility. People would move about as they sought opportunity, and would rise and fall as they made something or nothing of themselves. This society would value new as against old, youth as against experience, change and risk as against safety. It would not be a society of equal shares, because talents are not equal; but it would tend to a more even distribution of income than is found with privilege and favor. It would have a relatively large middle class. This greater equality would show in more homogeneous dress and easier manners across class lines.



# Austrian School of Economics

# Main economic factors in the Austrian School of Economics

## Individual choice

Individuals and their choices active participants in the economic process.  
Markets and value of things are determined by these choices.

## Entrepreneurship

Economic process too much uncertain and could not be predicted by one so “out of the loop”.  
Entrepreneur is the only one with the proper knowledge to predict outcomes and minimize risk.  
Entrepreneur, perhaps the most important role in any economy.

## Free and competitive markets

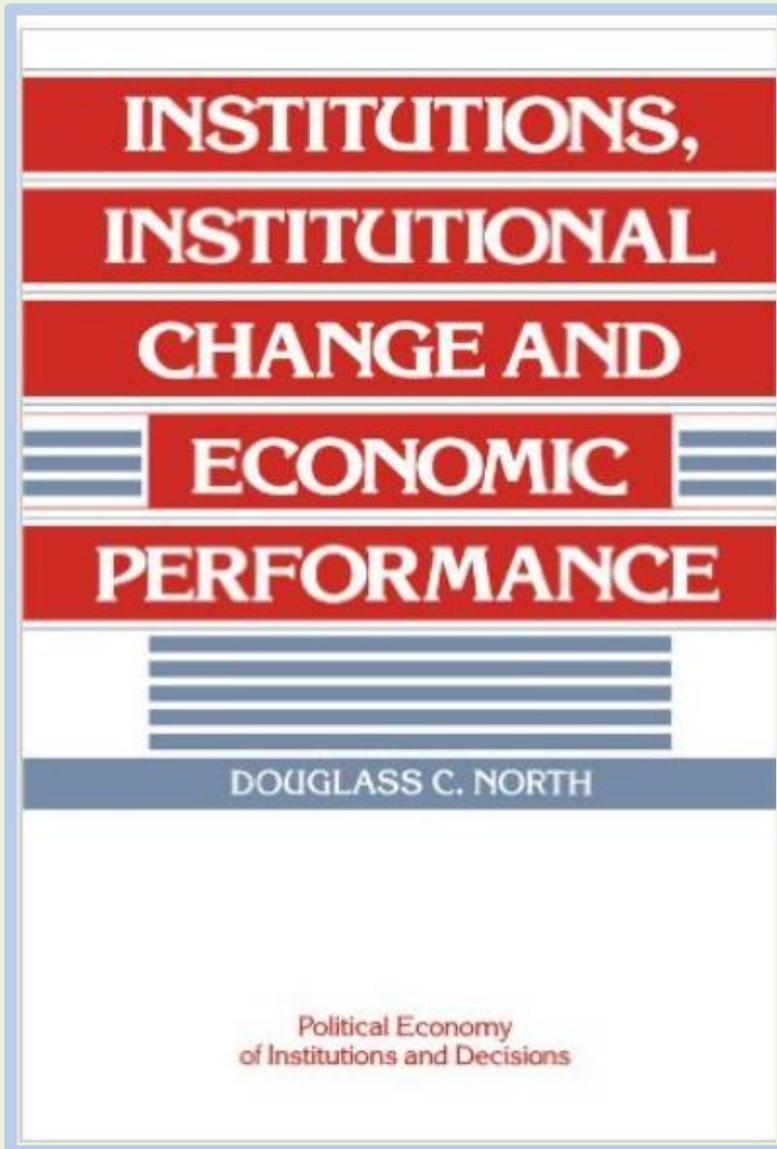
Belief in a “free and competitive markets” approach to macroeconomics.  
Strong belief in a minimal role for government in our everyday lives.

## Private property

Individual property ownership is the bedrock of a healthy economy,  
Without it, there is no basis for capital, for trade, for value... and free market.

## A price system

A realistic price system emerges when free markets are allowed to do their work.



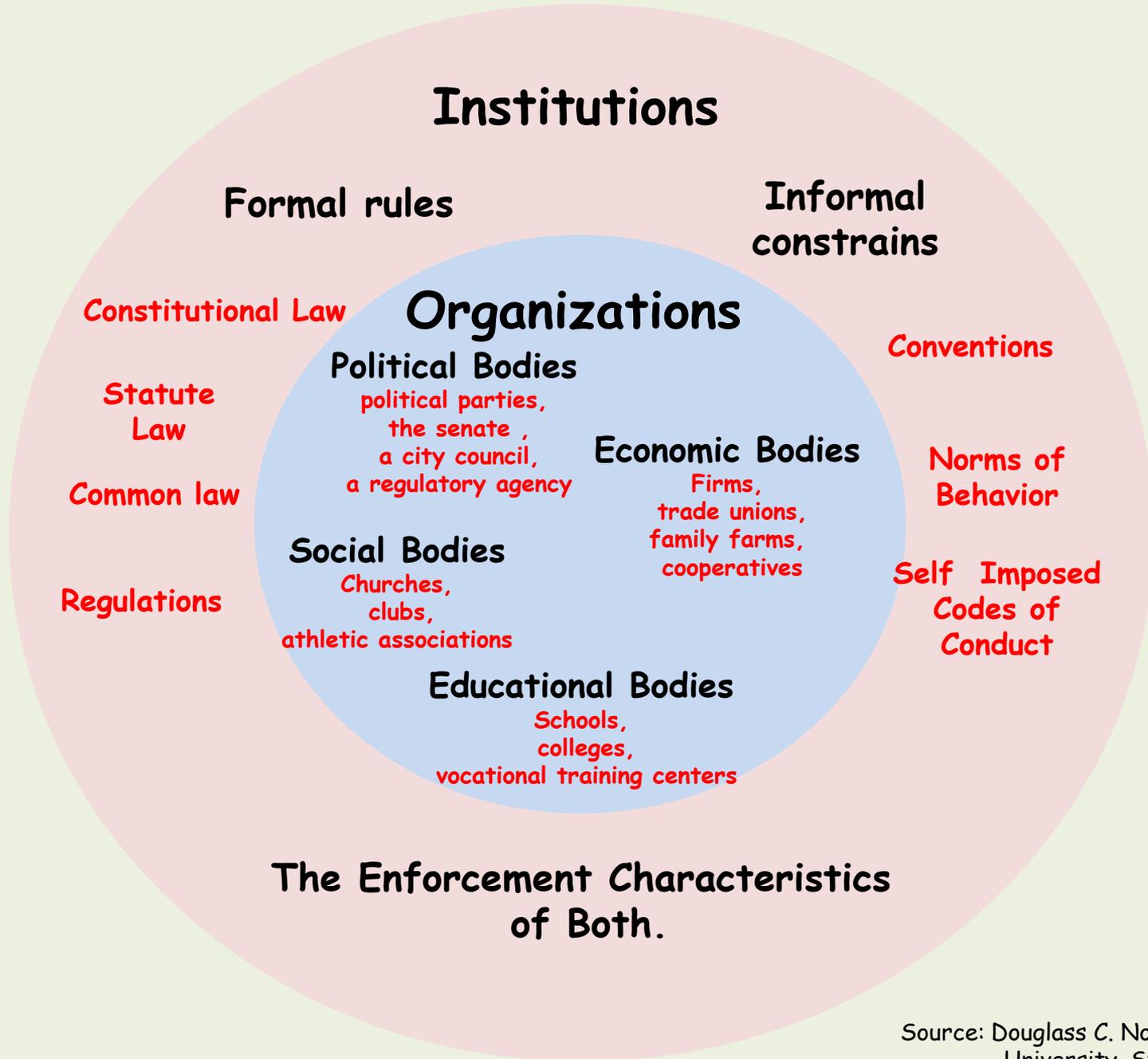
**Institutions create the incentive structure in an economy, and organizations will be created to take advantage of the opportunities provided within a given institutional framework.**

# THE NEW INSTITUTIONAL ECONOMICS

Institutions are the rules of the game of a society or more formally are the humanly-devised constraints that structure human interaction.

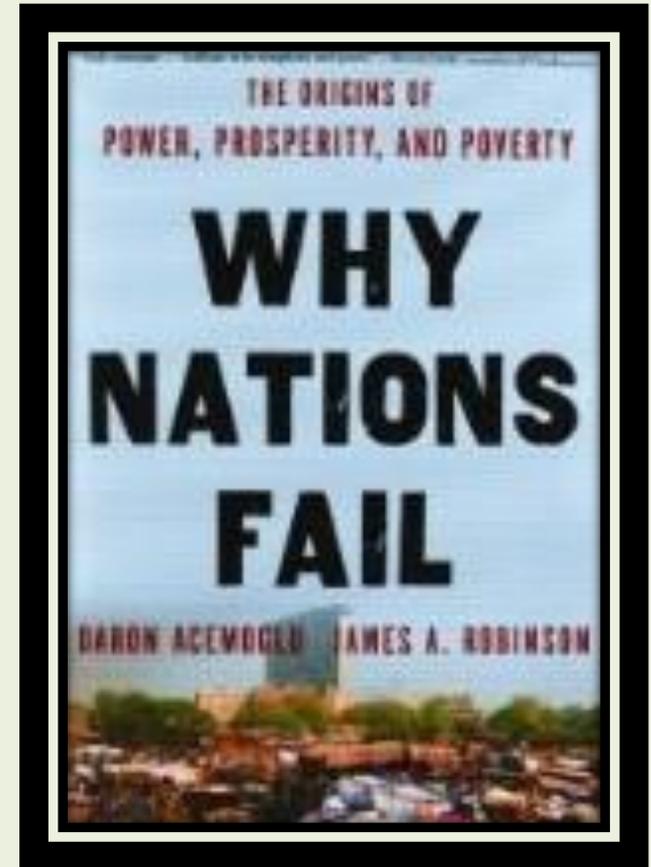
Organizations are the players, groups of individuals bound by a common purpose to achieve objectives

# THE NEW INSTITUTIONAL ECONOMICS

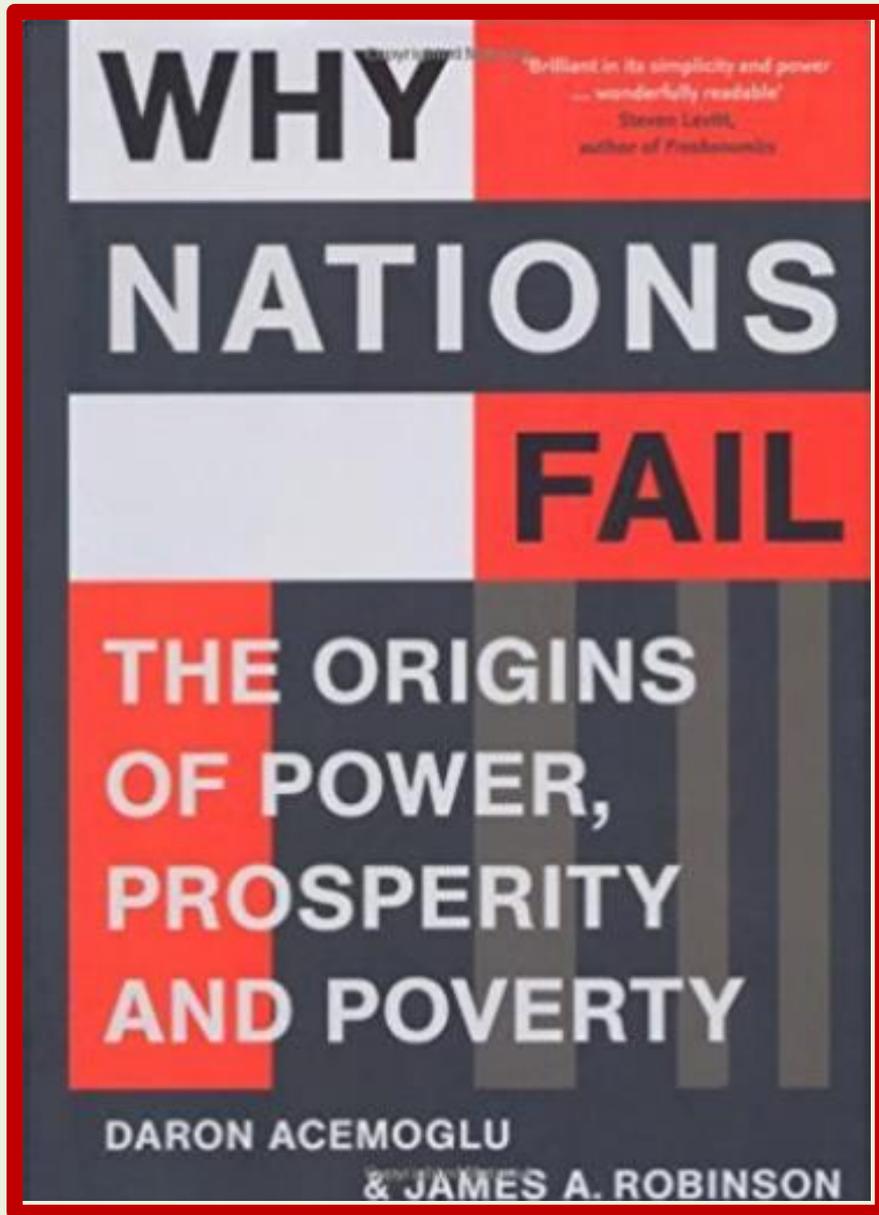


# Why Nations Fail

Argues that the key differentiator between countries is “institutions”. Nations thrive when they develop “inclusive” political and economic institutions, and they fail when those institutions become “extractive” and concentrate power and opportunity in the hands of only a few.



Source: Why Nations Fail. The origins of power prosperity and Poverty. Darom Acemoglu & James A. Robisonn . Profile Books Ltd. (2013)



New theory reveals that to prosper citizens need **“inclusive institutions”** which create **virtuous circle of innovation economic expansion and more widely-held wealth**

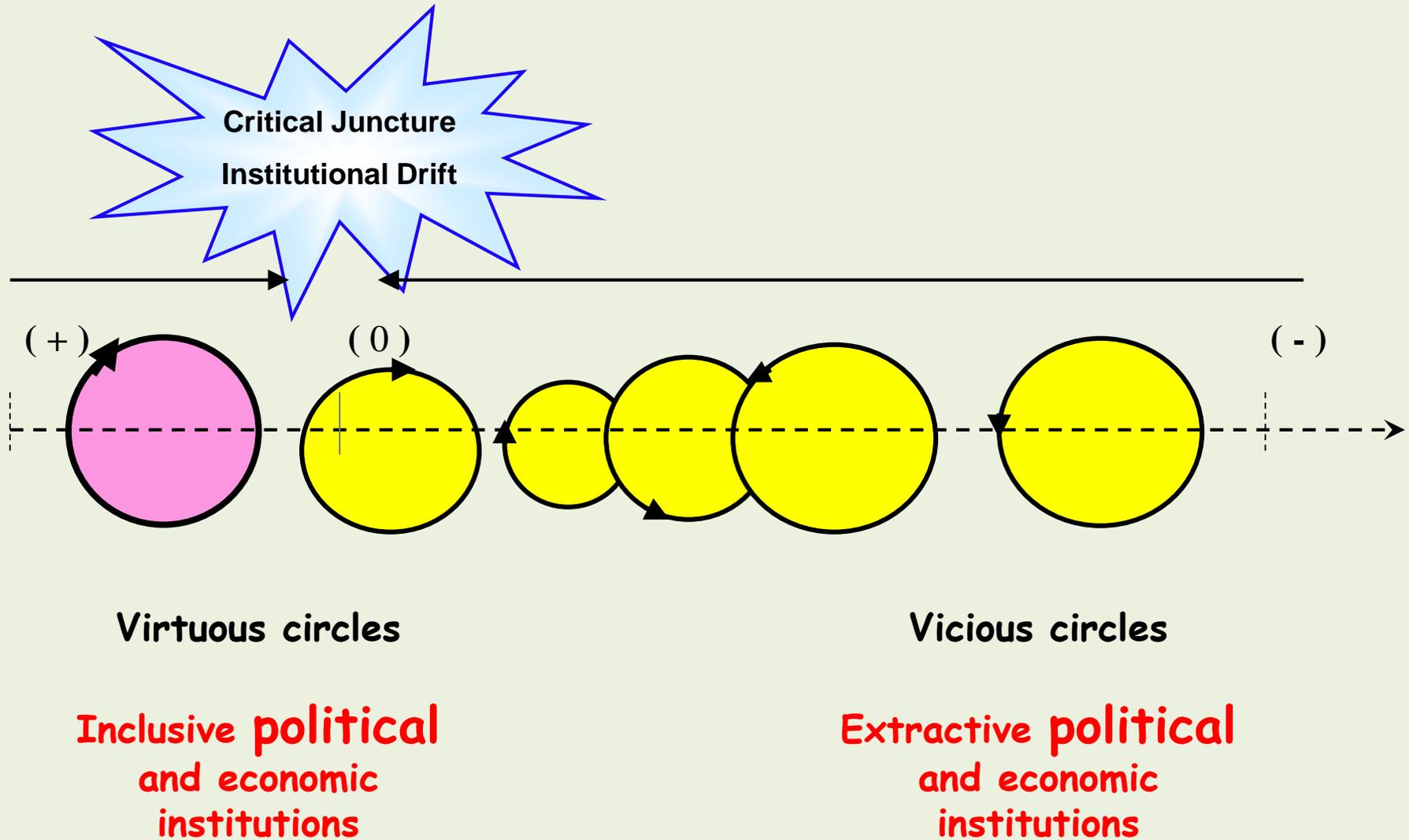
# The New Institutional Economics basic theory

**Inclusive economic institutions** that enforce property rights, create a level playing field, and encourage investments in new technologies and skills are more conducive to economic growth than **extractive economic institutions** that are structured to extract resources from the many by the few and that fail to protect property rights or provide incentives for economic activity.

Inclusive economic institutions are in turn supported by, and support:

**Inclusive political institutions** that is, those that distribute political power widely in a pluralistic manner and are able to achieve some amount of political centralization so as to establish law and order, the foundations of secure property rights, and an inclusive market economy. Similarly, extractive economic institutions are synergistically linked to **extractive political institutions**, which concentrate power in the hands of a few, who will then have incentives to maintain and develop extractive economic institutions for their benefit and use the resources they obtain to cement their hold on political power.

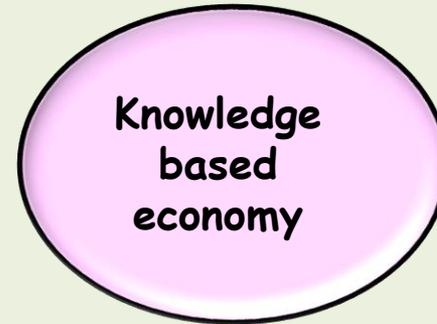
# Breaking the vicious circles.



# Wealth Creation in the Knowledge Economy

## Macro dimension

Heritage  
Foundation  
Index of  
economic  
freedom.



KEI  
K4D  
ISB  
Global  
Innovation  
index (GII)



Freedom House  
Global democracy ranking  
Democracy index



Global  
entrepreneurship and  
development index.  
GEINDEX



WEF  
Institutions  
GCI  
World Justice  
Project  
Rule of Law  
Index

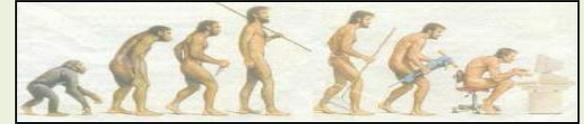


WEF  
The human capital report

## Micro dimension

# Wealth creation in the KE

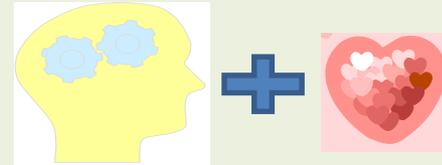
People



Knowledge



Intangibles



Competitive Enterprises



Innovative Enterprises



Suitable Environment



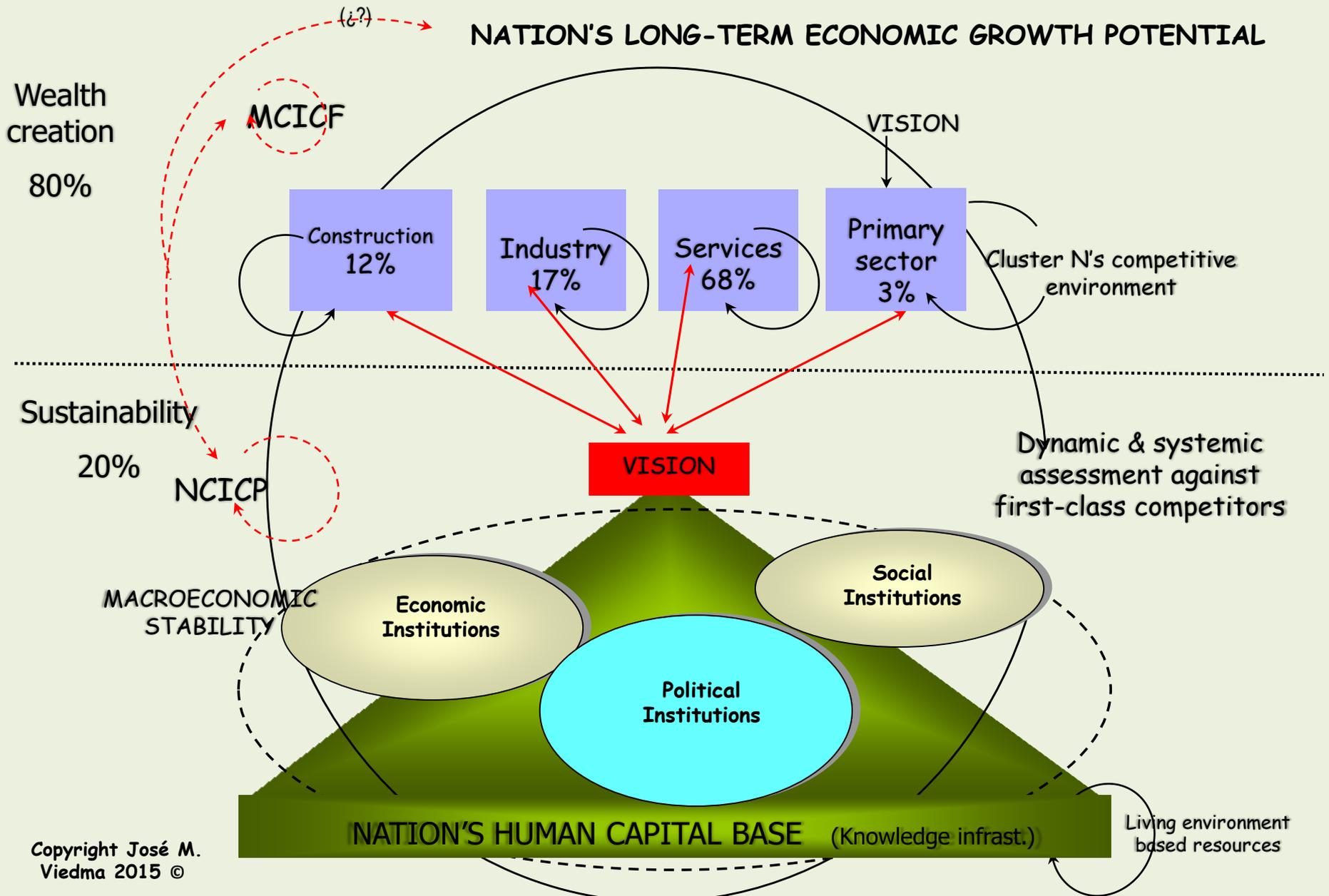
**4. In search of an overall framework.**

# Two sets of frameworks

- **Competitiveness frameworks:**
  - ❖ W.E.F. *Global Competitiveness Index*
  - ❖ I.M.D. *World Competitiveness Year Book*
- **IC Community frameworks**
  - ❖ Mainly based on *Skandia Navigator* (Leif Edvinsson, Carol Yeh-Yun Lin)
  - ❖ Some concentrate on knowledge-creation and innovation. (Ahmed Bounfour, F.Javier Carrillo, Aino Kianto and Pirjo Stahle)
  - ❖ NICBS that tries to integrate the two sets of frameworks and considers the micro and macroeconomic dimension.

# **NICBS framework**

# NICBS: Main Structure & Key Elements



# Wealth Creation in the Knowledge Economy

## MAIN AGENTS

**Entrepreneurial  
and Business  
excellence**

Entrepreneurs. Top  
Management Team and Key  
Professional People.  
Knowledge and skilled workers

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**Free Market economy**

**Liberal democratic  
political systems**

Political Leaders and Leaders of  
Economic and Social Institutions  
Knowledge and skilled workers.

**Knowledge based economy**

**Inclusive political, economic and social  
institutions**

**High quality people**

Knowledge and skilled workers.  
Conscientious parents (specially mothers)  
Teachers in elementary and high school.  
Professors in University(Not its chief  
creators)

# Wealth Creation in the Knowledge Economy

## Intangible Capital

**Entrepreneurial  
and Business  
Capital**

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**Economic Institutions  
Capital**

**Political Institutions  
Capital**

**ITT and Knowledge  
Capital**

**Social Institutions  
Capital**

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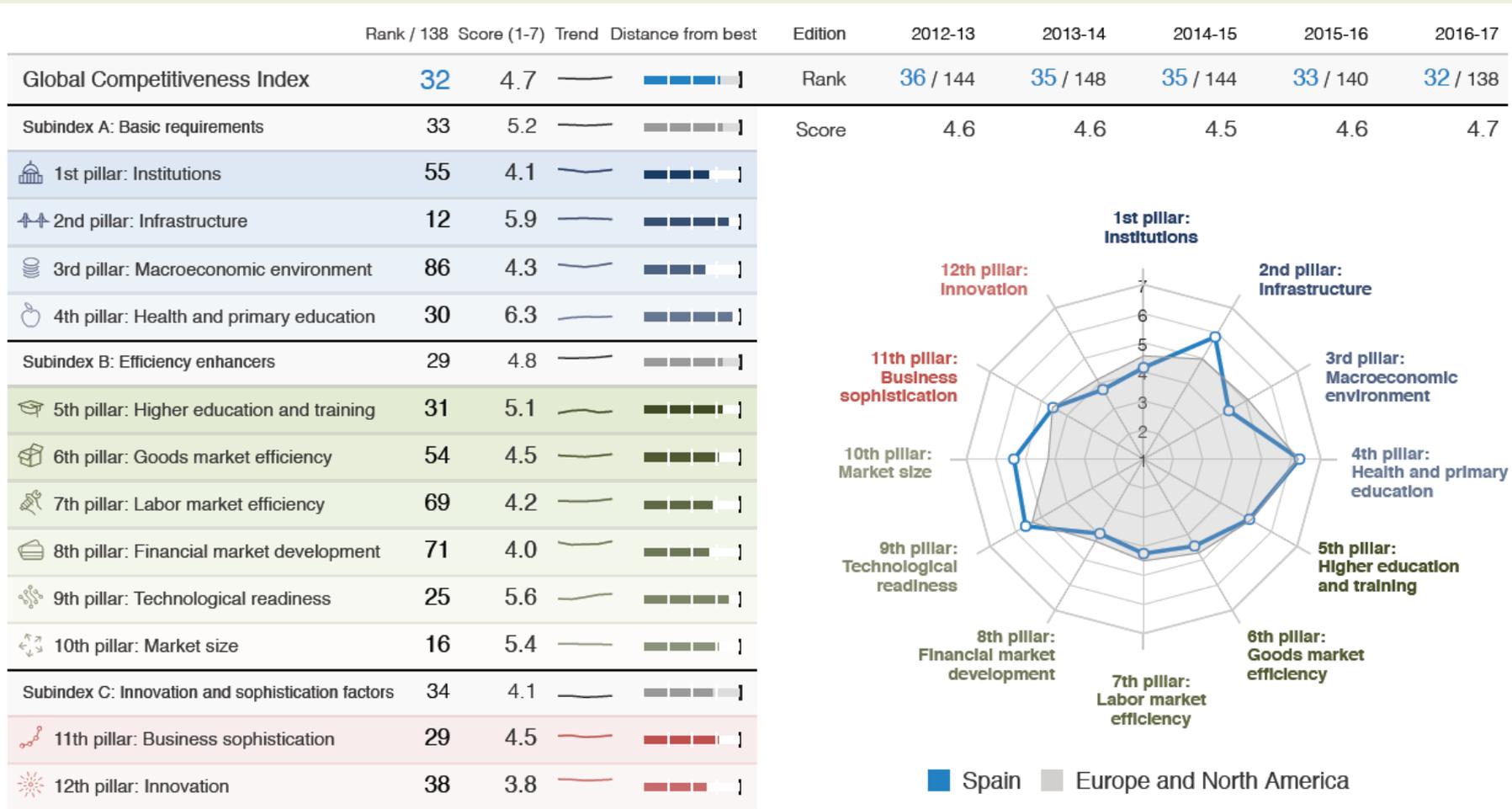
**Human Capital**

## **5. Practical Implications.**

# Spain



# WEF. Global Competitiveness Index. Spain

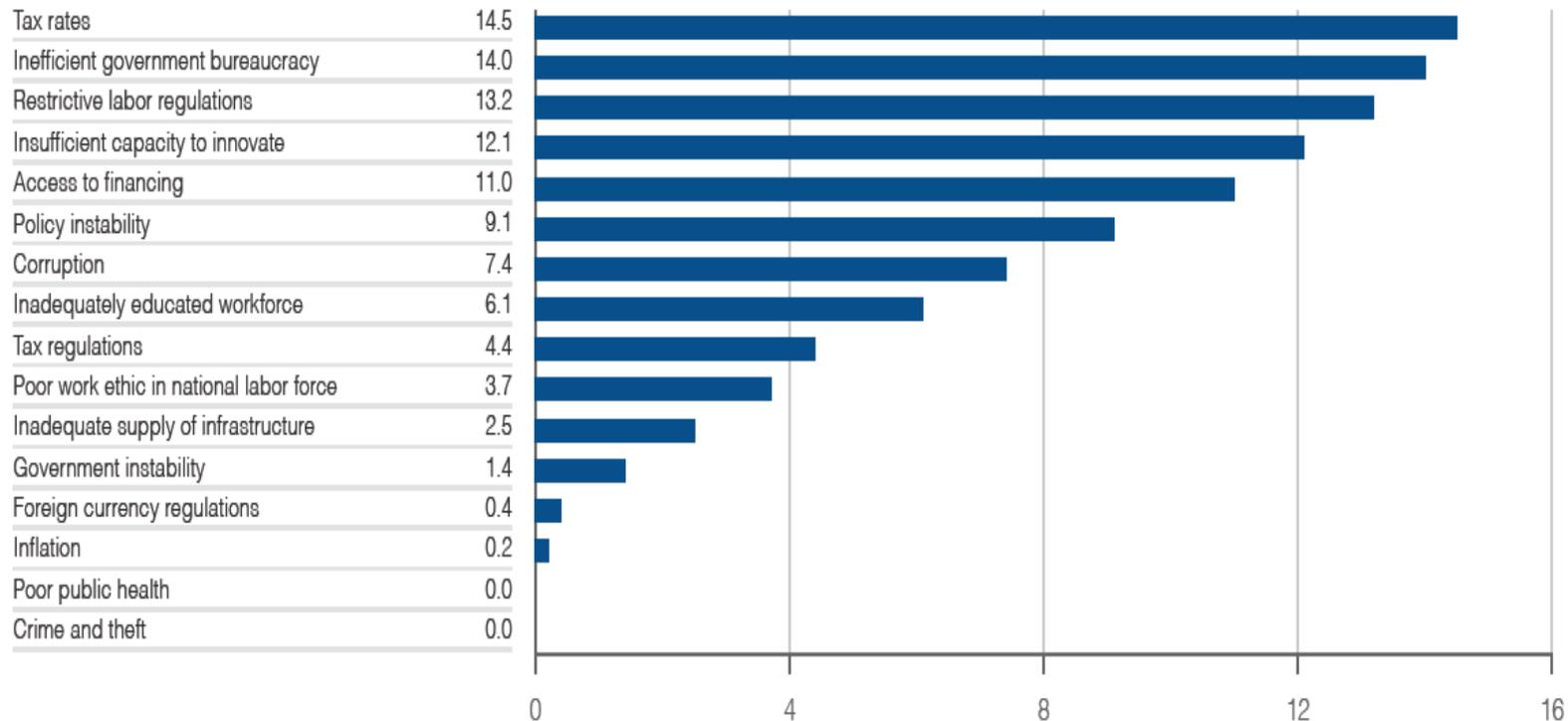


Source: The Global Competitiveness Report 2016-2017  
World Economic Forum pp.326

# WEF.Global Competitiveness Index Spain

## Most problematic factors for doing business

Source: World Economic Forum, Executive Opinion Survey 2016



**Note:** From the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

# SPAIN

## ASSETS

First class infrastructure  
Health and primary education  
Tourism economic sector ( 1°pillar)  
Construction, real estate and infrastructure ( 2° pillar)  
Full member of the EU and Euro zone  
Some first class multinationals but not enough  
Higher education and scientific system  
Free market economy  
Democratic political system  
Financial sector reform

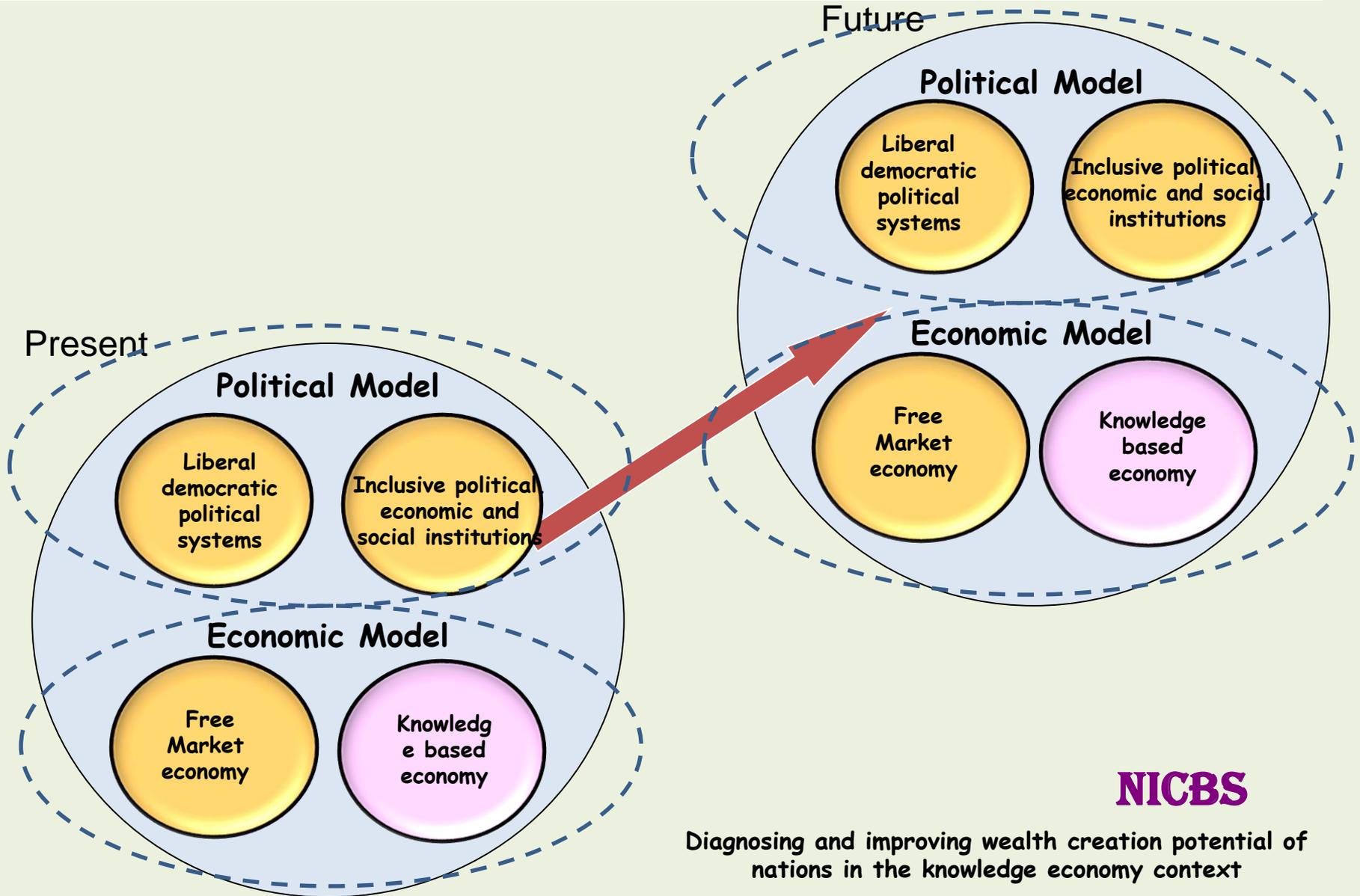
## LIABILITIES

- No economic model
- Not enough competitive companies
- Not enough knowledge intensive companies.
- High rate of unemployment
- The three bubbles(financial, real estate ,and state)
- Growth without technological change
- Government budget deficit
- Government debt and private debt.
- Total debt and net debt.
- English as a second language
- Labor market reform
- State model( state bubble not yet burst)
- Innovation systems
- Public trust in politicians
- Judicial independence and efficiency.
- Wastefulness of government spending
- Corruption.(transparency international)
- Too small manufacturing sector
- Big underground economy

**In summary : there is a need for transforming  
Spain into a more competitive, innovative and  
Knowledge intensive economy**

## **6. Conclusions.**

# STRATEGY PERSPECTIVE



**NICBS**

Diagnosing and improving wealth creation potential of nations in the knowledge economy context

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# Conclusions

1. There is no established body of wealth creation theory in the Knowledge Economy context at the macro level .
2. The existing body of theory is mainly based on the Austrian School of Economics theory, and the contributions of other relevant theories such as Endogenous growth, New Institutional economics, Systems and Innovation, Competitiveness, and KBD .
3. Based on these bodies of theories we try to formulate principles of wealth creation in the KE context. Unfinished work.
4. There are two sets of practical methodologies or frameworks for diagnosing and improving wealth creation potential of nations in the KE context:
  - a) Competitiveness frameworks
  - b) IC community frameworks
5. NICBS methodology or framework is proposed as a more comprehensive alternative for diagnosing and improving wealth creation potential.
6. Finally strategic management of intangibles or IC at the macro level is considered the best way to improve wealth creation potential of nations.

**Many thanks for your attention**