Competitiveness:
What Can the World Learn from Denmark

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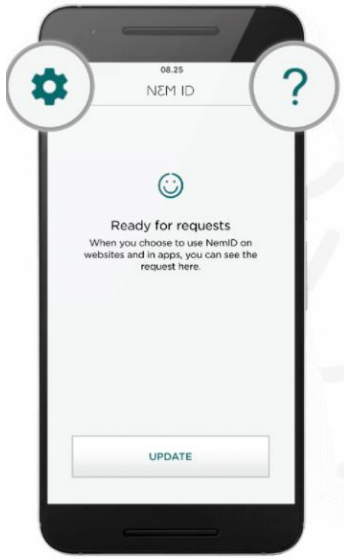
Director of IMD World Competitiveness Center


DIGITAL DENMARK
The most digital country in Europe
Curious about how we got there? 20+ years of innovation and progress in both the private and public sector. Let us tell you the story, show the cases and inspire you on your digital journey. It is yours for the taking.

Denmark vs. Switzerland

Denmark



DIGITAL ID (NEMID)

- In 2010, NemID (Easy ID) took over for the Digital Signature and was a product developed by the same companies who owned Digital Signatures (two private companies). NemID is a common secure login on the Internet, whether you are doing your online banking, finding out information from the public authorities or engaging with one of the businesses that use NemID.

- NemID is the same login everywhere. Whether you're doing your online banking or you need to view your tax file, the way you log in will be exactly the same.

- NemID consists of a user ID, a password and a code card containing codes (one-time passwords). When you log on, you first enter your user ID and password and then code from your code card.

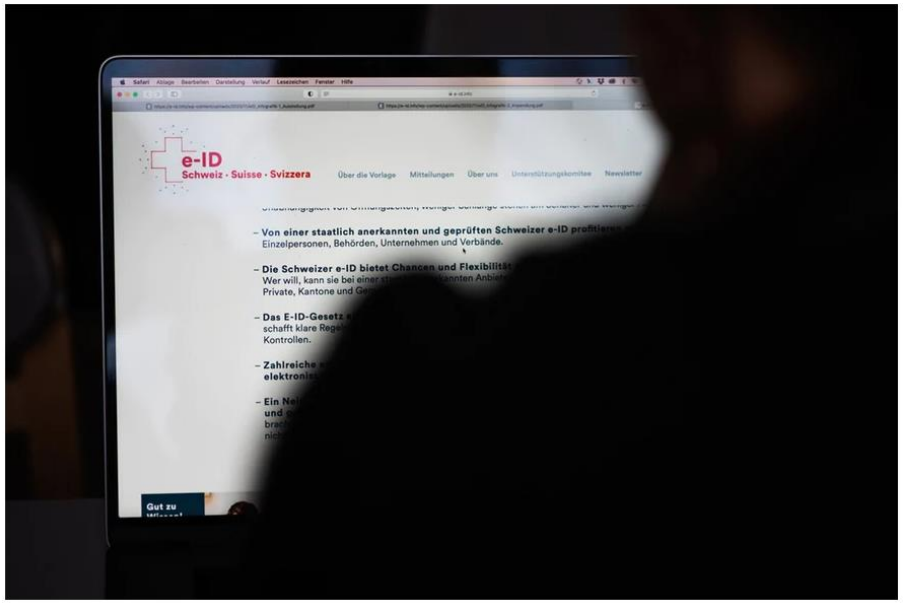
NemID took over for Digital Signature and is mandatory for all people and businesses in Denmark.

Switzerland

SWI swissinfo.ch — Swiss perspectives in 10 languages

Swiss Politics

Digital identity scheme shot down by voters over data privacy concerns



The Foundations of Digital Nations

- Digital Identity
- Data Security
- Data Governance and Digital Regulation
- Digital Infrastructure
- Digital Culture/Attitudes

Digital Culture/Attitudes

Article ▪ Digital Payments

Top SIX Digital Payments Countries About to go Cashless

By Joanna England

May 24, 2022 • 4 mins

With digital transformation, the transaction landscape is leaving the concept of cash behind. We list the top five countries going cashless

SHARE

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Fintech is re-calibrating: here's what founders need to know

Venture Capital

The Narrow Corridor

Liberal-democratic states exist in between the alternatives of lawlessness and authoritarianism.

The state is needed to protect people from domination at the hands of others in society, but the state can also become an instrument of violence and repression.

When social groups contest state power and harness it to help ordinary citizens, liberty expands.

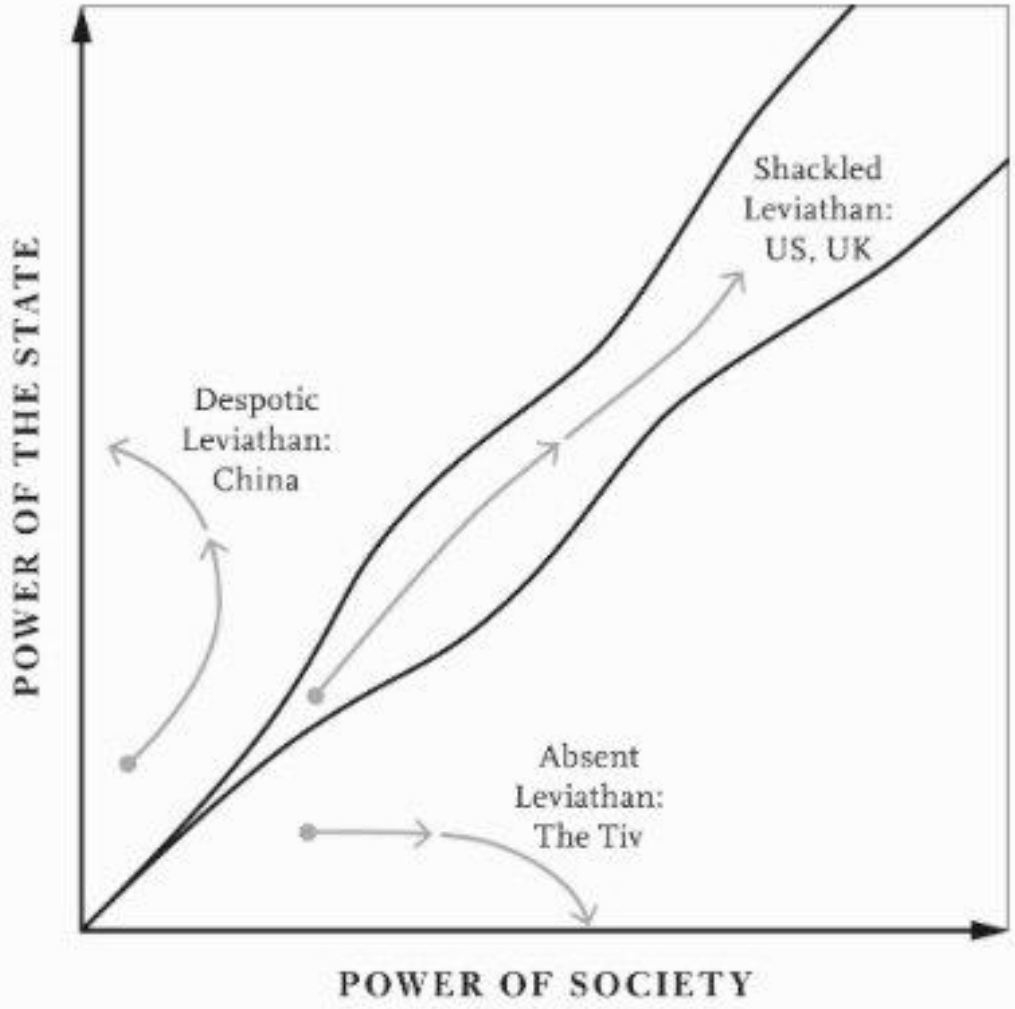
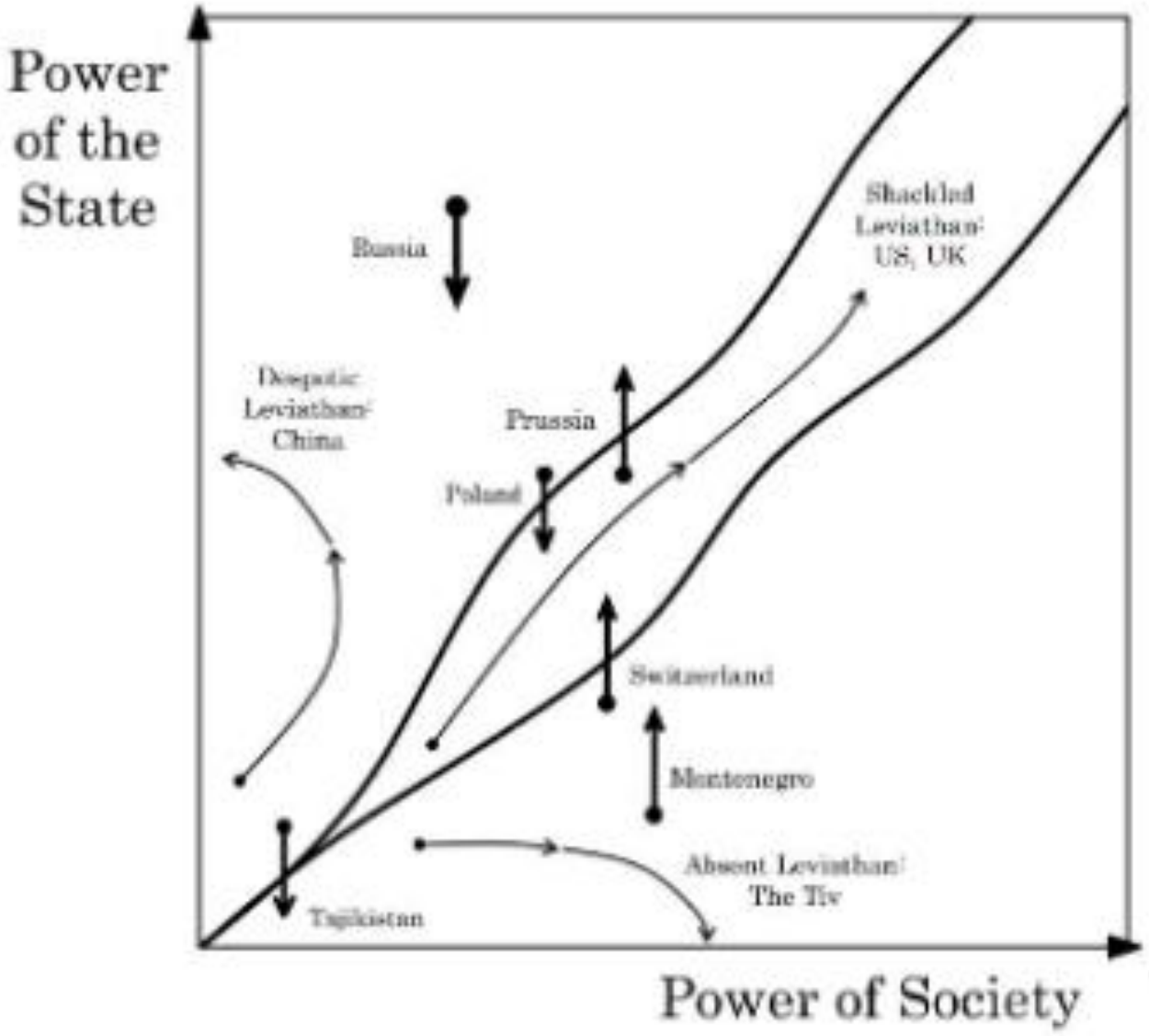


Figure 1. The Evolution of Despotic, Shackled, and Absent Leviathans

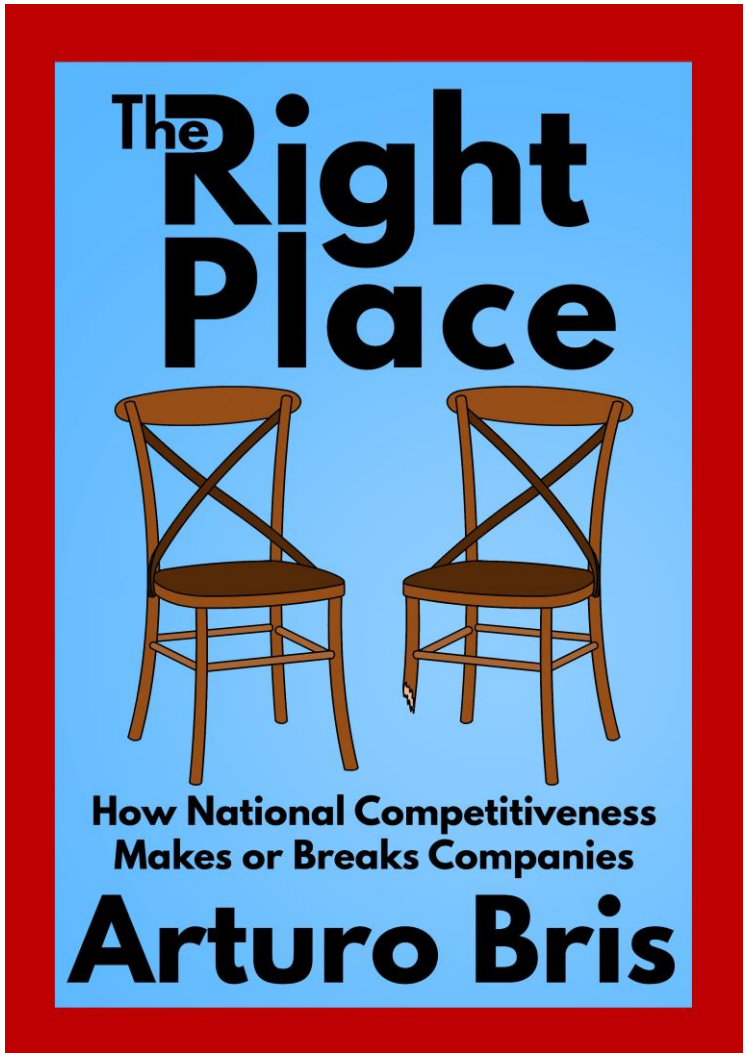
Daron Acemoglu and James A Robinson (2019), "The narrow corridor : states, societies, and the fate of liberty," New York : Penguin Press, 576 pp.

The Narrow Corridor

"The conflict between state and society, where the state is represented by elite institutions and leaders, creates a narrow corridor in which liberty flourishes,"

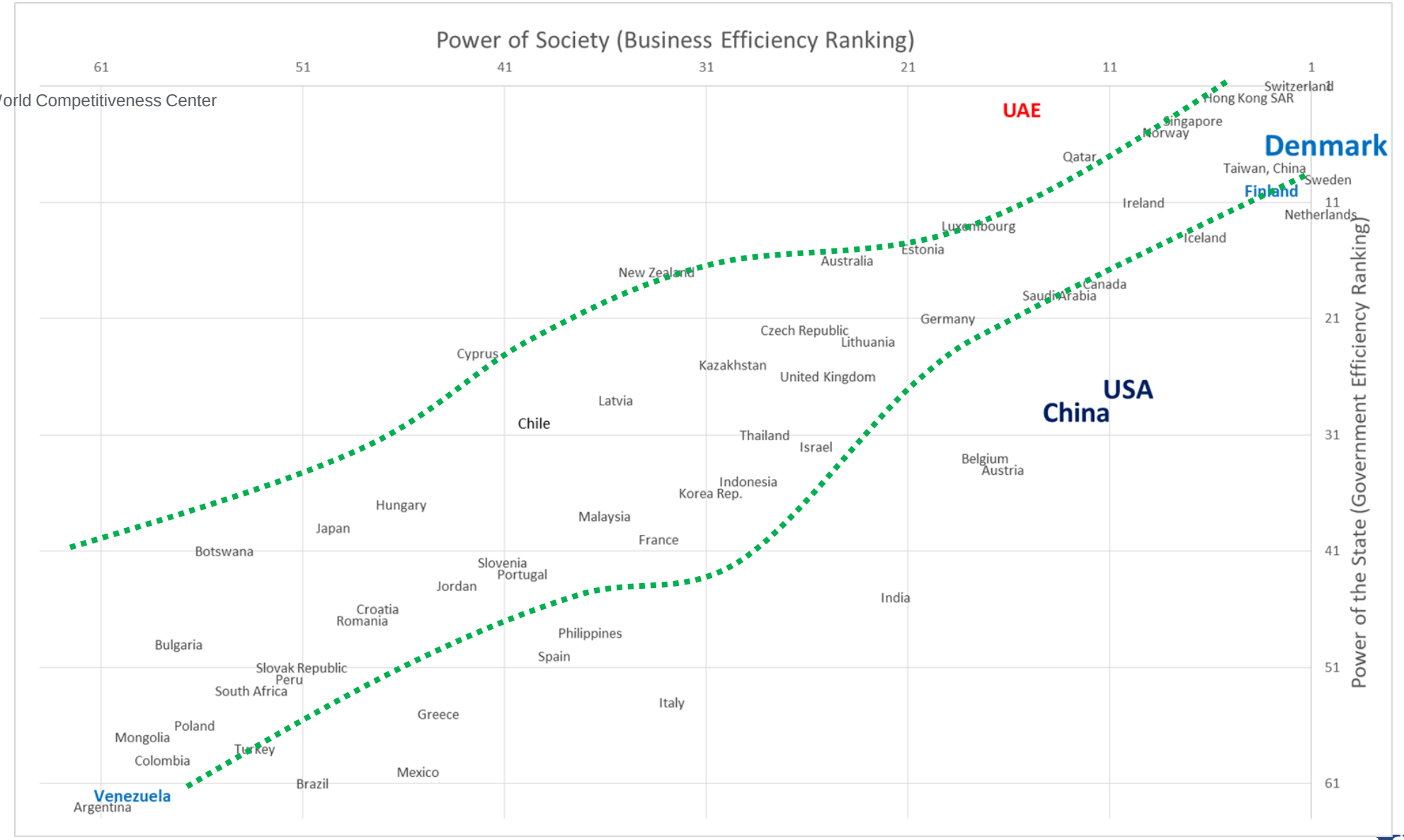


Warren Buffett: “I was born in the right place, at the right time”

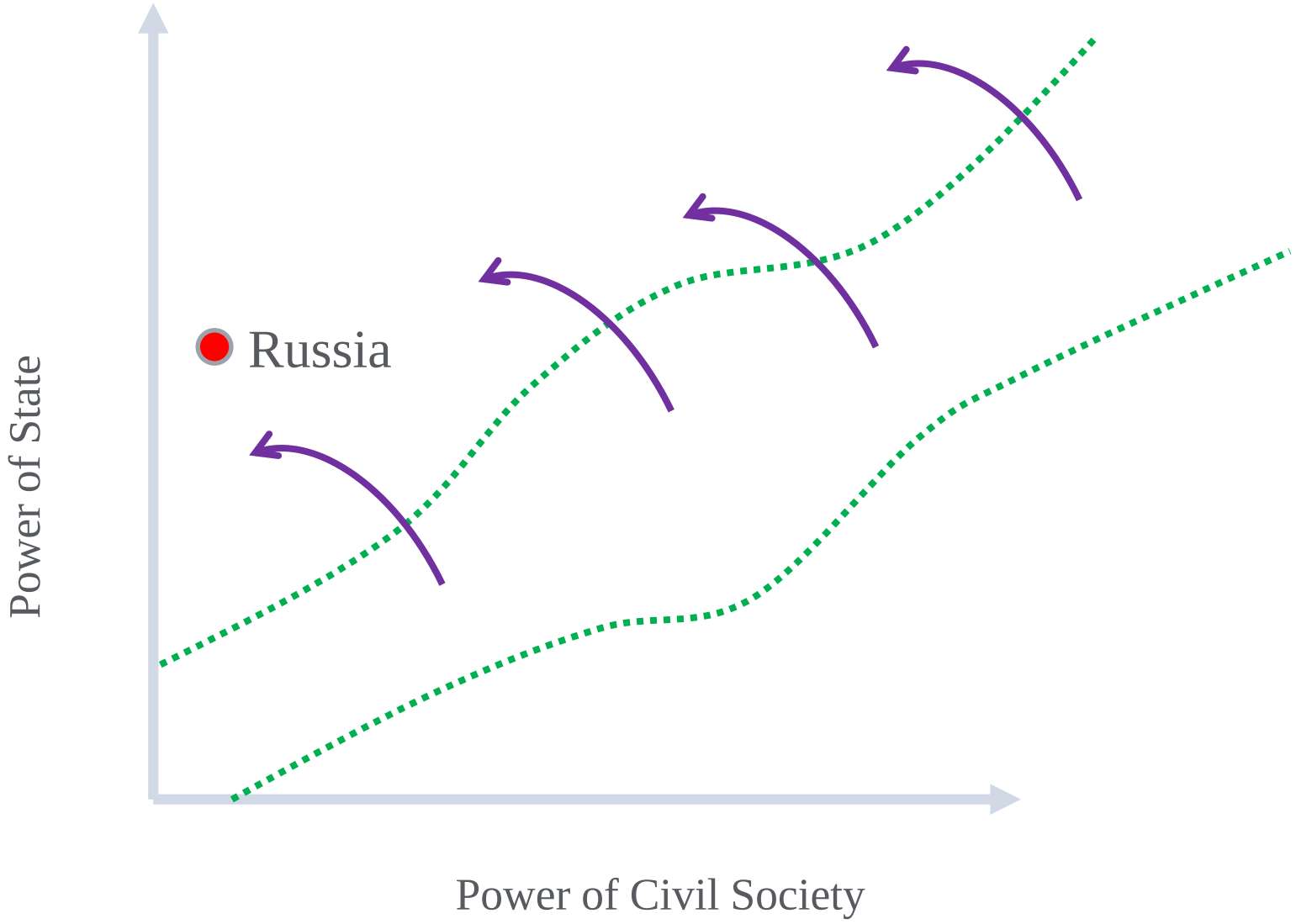


The Narrow Corridor of Competitiveness

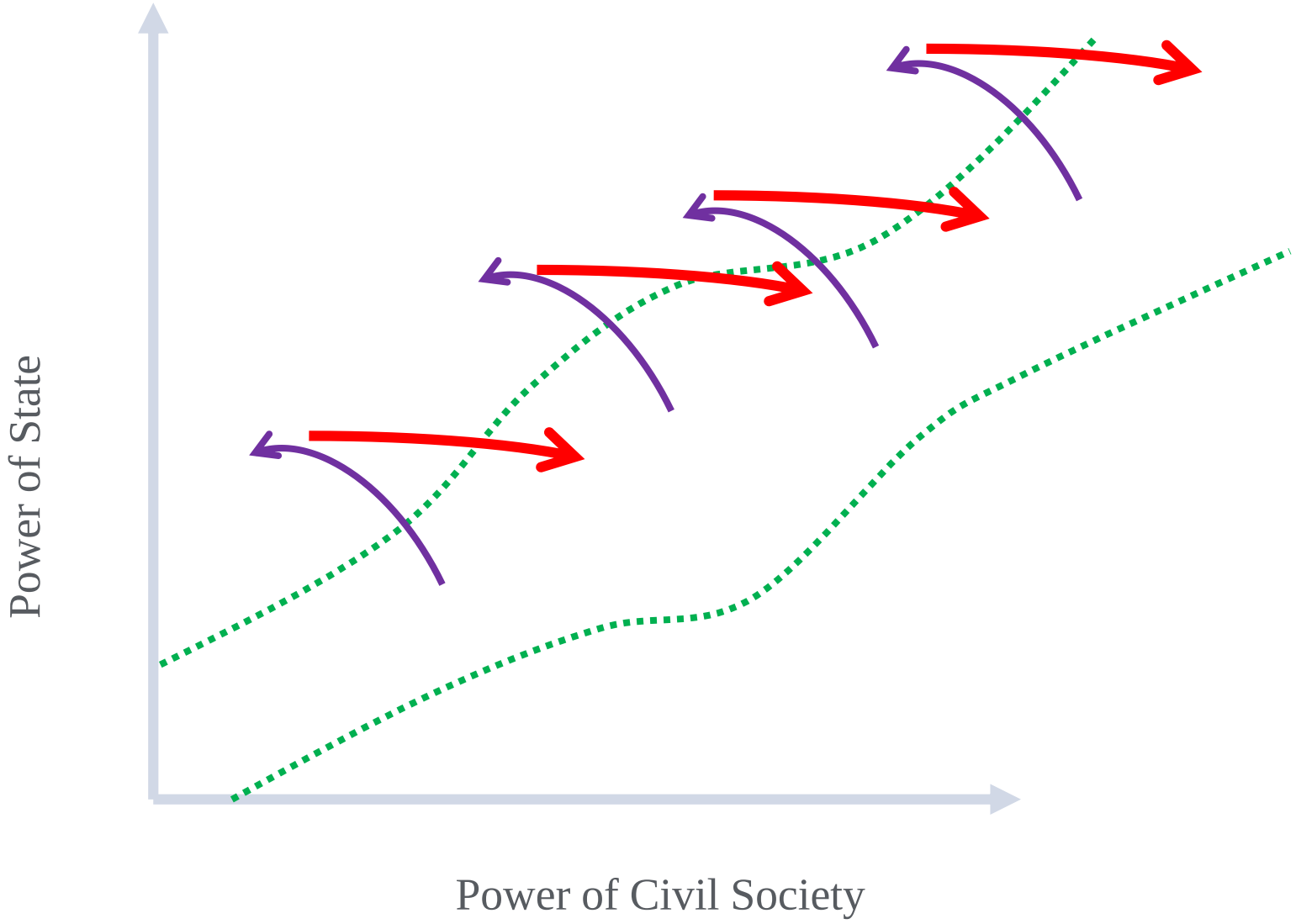
Source: IMD World Competitiveness Center



Liberties (and Competitiveness) in 2022



The Role of Corporate Leaders



IMD World Competitiveness Ranking
Overview

63 ECONOMIES COMPARED

4 FACTORS

20 SUB-FACTORS

255 RANKED CRITERIA

IMD World Competitiveness Ranking

Assesses the extent to which an economy fosters an environment in which enterprises can generate sustainable value creation

1. Denmark
2. Switzerland
3. Singapore
4. Sweden
5. Hong Kong SAR

Economic Performance	Government Efficiency	Business Efficiency	Infrastructure
Macro-economic evaluation of the domestic economy, employment trends and prices	Extent to which government policies are conducive to competitiveness	Extent to which the national environment encourages enterprises to perform in an innovative, profitable and responsible manner	Extent to which basic, technological, scientific and human resources meet the needs of businesses
1. Luxembourg 2. Singapore 3. USA 4. China 5. Germany	1. Switzerland 2. Hong Kong SAR 3. UAE 4. Singapore 5. Norway	1. Denmark 2. Sweden 3. Netherlands 4. Switzerland 5. Finland	1. Switzerland 2. Denmark 3. Sweden 4. Finland 5. Netherlands
▪ Domestic Economy ▪ International Trade ▪ International Investment ▪ Employment ▪ Prices	▪ Public Finance ▪ Fiscal Policy ▪ Institutional Framework ▪ Business Legislation ▪ Societal Framework	▪ Productivity ▪ Labor Market ▪ Finance ▪ Management Practices ▪ Attitudes and Values	▪ Basic ▪ Technological ▪ Scientific ▪ Health & Environment ▪ Education

163 ranked statistics + 92 Survey = 255 ranked criteria + 78 background criteria

IMD World Competitiveness Ranking
Top Performers 2022

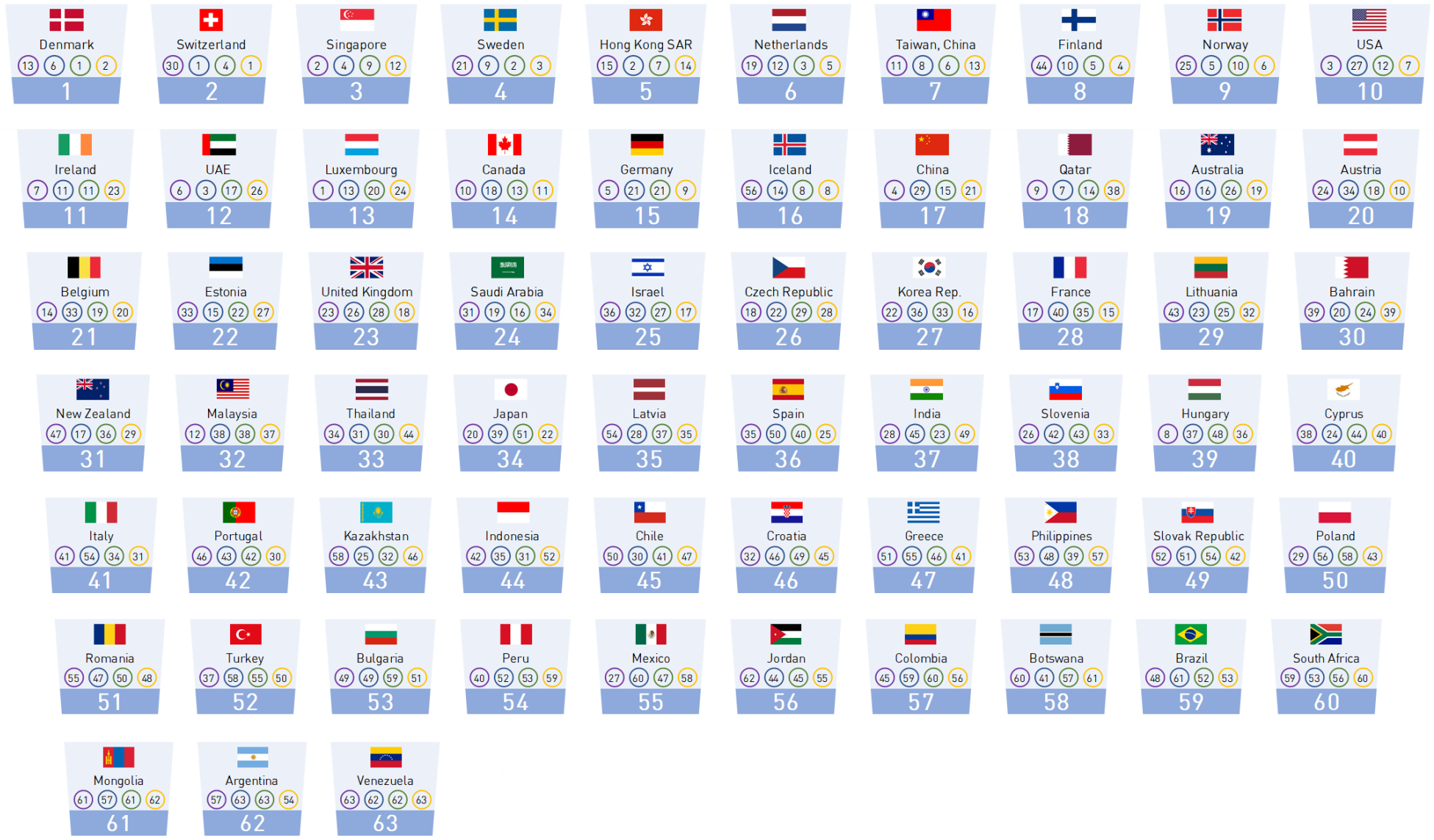
Overall Rank		Economic Performance	Government Efficiency	Business Efficiency	Infrastructure
1	Denmark	13	6	1	2
2	Switzerland	30	1	4	1
3	Singapore	2	4	9	12
4	Sweden	21	9	2	3
5	Hong Kong SAR	15	2	7	14
6	Netherlands	19	12	3	5
7	Taiwan, China	11	8	6	13
8	Finland	44	10	5	4
9	Norway	25	5	10	6
10	USA	3	27	12	7
11	Ireland	7	11	11	23
12	UAE	6	3	17	26
13	Luxembourg	1	13	20	24
14	Canada	10	18	13	11
15	Germany	5	21	21	9

The IMD World Competitiveness Ranking assesses the extent to which an economy is able to foster an environment in which enterprises can generate sustainable value creation.

IMD World Competitiveness Ranking
All Rankings 2022

The IMD World Competitiveness Ranking Assesses the extent to which an economy is able to foster an environment in which enterprises can generate sustainable value creation.

- Economic Performance
- Government Efficiency
- Business Efficiency
- Infrastructure

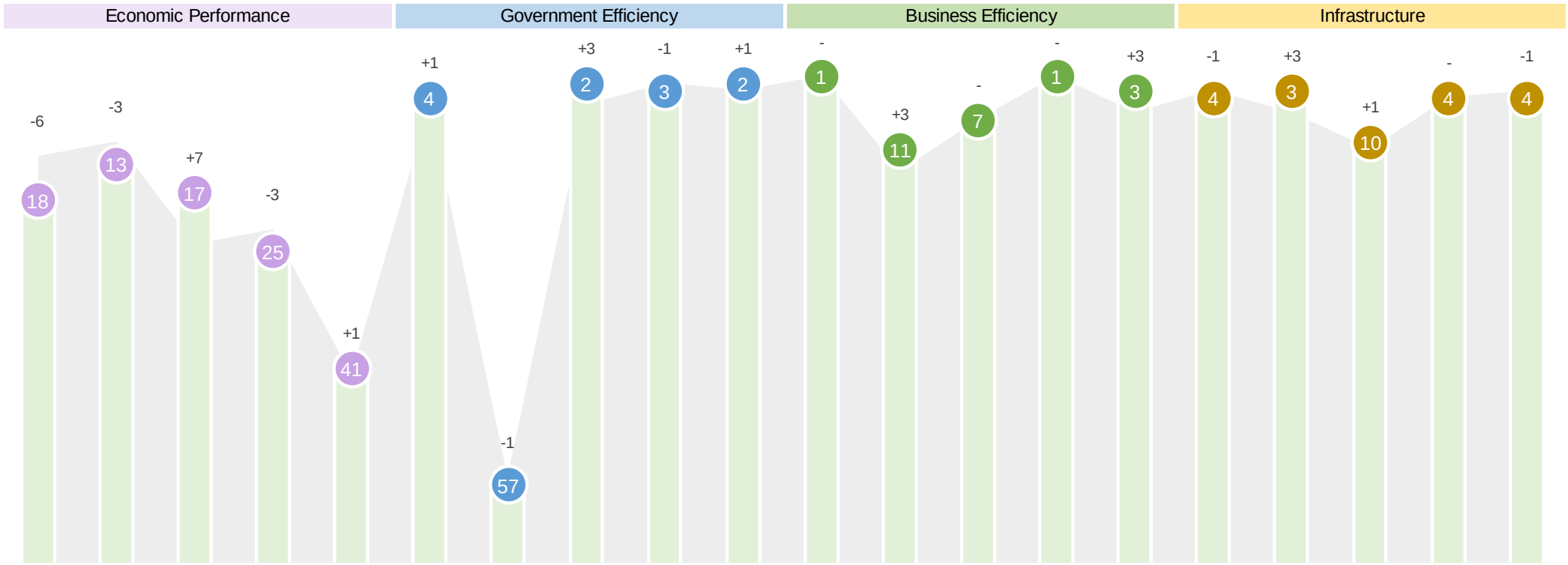


IMD World Competitiveness Ranking 2022 and 2021

Denmark

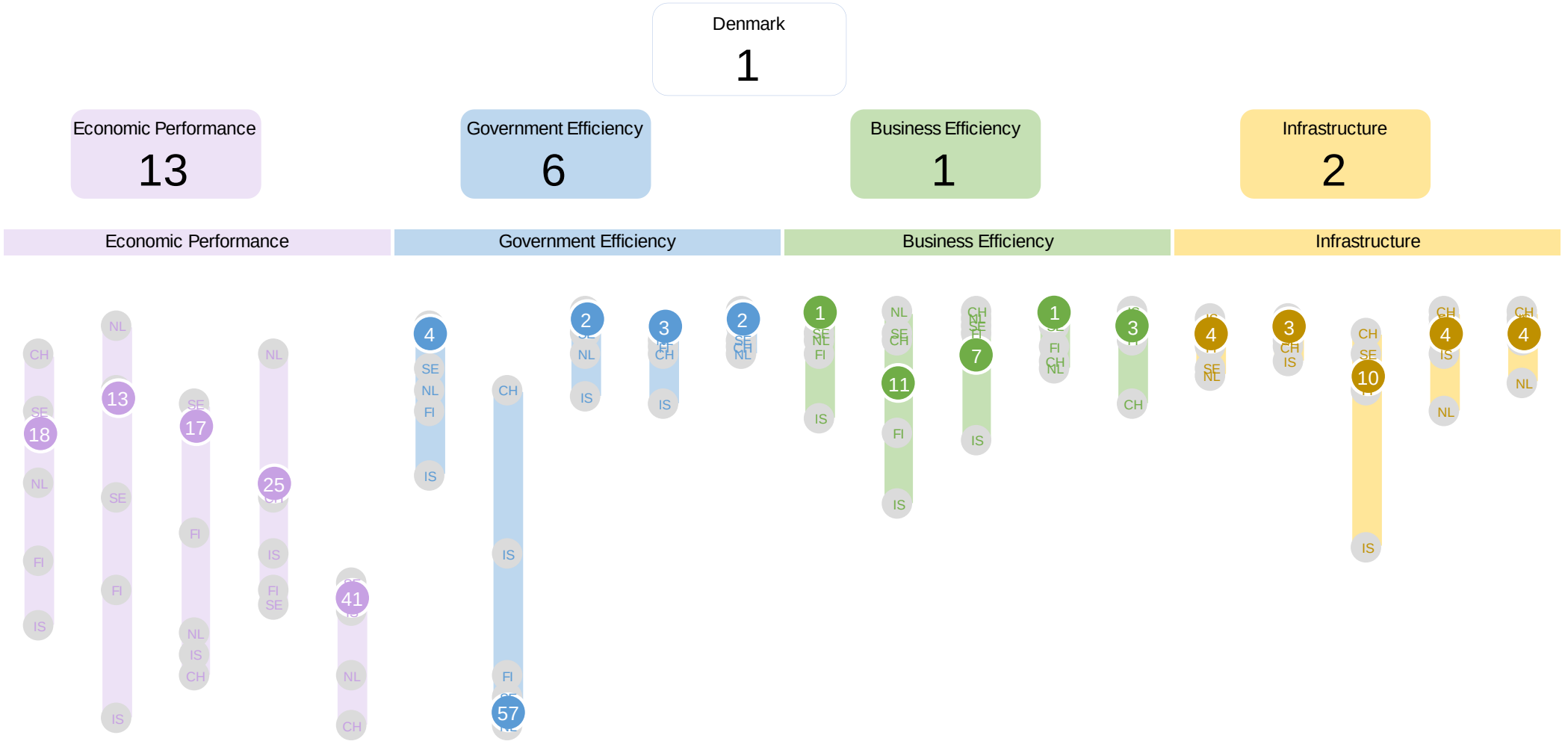
1 (2020: 3)

Economic Performance	Government Efficiency	Business Efficiency	Infrastructure
13 (2020: 17)	6 (2020: 7)	1 (2020: 1)	2 (2020: 3)



	Domestic Economy	International Trade	International Investment	Employment	Prices	Public Finance	Tax Policy	Institutional Framework	Business Legislation	Societal Framework	Productivity & Efficiency	Labor Market	Finance	Management Practices	Attitudes and Values	Basic Infrastructure	Technological Infrastructure	Scientific Infrastructure	Health and Environment	Education
2022	18	13	17	25	41	4	57	2	3	2	1	11	7	1	3	4	3	10	4	4
2021	12	10	24	22	42	5	56	5	2	3	1	14	7	1	6	3	6	11	4	3

IMD World Competitiveness Ranking
Peer Group Performance 2022



	Domestic Economy	International Trade	International Investment	Employment	Prices	Public Finance	Tax Policy	Institutional Framework	Business Legislation	Societal Framework	Productivity & Labor Market Efficiency	Finance	Management Practices	Attitudes and Values	Basic Infrastructure	Technological Infrastructure	Scientific Infrastructure	Health and Environment	Education
2022	18	13	17	25	41	4	57	2	3	2	1	11	7	1	3	4	3	10	4	4

Peers *: Sweden (SE), Netherlands (NL), Iceland (IS), Finland (FI), Switzerland (CH)

** Peers auto-generated, based on: WCY rank, GDP per capita, Population, & Region*

IMD World Competitiveness Ranking
Strengths and Weaknesses 2022

Denmark
1

Economic Performance	Government Efficiency	Business Efficiency	Infrastructure
13	6	1	2

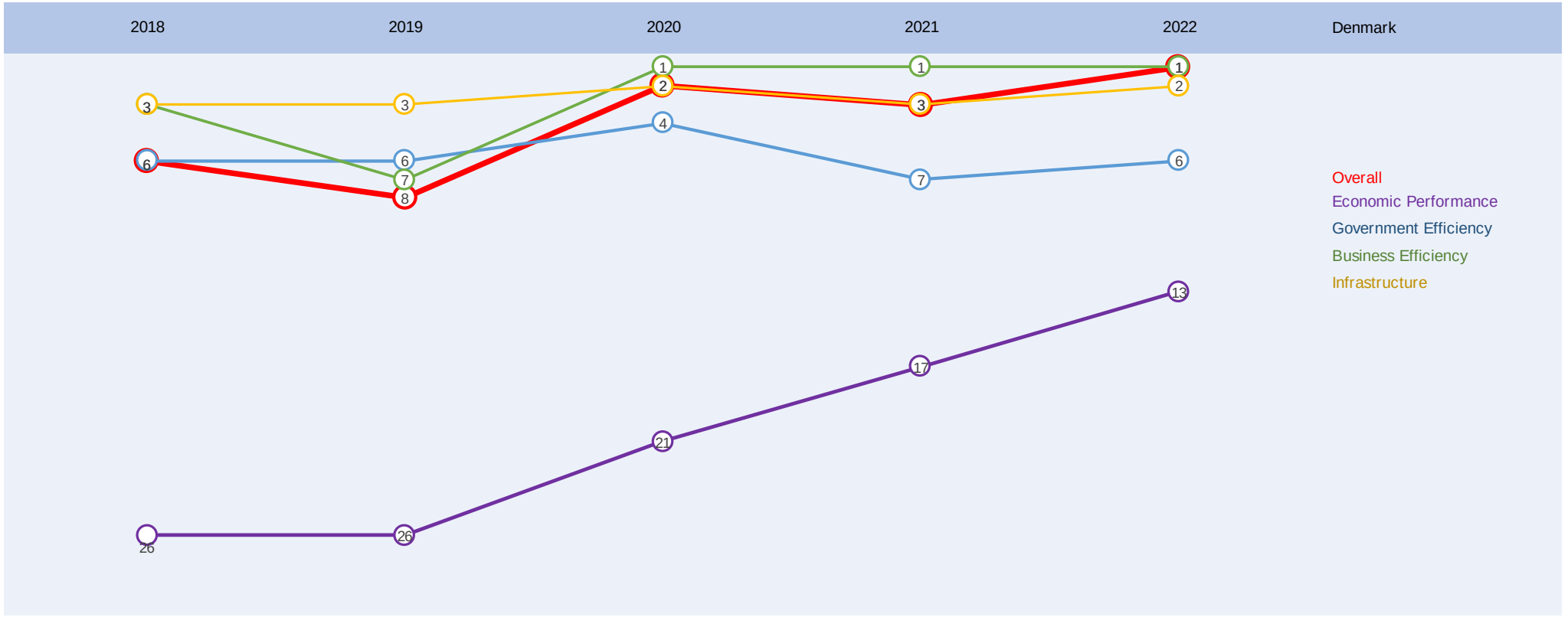
Strongest Ranked Criteria

Economic Performance		Government Efficiency		Business Efficiency		Infrastructure	
Resilience of the economy	1	Competition legislation	1	Agility of companies	1	Sustainable development	1
Relocation threats of business	2	Labor regulations	1	Credibility of managers	1	Secure internet servers	1
GDP per capita	8	Social cohesion	1	Worker motivation	1	Public-private partnerships	1
Exports of commercial services (%)	9	Bribery and corruption	1	Employee training	1	Development & application of tech.	1
GDP (PPP) per capita	10	State ownership of enterprises	1	Opportunities and threats	1	Total R&D personnel per capita	2
Current account balance	11	Public sector contracts	1	Corporate boards	1	Management of cities	2
Youth exclusion	11	Subsidies	1	Large corporations	1	Researchers in R&D per capita	3
Food costs	11	Foreign investors	1	Brain drain	1	Internet bandwidth speed	3
Export concentration by product	13	Employer social security tax rate	1	Attracting and retaining talents	1	Intellectual property rights	3
Direct investment stocks abroad (% of GDP)	13	Employee social security tax rate	1	Customer satisfaction	1	Funding for technological development	3

Weakest Ranked Criteria

Gasoline prices	60	Collected personal income tax	62	Compensation levels	62	Dependency ratio	50
Cost-of-living index	52	Collected total tax revenues	62	Working hours	62	Graduates in Sciences	38
Direct investment flows inward (% of GDP)	51	Consumption tax rate	59	Remuneration in services professions	55	Mobile Telephone costs	38
Direct investment stocks inward (% of GDP)	45	Real personal taxes	50	Remuneration of management	46	Investment in Telecommunications	35
Direct investment flows inward ($bn)	45	Government subsidies	42	Women in management	42	ICT service exports	34
Direct investment stocks inward ($bn)	40	Immigration laws	42	Foreign labor force - migrant stock	27	Population - growth	34
Real GDP growth	39		-		-	High-tech exports (%)	32
Real GDP growth per capita	39		-		-		-
Gross fixed capital formation - real growth	35		-		-		-
Gross fixed capital formation (%)	35		-		-		-

IMD World Competitiveness Ranking
5 Year Trend

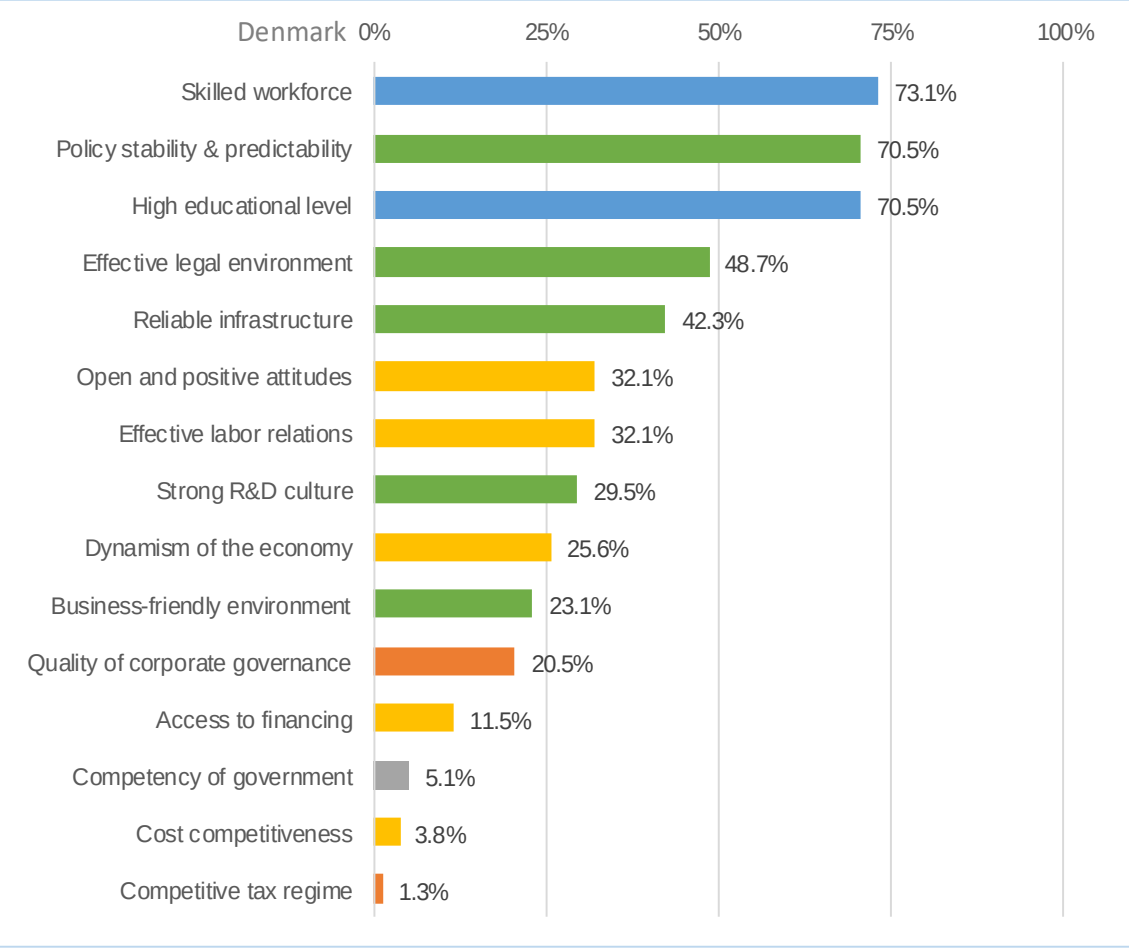


	Economic Performance					Government Efficiency					Business Efficiency					Infrastructure				
	Domestic Economy	International Trade	International Investment	Employment	Prices	Public Finance	Tax Policy	Institutional Framework	Business Legislation	Societal Framework	Productivity & Efficiency	Labor Market	Finance	Management Practices	Attitudes & Values	Basic Infrastructure	Technological Infrastructure	Scientific Infrastructure	Health & Environment	Education
2022	18	13	**17**	25	41	**4**	**57**	2	3	**2**	**1**	11	**7**	**1**	**3**	4	**3**	10	**4**	**4**
2021	**12**	**10**	24	**22**	**42**	5	56	**5**	**2**	3	**1**	14	**7**	**1**	6	**3**	6	**11**	**4**	3
2020	15	24	23	27	41	**4**	40	**1**	**2**	**4**	**1**	**8**	8	**1**	**3**	4	5	**9**	**2**	**1**
2019	24	**28**	**29**	31	37	**11**	41	4	3	**2**	**7**	21	**11**	**6**	**11**	**7**	**7**	10	3	**1**
2018	**27**	27	24	**43**	**32**	9	**39**	4	**4**	3	5	**28**	8	**1**	4	4	**7**	**11**	**4**	**1**

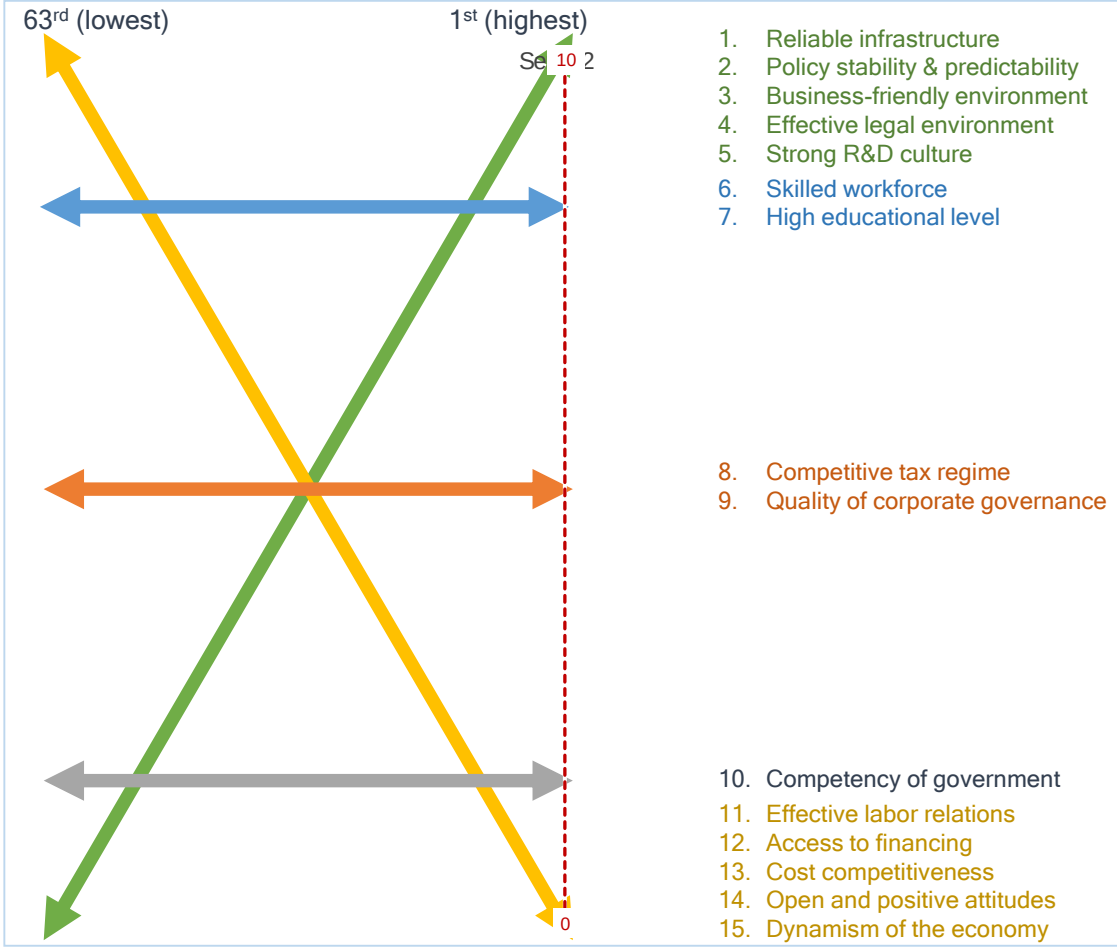
IMD World Competitiveness Ranking
Key Attractiveness Indicators 2022

From a list of 15 indicators, respondents of the Executive Opinion Survey were asked to select the 5 that they perceived as the key attractiveness factors of their economy

The left chart shows the percentage of responses per indicator for the Country



The right chart shows, for all 63 countries, the general correlation between the chosen key attractiveness indicators and the Competitiveness Ranking



Every year we ask our Partner Institutes in each country to provide the five competitiveness challenges that the economy faces.

"

- Secure better access to skilled labor.
- Secure companies' competitiveness in times increasing prices on energy and raw materials.
- Boost productivity through incentivizing investments in ICT-equipment, automation and digital skills.
- Focus fiscal policy on initiatives enhancing growth and accelerating the green transition, for example education, R&D and infrastructure.
- Support Danish companies in their sales to export markets.

"

Confederation of Danish Industry
Denmark

IMD World
Digital Competitiveness Ranking

IMD World Digital Competitiveness Ranking

Overview

IMD World Digital Competitiveness Ranking

Assesses the capacity and readiness of an economy to adopt and explore digital technologies as a key driver for economic transformation in business, government and wider society.

63 ECONOMIES COMPARED

1. Denmark
2. USA
3. Sweden

3 FACTORS

Knowledge	Technology	Future Readiness
the infrastructure that underlines the process of discovery, understanding and learning of new digital technologies.	the overall context through which the development of digital technologies is enabled.	the level of preparedness of an economy to assume its digital transformation

9 SUB-FACTORS

Knowledge	Technology	Future Readiness
▪ Talent ▪ Training & education ▪ Scientific concentration	▪ Regulatory framework ▪ Capital ▪ Technological framework	▪ Adaptive attitudes ▪ Business agility ▪ IT integration

54 CRITERIA

34 ranked statistics + 20 Survey = 54 ranked criteria

IMD World Digital Competitiveness Ranking

Top Performers 2022

The IMD World Digital Competitiveness Ranking assesses the capacity of an economy to adopt and explore digital technologies leading to transformation in government practices, business models and society in general.

		IMD WORLD DIGITAL COMPETITIVENESS RANKING 2022		FACTORS		
				Knowledge	Technology	Future Readiness
▲	+03	01	Denmark	06	07	01
▼	-01	02	USA	04	09	03
▶	-	03	Sweden	02	05	04
▲	+01	04	Singapore	05	01	10
▲	+01	05	Switzerland	01	12	07
▲	+01	06	Netherlands	08	04	05
▲	+04	07	Finland	09	08	06
▲	+04	08	Korea Rep.	16	13	02
▼	-07	09	Hong Kong SAR	07	02	18
▲	+03	10	Canada	03	14	11
▼	-03	11	Taiwan, China	18	06	08
▼	-03	12	Norway	19	10	09
▼	-03	13	UAE	15	03	20
▲	+06	14	Australia	14	15	17
▲	+02	15	Israel	10	22	14

IMD World Digital Competitiveness Ranking

All Rankings 2022

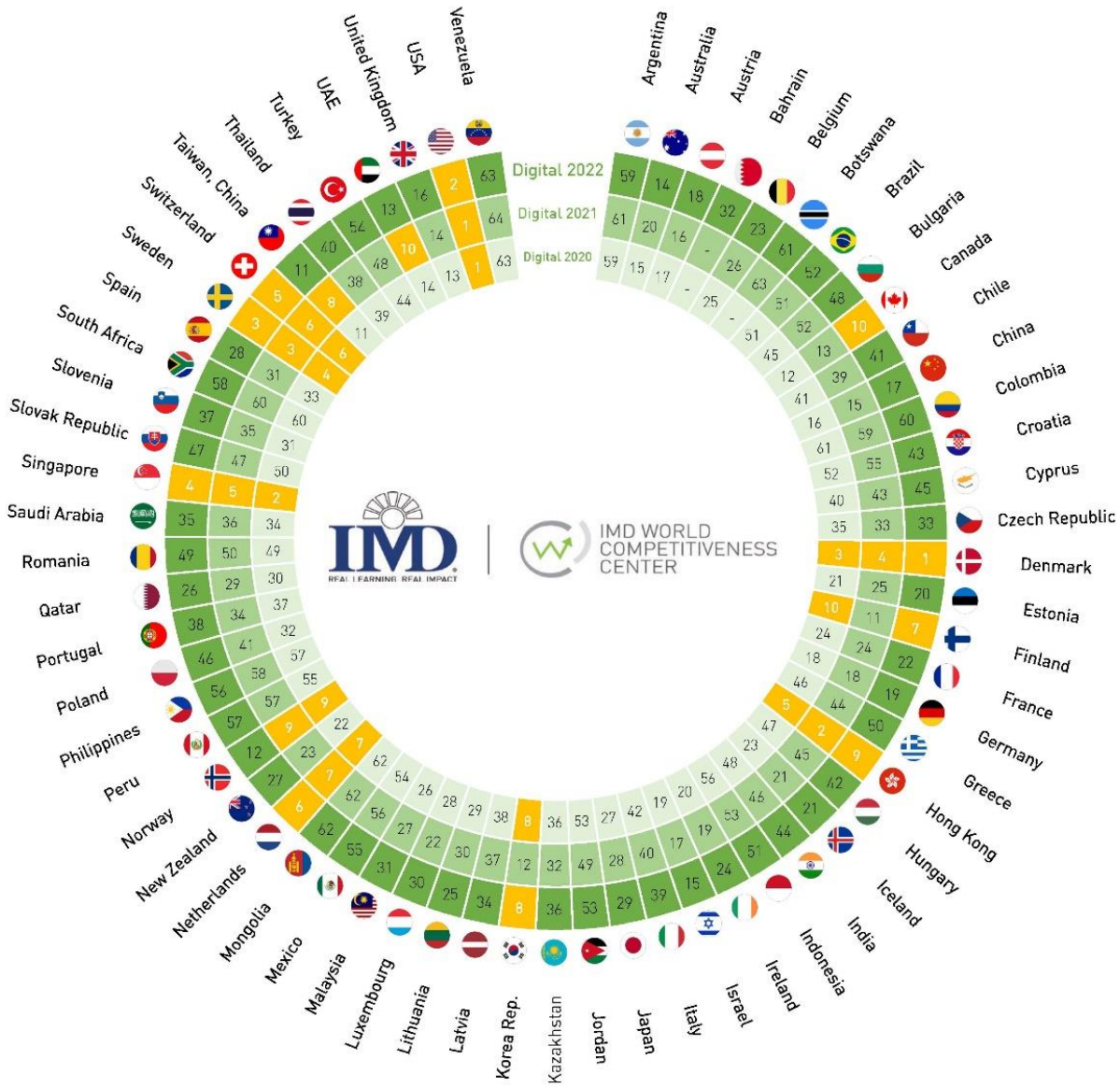
The IMD World Digital Competitiveness Ranking

Assesses the capacity of an economy to adopt and explore digital technologies leading to transformation in government practices, business models and society in general

- Knowledge
- Technology
- Future Readiness

IMD World Digital Competitiveness Ranking

All Countries 2020-2022



▶ Overall Top Strengths
▷ Overall Top Weaknesses

Denmark

△ One year improvement, or stable
▽ One year decline

Talent

5

	Educational assessment PISA - Math	12
	International experience	11
	Foreign highly-skilled personnel	16
	Management of cities	2
	Digital/Technological skills	5
	Net flow of international students	10

Training & Education

7

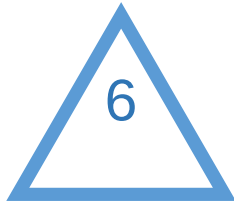
▶	Employee training	1
	Total public expenditure on education	10
	Higher education achievement	26
	Pupil-teacher ratio (tertiary education)	4
▷	Graduates in Sciences	38
	Women with degrees	24

Scientific concentration

17

	Total expenditure on R&D (%)	11
	Total R&D personnel per capita	2
	Female researchers	32
▷	R&D productivity by publication	43
	Scientific and technical employment	21
	High-tech patent grants	33
	Robots in education and R&D	25

KNOWLEDGE



Regulatory Framework

6

	Starting a business	25
	Enforcing contracts	13
▷	Immigration laws	42
▶	Development and app. of technology	1
	Scientific research legislation	5
	Intellectual property rights	3

Capital

14

▷	IT & media stock market capitalization	54
	Funding for technological development	3
▶	Banking and financial services	1
▶	Country credit rating	1
	Venture capital	7
▷	Investment in Telecommunications	35

Technological Framework

6

	Communications technology	3
	Mobile Broadband subscribers	8
	Wireless broadband	11
	Internet users	7
	Internet bandwidth speed	3
	High-tech exports (%)	32

TECHNOLOGY

Adaptive Attitudes

5

	E-Participation	9
	Internet retailing	8
	Tablet possession	19
▷	Smartphone possession	35
	Attitudes toward globalization	3

Business Agility

1

▶	Opportunities and threats	1
	World robot distribution (%)	29
▶	Agility of companies	1
	Use of big data and analytics	6
	Knowledge transfer	4
▷	Entrepreneurial Fear of Failure	-

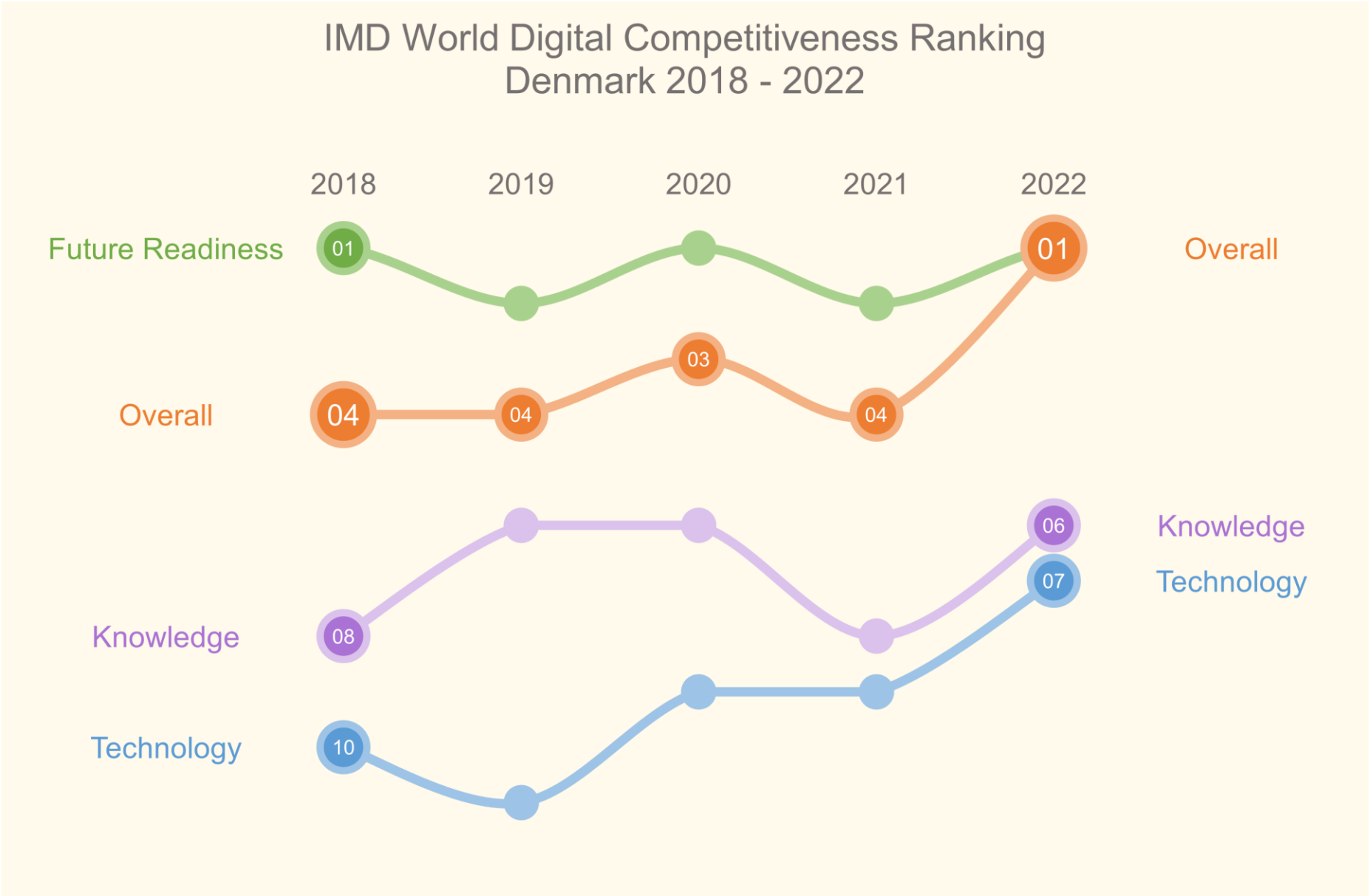
IT Integration

1

▶	E-Government	1
▶	Public-private partnerships	1
	Cyber security	14
	Sofware piracy	8
	Privacy protection by law content	8
	Government cyber security capacity	26

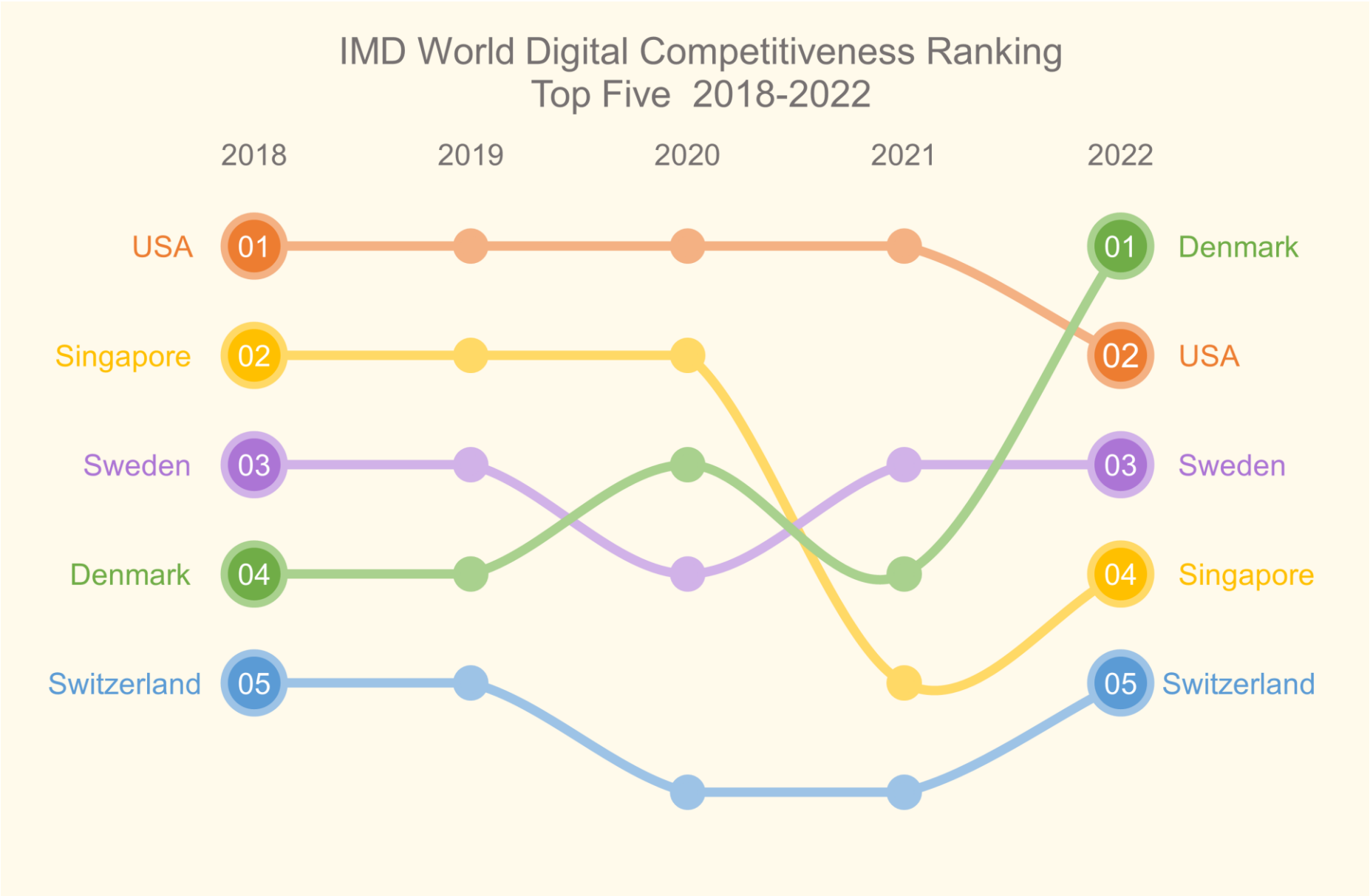
FUTURE READINESS

OVERALL


IMD World Digital Competitiveness Ranking
Denmark 2018 - 2022
2018
2019
2020
2021
2022
Future Readiness
01
01
Overall
Overall
04
04
03
04
Knowledge
06
Technology
07
Knowledge
08
Technology
10


IMD World Digital Competitiveness Ranking 2022
Top Five Overall, and the three Factors
Overall
Knowledge
Technology
Future Readiness
Denmark
USA
Sweden
Singapore
Switzerland
01
02
03
04
05
01
02
04
05
06
01
05
07
09
12
01
03
04
07
10

IMD World Digital Competitiveness Ranking
Top Five 2018-2022



CBS COPENHAGEN BUSINESS SCHOOL
HANDELSHØJSKOLEN

IS THE NORDIC CORPORATE AND PUBLIC GOVERNANCE MODEL THE CORNERSTONE OF THIS SUCCESS AND CAN IT BE PRESERVED IN THE FUTURE?

Gudrun Johnsen, assistant professor, CCG

CCG
CENTER FOR
CORPORATE
GOVERNANCE

Overview

- The Corporate Governance Arbitrage
- Historical context of Nordic Corporate Governance
  - What forces shape corporate governance in the Nordic countries?
  - Wage inequality in the international context
- What sets the Nordic Corporate Governance apart from Anglo Saxon?
- How is Nordic Corporate Covernance likely to evolve going forward?

The good governance arbitrage

G-Index: 0/1
Management entrenchment
Anti-takeover measures
Staggard boards

IRRC-Governance Data
CCG Database – Columbia Law School, UPENN Law School.
E-Index, subset of G-index– Harvard Law School

Table 3: Replication and Robustness of Good Governance as Arbitrage

	Original GIM	Exact Replication (Historical IRRC)	Replication with CCG-Corrections (Historical IRRC)	Replication with CCG-Corrections (Updated IRRC)	Replication With Matched Firms (Historical IRRC)
G ≤ 5 (Democracy)	0.29*	0.26	0.175	0.118	0.334
	0.13	*0.14*	*0.17*	*0.15*	*0.20*
G = 6	0.22	0.189	-0.005	-0.082	-0.021
	0.18	*0.19*	*0.17*	*0.18*	*-0.21*
G = 7	0.24	0.234	0.161	0.112	0.285
	0.19	*0.19*	*0.21*	*0.19*	*0.24*
G = 8	0.08	0.017	0.264	0.264	0.382
	0.14	*0.14*	*0.16*	*0.15*	*0.19*
G = 9	-0.02	-0.066	-0.173	-0.185	-0.203
	0.12	*0.12*	*0.13*	*0.13*	*0.16*
G = 10	0.03	0.012	0.134	0.154	0.246
	0.11	*0.11*	*0.14*	*0.13*	*0.18*
G = 11	0.18	0.137	0.043	0.051	0.142
	0.16	*0.16*	*0.14*	*0.14*	*0.20*
G = 12	-0.25	-0.283	-0.167	-0.172	-0.253
	0.14	*0.15*	*0.15*	*0.16*	*0.19*
G = 13	-0.01	-0.066	-0.09	-0.106	-0.195
	0.14	*0.14*	*0.15*	*0.14*	*0.21*
G ≥ 14 (Dictatorship)	-0.42*	-0.438*	-0.415*	-0.381*	-0.225
Democracy-Dictatorship (bps)	71.0	69.8	59.0	49.9	55.9
Attenuation from Original (in %)	-	-1.69%	-16.90%	-29.72%	-21.27%
Implied Annual Excess Return	8.9%	8.7%	7.3%	6.2%	6.9%

Performance attribution regression of Democracy - Dictatorship Portfolios; 1990-1998. The first column restates the estimates from Table VI of Gompers, Ishii & Metrick ("GIM" 2003). The second column reports our attempt at an exact replication. The remaining three columns are replication robustness checks using CCG-corrected data for a variety of comparison samples. Coefficient estimates reflect unexplained return (α) values from Fama-French four-factor portfolio regressions. Standard Errors in italics. (* = 0.05 significance; ** = 0.01 significance)

Ishii, Gompers and Metrick, 2003, "Corporate Governance and Equity Prices, *Quarterly Journal of Economics*", Vol. 118(1), 107-155

Frankenreiter, Hwang, Nili and Talley, 2021, "Cleaning Corporate Governance", *University of Pennsylvania Law Review*, vol 1.

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The Infant Stage of Empirical Corporate Governance Research in the Nordics

- Available data in US since 1996:
- ISS – Institutional Shareholder Services - corporate charters data
- Rafael La Porta, Florencio Lopez-de-Silanes, Andrei Shleifer & Robert Vishny:
  - Legal Determinants of External Finance, 1997
  - Corporate Ownership Around the World, 1999
  - Investor Protection and Corporate Valuation, 1999
  - Agency Problems and Dividend Policies Around the World, 2000
- No corporate governance data – coded charters and articles of association - is available in the Nordics

Important societal change impacting Nordic Corporate Goverance

French Revolution 1789

Denmark: New Constitution – Democracy est, 1849

13th amendment 1865

The September Compromise – Universal Suffrage DK 1899

1915

The Bolshevic Revolution 1918

January Engagement - Finland 1940

Welfare state formed 1950

Pension funds est. –tripart compromise 1960

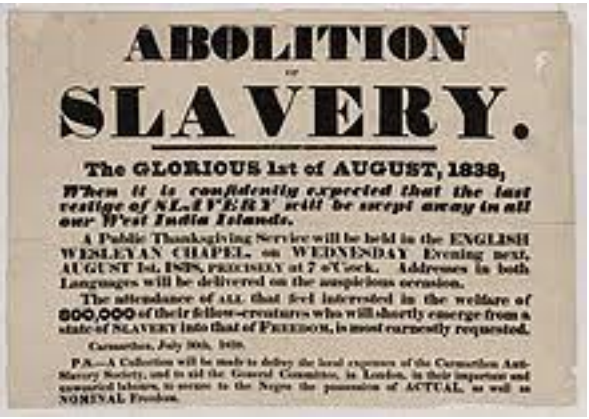
Board Level Employee Respres. 1973

Friedman Doctrine 1980

Jensen & Murphy 1990 1990

Dot com Fin crises 2000 2008

EU: Due diligence directive 2022


ABOLITION OF SLAVERY.

The GLORIOUS 1st of AUGUST, 1838,

When it is confidently expected that the last vestige of SLAVERY will be swept away in all our West India Islands.

A Public Thanksgiving Service will be held in the ENGLISH WESLEYAN CHAPEL, on WEDNESDAY Evening next, AUGUST 1st, 1838, PRECISELY at 7 o'Clock. Addresses in both Languages will be delivered on the auspicious occasion.

The attendance of ALL that feel interested in the welfare of 800,000 of their fellow-creatures who will shortly emerge from a state of SLAVERY into that of FREEDOM, is most earnestly requested.

Carmarthen, July 30th, 1838.

P.S.—A Collection will be made to defray the local expenses of the Carmarthen Anti-Slavery Society, and to aid the General Committee, in London, in their important and unwearied labours, to secure to the Negro the possession of ACTUAL, as well as NOMINAL Freedom.

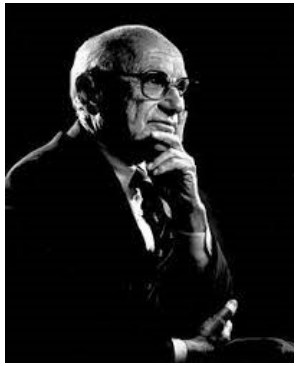
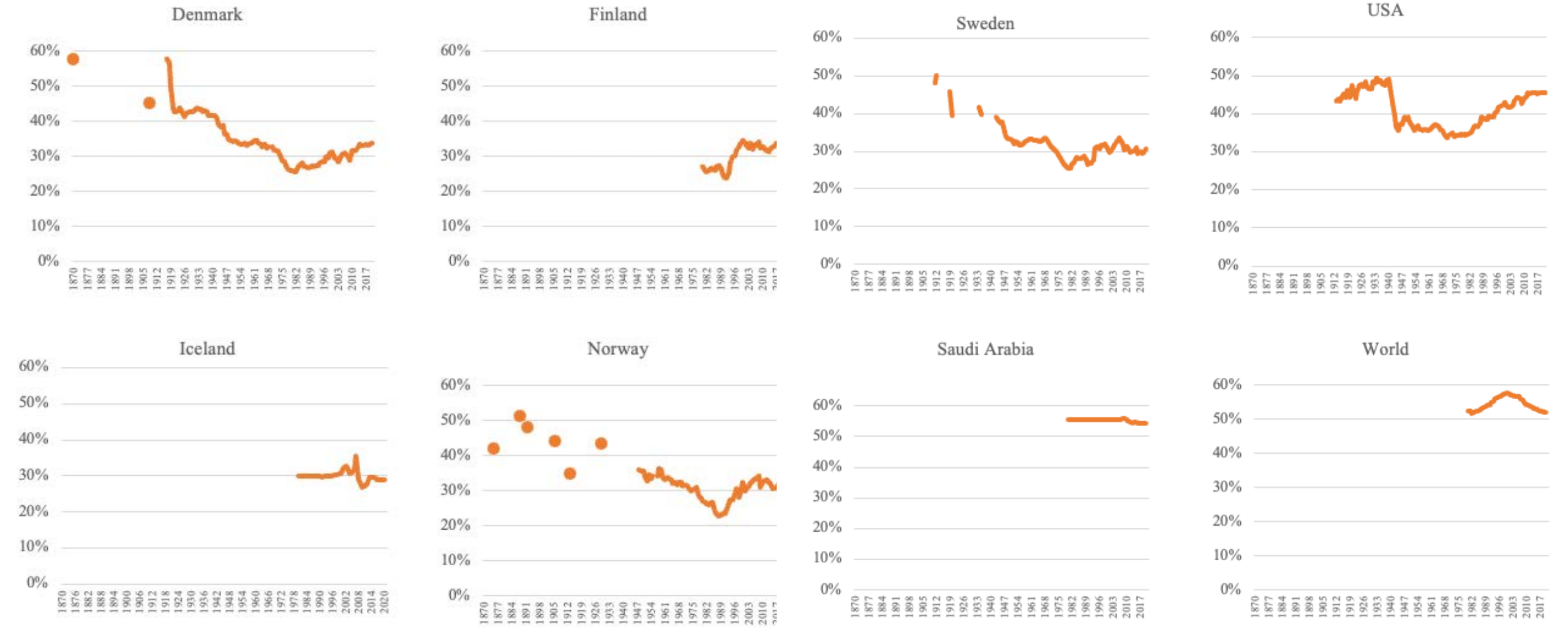


Figure 1 Income Inequality: Top 10% share in Pre-Tax National Income in the Nordics, the USA, Saudi Arabia, and estimated World inequality - 1870-2020.



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Source: World Inequality Database, 2022, https://wid.world/

What sets Nordic Corporate Governance apart from Anglo-Saxon?

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Company ownership in the Nordics

Table 1 Market capitalization weighted average ownership by category of investor, end-2017

	Private Corporations	Public Sector	Strategic Individuals	Institutional Investors	Other free-float
Denmark	6	7	6	43	37
Finland	5	14	9	35	37
Iceland	13	2	4	61	19
Norway	8	34	7	29	21
Sweden	14	7	11	38	31
USA	2	3	4	72	19

Source: OECD

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Gender quotas– force of influence at the board level?

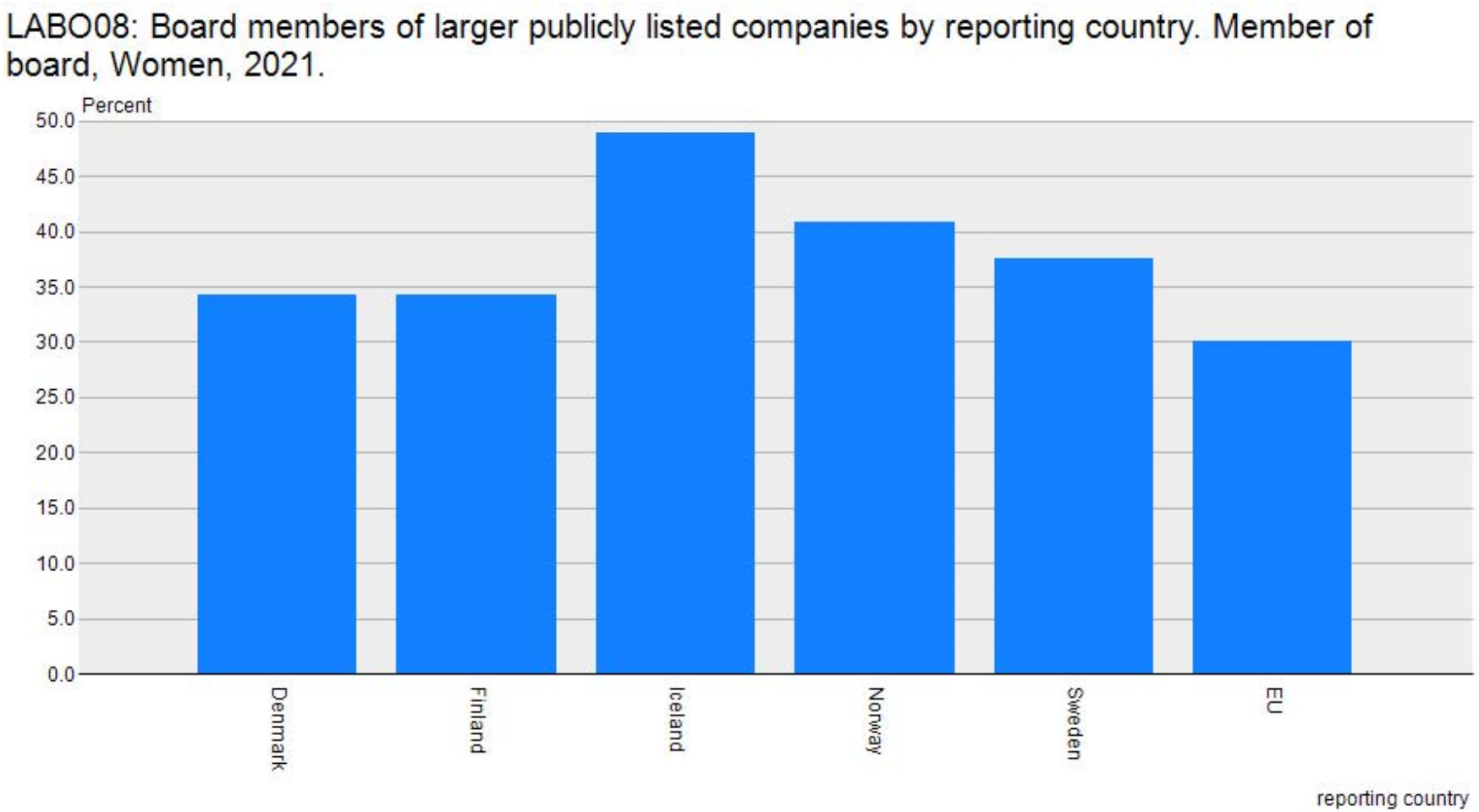
Legally enforced 40% BOD of either gender:

Norway (2003)

Iceland (2010)

CGC Comply or explain:

Finland (2010)



Source: Nordic Council of Ministers; Nordic Statistics Database

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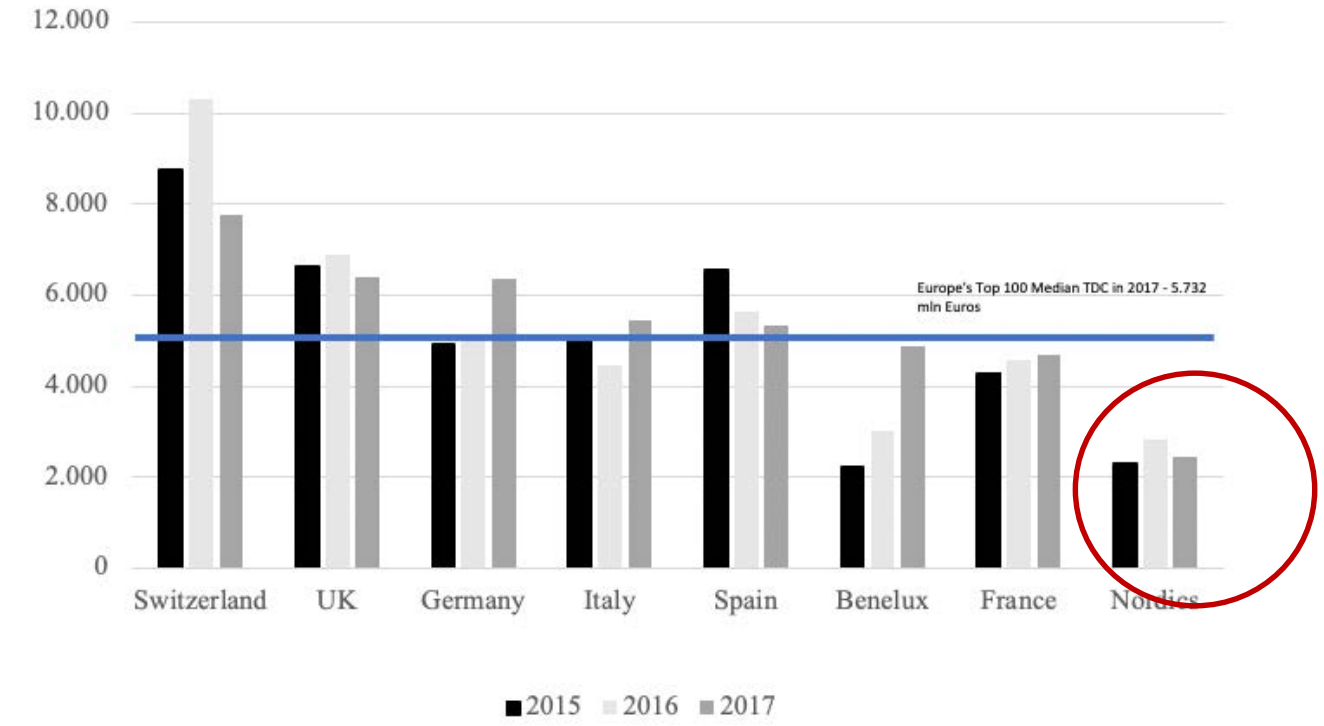
Low wealth and wage inequality: Nordic CEOs first among equals?

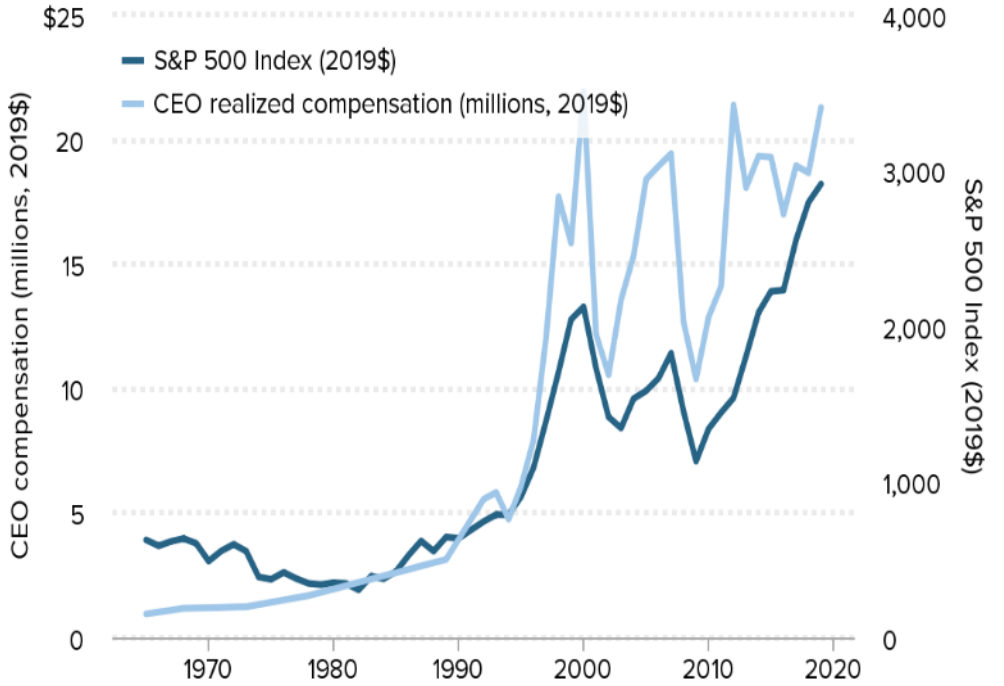
Median CEO Comp largest 100 companies in US
15.7 mln euros

Figure 2 CEOs' Total Direct Compensation in Europe's Largest 100 companies in thousands of Euros



CEO compensation tracks the stock market

Realized CEO compensation and the S&P 500 Index, 1965–2019



Notes: Realized average annual CEO compensation is computed using salary, bonus, vested stock awards, options realized, and long-term incentive payouts for CEOs at the top 350 U.S. firms ranked by sales.

Source: Authors' analysis of data from Compustat's ExecuComp database and the Federal Reserve Economic Data (FRED) database from the Federal Reserve Bank of St. Louis.

Economic Policy Institute

Board Level Employee Representation (BLER)

- Legal right to appoint a representative of employees to the board of directors
  - Denmark
  - Sweden
  - Norway

- 53% of non-financial firms in DK, SWE and NOR have an employee representative at the board level (Gregoric and Rapp, 2019)

Influence from the outside-in

Workers' and social rights negotiated/legislated through tripartism in the Nordics

- Equal access to workforce participation
  - universal access to education,
  - universal access to health care,
  - universal accesss to daycare,
  - equal and individual rights to parental leave,
  - mandatory representation of women on the board of directors IS, NOR
  - low wage inequality and general accumulation of wealth through pension fund savings,
  - High transfer payments – high taxes – low public debt

Perversed incentives at the company level ?

- Large long term investors (Pension funds):
  - Fully diversified
  - Can not effectively exit,
  - Dependent on general economic prosperity
  - Inactive as shareholders ?
  - Largest exposure to climate risk

- Short term investors
  - Undiversified
  - Can effectively exit – as pension funds rebalance portfolios
  - Active at the board level
  - Inactive towards climate risk?

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Labor unions could demand:

- Pension fund governance/stewardship ramp-up
  - Accountability, market discipline and climate risk
- Sacralization of rights to breath clean air, biodiversity, stable weather systems etc. above company law/ bankruptcy law/ creditor rights / property law
  - Introduction of a Law of Sustainability?
- Legal rights are time variant
  - Lessons from the abolision of slavery
  - 1833 law introduced financial compensation for slave owners (not for slaves!) = an extreme illustration of the 19c regime of private property sacralization

Nordic Corporate Governance going forward

- Business models need to change to avoid existential threat
- Impact of impact investing: Portfolio exclusions don't work effectively – pension funds need to engage in corporate governance (Berk & van Binsbergen, 2021)
- Pension fund stewardship is in high demand
- Influence is likely to come from the outside-in through central labor negotiations in the Nordics and/or at the EU level

Copenhagen Business School

Center for Corporate Governance | Nordic Finance and the Good Society

Event “A Global Leader in Competitiveness”

CBS CENTER FOR CORPORATE GOVERNANCE
NORDIC FINANCE AND THE GOOD SOCIETY

Is the financial sector creating value and contributing to competitiveness?

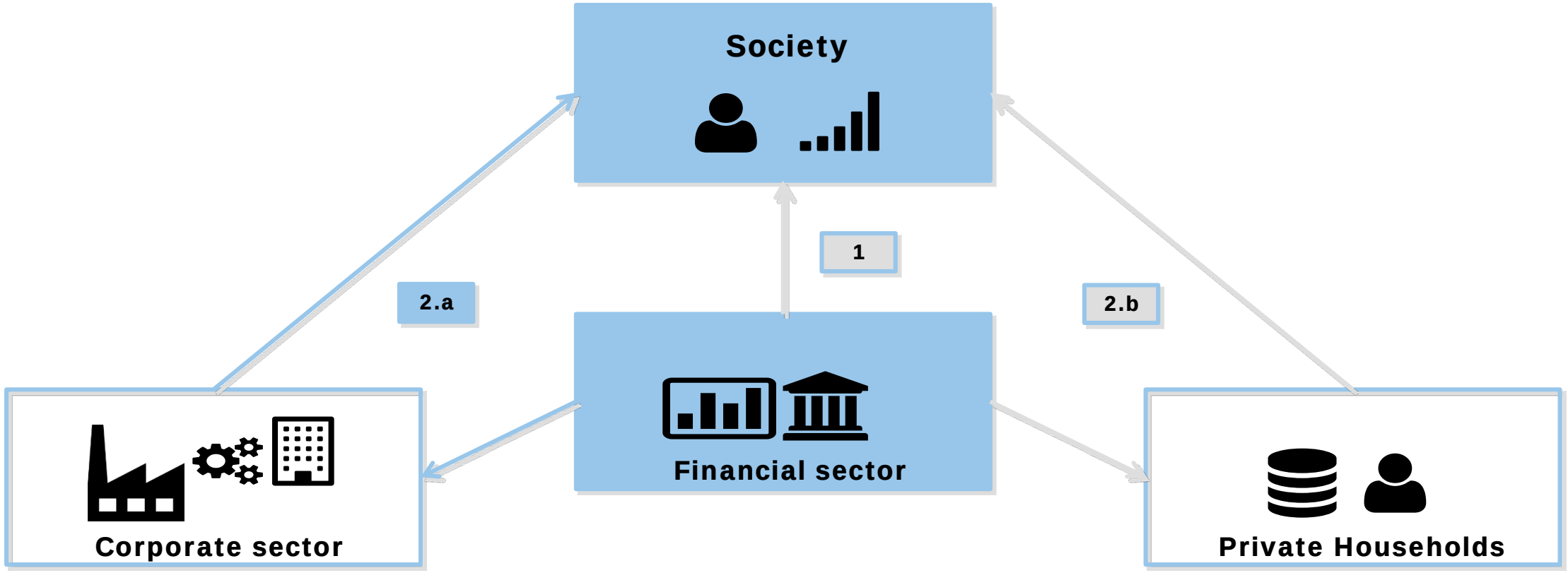
Prof. Dr. Marc Steffen Rapp | MACIE - Marburg Centre for Institutional Economics

Philipps Universität Marburg

Copenhagen, October 4th, 2022

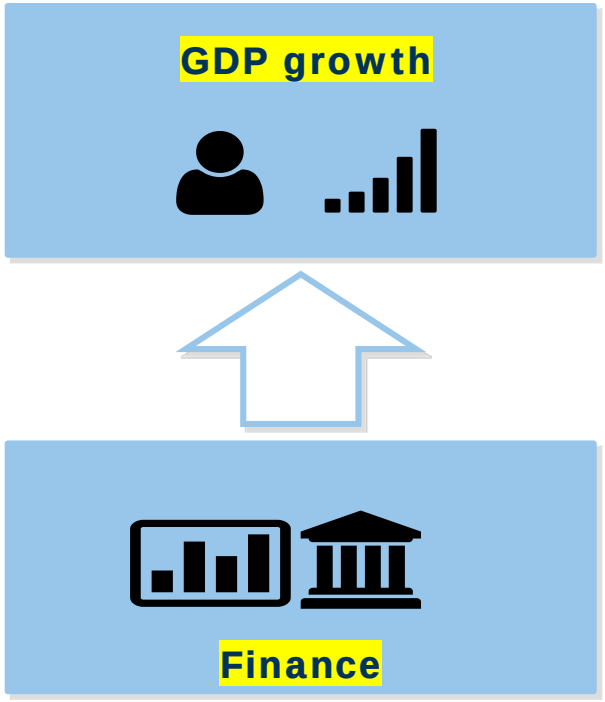
A key research question of the Nordic Finance and the Good Society (NFGS) project is whether (and how) the financial sector can add value to society

One might argue that there are (at least) three channels through which the financial sector can create value



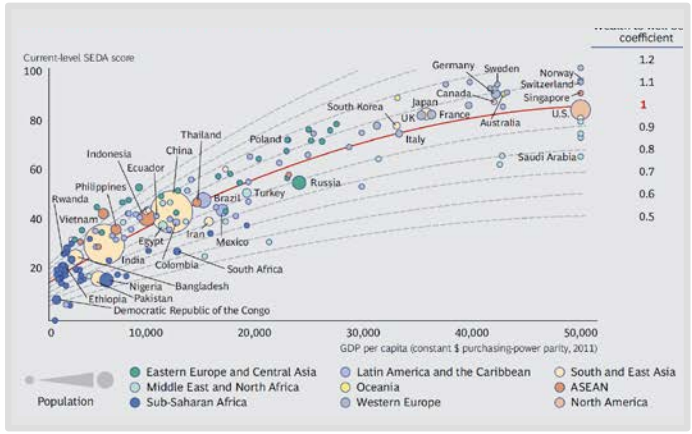
Notes: The figure illustrates three channels through which the financial sector may add value to society.
Source: Own illustration. For details see Rapp (2016), "Financial Sector Structure and Economic Growth: A Fresh Look With a Focus on Denmark", available at http://www.nfgs.dk/

Much of the macroeconomic literature addresses the question by studying the “finance-growth nexus” using GDP to measure economic activity

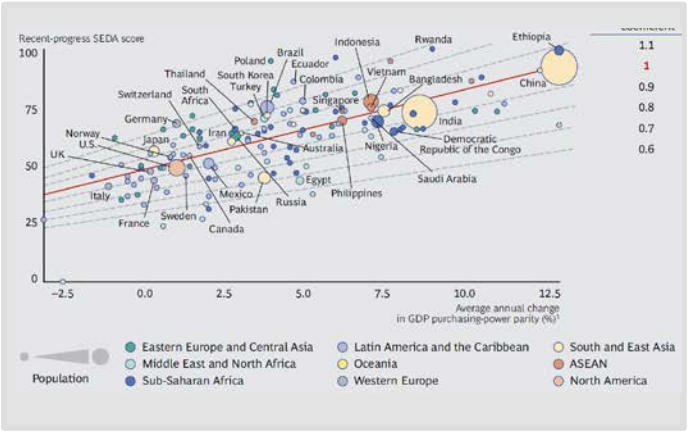


Rationalizing GDP to measure the contribution of the financial sector

Panel A: Economic development



Panel B: Economic growth



Notes: The figure illustrates the relation between traditional measures of economic development (measured by GDP per capita) and economic growth (measured by growth in GDP per capita) and more advanced measured of ‘value to society’ (as measured by the SEDA score developed by BEAL et al., 2015). The SEDA (Sustainable Economic Development Assessment) scores aggregate 10 dimensions, which represent the fundamentals economics, investment, and sustainability. For more details see Beal et al. (2015).
Source: Own illustration. Graphs are from Beal et al. (2015). For details see Rapp (2016), “Financial Sector Structure and Economic Growth: A Fresh Look With a Focus on Denmark”, available at http://www.nfgs.dk/

The data shows that countries with more developed financial sectors exhibit higher levels of economic activity

Private credit to the corporate sector (in % of GDP)

+

Private bond market (in % of GDP)

+

Stock market capitalization (in % of GDP)

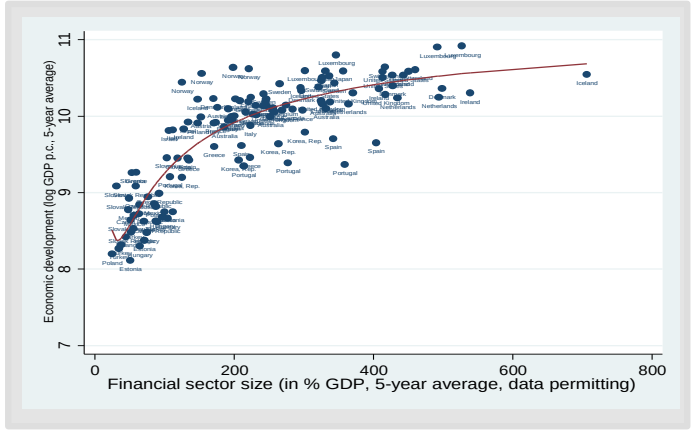
=

Financial sector size (in % of GDP)

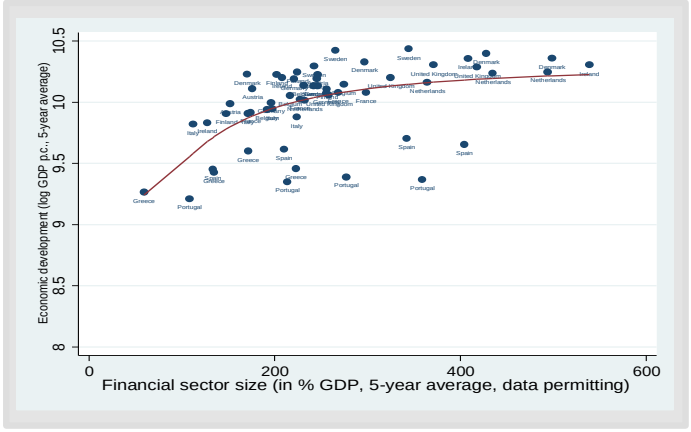
Univariate association between financial sector size and level of economic activity

[Financial sector size versus logarithm of real GDP per capita in 2000-USD, 5-year country averages]

Panel A: OECD (less NZL and CHL)



Panel B: Europe (EU15 less LUX)



Notes: The figure illustrates the association between a country's financial sector development and its level of economic development for OECD sample (Panel A) and European sample (Panel B) over the 1994-2013 period (data permitting). Financial sector size is measured as the aggregate volume of stock and private bond market, and the volume of private credit normalized by GDP. Stock market size is measured by market capitalization of listed domestic companies, bond market size by private debt securities outstanding, and private credit volume is domestic credit to private sector. The level of economic development is assessed by the logarithm of real GDP per capita in 2000-USD. Dots represent 5-year country averages to eliminate effects of business cycles and preserve a long-run perspective. The red line represents a fractional-polynomial prediction plot based on these 5-year country averages. Panel A is estimated based on the OECD sample without New Zealand and Chile. New Zealand is excluded due to the missing data on domestic debt securities, while Chile is excluded due to the short time series (less than six consecutive years of available information). Panel B reports the results for the subset of EU15 economies, excluding Luxembourg.

Source: Own analysis. Data from World Bank Open Data, BIS statistics, Global Financial Development Dataset, and selected other data points. For details see Rapp (2016), "Financial Sector Structure and Economic Growth: A Fresh Look With a Focus on Denmark", available at http://www.nfgs.dk/

When differentiating between the building blocks of the financial sector, the data suggests that the stock market plays an important role and contributes positively to economic growth

Private credit to the corporate sector (in % of GDP)

+

Private bond market (in % of GDP)

+

Stock market capitalization (in % of GDP)

=

Financial sector size (in % of GDP)

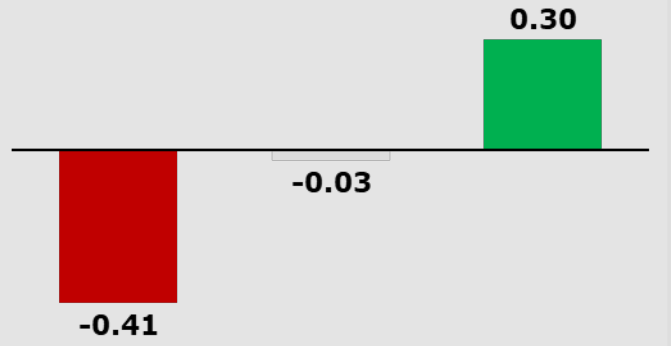
Country-level correlation between size of FS building blocks and GDP growth

[Measures of financial sector development versus log-growth of real GDP per capita in LCU, OECD countries, 5-year country averages]

Panel A: Regression analysis

Column	I	II	III
Method	OLS	OLS	OLS
Standard errors	country-level clustered		
Dependent variable	Economic growth		
Financial sector size	-0.4857		
	(-1.070)		
Capital market size		0.6650	
		(1.185)	
Private credit volume		-2.7785***	-2.5585***
		(-3.282)	(-3.783)
Bond market size			-0.1151
			(-0.205)
Stock market size			2.7535**
			(2.684)

Panel B: Economic significance



Notes: The figure reports results from a multivariate analysis of the association between a country's financial sector development and its economic growth that takes into account unobserved heterogeneity across countries. Panel A reports multivariate within-country correlations obtained as the result of three multivariate OLS specifications with year- and country-fixed effects. Key variables are defined as introduced previously and represent 5-year country averages to eliminate effects of business cycles and preserve a long-run perspective. The table reports OLS coefficients and t-statistics in parentheses. The latter allow for heteroskedasticity and correlation across observations of any given country. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Panel B graphically illustrates the economic relevance of estimated correlations. The economic relevance is computed as the within-country standard deviation of the right hand side variable multiplied by the estimated coefficient and divided by the within-country standard deviation of the corresponding left hand side variable. The sample consists of OECD economies except for New Zealand excluded due to the missing data on domestic debt securities and Chile excluded due to the short time series (less than six consecutive years of available information). The analysis covers the 1994-2013 period (data permitting) with a total of 128 observations.

Source: Own analysis. For details see Rapp (2016), "Financial Sector Structure and Economic Growth: A Fresh Look With a Focus on Denmark", available at http://www.nfgs.dk/

…and the data shows similar patterns when economic risk, financial stability, or the labor market is examined

Private credit to the corporate sector (in % of GDP)

+

Private bond market (in % of GDP)

+

Stock market capitalization (in % of GDP)

=

Financial sector size (in % of GDP)

Correlation between size of FS building blocks and economic variables

	Economic risk [Vola of gdp growth]	Financial instability [z-score]	Labor market [unemployment rate]
Private credit	insignificant	increasing	High levels correlate positively with unemployment
Bond market	insignificant	insignificant	
Stock market	mitigating	insignificant	mitigating

Source: Own analysis. For details see Rapp (2016), Rapp & Wolff (2018), From Financial Markets to Corporate Governance. HHL Research Report, and Rapp & Udoieva (2023), Does finance benefit society, Fintech, Pandemic, and the Financial System: Challenges and Opportunities.

How does this contribute to competitiveness?

The IMD World Competitiveness Ranking analyzes and ranks the capacity of countries to create and maintain an environment which sustains the competitiveness of enterprises along four dimensions

- **A** Economic performance
- **B** Government efficiency
- **C** Business efficiency
- **D** Infrastructure

The four dimensions consist of 5 sub-factors each

Factors	Sub-factors (selection)	Ranking Denmark
Economic performance	❑ Domestic Economy	18
	❑ Employment	25
Government efficiency	❑ ...	
Business efficiency	❑ Finance	7
Infrastructure	❑ Technological infrastructure	3
	❑ Scientific infrastructure	10

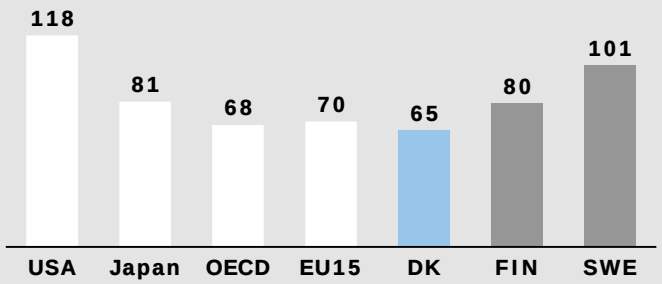
Source: Own illustration. For details see IMD (2022), World Competitiveness Ranking, available at https://www.imd.org/centers/world-competitiveness-center/rankings/world-competitiveness/

What does that mean for Denmark?

1 Stock market

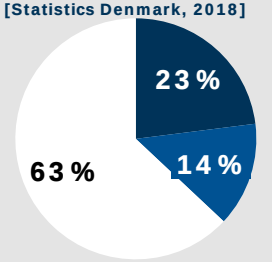
Traditionally, Denmark has a relatively small stock market, which has important consequences for financing conditions

Panel A: Stock market size [2004-2013]



Panel B: Perceived conditions

SME: Equity finance
[Statistics Denmark, 2018]



15 % of large firms in Denmark are financially constrained, according to a survey of the European Investment Bank Financial (2021).

Fully obtained
Not obtained
Partially obtained

Source: Own illustration. Panel A from Rapp (2016). Data for Panel B from Statistics Denmark (www.statbank.dk/ATF2) and EIB (2021), EIB Investmenst Survey, Denmark Overview.

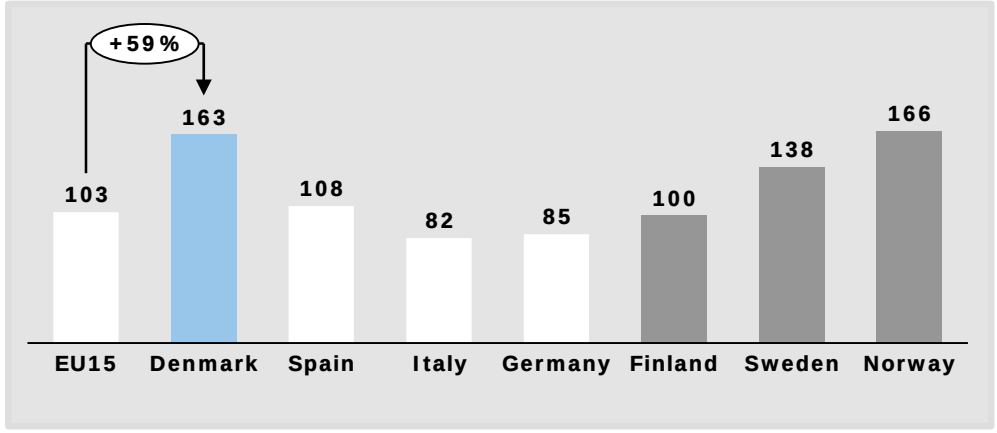
What does that mean for Denmark?

1 **Stock market**

2 **Credit volume**

Traditionally, Denmark operates with relatively large credit volumes

Volume of private credit in percent of GDP [2020]



According to a report by Danmarks Nationalbank (9 June 2022):

- Rising interest rates and prices can challenge banks' customers
  - › Increased prevalence of risky loans among homeowners
  - › Some corporate customers get low debt servicing ability following higher prices and interest rates

Source: Own illustration. Data from World Bank's Global Financial Development Database (Version 2022). Report of Danmarks Nationalbank available at www.nationalbanken.dk/en/publications/Pages/2022/06/Financial-stability----Rising-interest-rates-and-prices-can-challenge-banks%E2%80%99-customers.aspx

What does that mean for Denmark?

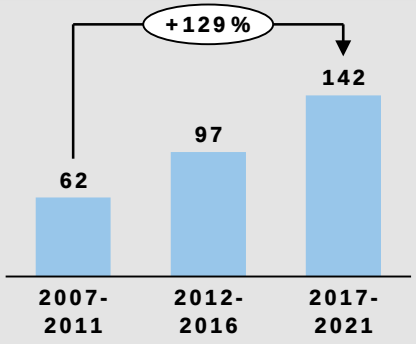
1 **Stock market**

2 **Credit volume**

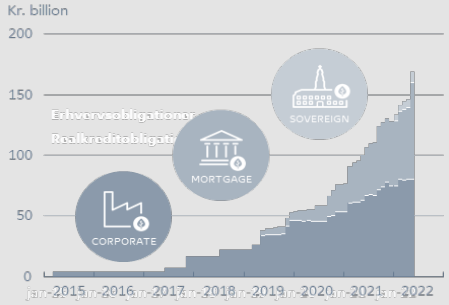
3 **“Good news”**

There are some very promising developments

Panel A: Stock market

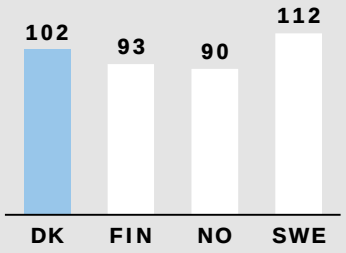


Panel B: Green bonds



Panel C: Fintechs

According to a report by EY and Copenhagen Fintech examining startups aiming to serve SME enterprises



Source: Panel A and C own illustration. Data for Panel A from Statistics Denmark. Figure in Panel B from Danmarks NationalBank (2022), The market for green bonds is booming (9 June 2022), available at https://www.nationalbanken.dk/en/statistics/find_statistics/Documents/Securities/Securities%2020220629.pdf. Data for Panel C from EY & Copenhagen Fintech (2022), The untapped potential for fintech companies to serve small and medium-sized enterprises, available here: https://www.ey.com/en_dk/financial-services/the-untapped-potential-for-fintech-companies

Summary

- This talk aimed to shed lights on the question, **whether (or not) the financial sector is creating value and contributing to competitiveness?**

- It borrows from insights gained during the **Nordic Finance and the Good Society research project** organized and hosted by the **Center for Corporate Governance** at Copenhagen Business School, where we study whether (and how) the financial sector can add value to society.

- Much of the macroeconomic literature addresses the question by studying the "finance-growth nexus" using GDP to measure economic activity
  - The data shows that countries with more developed financial sectors exhibit higher levels of economic activity.
  - The stock market plays an important role and contributes positively to economic growth.
  - The data shows similar patterns when economic risk, financial stability, or the labor market is examined.
  - This also affects competitiveness of enterprises as studied by IMD World Competitiveness.

- This research has important consequences for **Denmark**
  - Firms may perceive to be financially constraint (regarding equity finance), because of rather limited stock markets.
  - In contrast, relatively large credit volumes may jeopardize economic development.
  - However, there are also some very promising developments: The stock market has developed over the last years, green bonds are gaining momentum, and there is an active fintech ecosystem.

Congratulations, Denmark!

The importance of the financial sector when building for growth & creating a competitive edge. How are banks helping?

Lars Alstrup, Nordic Head of Advisory Banking, Danske Bank

Copenhagen Business School, October 4th 2022

Throughout history, the financial sector has played a major role in supporting societal transformations & driving economic development

1871–1910
From agriculture…

1890–1960
… to industrialisation...

1960–1990
… to urbanisation …

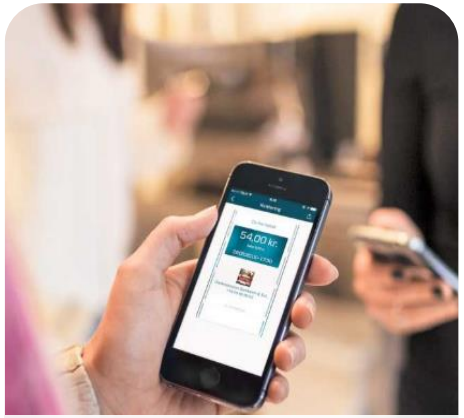
1960–2021
… and digitalisation

Danske Bank

THE ROLE OF FINANCIAL SECTOR

Allocate capital to the right companies & projects is key to drive growth & support competitiveness

Access to financial advisory and tools is key to support customers' financial well-being & success

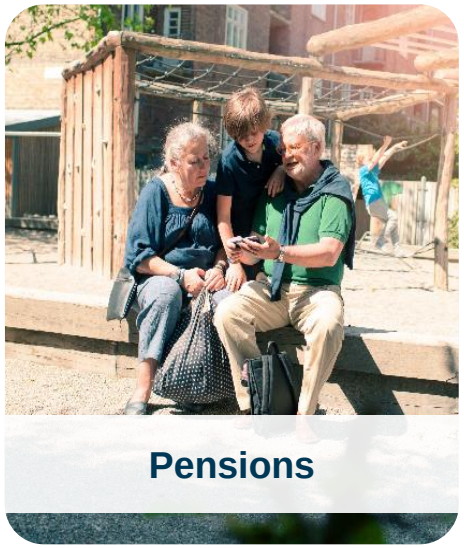


Personal banking

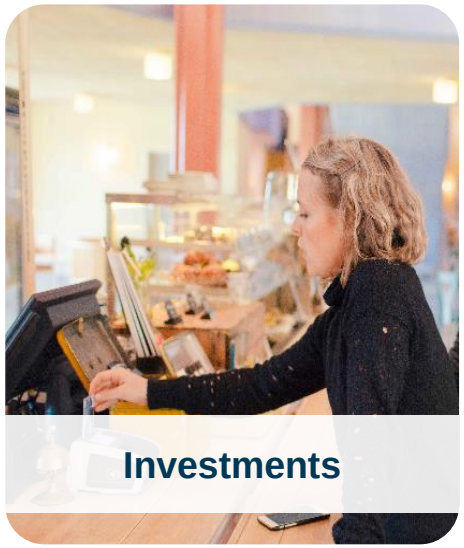
Business banking

Corporate finance & institutional services

Mortgage finance



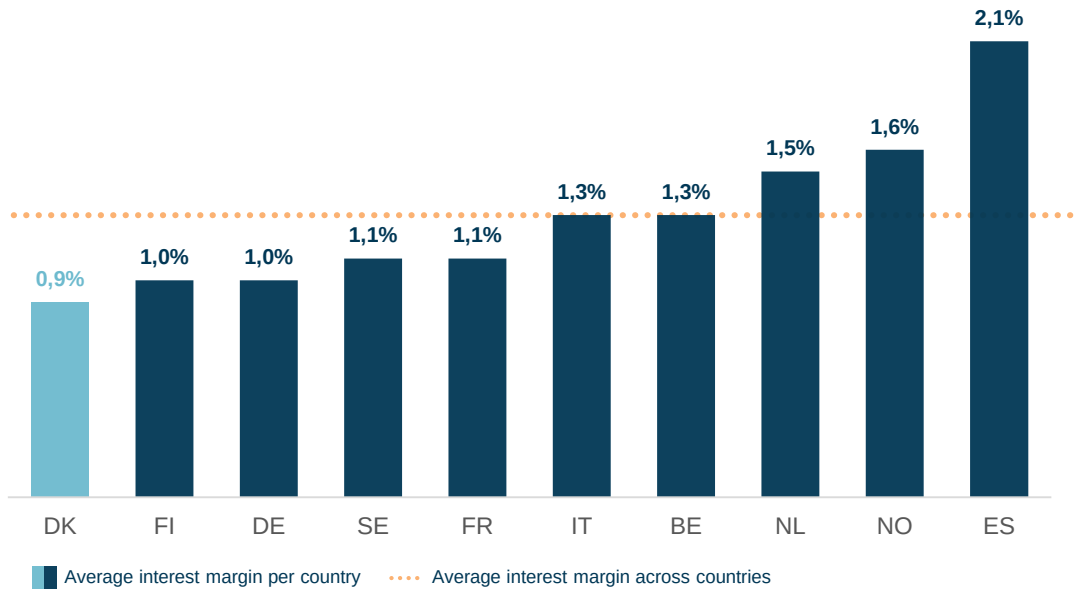
Pensions



Investments

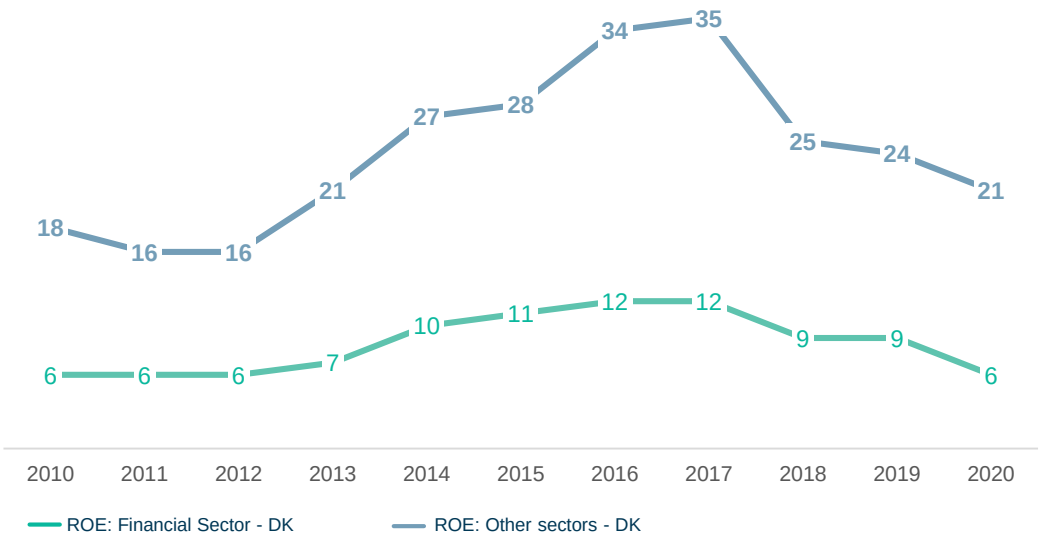
We have a competitive financial sector with low costs – benefitting the overall competitiveness of Danish companies

Net interest margin for selected European countries



Note : Weighted average per country. EBA Risk Dashboard Q4 2020 vs. 2022
Source: Finans Danmark analysis of annual reports

Return on equity for Danish banks vs. other sectors



Source: Copenhagen Economics (2021): “Konkurrencen i den danske banksektor Delrapport: Er der tegn på overnormale afkast på kapital i sektoren?”

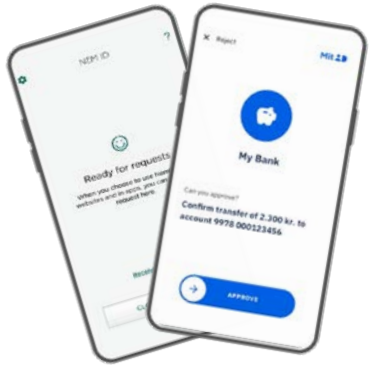
The Danish financial sector has also been a key driver in the digitalization making it easy to manage financials

MobilePay

Digital Banking

Digital payments

Nem ID & Mit ID

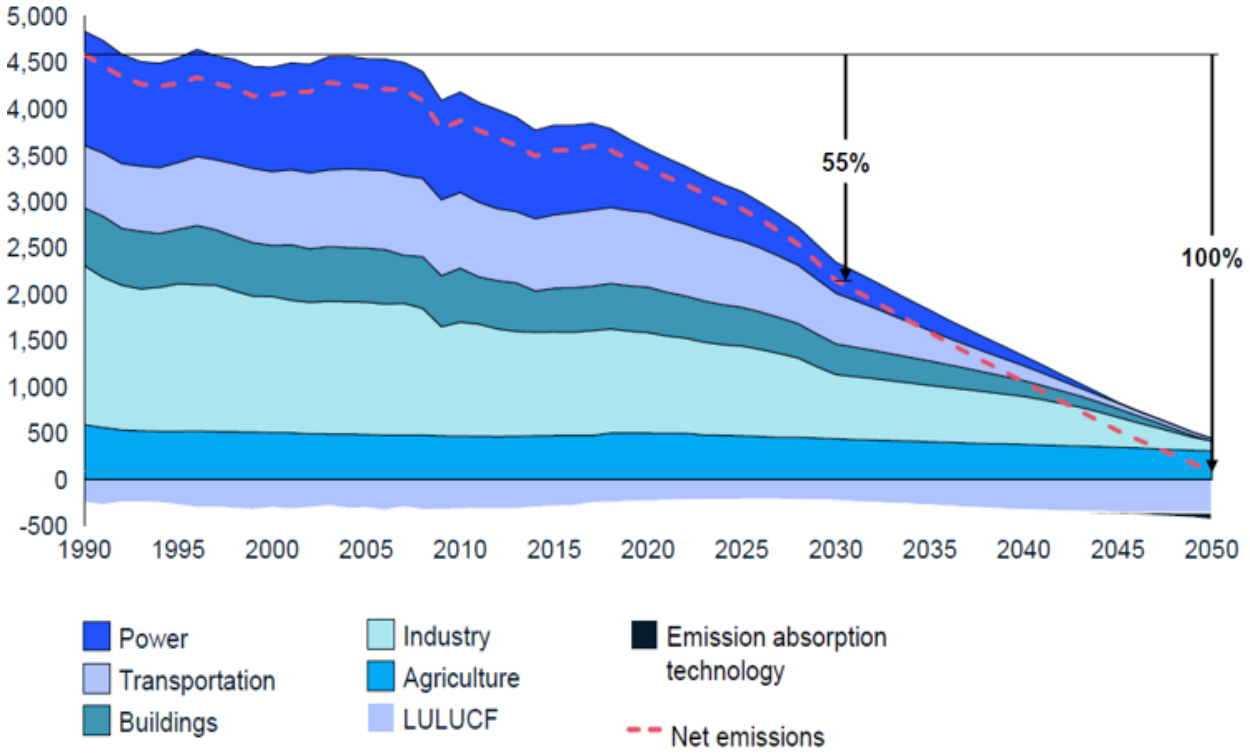


Reduced resources spent on payments by DKK 7 billion since 2009

The next transformation to address is the change into a more society – 350€ bn needed annually in EU to reach net-zero

TOTAL EMISSIONS IN TRANSITION TOWARDS NET-ZERO

EU27 ($MtCO_2e$ excl. aviation and shipping)



DANSKE BANK : SUSTAINABEL FINANCE AMBITIONS

Responsible investing

DKK 150bn in funds with sustainability objectives and **DKK 50bn** invested in the green transition by Danica Pension

Sustainable financing

DKK 300bn in sustainable financing – and setting Paris Agreement aligned climate targets for our lending portfolio

In Danske Bank, we are committed to take ad on sustainable finance & supporting the growth and competitivenes companies

Danske Bank's Purpose:

Release the potential in people and businesses by using the **power of finance** to create **sustainable progress** today and for generations to come.

Advisory

Products & solutions
(including financing)

Partnerships

Questions