



# Wealth creation in the knowledge economy. Theoretical foundations and practical implications.

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February/2021

# Index

1. The Fourth Industrial Revolution and the Knowledge Economy.
2. Intangibles as fundamental factors of wealth creation.
3. Wealth Creation in the Knowledge Economy: Theoretical foundations and practical implications.
- 4 Conclusions.

# 1. The Fourth Industrial Revolution and the Knowledge Economy

# Basic definitions

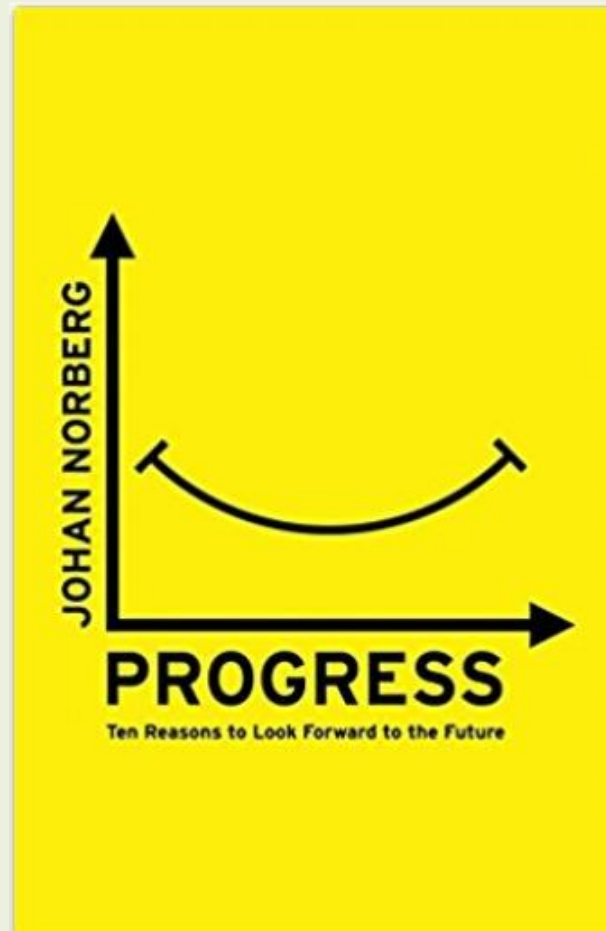
## Wealth Definition

- A measure of the value of all of the **assets of worth owned by a person, community, company or country.**
- Wealth is 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 those 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.**

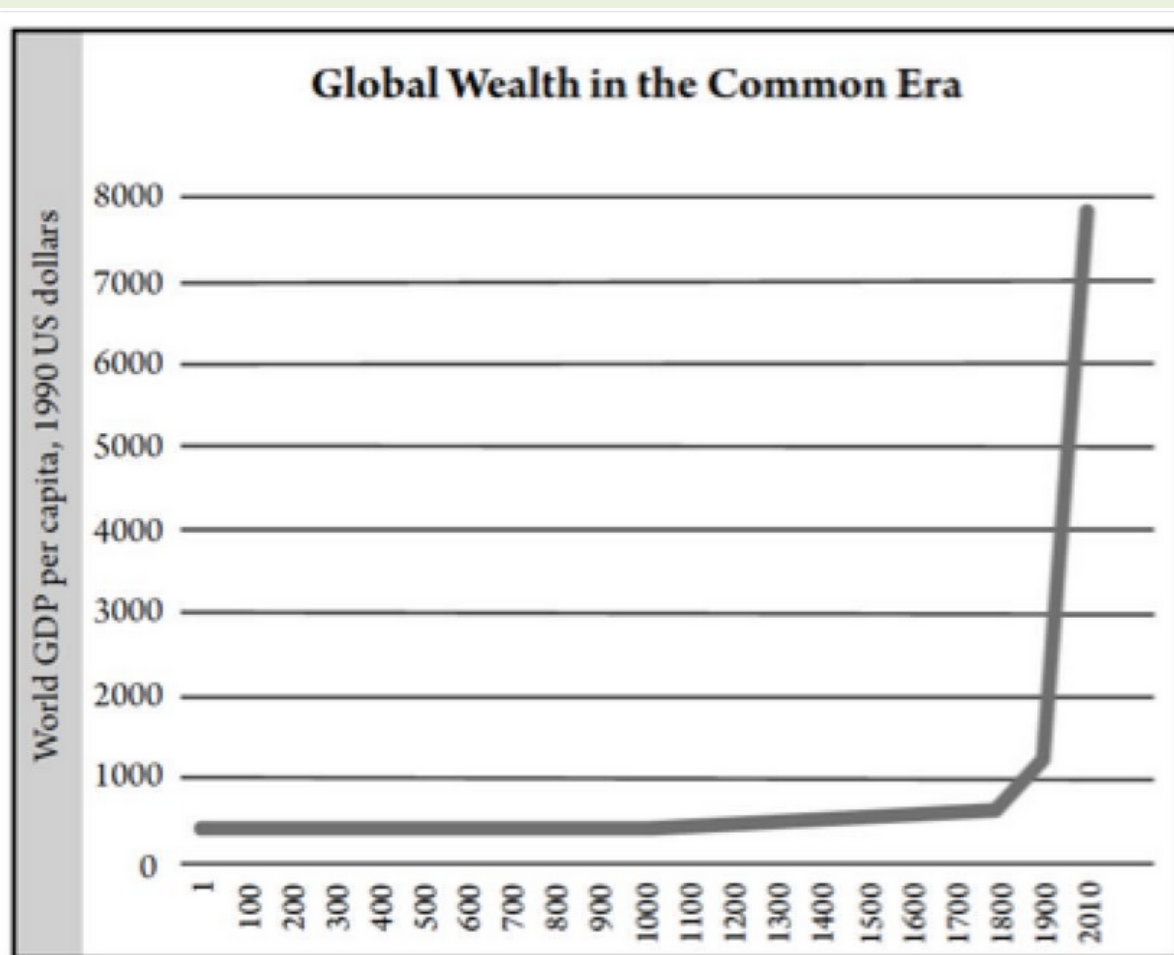
## Good and bad wealth

**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.

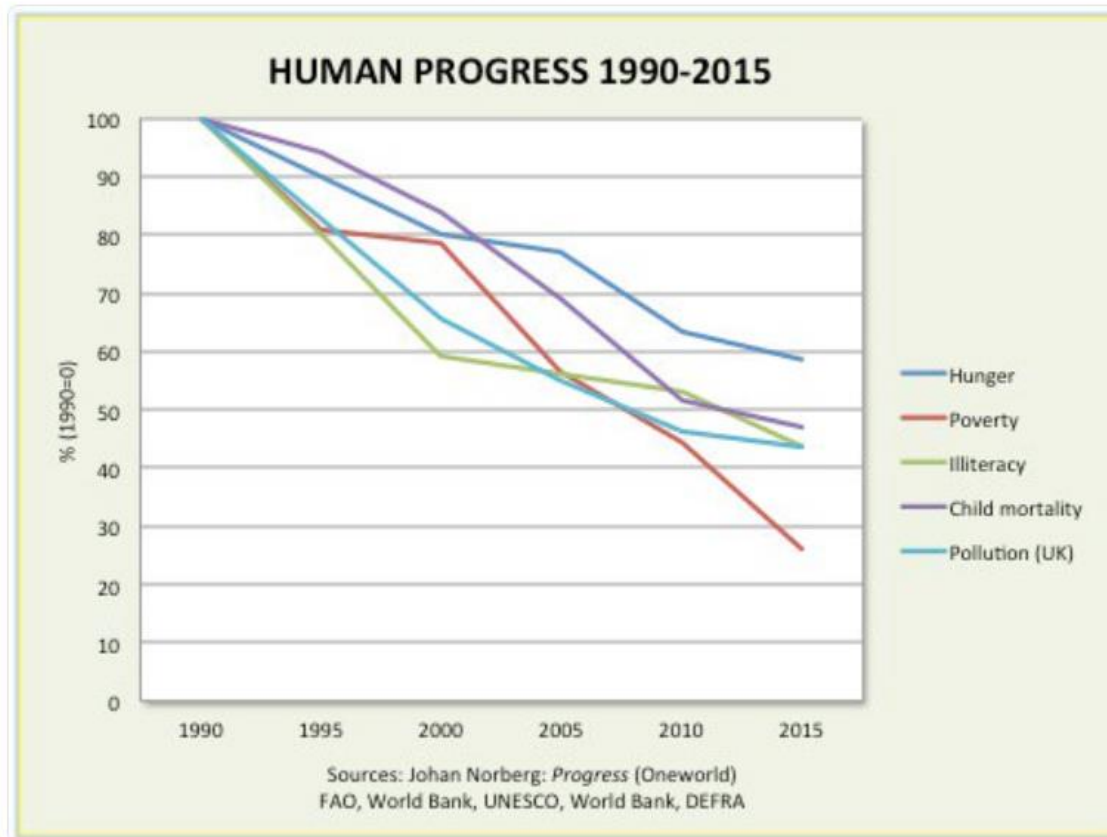


Ten Reasons to Look Forward to the Future



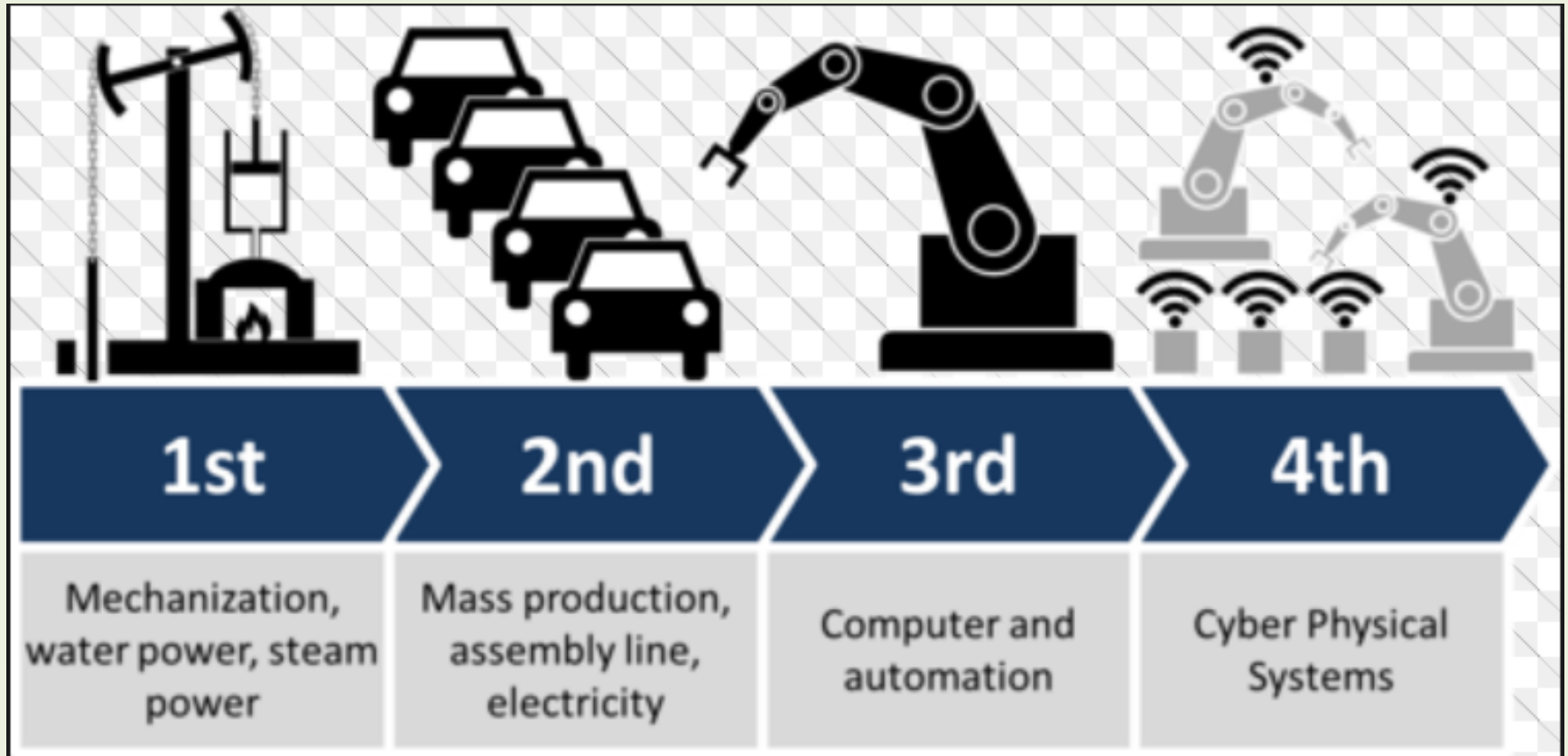
Source: Johan Norberg, *Progress* (Oneworld), Angus Maddison 2003

## The world in one graph.





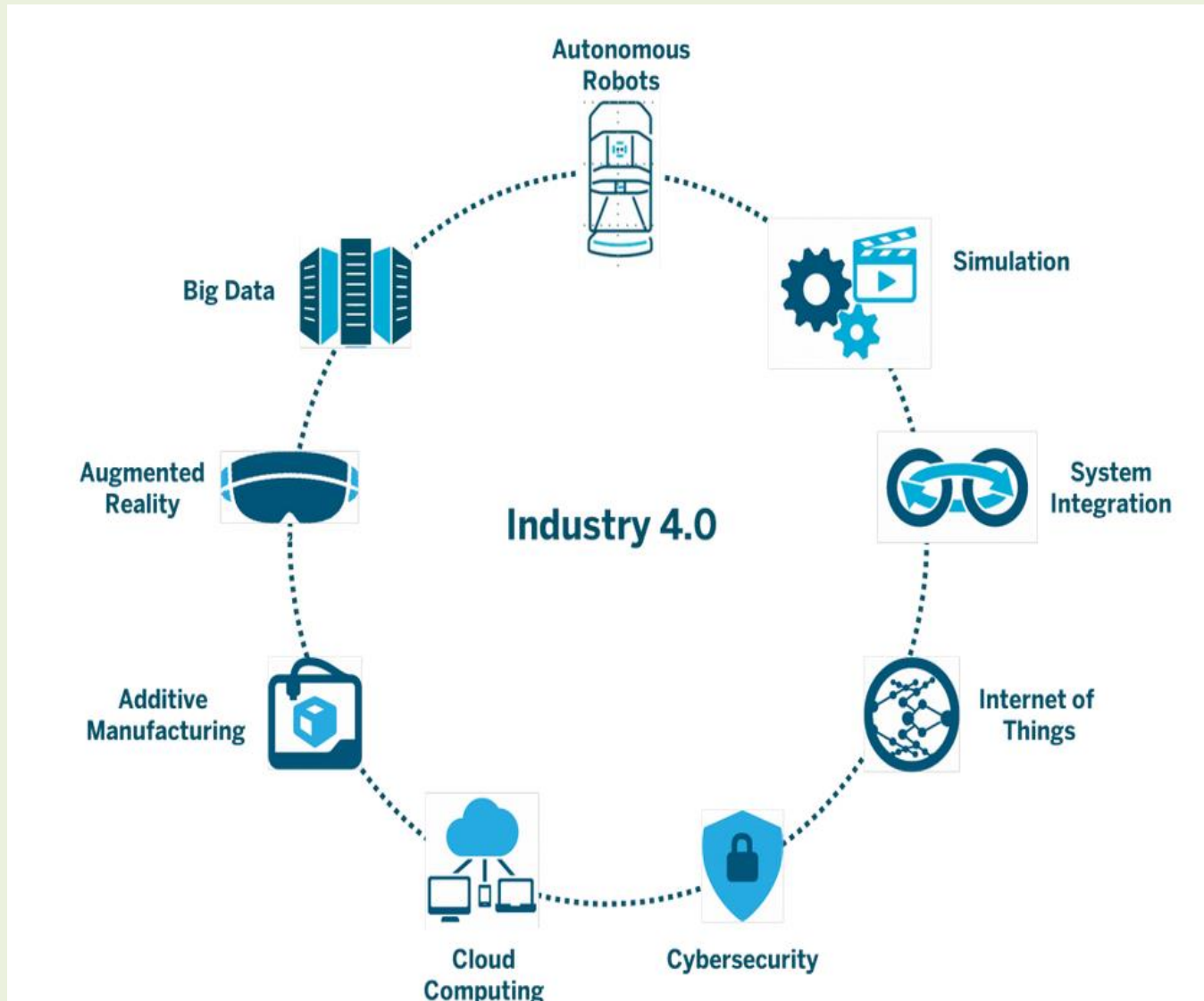
# The fourth industrial revolution



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



Source: What Industry 4.0 Means for Manufacturers  
Anthony Melanson - Jul 10, 2015

# MORNINGSTAR EXPONENTIAL TECHNOLOGIES INDEX

QCTA

Big Data and Analytics

Networks and Computer Systems

Robotics

3-D Printing

Financial Services Innovation

Nanotechnology

Energy and Environmental Systems

Medicine and Neuroscience

Bioinformatics

# Knowledge Economy Definitions

"... one in which the **generation and exploitation of knowledge** has come to play the predominant part in the **creation of wealth**.

*(DTI Competitiveness White Paper 1998).*

"**economic success** is increasingly based on upon the **effective utilization of intangible assets** such as knowledge, skills and innovative potential as the key resource for competitive advantage.

*Economic & Social Research Council 2005*

Source:

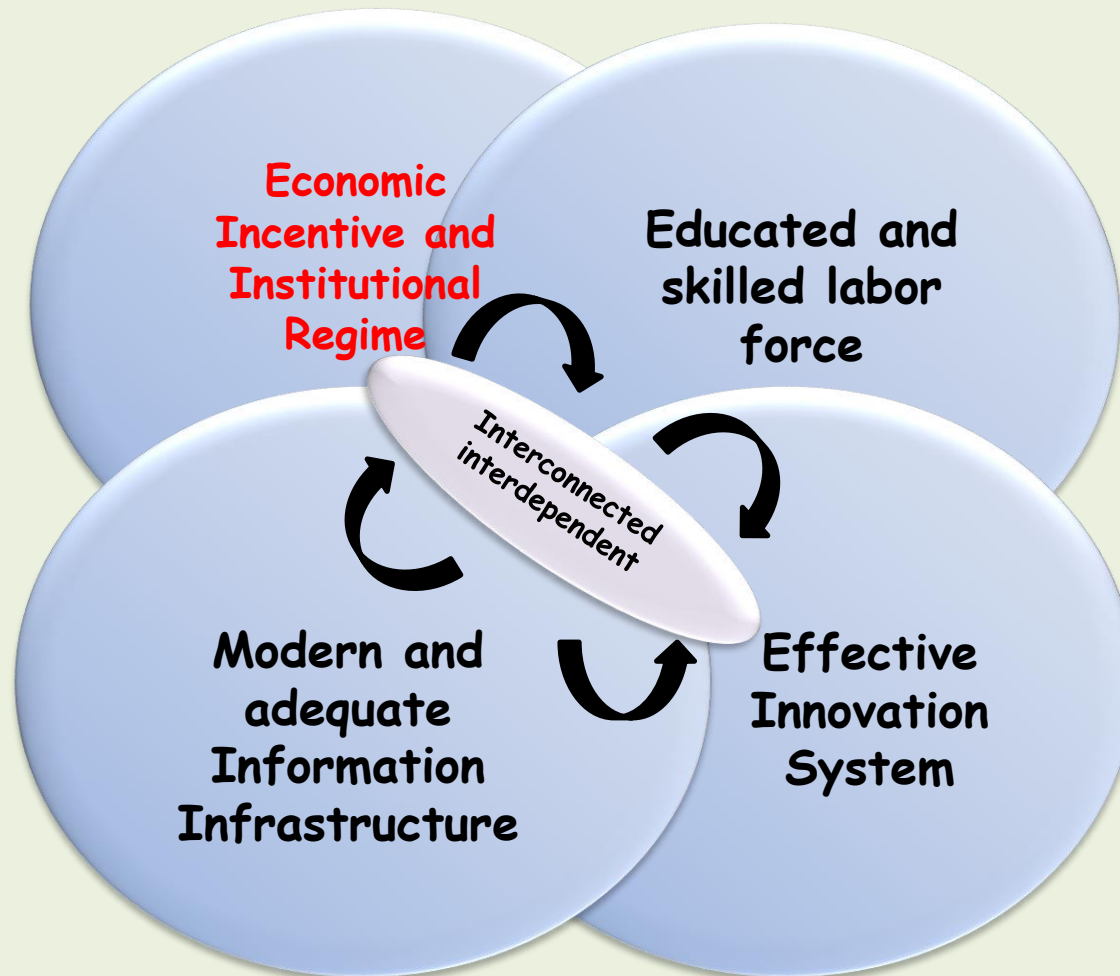
<http://www.theworkfoundation.com/Assets/Docs/I%20Brinkley%20HE,%20FE%20and%20the%20Knowledge%20Economy.pdf>

# Knowledge Economy Characteristics

In practice the intangible capital is made of **intangible assets**, which are non-material and non-physical assets, such as **R&D, patents, trademarks, copyrights, brands, employee skills, discoveries of new products or processes, software programs, new ideas and new processes used in the organization.**

Source: Abramovitz and Davis ( 1996) .Employment and growth in the knowledge-based economy, pp,35-60,Paris,OECD

# Pillars of KBE



## 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.

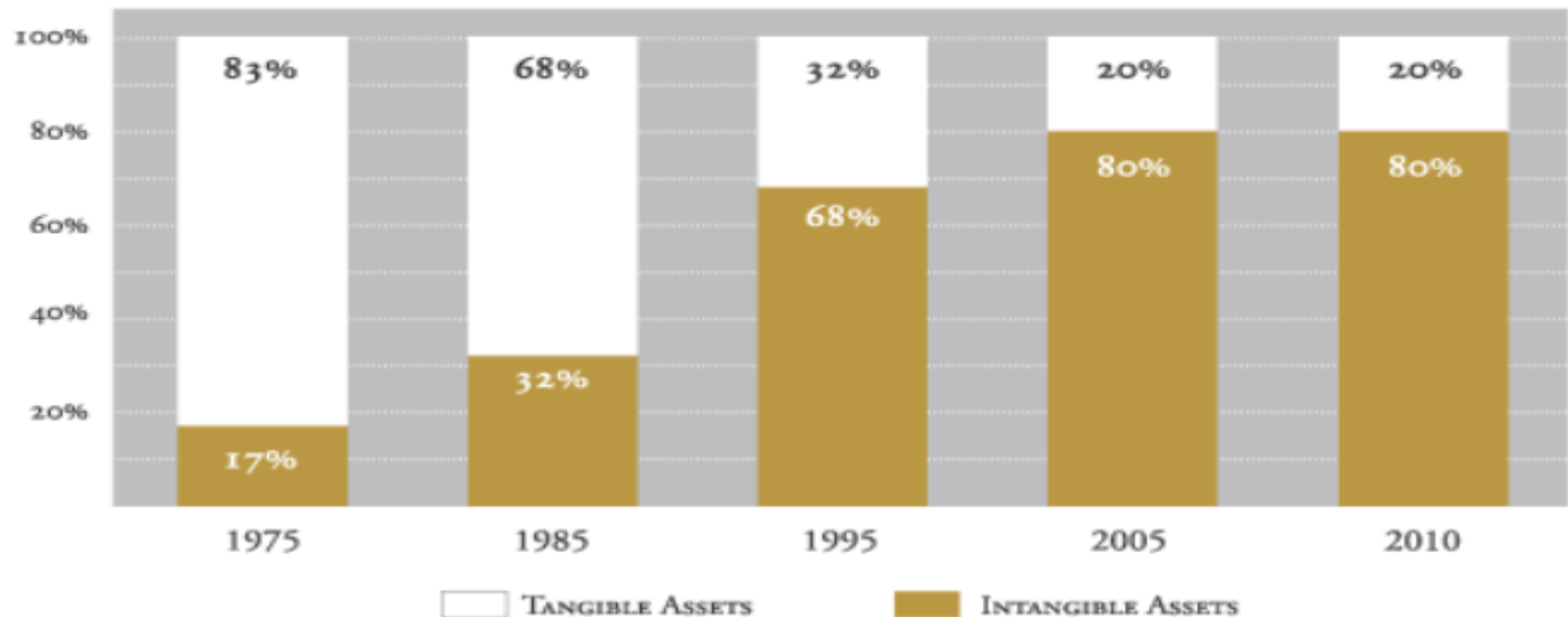
## **2. Intangibles as fundamental factors of wealth creation.**



# INTANGIBLE ASSET MARKET VALUE

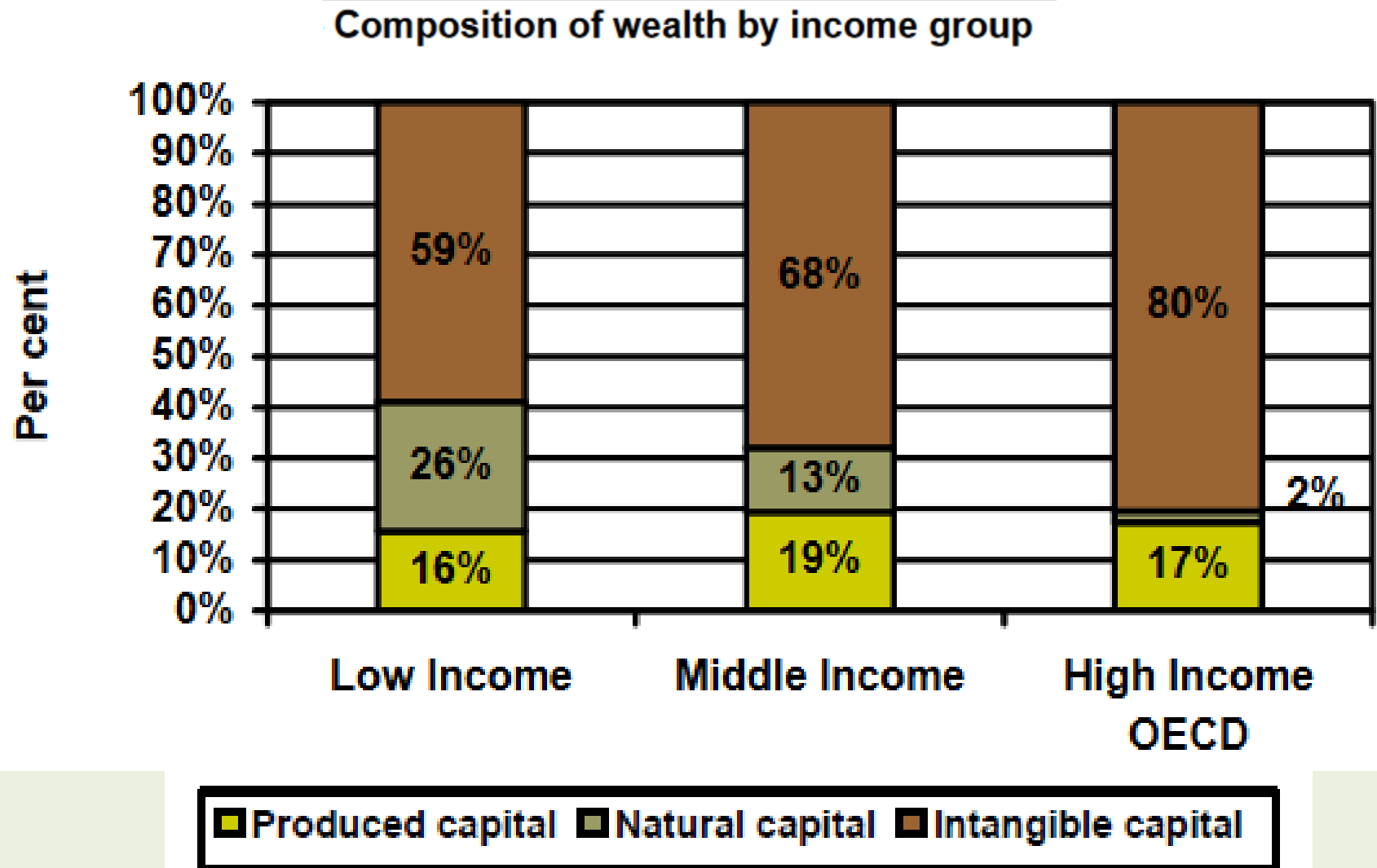
Within the last quarter century, the market value of the S&P 500 companies has deviated greatly from their book value. This "value gap" indicates that physical and financial accountable assets reflected on a company's balance sheet comprises less than 20% of the true value of the average firm. Our further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

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



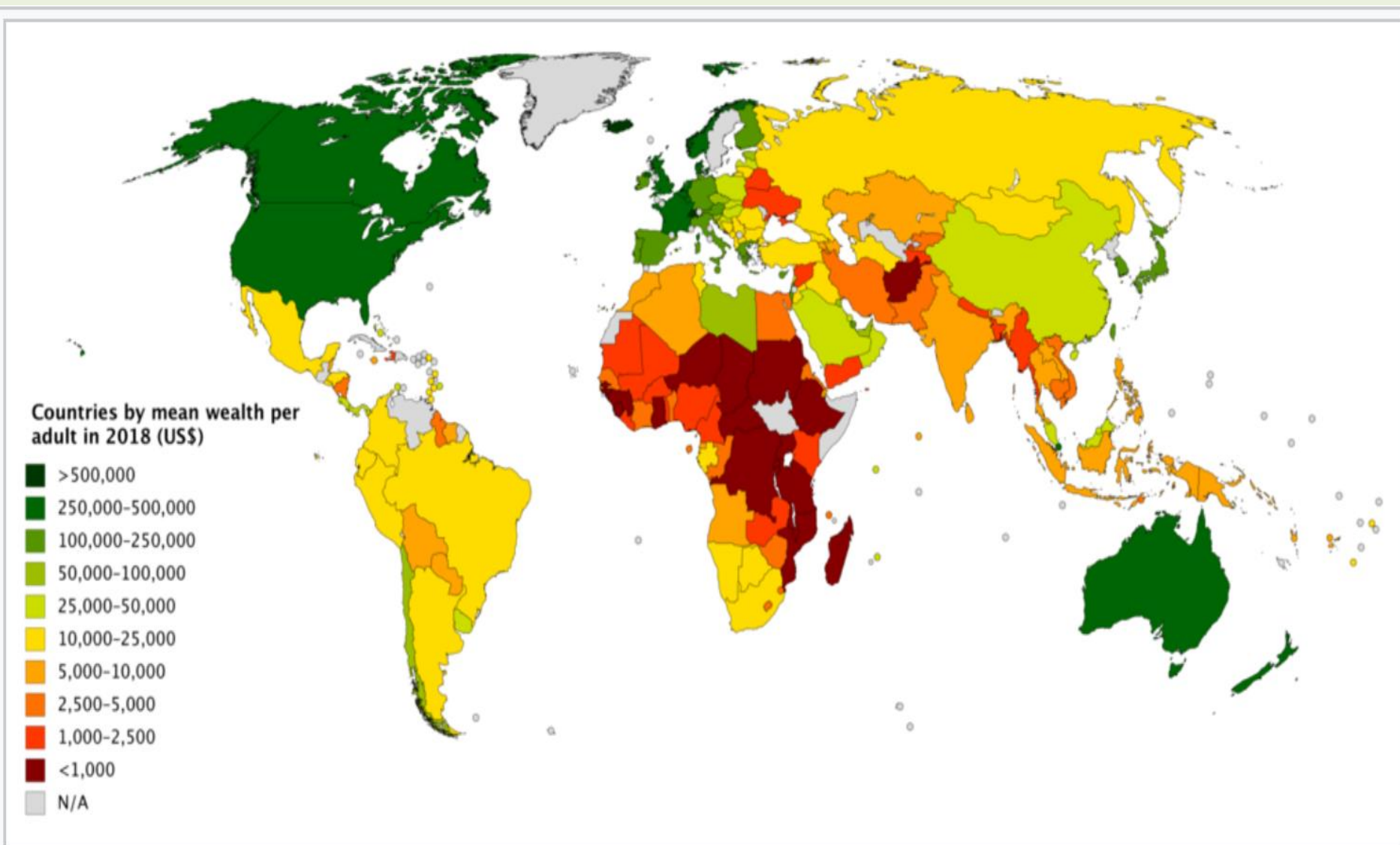
*Source: Ocean Tomo*

# 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



Countries by **mean** wealth per adult in 2018

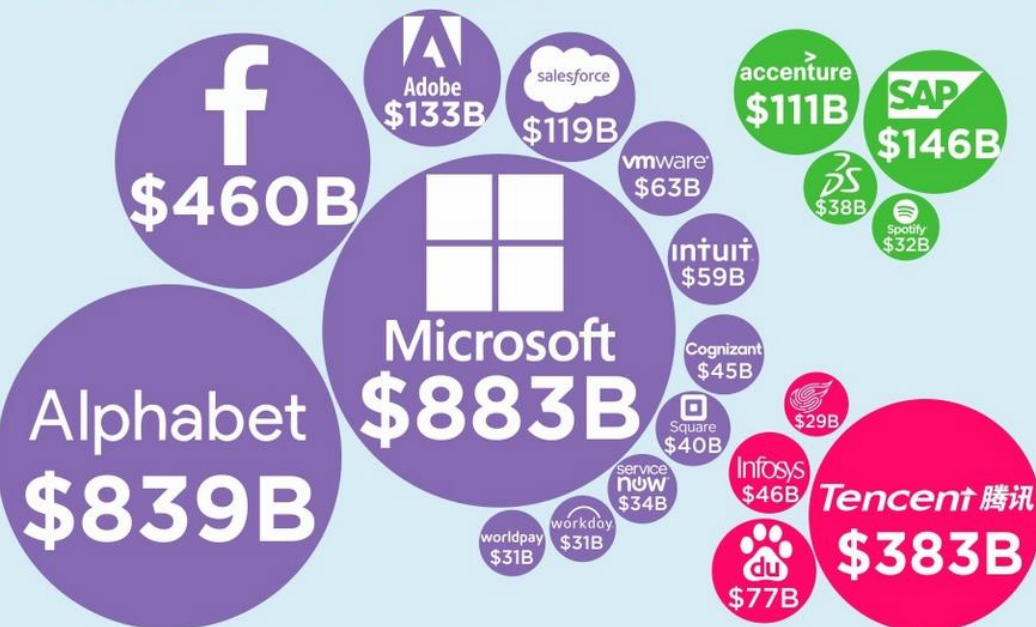
Fuente:

[Credit Suisse S.A.](#) publishes its Global Wealth Report Databook.

# The World's Tech Giants 2018

## Top 50 Companies by Market Cap (in Q3 2018)

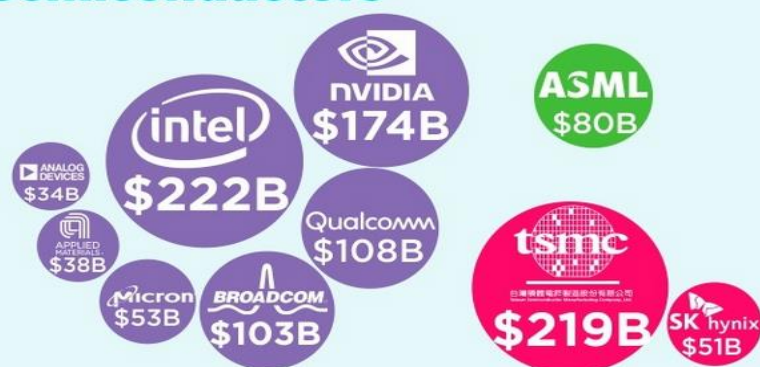
### IT Software & Services



### Technology Hardware & Equipment



### Semiconductors



### Media



### Retailing



### Tech Companies by Region





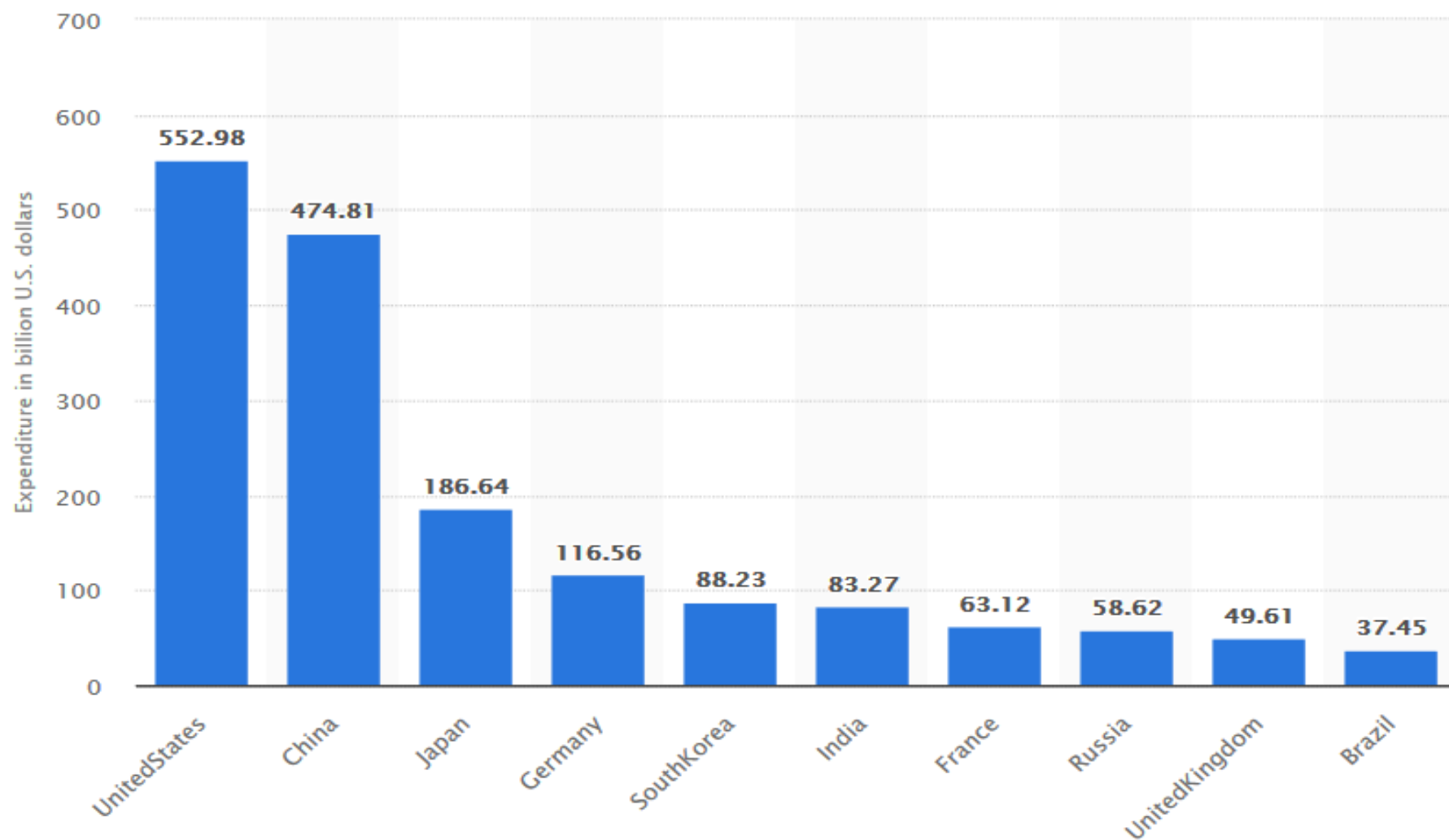
# Top 10 Biggest Digital Companies 2018

1. Apple: Technology Hardware & Equipment (US), \$1,100B
2. Amazon.com: Retailing (US), \$962B
3. Microsoft: IT Software & Services (US), \$883B
4. Alphabet: IT Software & Services (US), \$839B
5. Facebook: IT Software & Services (US), \$460B
6. Alibaba: Retailing (China), \$412B
7. Tencent Holdings: IT Software & Services (China), \$383B
8. Samsung Electronics: Technology Hardware & Equipment (S. Korea), \$297B
9. Cisco Systems: Technology Hardware & Equipment (US), \$224B
10. Intel: Semiconductors (US), \$222B

# The 10 biggest R&D spenders worldwide

1.	Volkswagen AG, Germany.	13,7. billion euros
2.	Alphabet.Inc, US	12,9. billion euros
3.	Microsoft Corp. US	12,4. billion euros
4.	Samsung Electronics Co.Ltd South Korea	12,2. billion euros
5.	Intel Corp. US	12,1. billion euros
6.	Huawei Investment & Holding Co. Ltd. China	10,4. billion euros
7.	Apple. Inc. US	9,5 billion euros
8.	Roche Holding AG. Switzerland ,	9,2 billion euros
9.	Johnson & Johnson .US.	8,6 billion euros
10.	Novartis AG, Switzerland	8,5 billion euros

## Leading countries by gross research and development (R&D) expenditure worldwide in 2018 (in billion U.S. dollars)

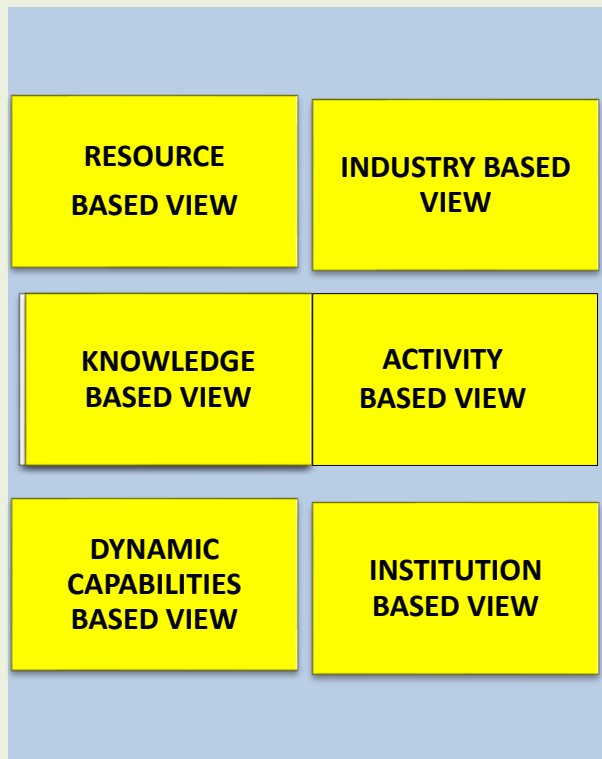


### **3. Wealth Creation in the Knowledge Economy. Theoretical foundations and Practical implications.**



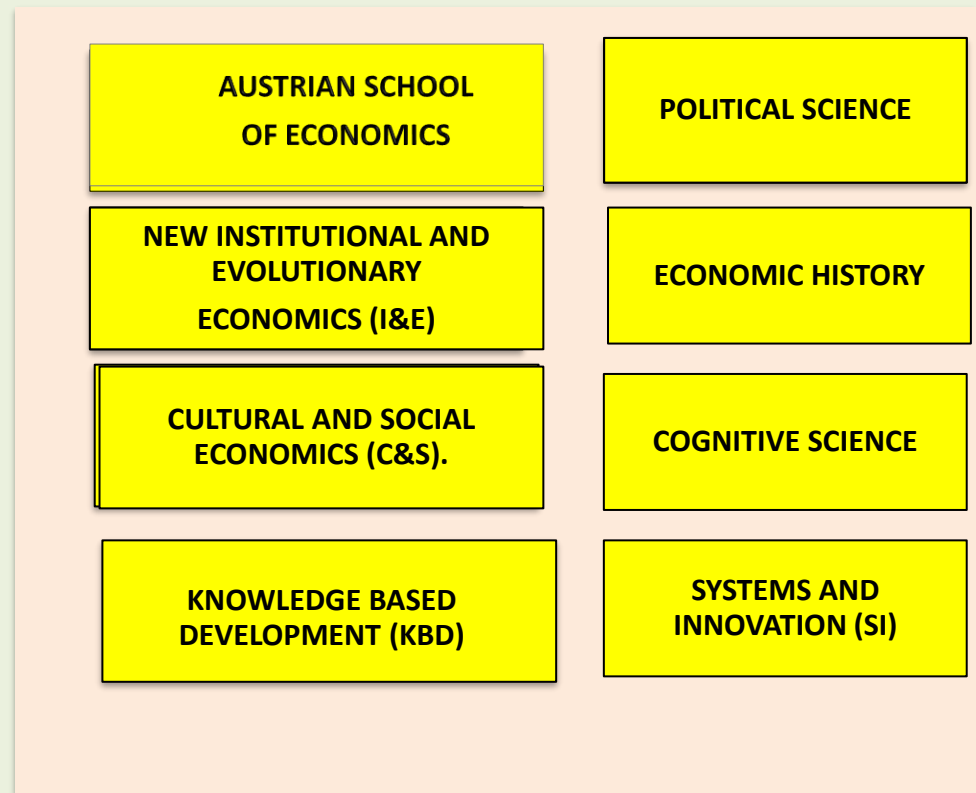
# Wealth creation in the Knowledge Economy: Theoretical Foundations

## Micro Level (Enterprises)

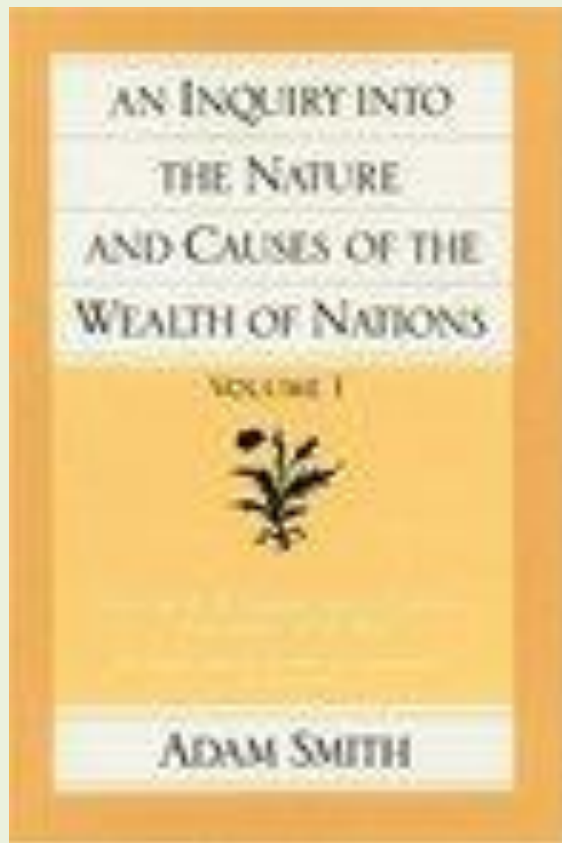


INCAS, ICBS (OICBS, IICBS), SCBS.

## Macro Level (Cities, Regions, Nations)

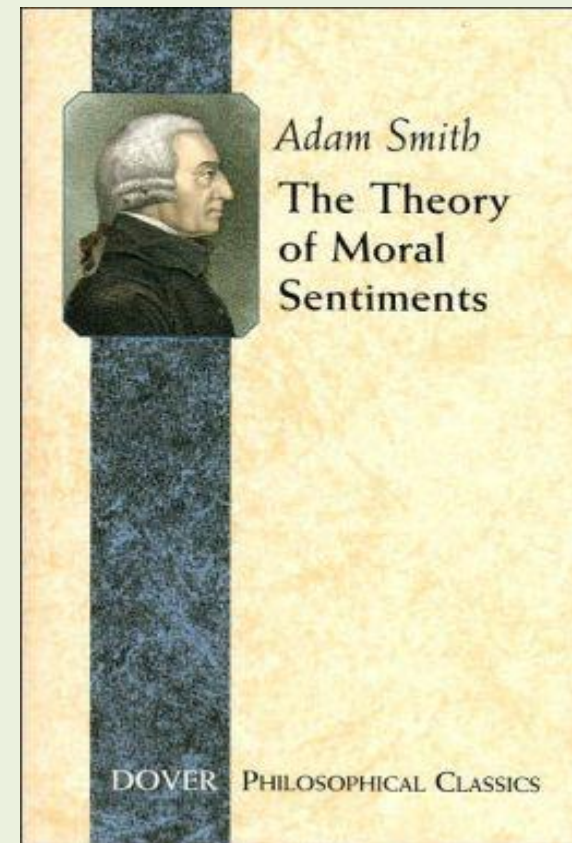


CADIC, CICBS, RICBS, NICBS



*"How selfish soever man may be supposed, there are evidently some principles in his nature, which interest him in the fortune of others, and render their happiness necessary to him, though he derives nothing from it, except the pleasure of seeing it."*

**Adam Smith**

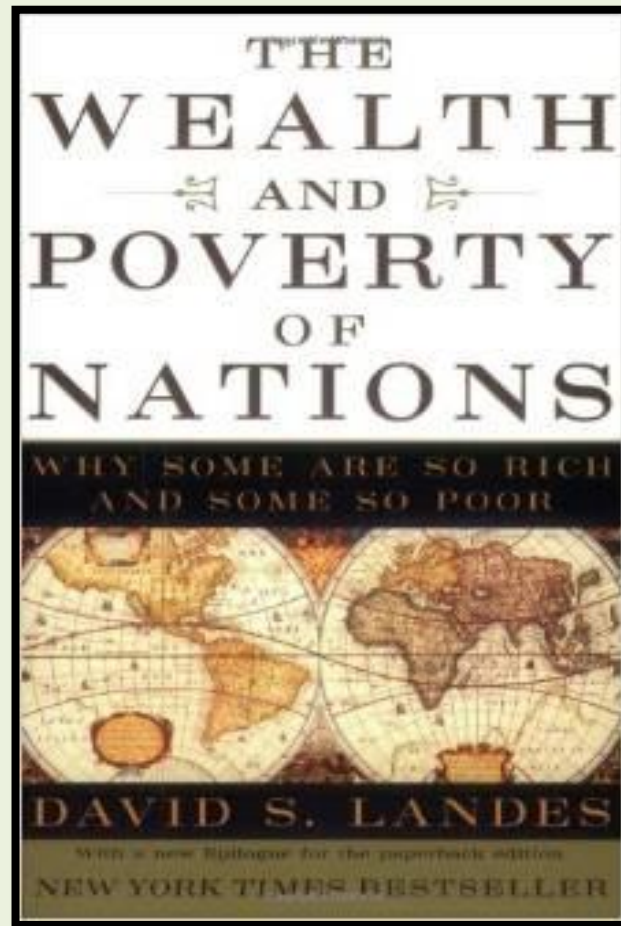


## Adam Smith on the Invisible Hand

- "Every individual...neither intends to promote the public interest, nor knows how much he is promoting it...He intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was not part of his intention. Nor is it always the worse for the society that it has no part of it. By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it."



An <sup>\*\*\*\*\*</sup> An Unexpected Guide to  
Human Nature and Happiness  
Russ Roberts



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](#).

# Strategic goals that ideal society achieves or tries to achieve for wealth creation 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 strategic 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.
8. **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.



NATIONAL BESTSELLER



# TRUST

"FASCINATING... DAZZLING IN ITS INTELLIGENCE AND COMPLEXITY."  
—Farred Farkas, *New York Times Book Review*

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## POLITICAL ORDER and POLITICAL DECAY

From the Industrial Revolution  
to the Globalization of Democracy

"A courageous book by an author at the peak of his analytical and literary powers."  
—Gerard DeGroot, *The Washington Post*

## POLITICAL ORDER AND POLITICAL DECAY

### MAIN POLITICAL INSTITUTIONS

Human beings are social animals by nature. Their sociability take the specific form of altruism toward family and Friends.

Humans beings are also norm-creating and norm-following creatures. They create rules for themselves, that regulate social interactions and make possible the collective action of groups.

Institutions are the background conditions for all political life.

Institutions are "stable, valued, recurring patterns of behavior" that persist beyond the tenure of individual leaders. They are, in essence, persistent rules that shape, limit, and channel human behavior.

The critical sets of political institutions are : the state, the rule of law, and procedures promoting democratic accountability.



## Austrian School of Economics



# Main economic institutions 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.

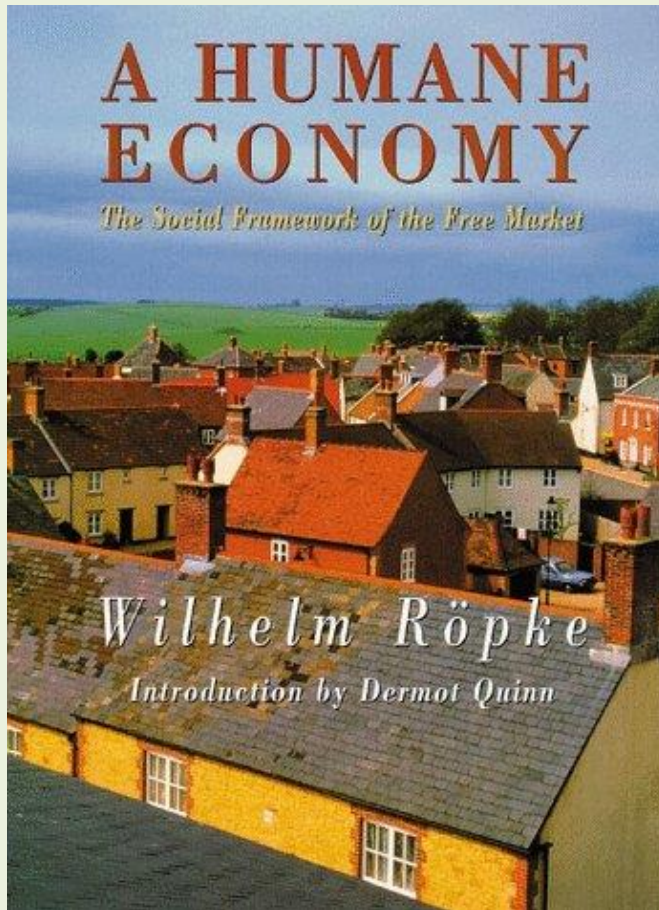
## Private property

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.

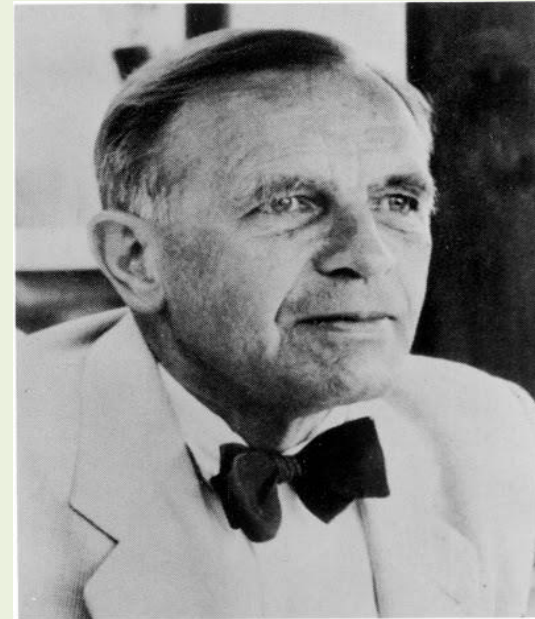
## A price system

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

# German Ordoliberalism



**A Humane Economy:  
The Social Framework of the  
Free Market**

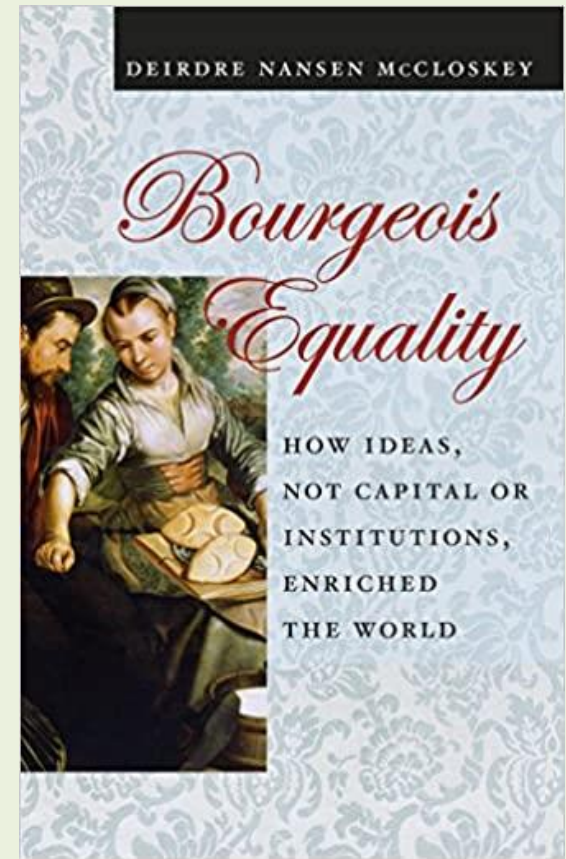
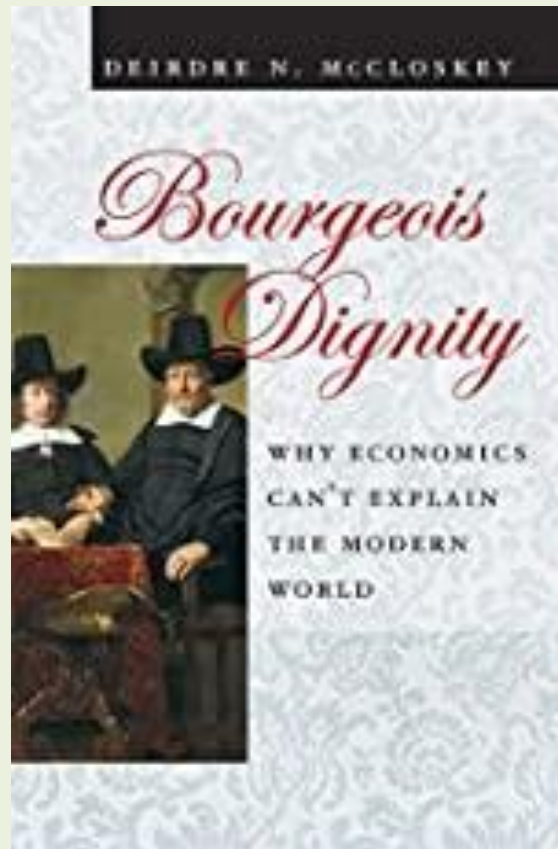
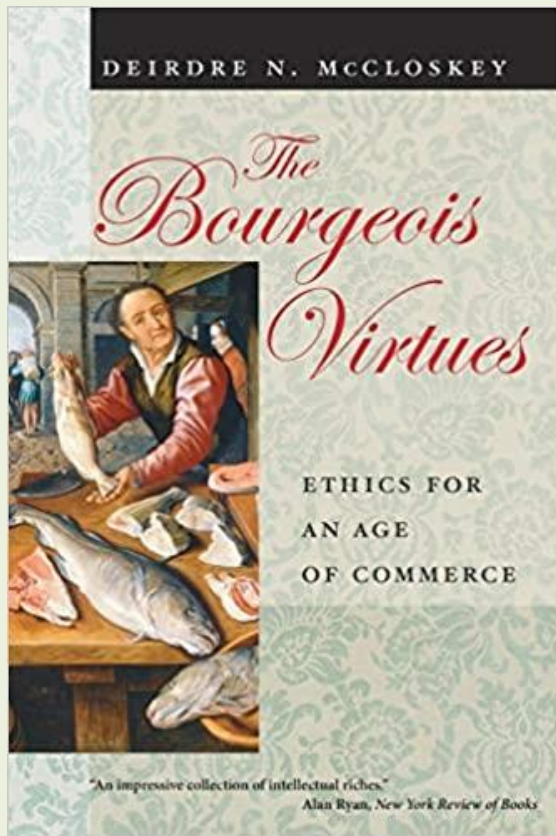


**Wilhelm Röpke**

## **Summary of RÖPKE thoughts**

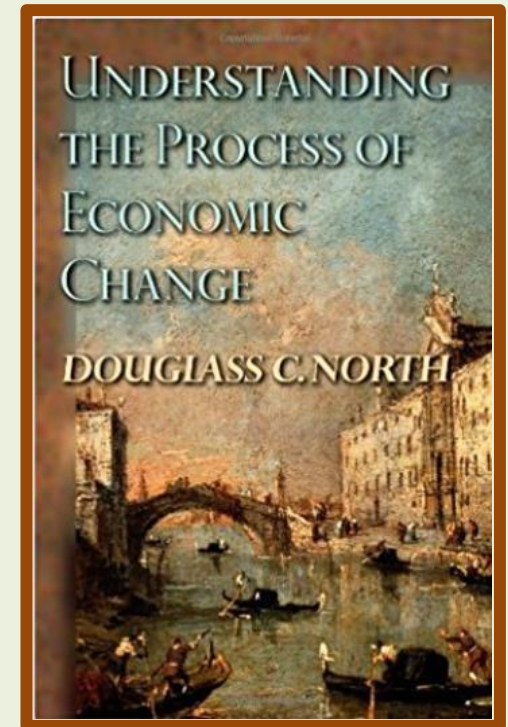
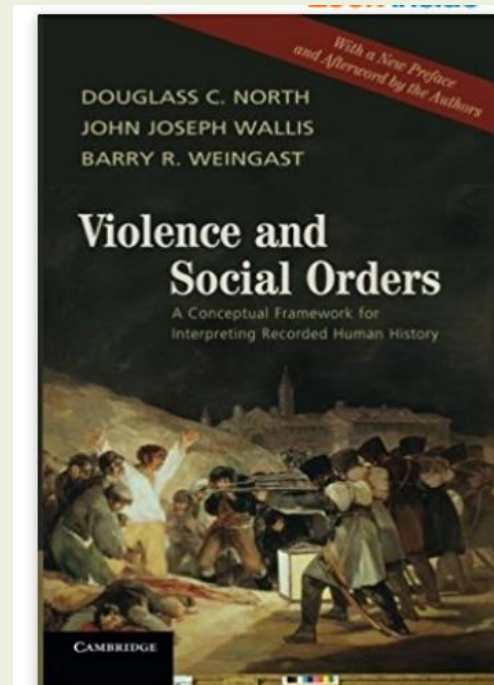
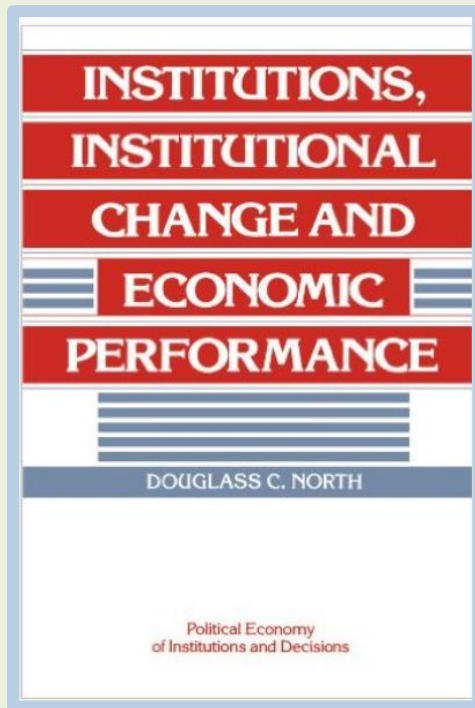
“Conforming” social economic and financial policy, the task of which is to protect the weak “beyond the market” to equalize interest, set rules of the game and limit market power.

Röpke strove for an economic order of “economic humanism” that he also referred to as the “Third Way”.



TRUE LIBERAL VALUES PRODUCE A FREER, MORE  
EQUAL, PROSPEROUS WORLD FOR ALL.





## Douglass C. North

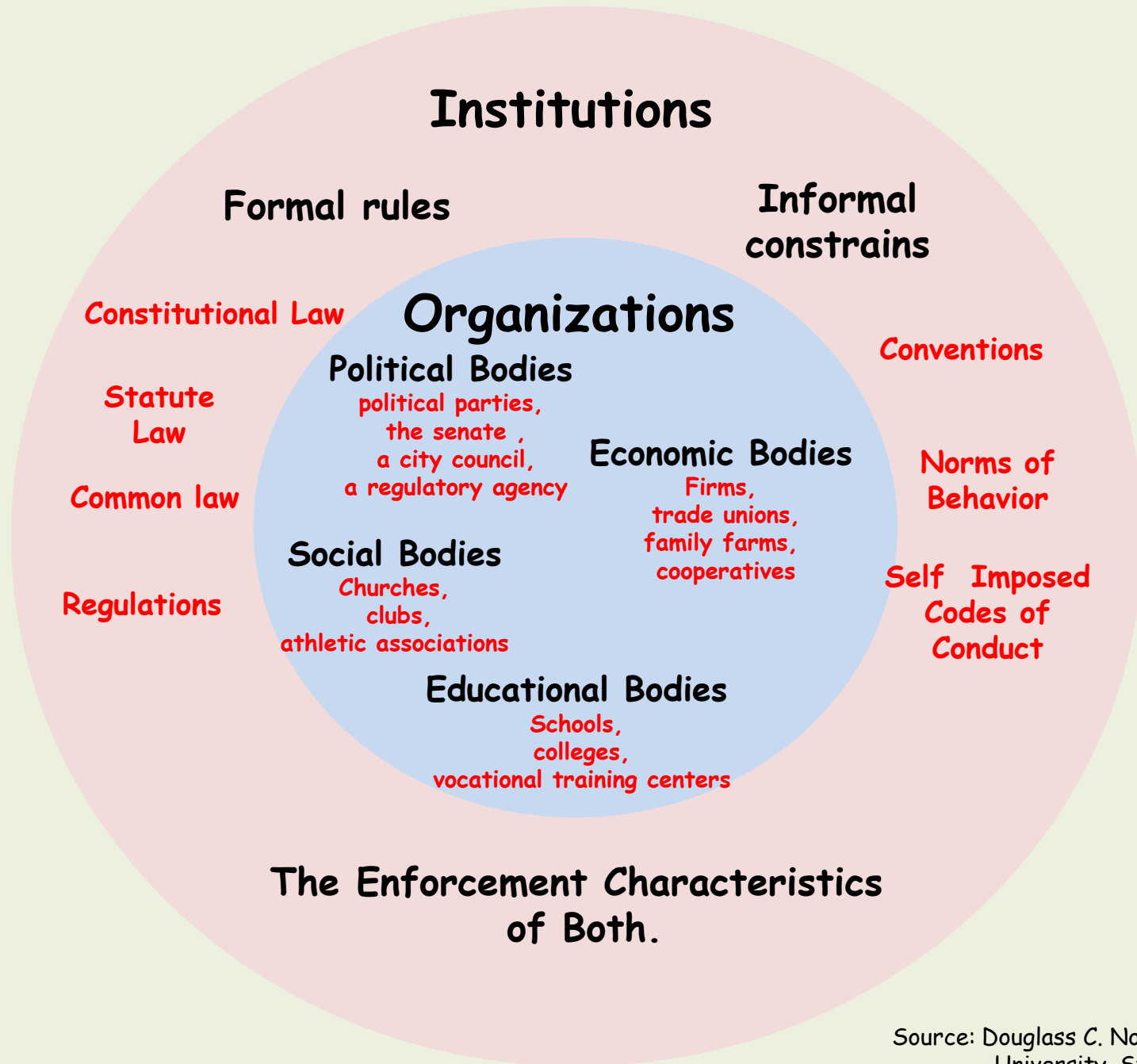
**Institutions create the incentive structure in an economy, and organizations will be created to take advantage of the opportunities provided within a given institutional framework.**

# 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.

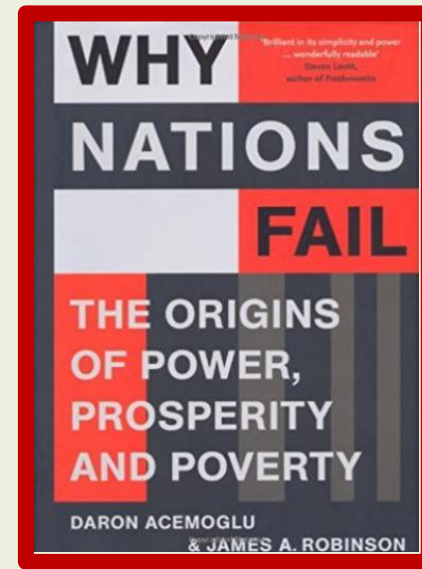
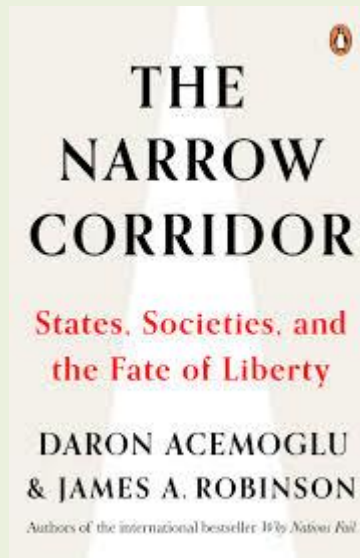
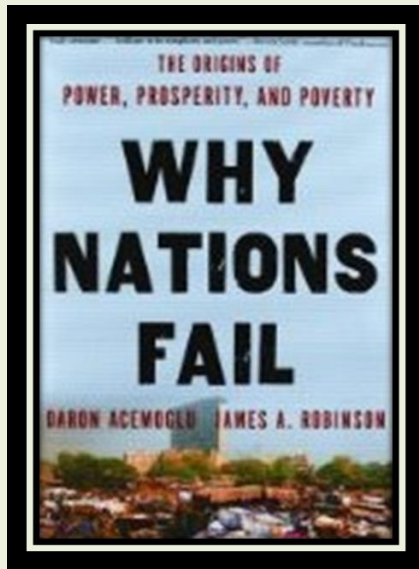
Organizations are the players, groups of individuals bound by a common purpose to achieve objectives

# THE NEW INSTITUTIONAL ECONOMICS



Source: Douglass C. North, Washington University, St. Louis

# Why Nations Fail



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.

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

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

# Inclusive and Extractive Political Institutions

- **Inclusive political institutions** 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.
- **Extractive political institutions**, 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.



# Inclusive and Extractive Economic Institutions

- **Extractive economic institutions:** Lack of law and order. Insecure property rights; entry barriers and regulations preventing functioning of markets and creating a nonlevel playing field. Often designed by and for the benefit of the "elite."
- **Inclusive economic institutions:** Secure property rights, law and order, markets and state support (public services and regulation) for markets; open to relatively free entry of new businesses; uphold contracts; access to education and opportunity for the great majority of citizens.

# Wealth Creation in the Knowledge Economy

## Macro dimension

Heritage  
Foundation  
Index of  
economic  
freedom.

**Free  
Market  
economy**

**Knowledge  
based  
economy**

KEI  
K4D  
ISB  
Global  
Innovation  
index (GII)

**Liberal  
democratic  
political  
systems**

Freedom House  
Global democracy ranking  
Democracy index

**Entrepreneurial  
and Business  
Excellence**

Global  
entrepreneurship and  
development index.  
GEINDEX

**Culture of Wealth  
Creation, Beliefs  
Values, Preferences**

WEF  
Institutions  
GCI  
  
World Justice  
Project  
Rule of Law  
Index

**High quality  
people**

WEF  
The human capital report

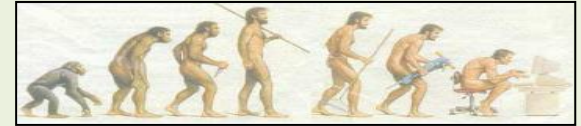
## Micro dimension

# Theoretical principles of wealth creation

1. Wealth creation in a particular country is mainly dependant on the historical heritage and future evolution of:
  - a) The quantity and quality of human beings and their beliefs system.
  - b) The stock of human knowledge particularly applied to the production of cutting edge, scientific and technological products and services that successfully compete in the global markets for satisfying present or emerging human needs or solving new problems.
  - c) The institutional framework that defines the deliberate incentive structure of a society.
  - d) The set of shared beliefs, values and preferences that make up the culture of a society.
2. A free market economy with inclusive political and economic institutions is the sine qua non condition for sustainable economic and social development. Inclusive institutions facilitate the creation of virtuous circles of innovation, economic expansion and more widely-held wealth.
3. Wealth or poverty of a specific nation is strongly dependant on the number of competitive or excellent companies that the specific nation has. Excellent companies are usually created by entrepreneurs, the most important figure in any economy.
4. Government (Political entrepreneurs) does not create wealth directly but contributes to wealth creation when succeeds putting into practice a free market economy and inclusive democratic political, economical and social institutions (liberty, order and the rule of law).
5. An excellent or competitive company is the one that achieves long term extraordinary profits due to the fact that has a business model with sustainable competitive advantages.
6. In the knowledge economy sustainable competitive advantages are mainly based on intangibles. Consequently strategic management of intangibles or intellectual capital becomes a fundamental task.

# Wealth creation in the KE

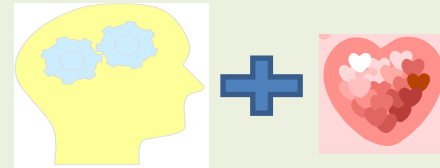
People



Knowledge



Intangibles



Competitive Enterprises

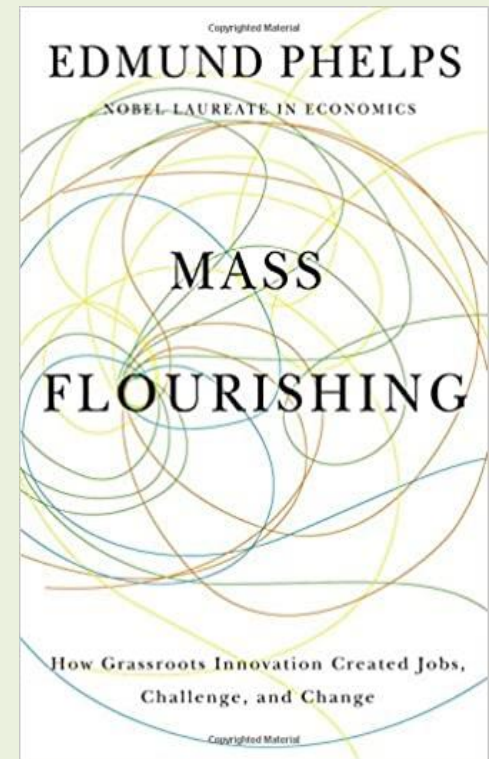
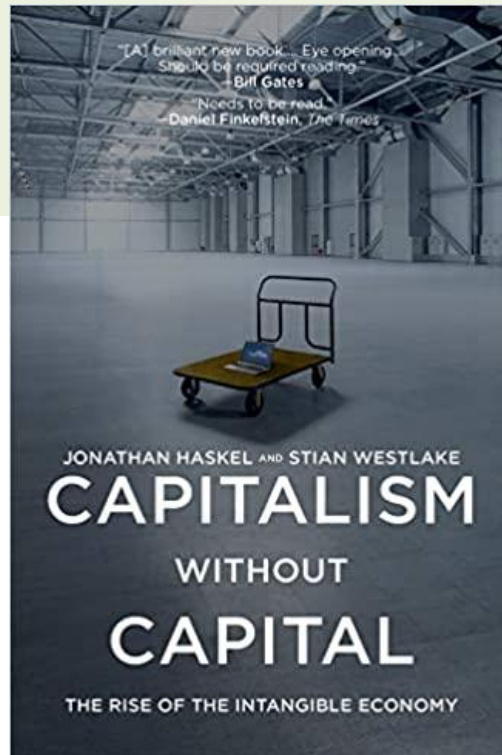
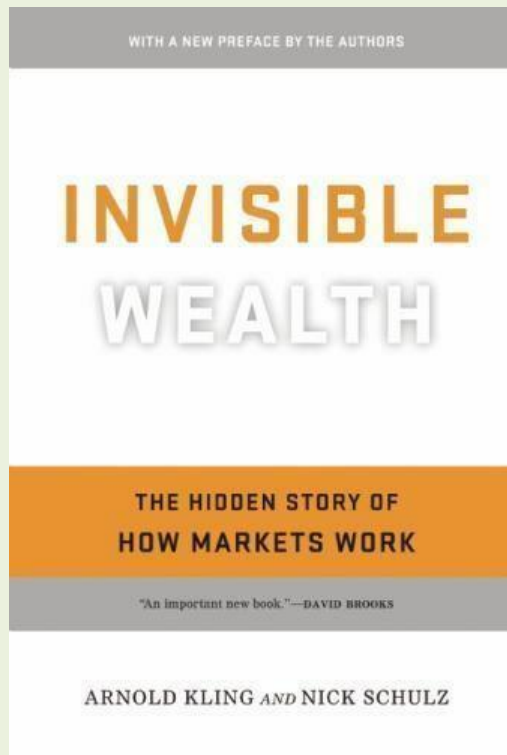


Innovative Enterprises



Suitable Environment





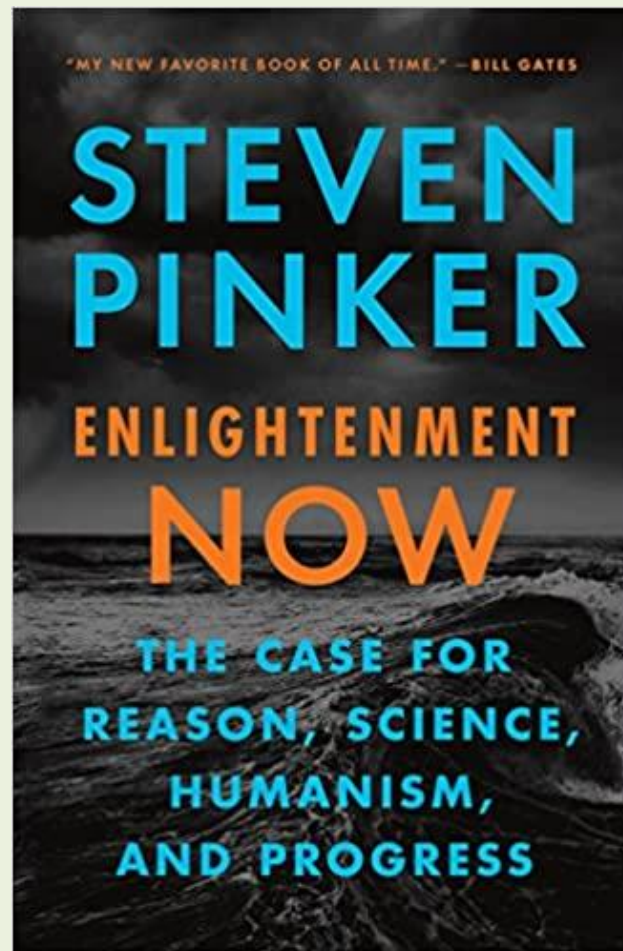
## ECONOMICS 2.0

Economics 2.0 is about abundance, which arises from the software layer that has two components: “recipes” and “operating system”.

**“Recipes”** refer to innovation, ideas, know-how, science, and technology.

**“The operating system”** refers to customs, rules, norms, laws, regulations, and methods of intermediation.

# INTANGIBLES THAT MATTER FOR WEALTH, PROSPERITY AND HUMAN FLOURISHING





# STEVEN PINKER CITATIONS

**Applying knowledge and sympathy to enhance human flourishing is heroic, glorious, spiritual!**

**Secular liberal democracies are the happiest and healthiest places on earth.**

**Life is better than death.**

**Health is better than sickness.**

**Abundance is better than war.**

**Freedom is better than coercion.**

**Happiness is better than suffering.**

**Knowledge is better than superstition and ignorance.**



<b>Not just a myth</b>	<b>True (to the best of our knowledge)</b>
<b>Not just one tribe</b>	<b>All the humanity. -</b>



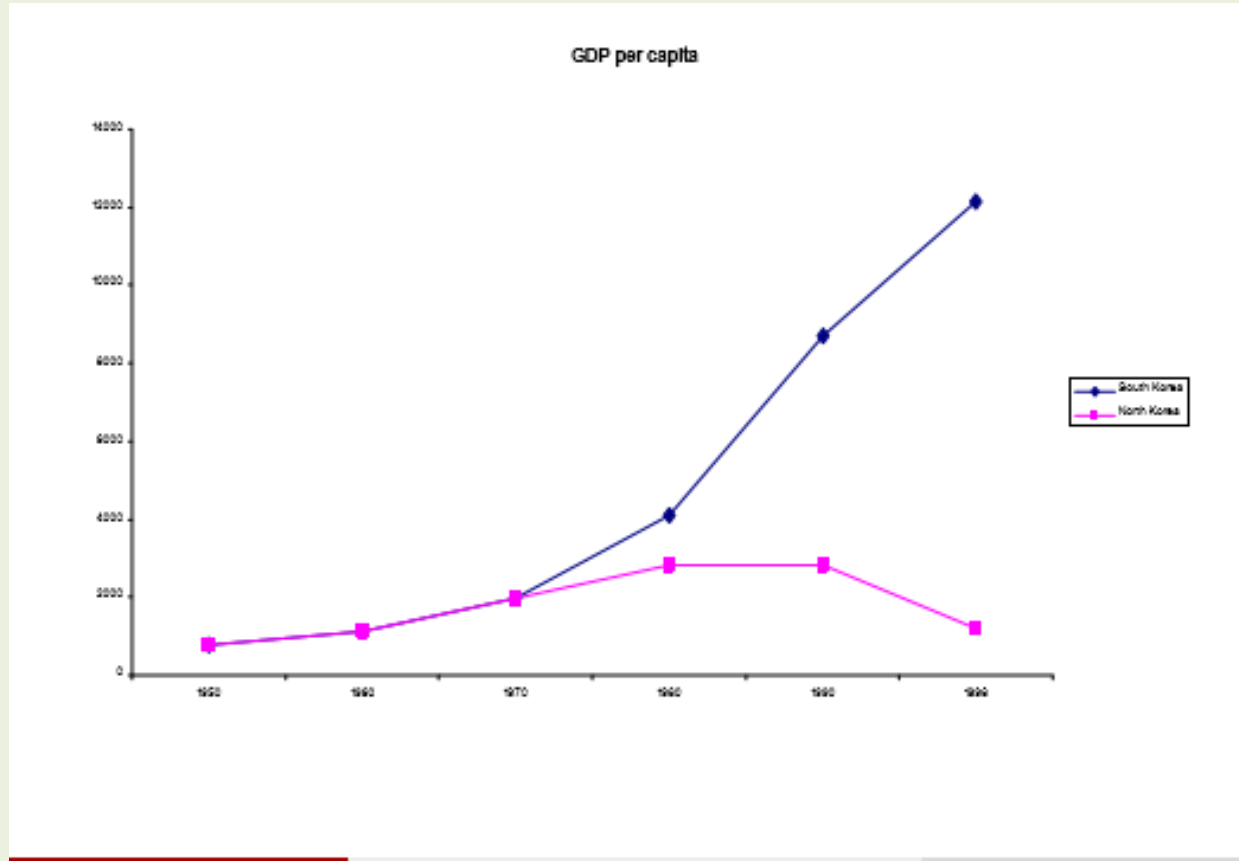
# **Practical Implications**

# North versus South Korea

- Korea: economically, culturally and ethnically homogeneous at the end of WWII.
- If anything, the North more industrialized.
- Exogenous separation of North and South, with radically different political and economic institutions.
- Exogenous in the sense that institutional outcomes not related to the economic, cultural or geographic conditions in North and South.
- Approximating an experiment where similar subjects are treated differently.
- Big differences in economic and political institutions.
- Communism (planned economy) in the North.
- Capitalism, albeit with government intervention and early on without democracy, in the South.
- Huge differences.

# North versus South Korea

The divergence within a few decades.



Source: Daron Acemoglu (MIT) Democracy, Institutions

**The  
Economist**

Who should run Europe?

Alibaba and the trade war

Time to retool the Fed

Technology Quarterly: Aviation

JUNE 11<sup>TH</sup> - 17<sup>TH</sup> 2019

# Next to blow: Britain's constitution







España esta estancada desde principios de la década de los noventa. El estancamiento se debe a que desde entonces el marco institucional no ha mejorado por la manera de ejercer el poder



Capítulo 3  
La Administración Pública: déficits de eficacia y transparencia

Capítulo 4  
La Administración Pública: politización y resistencia al cambio



## **4. Conclusions.**

# 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 has been enriched with recent important contributions from Economic History, Knowledge-Based Development, Political Science, Austrian School of Economics, and New Institutional Economics. Unfinished work.

3-Intangible assets are the main determinants of wealth creation, and among them Knowledge excels. Wealth actually is accumulated knowledge.

Other fundamental intangible assets are Institutions. There are two sets of institutions. The first set refers to specific KBD institutions. The second set refers to general purpose political and economic institutions. Both kind of institutions are sine qua non conditions for sustainable wealth creation in the knowledge economy context.

4-Finally strategic management of intangibles at the macro level is considered the best way to improve wealth creation potential of nations, but unfortunately it is in the hands of politicians and political entrepreneurs..