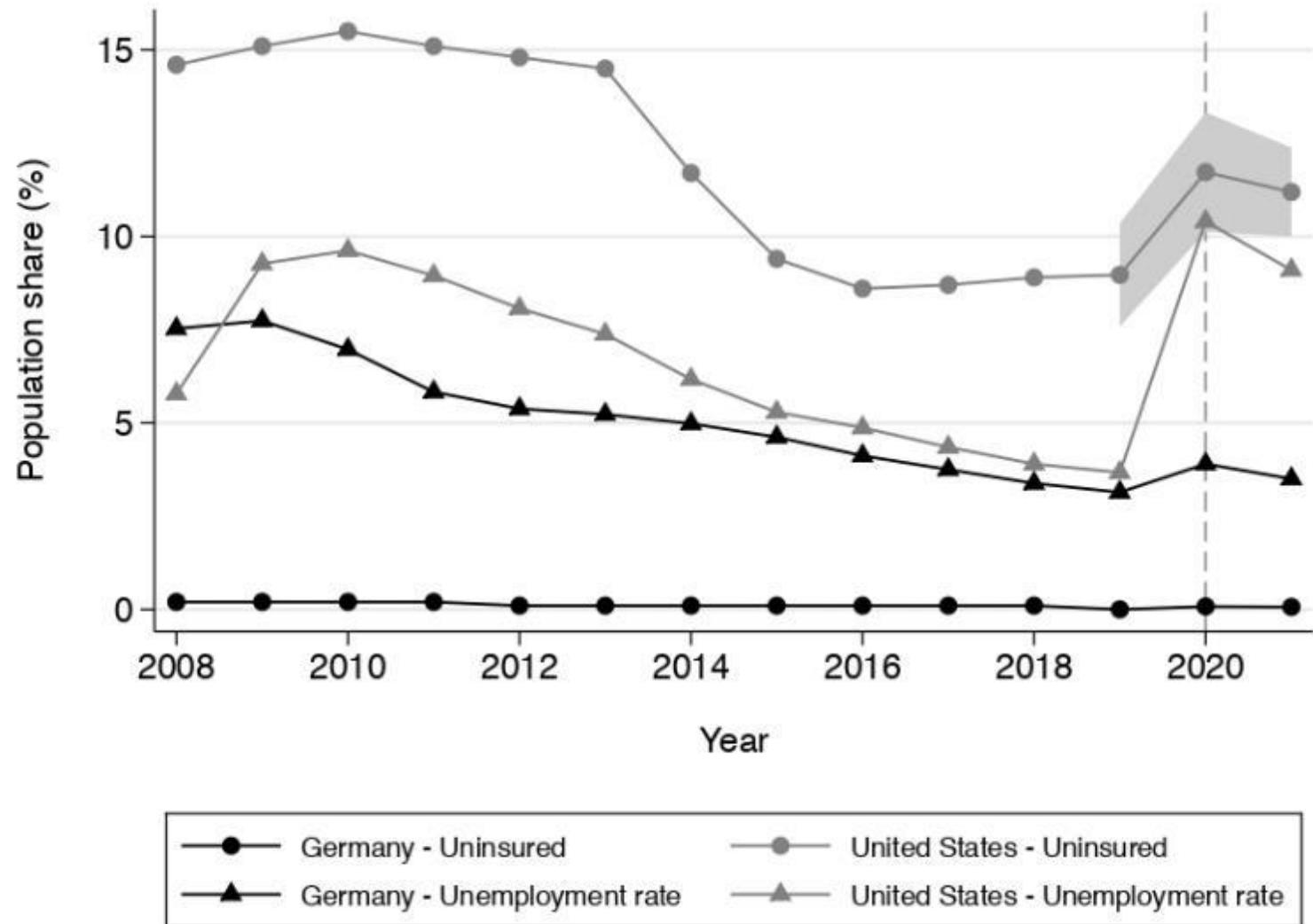
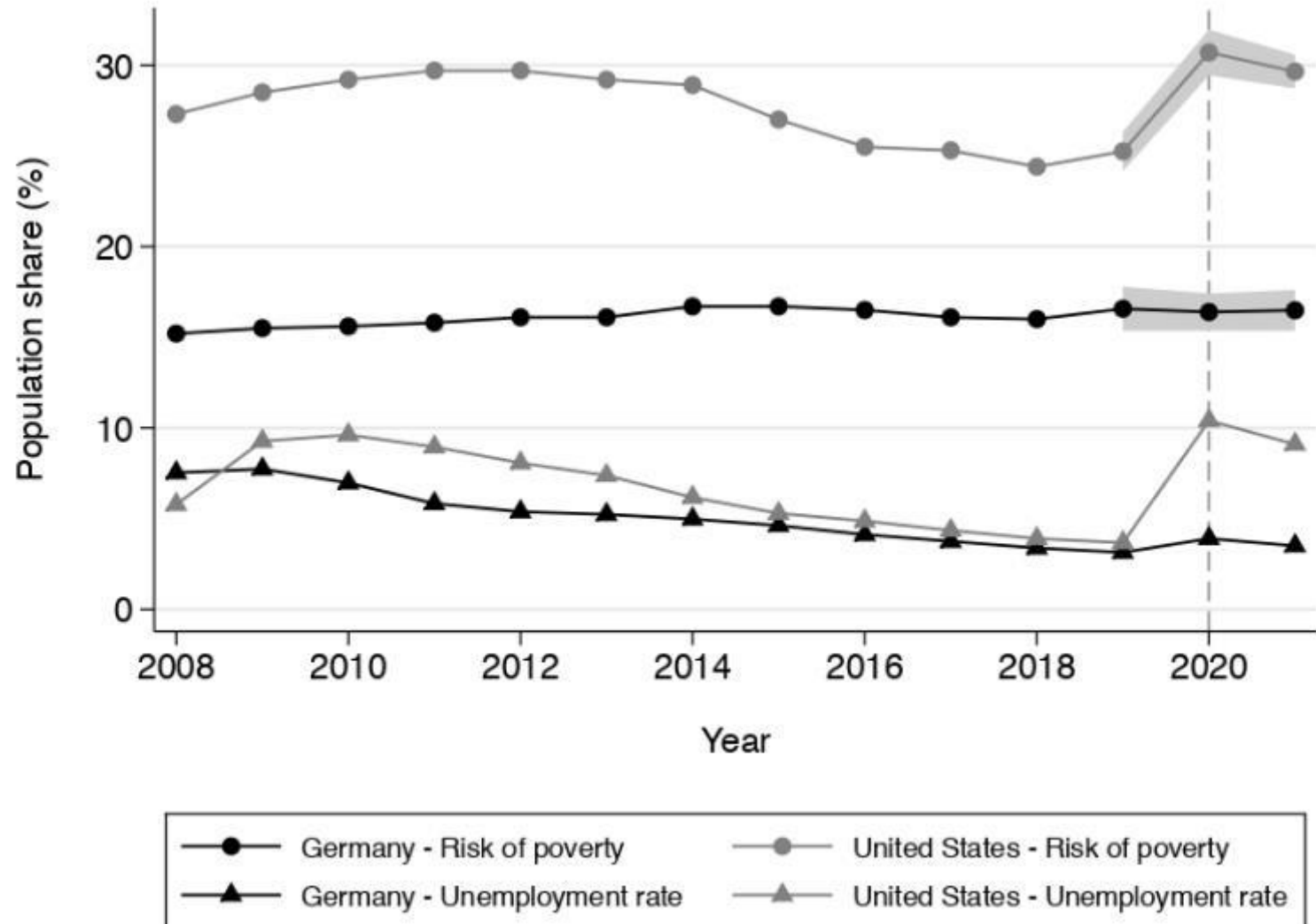


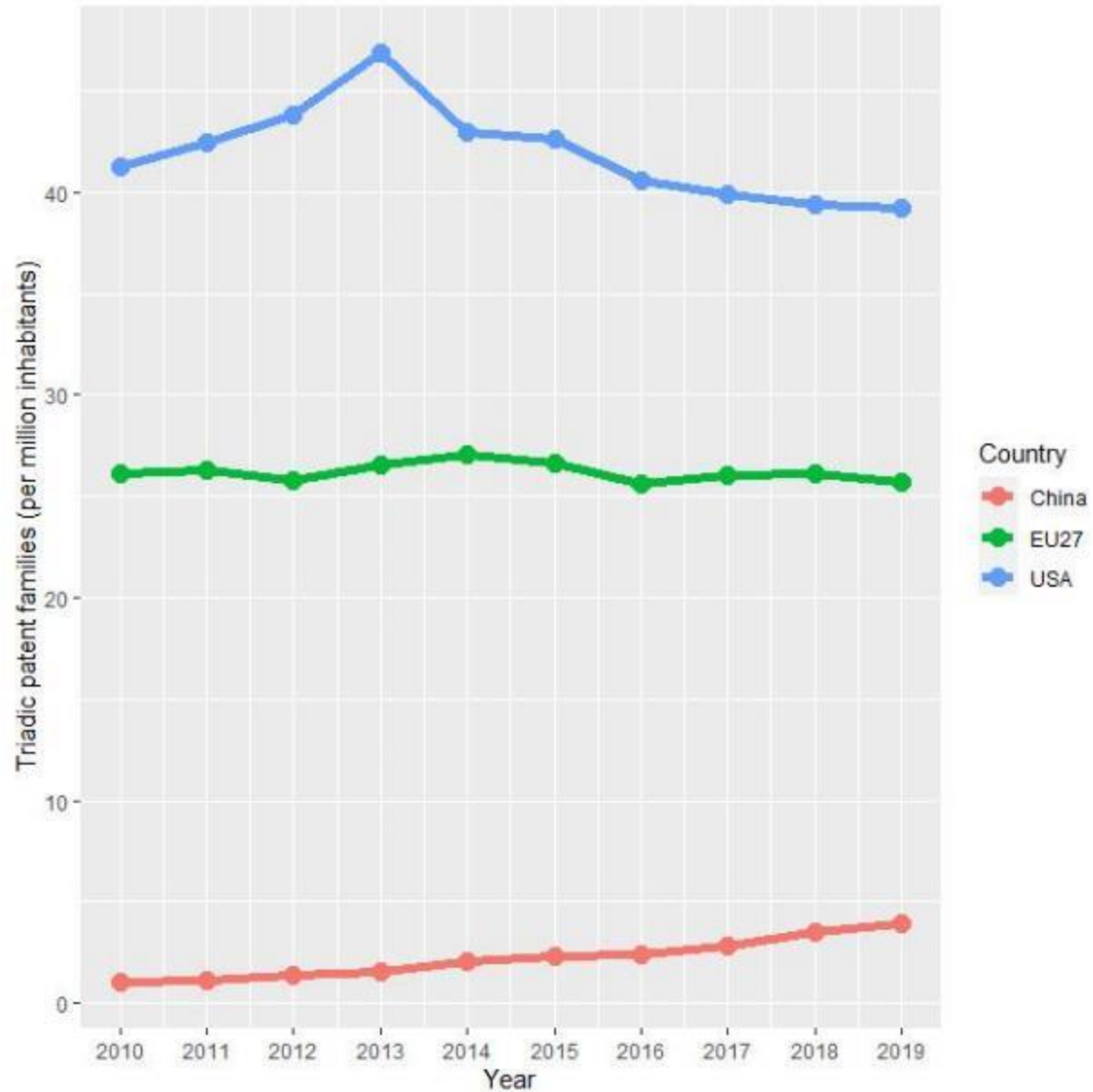
COVID AS REVELATOR



COVID AS REVELATOR



COVID AS REVELATOR



Triadic patents (per million inhabitants)

Table C.1. Number of Patents per Country, Average from 2010–2017

	Patent Applications per Million Inhabitants	Number of Top 5% Patents per Citations	Percentage of Top 5% Patents per Citations
Germany	617.1	170.5	0.4%
Denmark	87.4	0.0	0%
United States	1,186.4	32,678.0	71.7%
France	231.1	5.9	0%
Norway	316.4	0.3	0%
Sweden	129.8	0.3	0%

Data source: Patstat. Author's calculations.

COVID AS REVELATOR

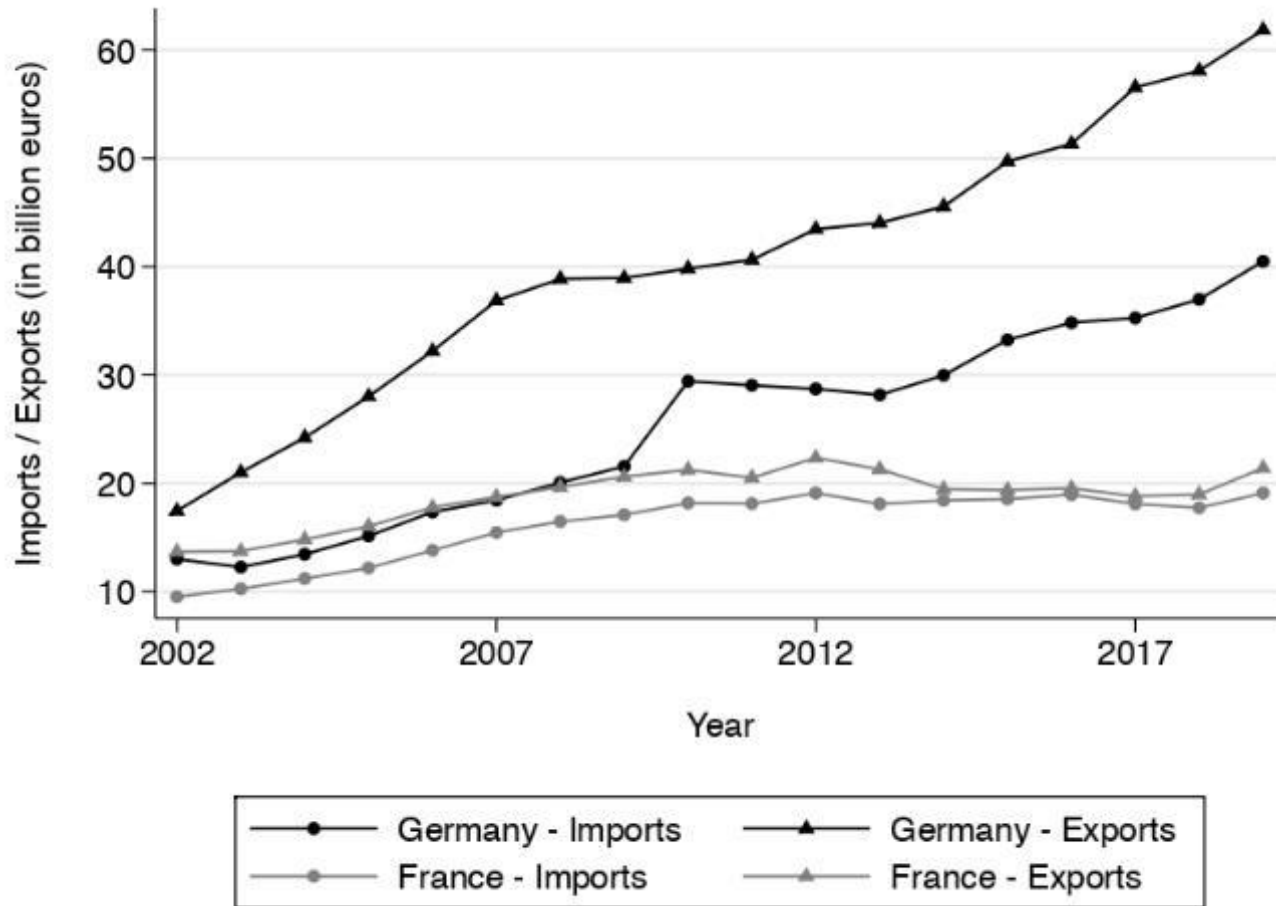
Brevets en biotechnologies (pour 1 million d'habitants)

	2010	2011	2012	2013	2014	2015	2016
US	10.37	10.56	10.84	12.25	11.74	12.71	12.77
EU27	5.12	5.19	5.02	4.87	5.13	5.02	4.67
OECD - Total	6.69	6.75	6.69	7.11	7.17	7.47	7.48
China	0.23	0.25	0.25	0.31	0.34	0.42	0.49

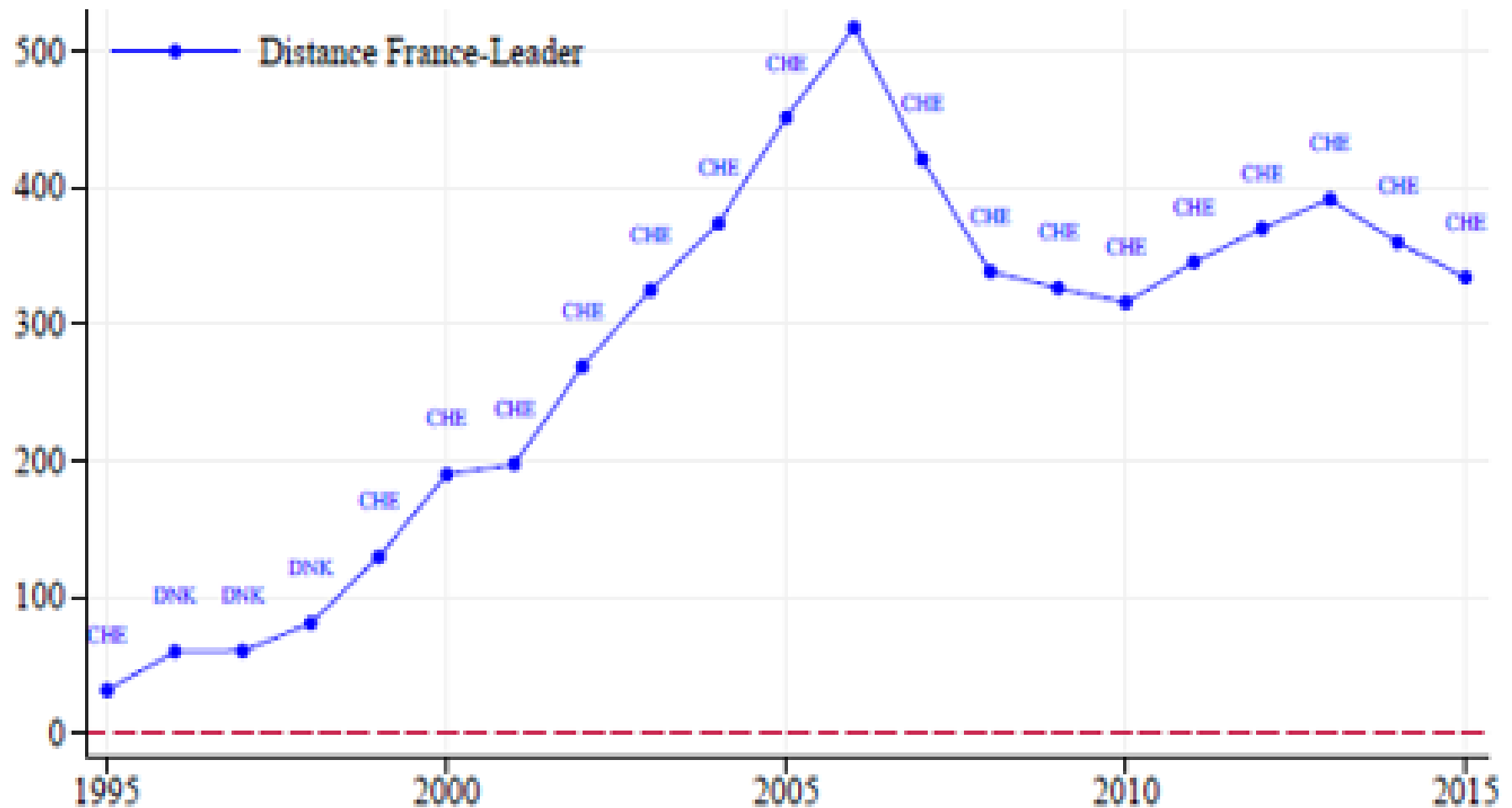
Source: Authors' calculations using OECD data.

Notes: Reference country: Inventor's country of residence. Reference date: priority date.

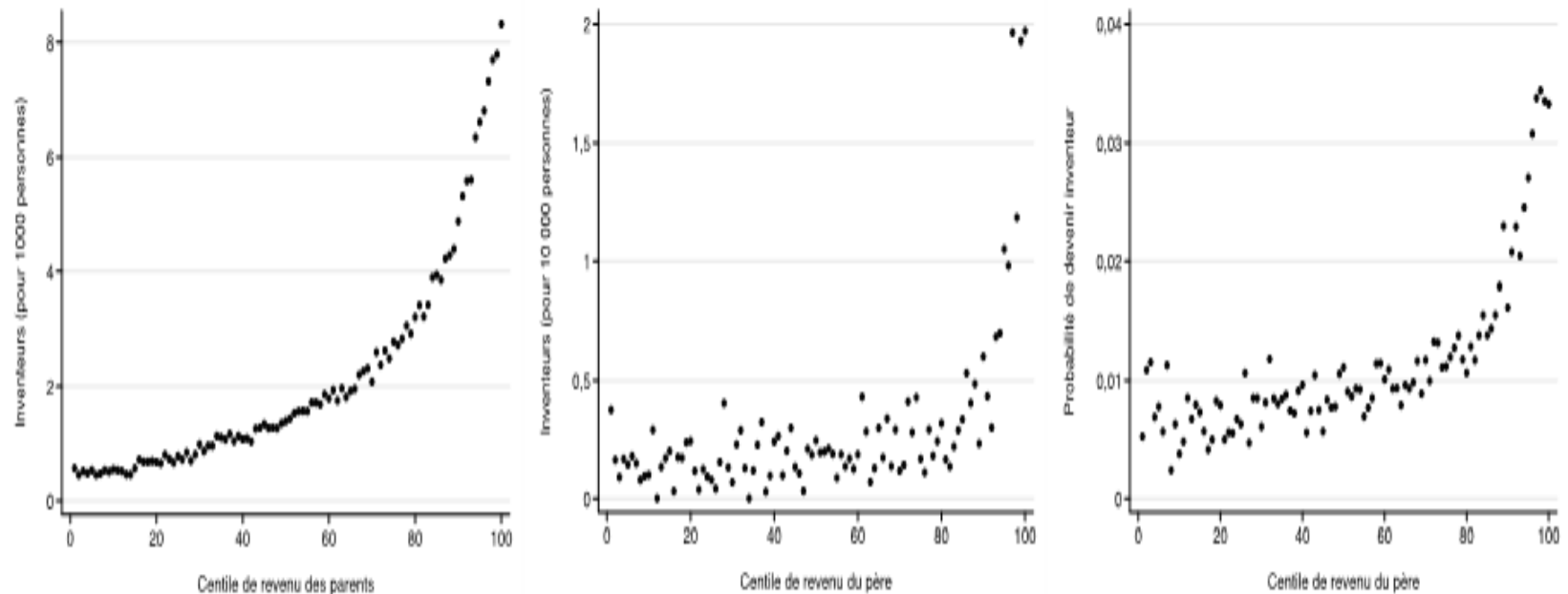
EVOLUTION OF IMPORTS AND EXPORTS OF PRODUCTS INTENDED FOR THE FIGHT AGAINST COVID-19



MEDICAL AND PHARMACEUTICAL TECHNOLOGIES



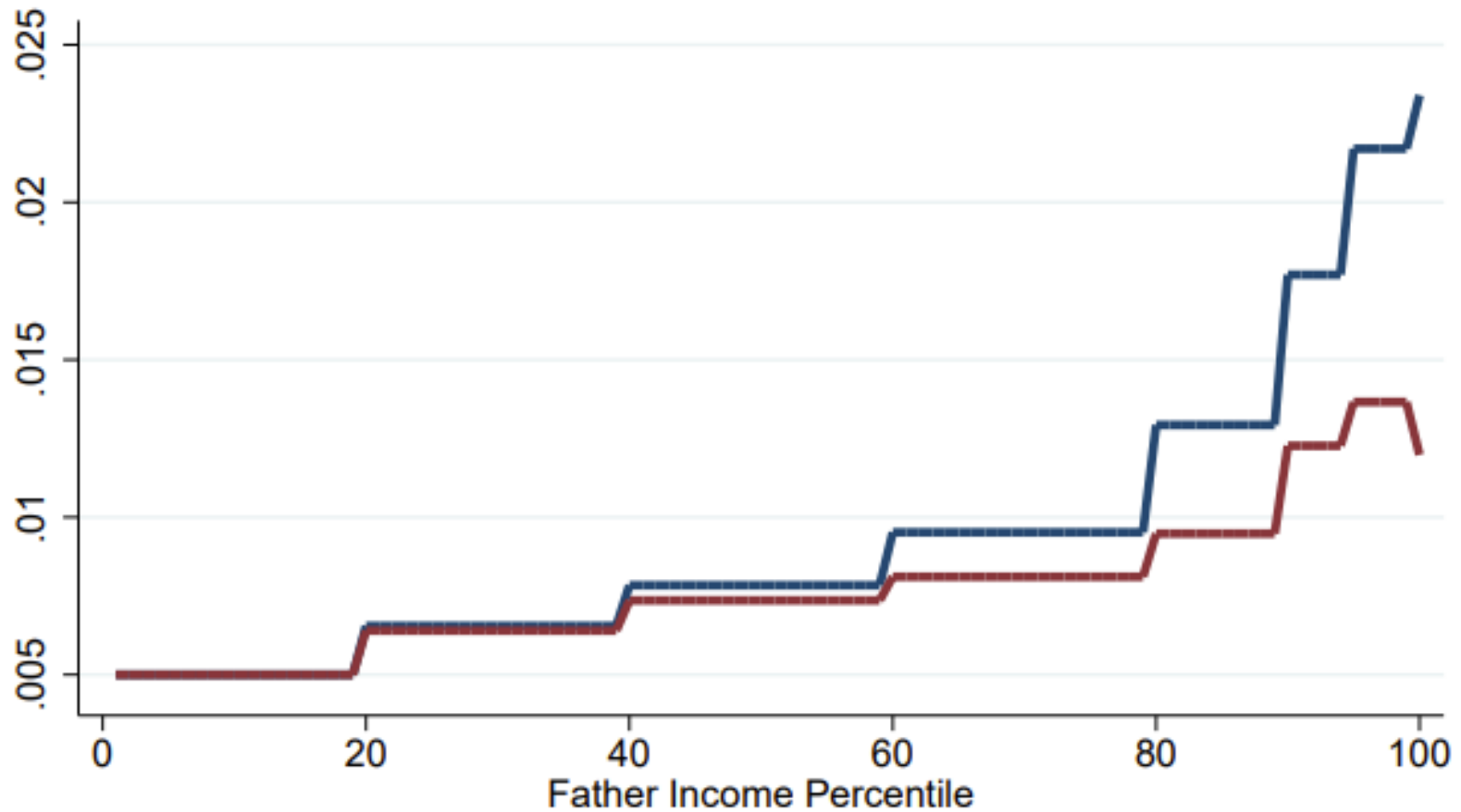
EDUCATION



Sources : Bell, Chetty, Jaravel, Petkova et Van Reenen (2019) ; Akcigit, Grigsby et Nicholas (2017) ;
Aghion, Akcigit, Hyytinen et Toivanen (2017).

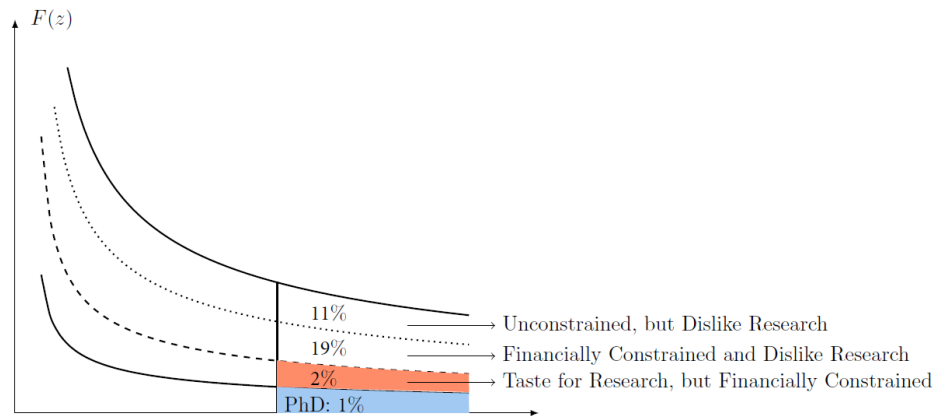
EDUCATION

Who Becomes an Inventor?



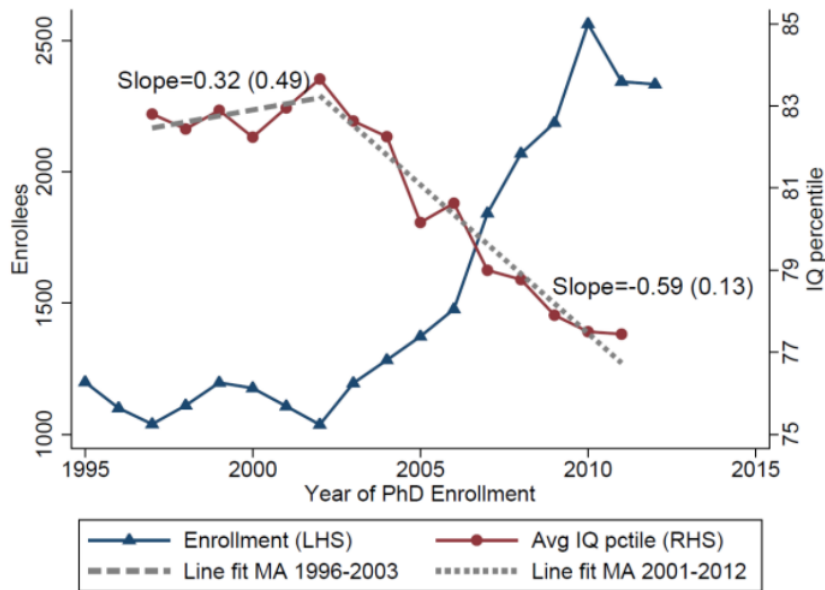
Deux limites à l'accession au doctorat par les plus talentueux ...

FIGURE 16: THE ALLOCATION OF TALENT IN THE ECONOMY



- Le coût des études privent certains de l'obtention d'un doctorat (revenus familiaux insuffisants)
- Le manque d'attractivité des métiers de la recherche (salaires, préférences...)

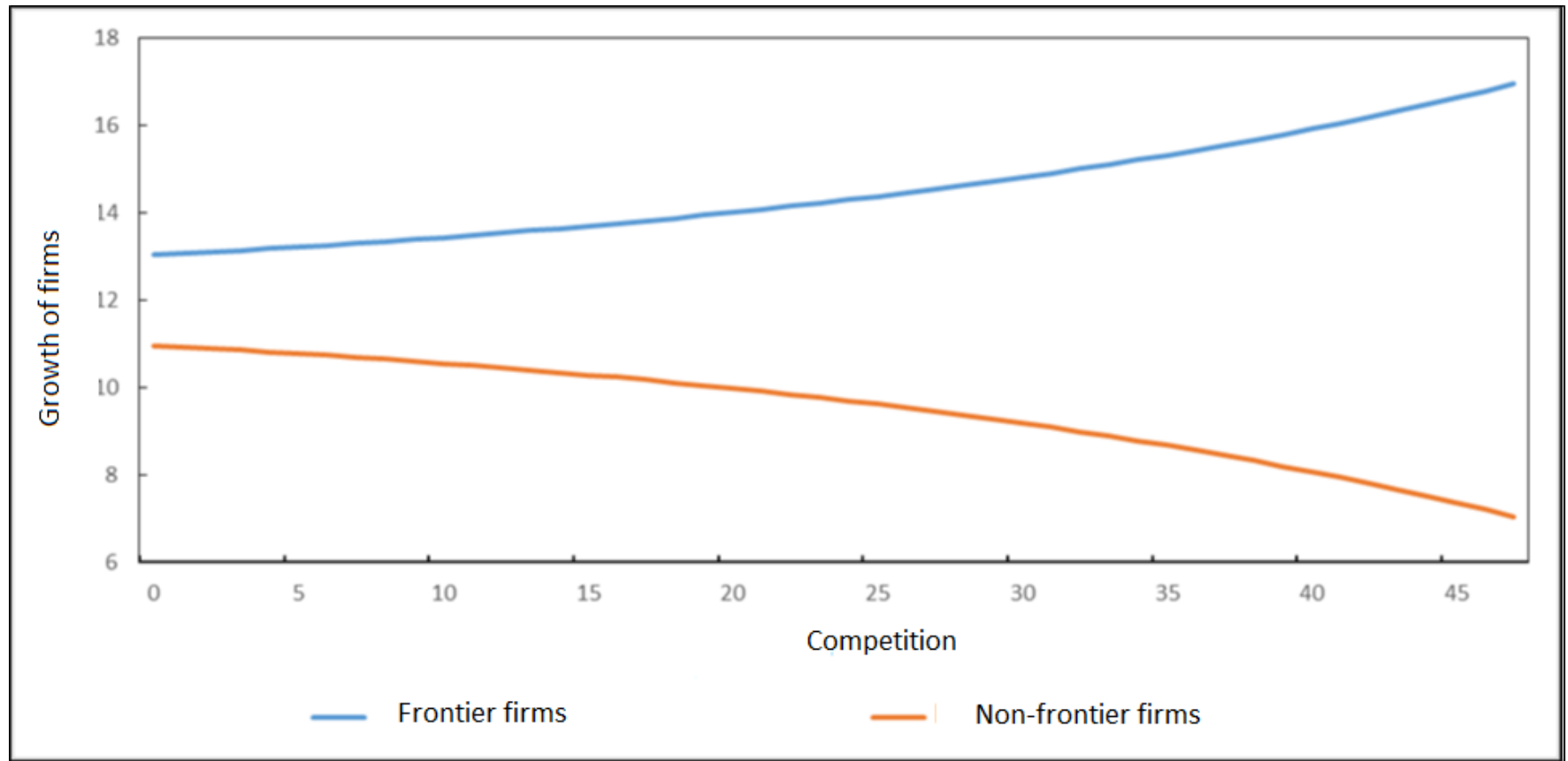
Fait 9: Un arbitrage, nombre de chercheurs vs qualité des chercheurs



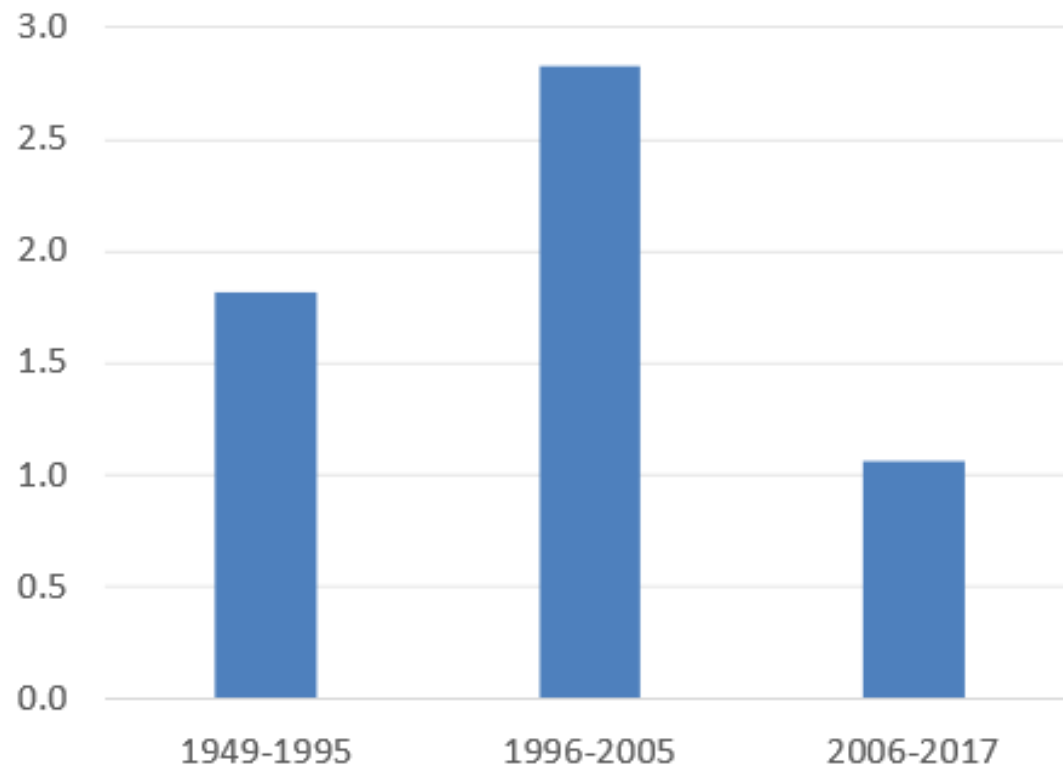
Plus le nombre de doctorants augmente, plus leur QI moyen diminue...

21/10/2021

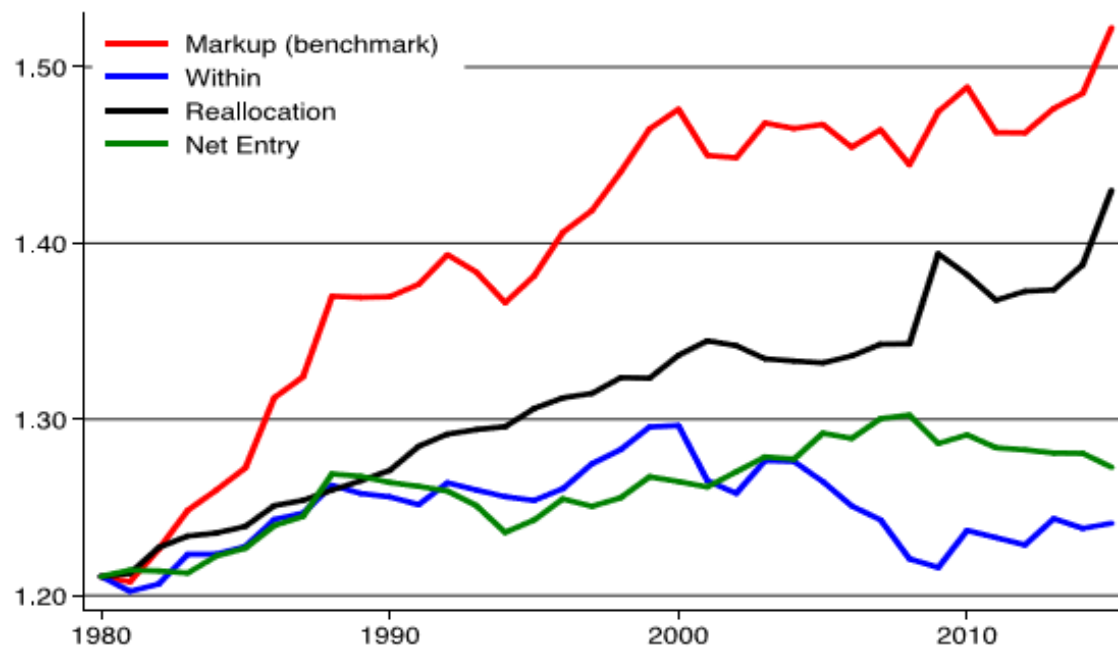
COMPETITION, GROWTH AND DISTANCE TO FRONTIER



RISE AND DECLINE IN TFP GROWTH

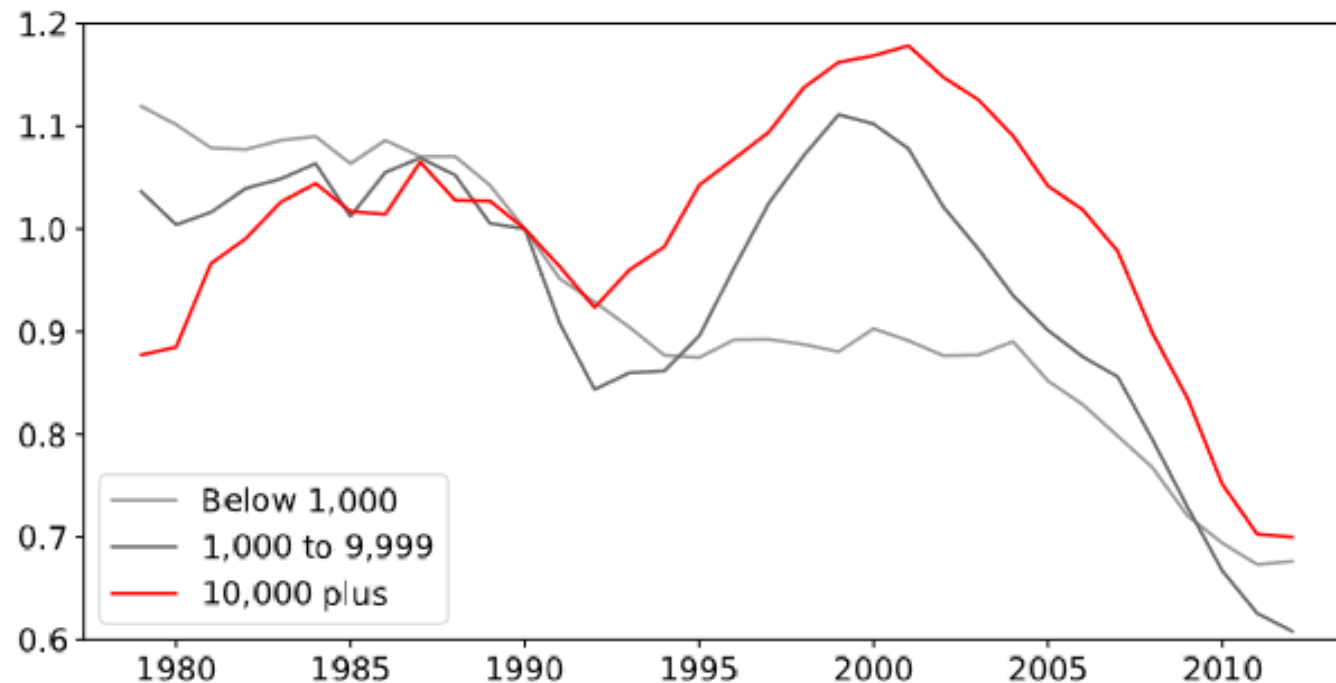


WITHIN FIRM MARKUPS



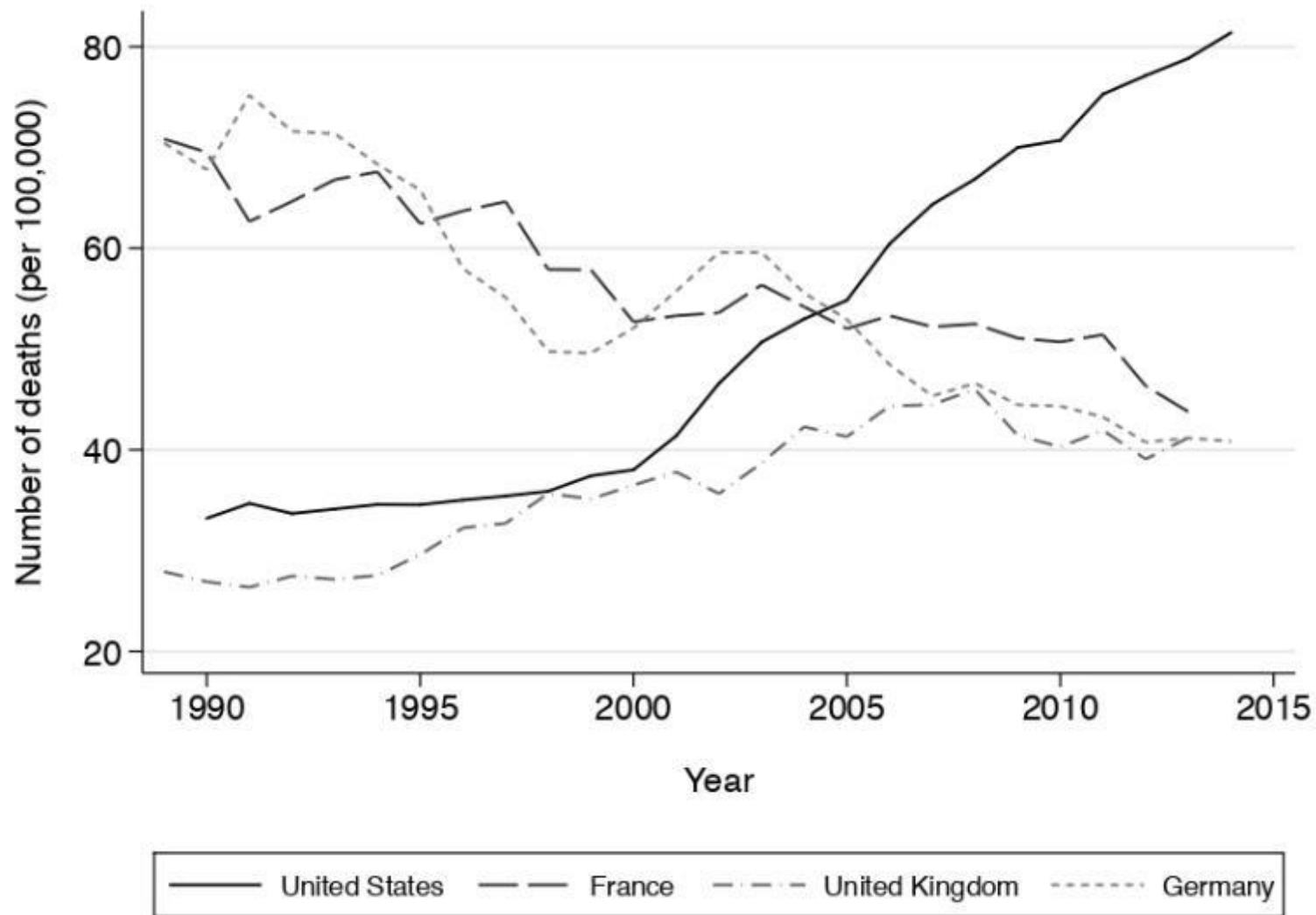
Source: De Loecker, Eeckhout and Unger (2018).

Rise and decline in employment-weighted plant entry rate



Source: U.S. Census Bureau's *Business Dynamics Statistics*. Job creation by birth over total employment by firm size bins. 5-year centered moving average.

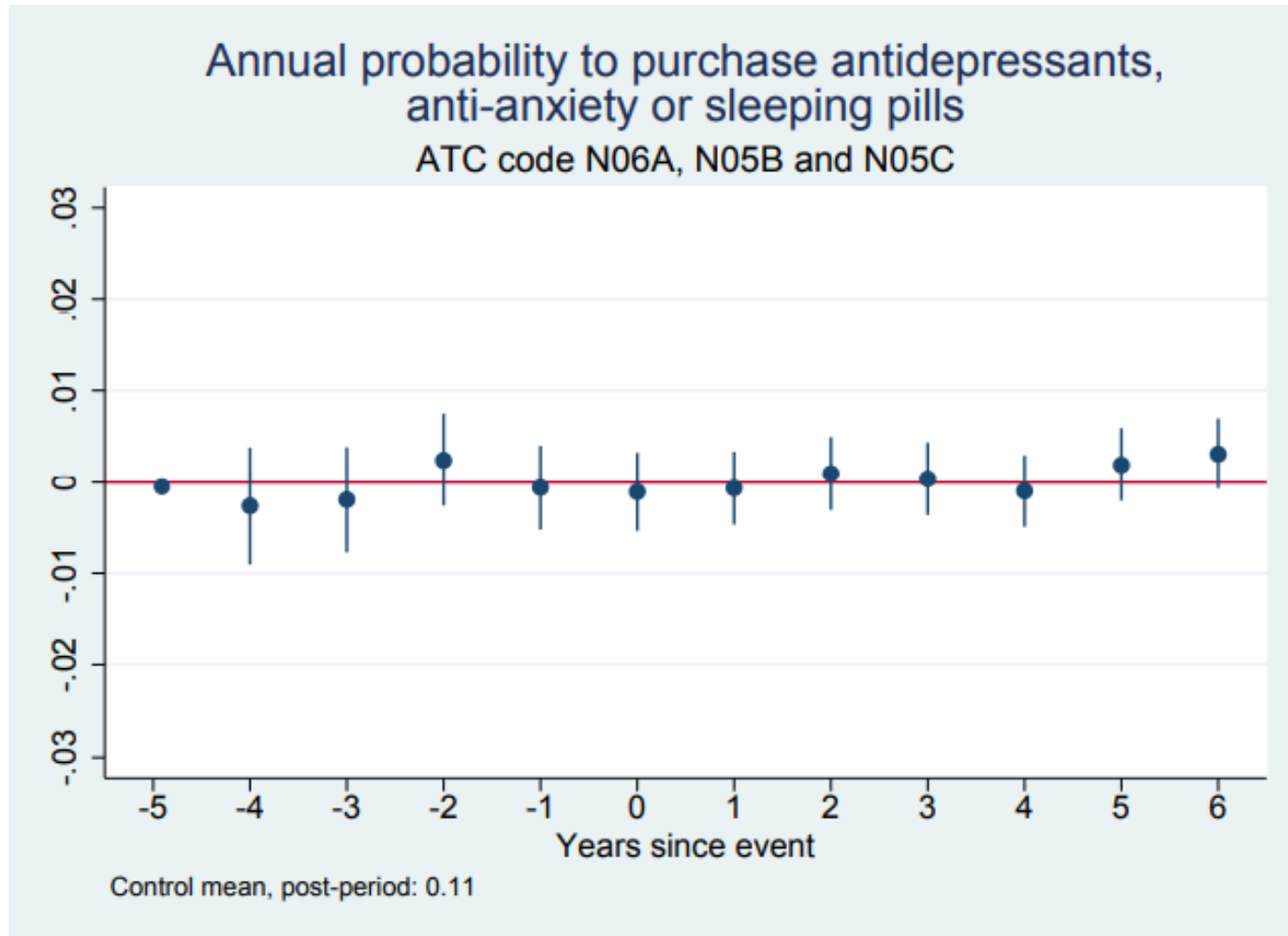
FLEXSECURITY



Source: Case and Deaton (2017).

ALEXANDRA ROULET ON DENMARK

Moving to health: Antidepressants and related drugs



ALEXANDRA ROULET ON DENMARK

Heart attacks

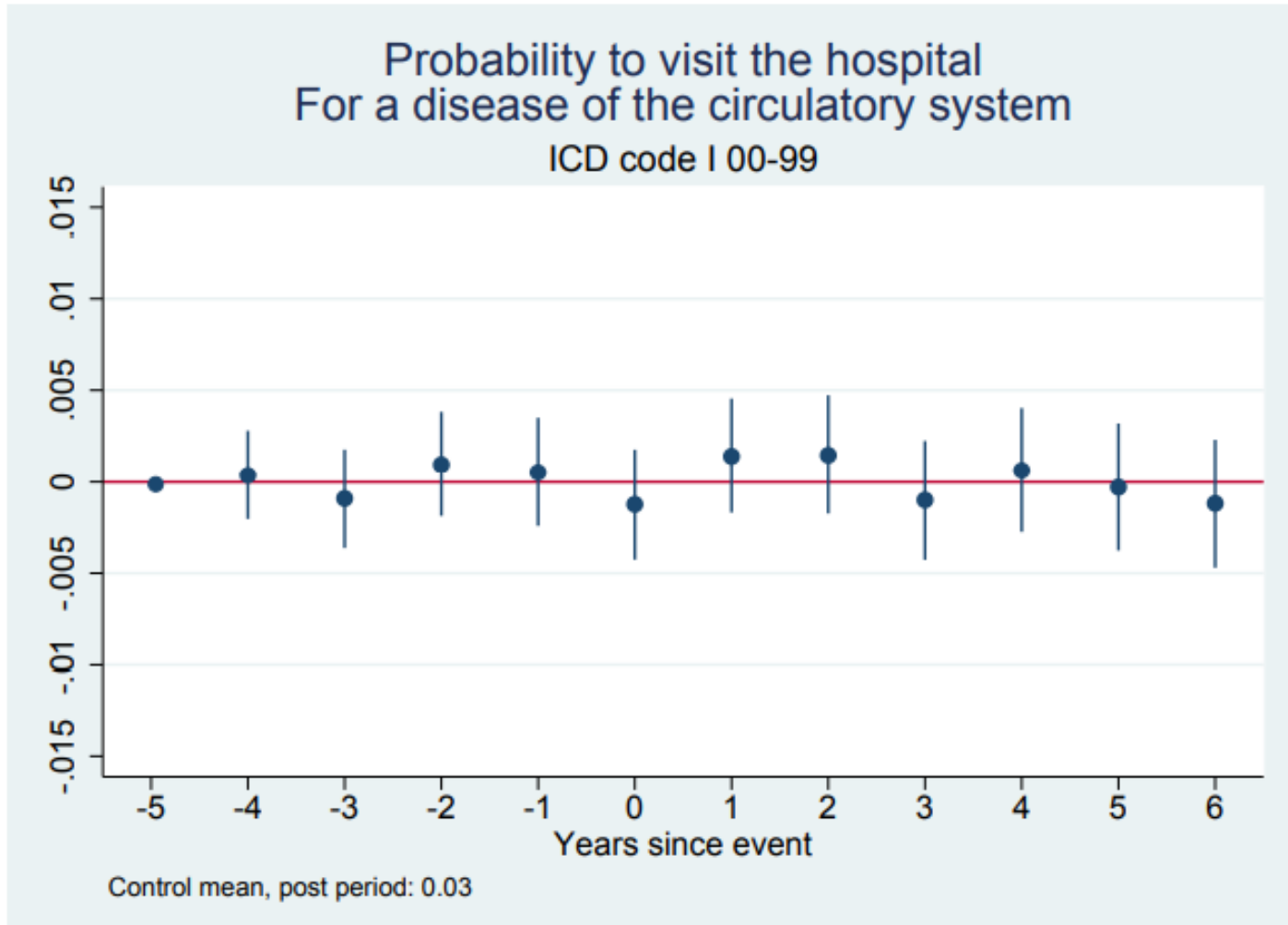
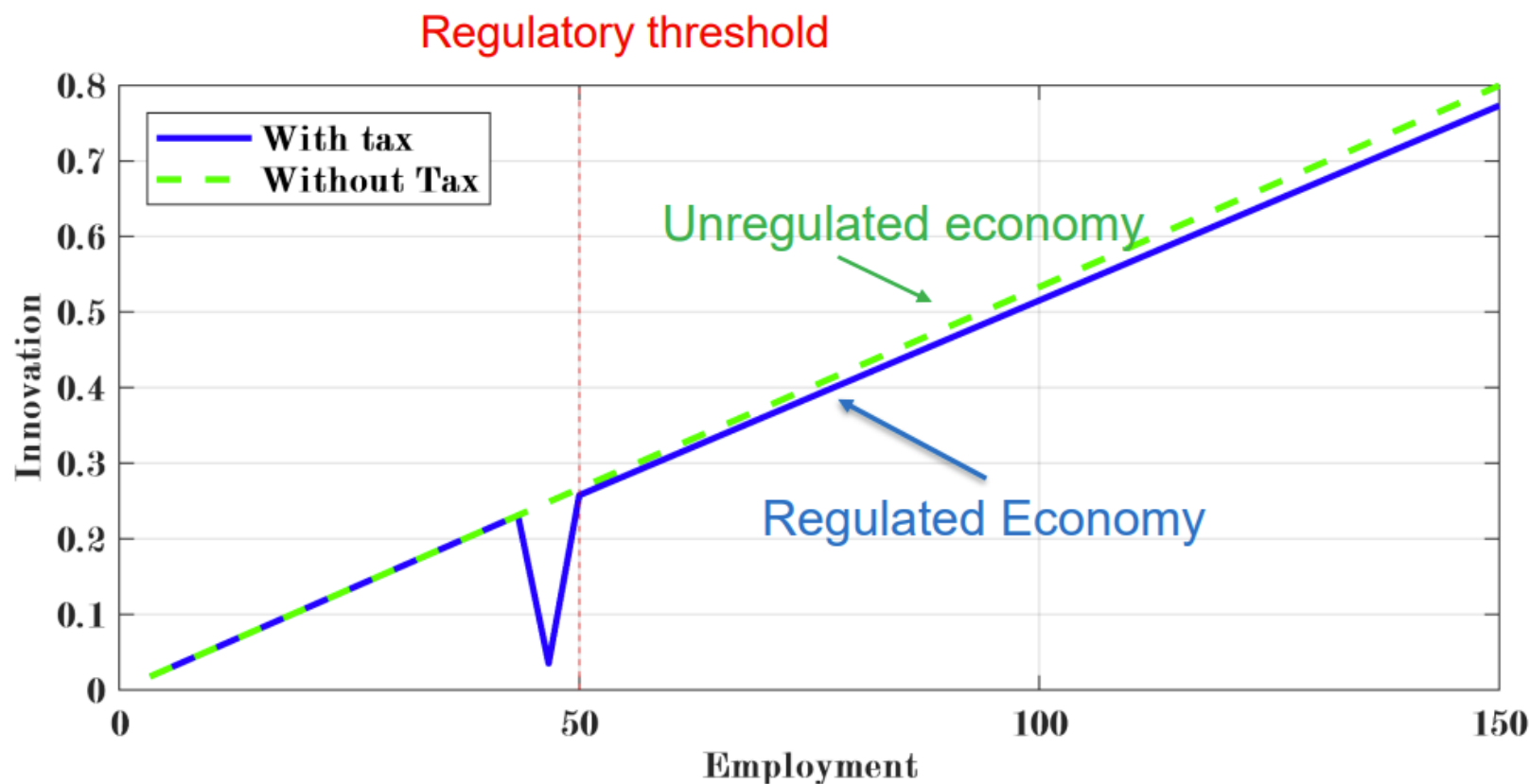


Fig. 1: Firm Innovation and Firm employment



Steady State Firm Size distribution with and without regulation

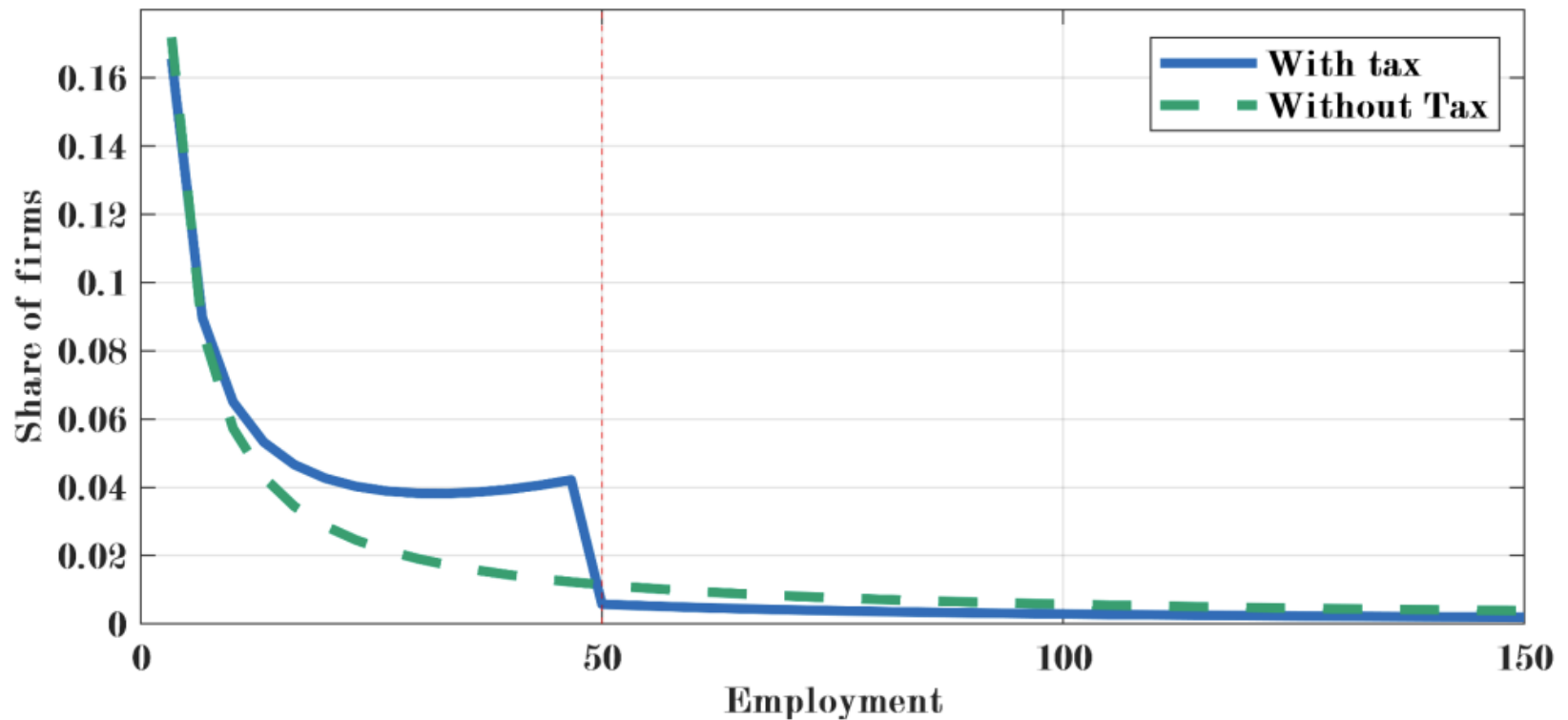
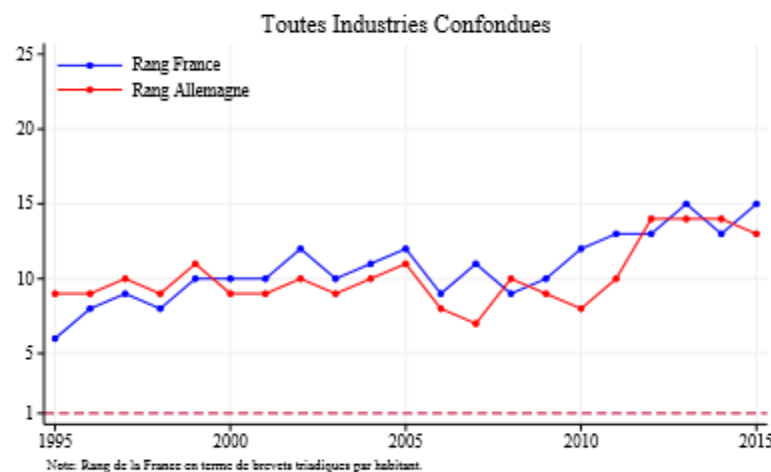
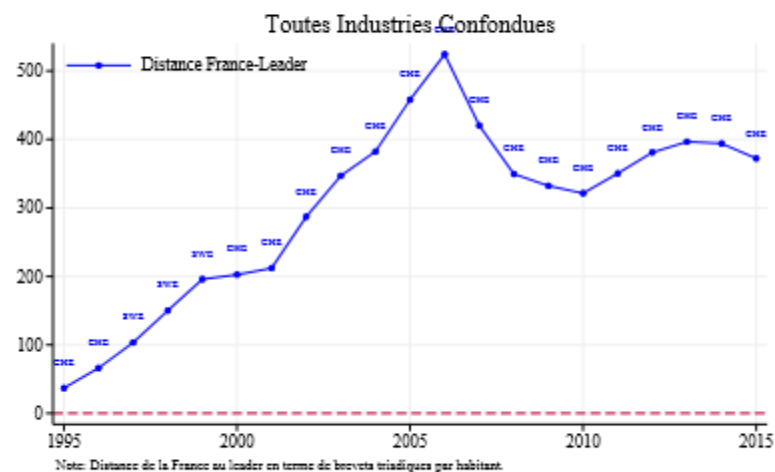


Figure 7: Évolution de l'innovation en France

(a) Rang



(b) Distance au meilleur



NOTE: L'innovation est mesurée par le nombre de brevets triadiques par habitant.

COVID AS REVELATOR

Financing from BARDA to fight COVID-19

Type of Product	Total Award Amount (\$)	Total number of funded companies	Total number of funded products
Vaccines	10,799,025,489	7	7
Diagnostic	44,996,752	22	28
Therapeutics	991,702,154	9	9
Rapidly Deployable Capabilities	10,432,068	9	9
Other	37,333,253	4	4
Total	11,883,489,716		

COVID AS REVELATOR

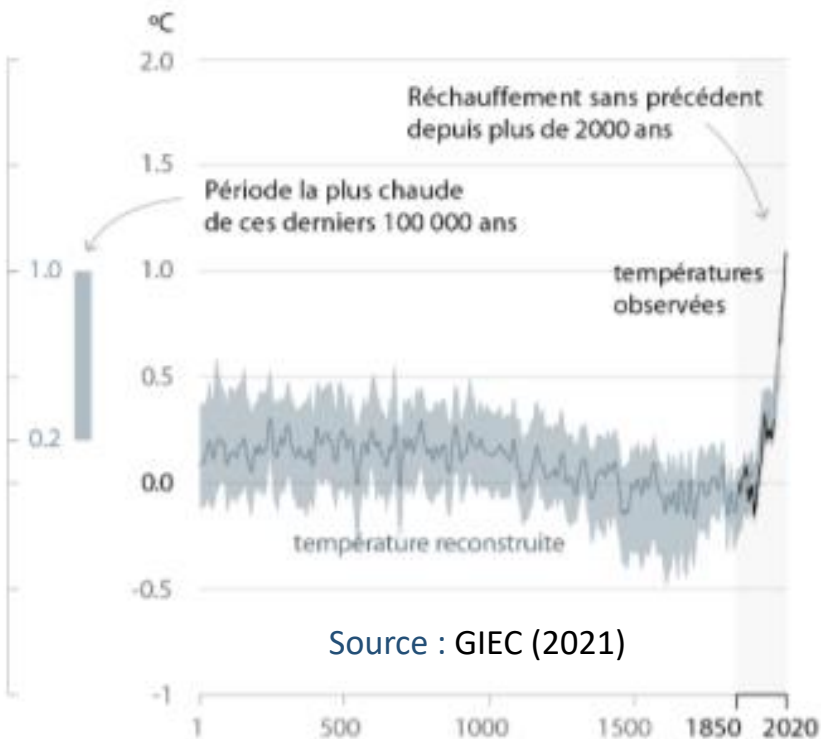
Financing from the European Commission and the European Investment Bank

Funding Purpose	Amount (USD)
European Commission	
R&D	1,081,600,000
Preparedness and emergency response	217,107,249
Unallocated	436,667,248
Vaccine development	109,166,812
Total EC	1,844,541,309
European Investment Bank	
Manufacturing and delivery of therapeutics	63,316,751
Manufacturing and delivery of vaccines	91,700,122
Preparedness and emergency response	2,025,044,367
Total EIC	2,180,061,240

Source: Authors' calculations using data from the COVID-19 Health Funding Tracker, from The Economist.

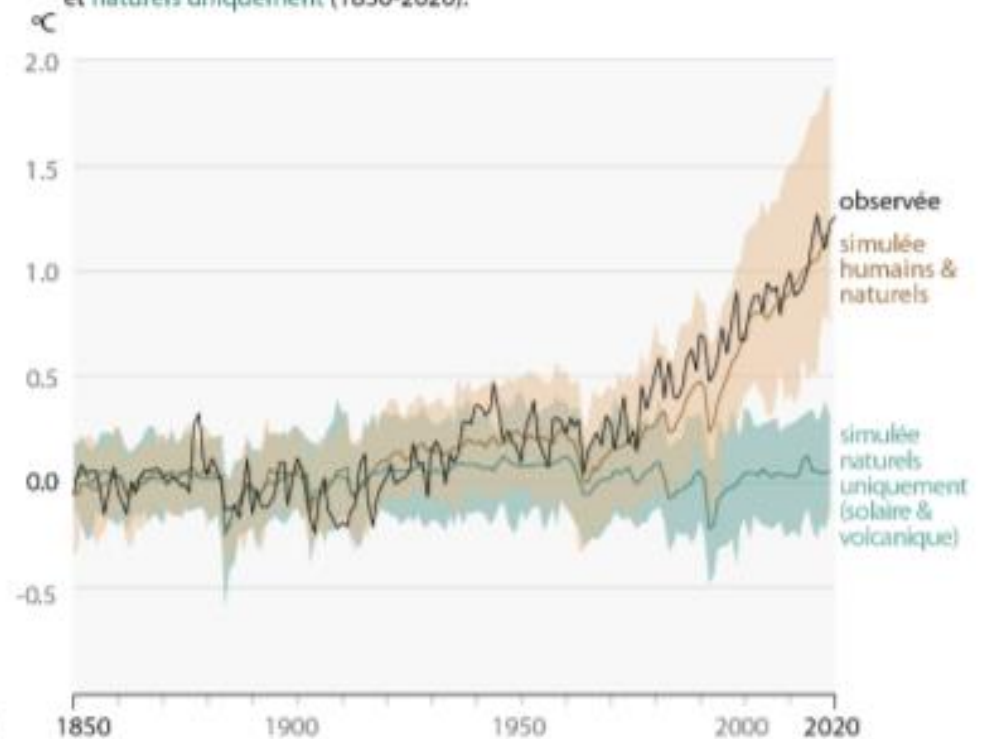
SURFACE TEMPERATURE COMPARED TO THE AVERAGE OF THE PERIOD 1850-1900

a) changement de la température de surface mondiale (moyenne décennale) reconstruite (1-2000) et observée (1850-2020)

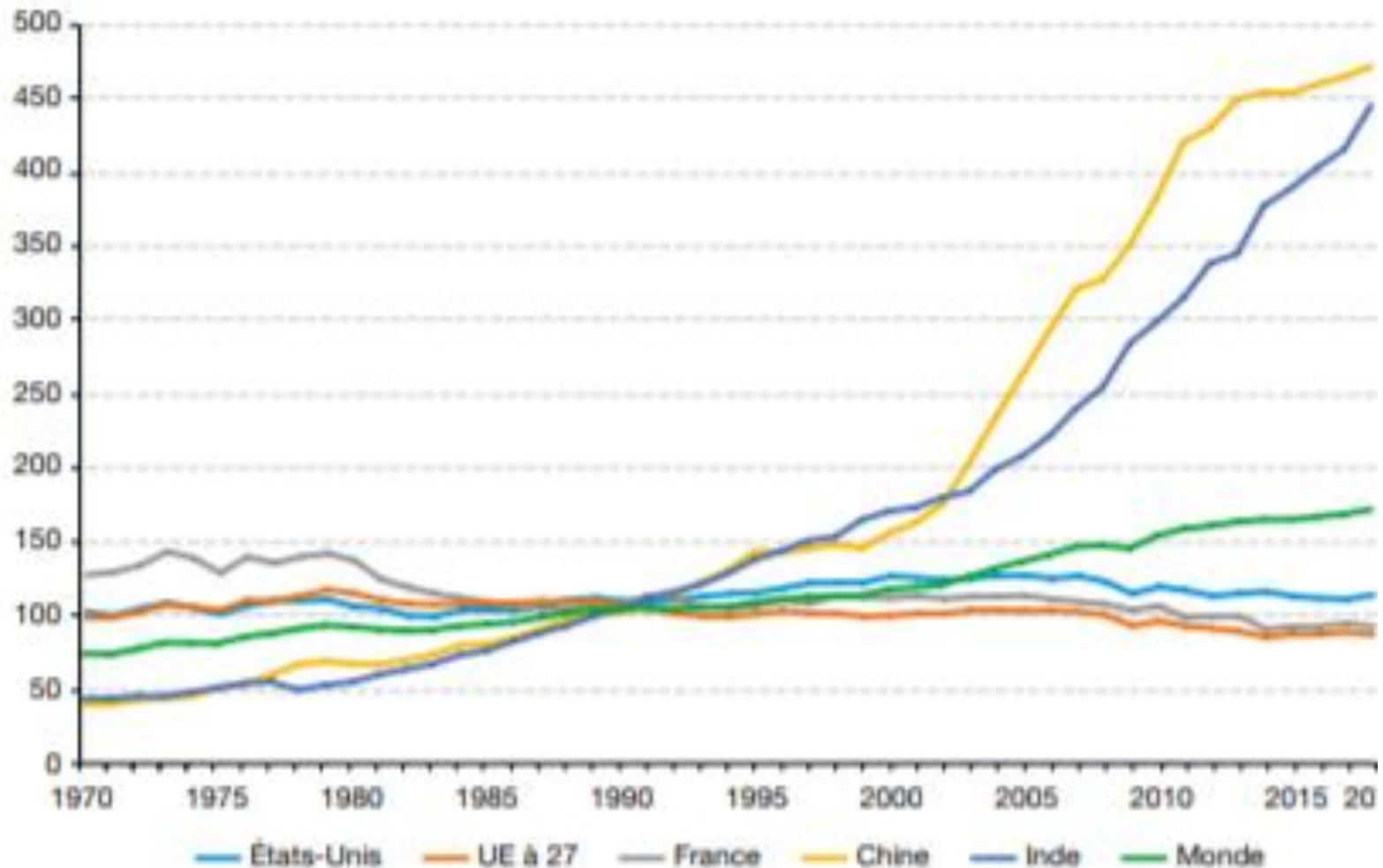


Source : GIEC (2021)

b) changement de la température de surface mondiale (moyenne annuelle) observée et simulée utilisant les facteurs humains et naturels, et naturels uniquement (1850-2020).



EVOLUTION OF CO2 EMISSIONS WORLDWIDE BETWEEN 1970 AND 2018 – BASE 100 INDEX IN 1990



Source : EDGAR, 2019

CLEAN VERSUS DIRTY PATENTS

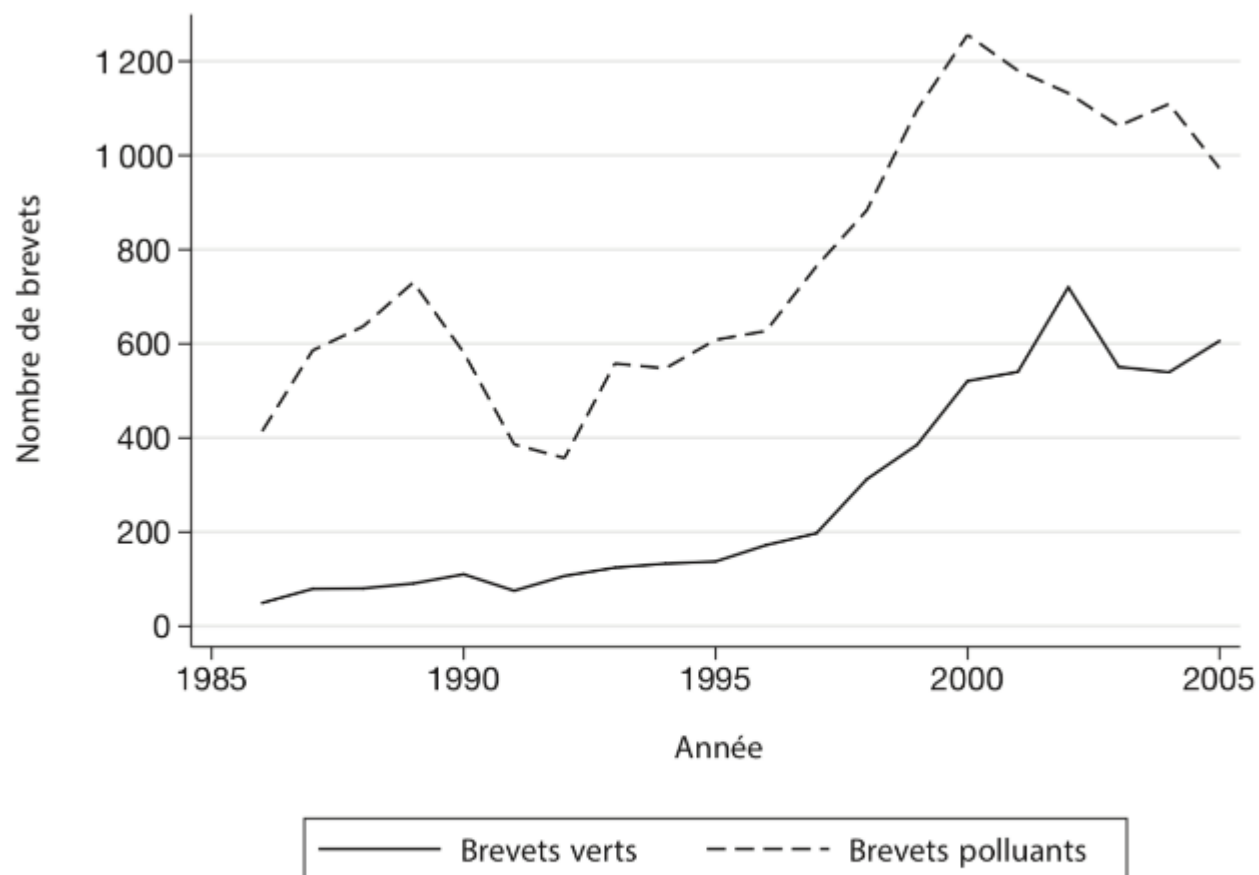
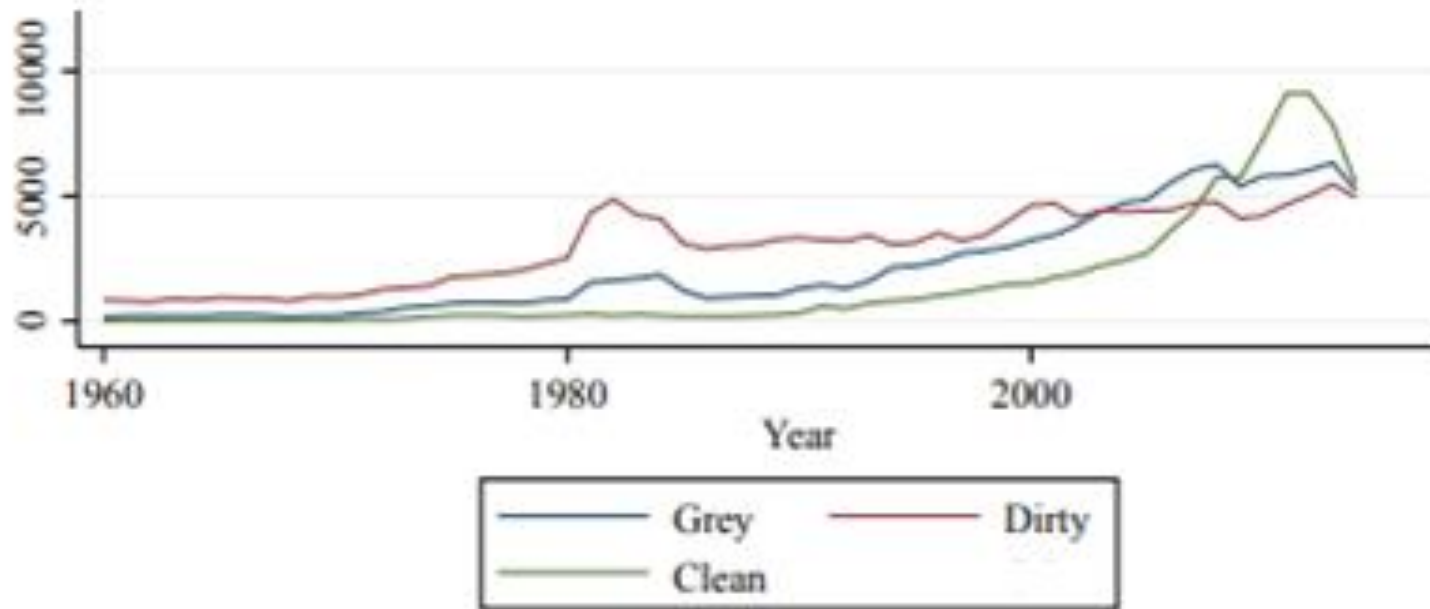


Figure 9.1. Évolution du nombre de brevets triadiques verts et polluants dans le secteur de l'automobile, 1980-2005.

Source : Aghion, Dechezleprêtre, Hémous, Martin et Van Reenen (2016).

EVOLUTION OVER TIME OF CLEAN/DIRTY/GREY CAR RELATED INNOVATIONS (AGHION ET AL. 2020)

(a) Absolute number of innovations



- Source: PATSTAT. Patents are classified based on the IPC and Y02 classification systems.

RETHINK CAPITALISM

- Magic triangle: Firms/Market – State – Civil Society (Bowles and Carlin):

