

# The Entrepreneurial State

from Market *Fixing* to Market *Making*

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# 3 big battles

- **Smart** growth (more innovation)
- **Sustainable** growth (more green)
- **Inclusive** growth (less inequality)

# Biggest battle: *what is State's role?*

Set 'level' playing field then *get out of the way*

Solve market 'failures'

De-risk (and 'facilitate') private sector

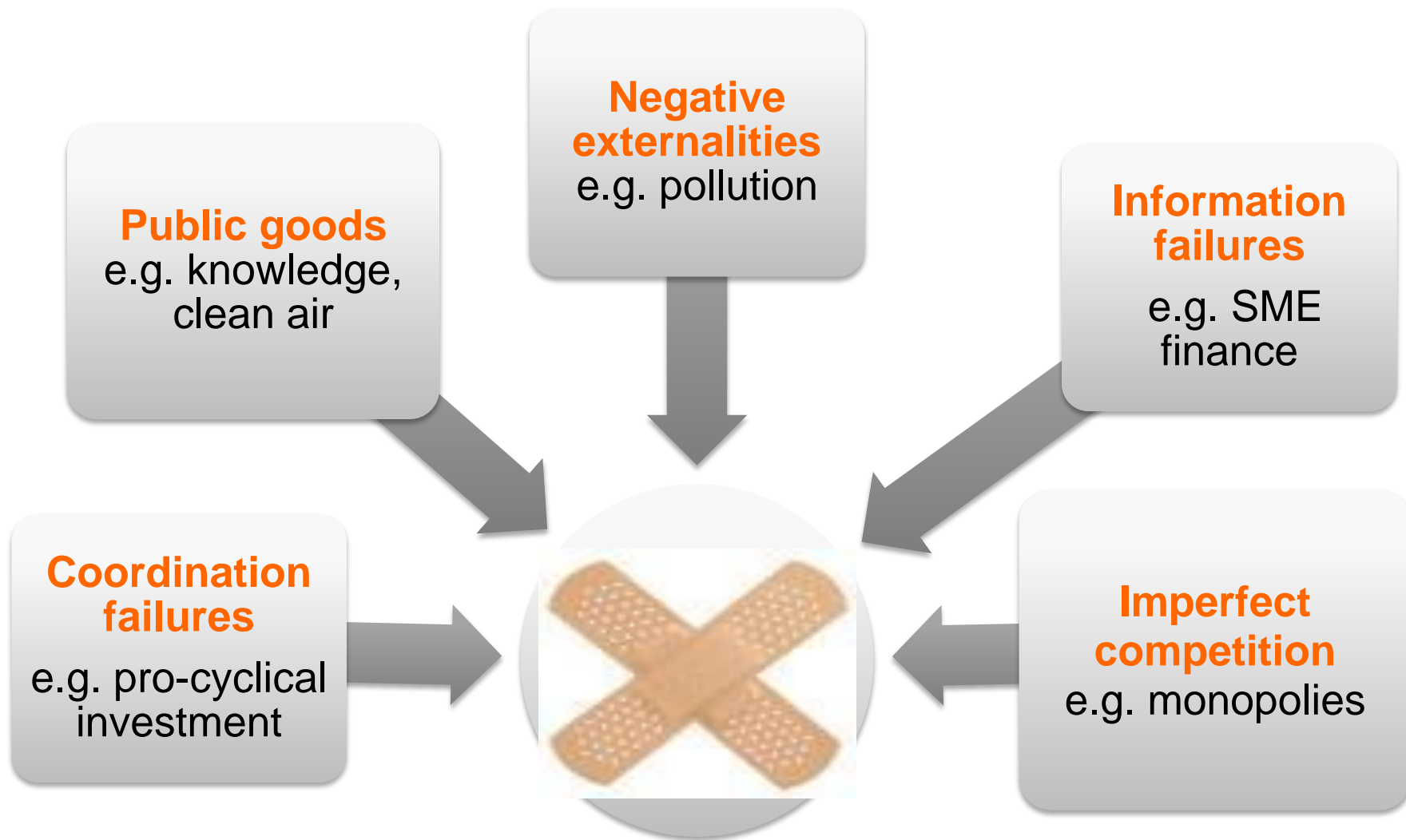
Something ... more interesting?



**"Governments** have always been **lousy at picking winners...** As the revolution rages, **governments should stick to the basics:** better schools for a skilled workforce, clear rules and a level playing field for enterprises of all kinds... **Leave the rest to the revolutionaries."**

(‘The Third Industrial Revolution’, *The Economist*, April 21, 2012).

# Policy as (just) fixing market failures?

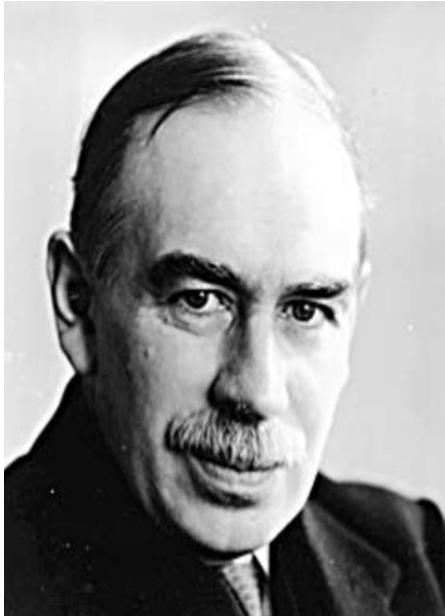


# A different view: market *shaping* & *creating*



“The road to free markets was opened and kept open by an enormous increase in continuous, centrally organized and controlled interventionism... **Administrators had to be constantly on the watch to ensure the free working of the system.**”

**Karl Polanyi**, *The Great Transformation*, 1944



“The important thing for Government is not to do things which individuals are doing already, and to do them a little better or a little worse; but to **do those things which at present are not done at all.**”

**John M. Keynes**, *The End of Laissez Faire*, 1926

'THIS IS A BOOK WHOSE TIME HAS COME'  
—PROFESSOR DANI RODRIK, HARVARD UNIVERSITY

## THE ENTREPRENEURIAL STATE



Debunking  
Public vs. Private  
Sector Myths



BY LEADING INNOVATION ECONOMIST  
MARIANA MAZZUCATO

THIS BOOK DEBUNKS THE MYTH OF THE STATE AS A LARGE BUREAUCRATIC ORGANIZATION THAT CAN AT BEST FACILITATE THE CREATIVE INNOVATION WHICH HAPPENS IN THE DYNAMIC PRIVATE SECTOR. ANALYSING VARIOUS CASE STUDIES OF INNOVATION-LED GROWTH, IT DESCRIBES THE OPPOSITE SITUATION, WHEREBY THE PRIVATE SECTOR ONLY BECOMES BOLD ENOUGH TO INVEST AFTER THE COURAGEOUS STATE HAS MADE THE HIGH-RISK INVESTMENTS.

For more information, please visit the book's website: [www.entrepreneurialstate.anthempressblog.com](http://www.entrepreneurialstate.anthempressblog.com)

Mariana  
Mazzucato



## O ESTADO EMPREENDEDOR

Desmascarando o mito do  
setor público vs. o setor privado



“Mazzucato argumenta que o investimento governamental, paciente e de longo prazo, é um pré-requisito indispensável para a inovação de impacto. [...] Mesmo se discutir do ponto de vista dela, você deve ler o seu livro. Vai desafiar seu modo de pensar”. *Forbes*

A FINANCIAL TIMES  
BEST BOOK OF THE YEAR

## the ENTREPRENEURIAL STATE

“ONE OF THE MOST INCISIVE ECONOMIC BOOKS IN YEARS.”  
—JEFFERY MADRICK, NEW YORK REVIEW OF BOOKS

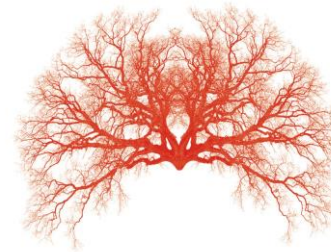


DEBUNKING PUBLIC  
VS. PRIVATE SECTOR MYTHS

REVISED EDITION

MARIANA MAZZUCATO

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## DAS KAPITAL DES STAATES

Eine andere Geschichte von  
Innovation und Wachstum

KUNSTMANN

## TO ΕΠΙΧΕΙΡΗΜΑΤΙΚΟ ΚΡΑΤΟΣ

ΑΝΑΤΡΕΠΟΝΤΑΣ ΜΥΘΟΥΣ



MARIANA MAZZUCATO

ΕΙΣΑΓΟΓΗ – ΕΠΙΜΕΛΕΙΑ  
Γιάννης Καλογύρου



ΚΡΙΤΙΚΗ

## MARIANA MAZZUCATO

*L'impresa privata è considerata da tutti una forza innovativa, mentre lo Stato è bollato come una forza inerziale, troppo grosso e pesante per fungere da motore dinamico. Lo scopo del libro che avete tra le mani è smontare questo mito.*

## Lo Stato innovatore

43 anticorpi  Laterza

# the assumption



private  
sector

vs.



public  
sector



# New questions for economic policy

- ◆ **DIRECTIONS.** Policy as actively setting direction of change. How to foster a more dynamic debate about possible directions (and stop useless worry about ‘picking winners’).
- ◆ **EVALUATION.** How to evaluate public sector market creating investments (pushing market frontiers)?
- ◆ **EXPLORATIVE ORGANIZATIONS.** How to build explorative public sector organizations that welcome trial and error?
- ◆ **RISKS AND REWARDS.** How to socialize both risks and rewards, with revolving fund for future innovation and welfare.

(discussed in Mazzucato, 2015)

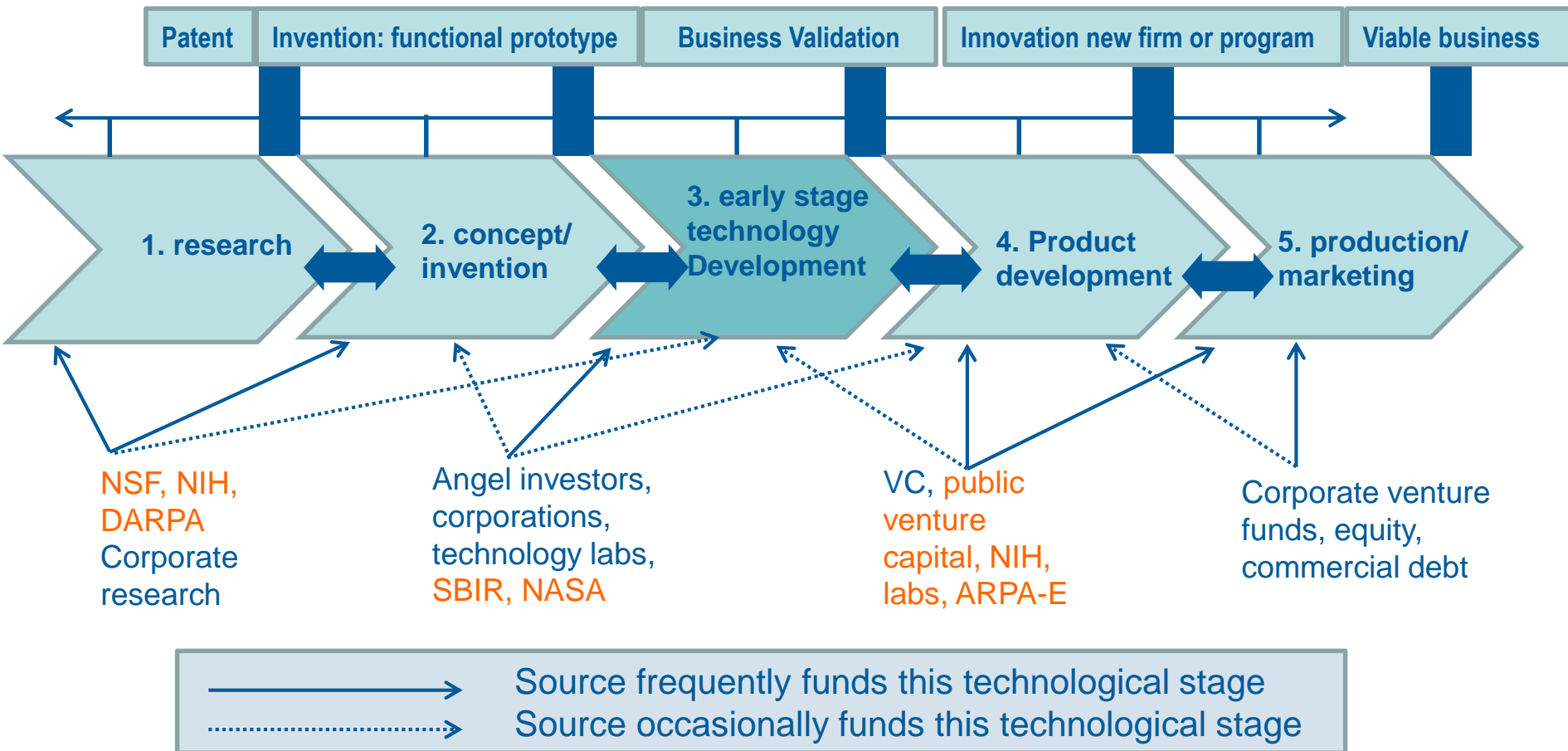
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# Market failure policies don't explain *General Purpose Technologies*

- 'mass production' system
- aviation technologies
- space technologies
- IT
- internet
- nuclear power
- nanotechnology
- green technology

# Missions and risk-taking along entire innovation chain



# Creating missions not fixing markets

**NASA's mission** is to “*Drive advances in science, technology, aeronautics, and space exploration to enhance knowledge, education, innovation, economic vitality, and stewardship of Earth.*” NASA 2014 Strategic Plan

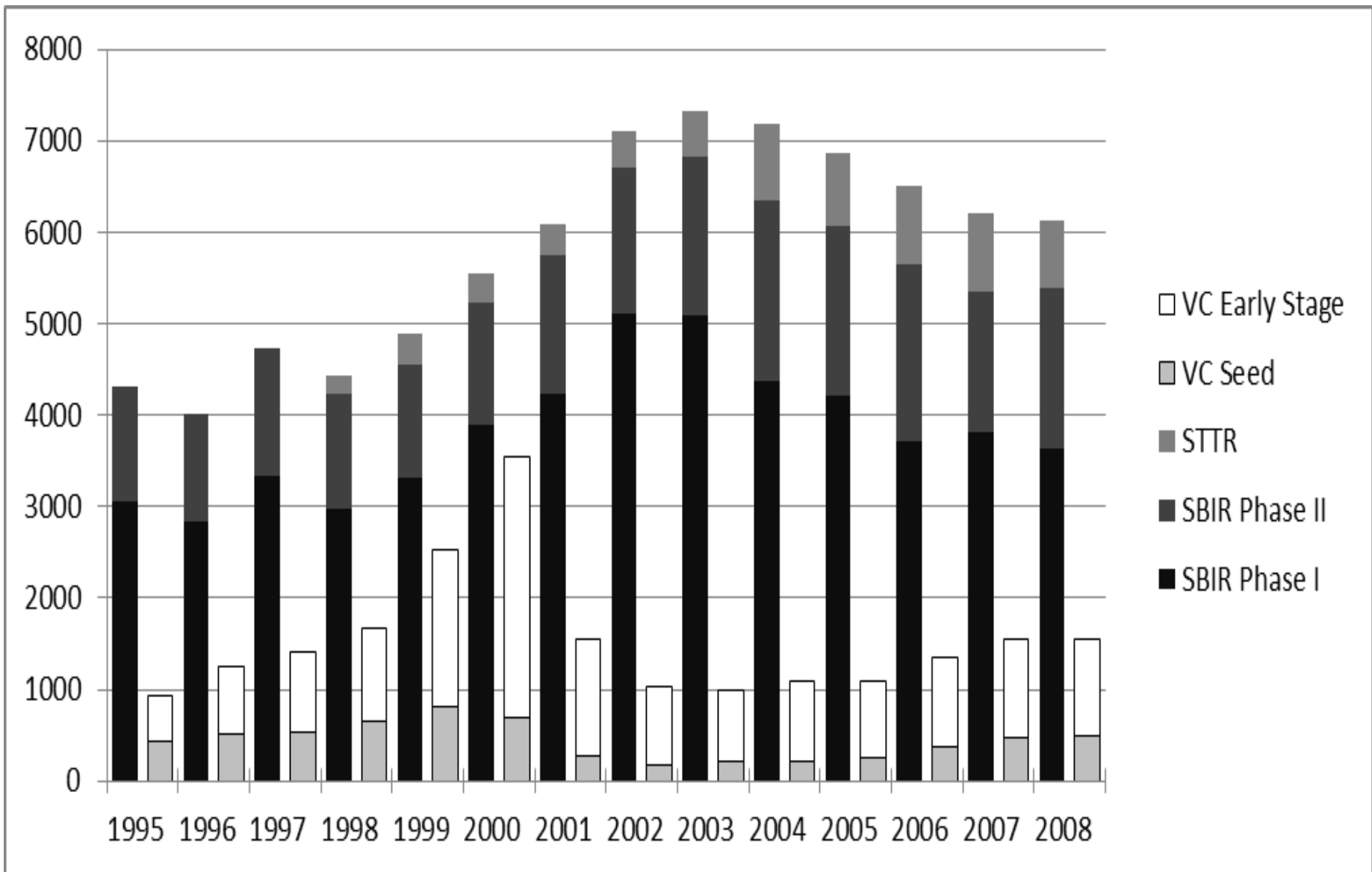
“*Creating breakthrough technologies for national security is the mission of the Defense Advanced Research Projects Agency (DARPA).*”

“The **ARPA-E mission** is to *catalyze* the development of transformational, high-impact energy technologies.”

“**NIH's mission** is to seek fundamental knowledge about the nature and behavior of living systems and the *application* of that knowledge to enhance health, lengthen life, and reduce illness and disability.”

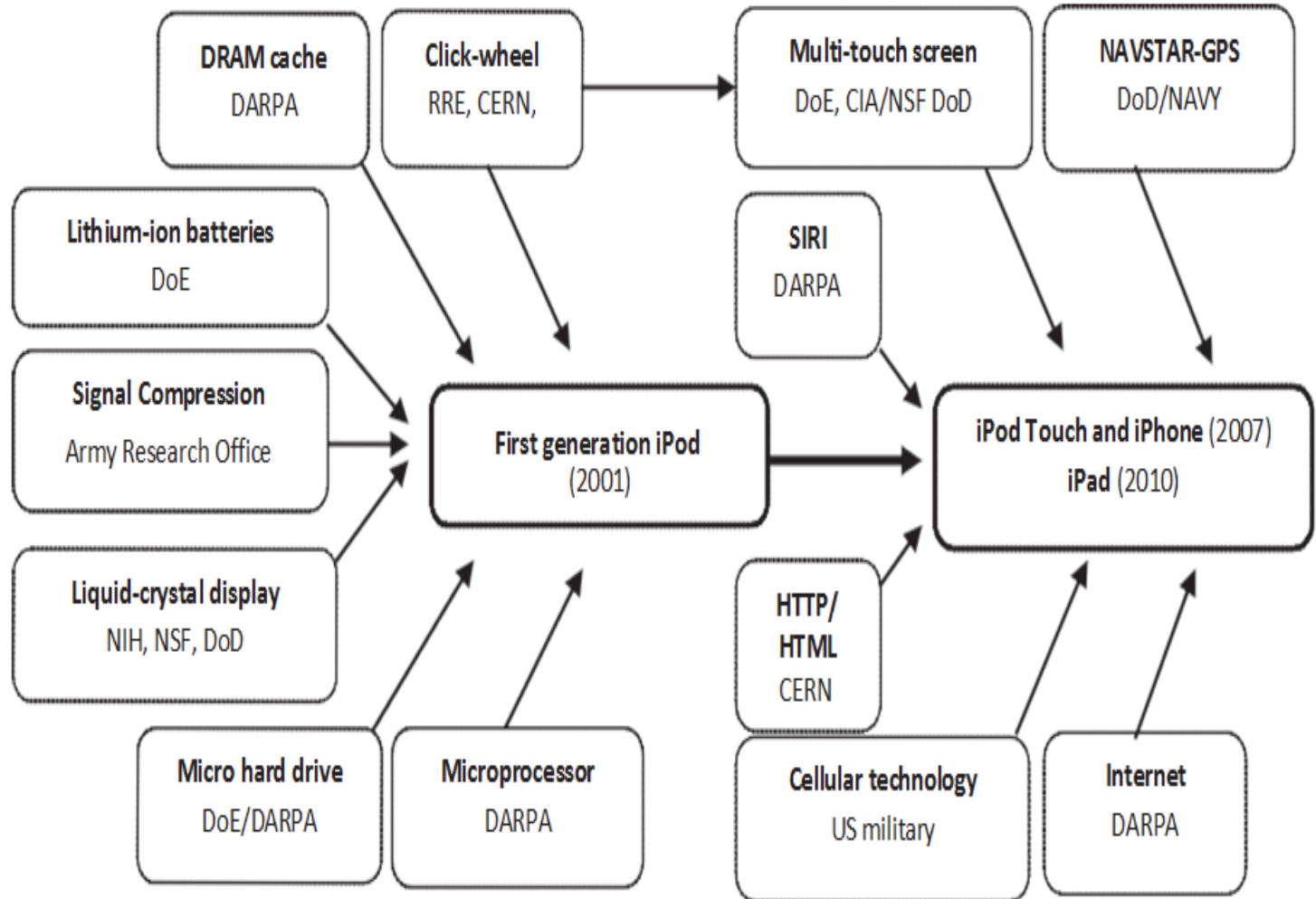
“The **mission** of the **KfW Group** is to support change and encourage *forward-looking ideas* – in Germany, Europe and throughout the world.”

# Private and Public (SBIR) Venture Capital



Source: Block and Keller, 2012

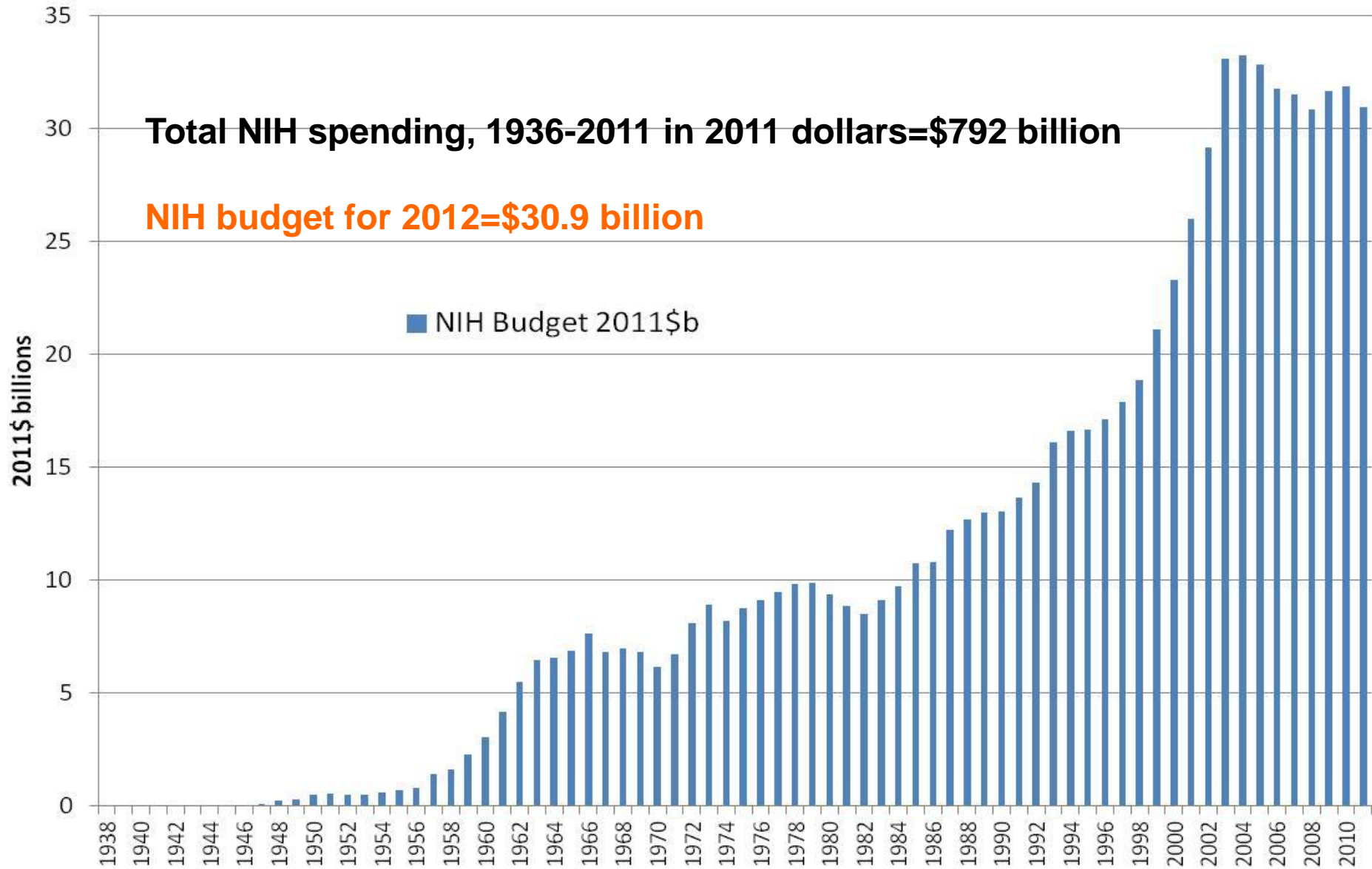
# What makes the iPhone so 'smart'?



# National Institutes of Health budgets 1936-2011

**Total NIH spending, 1936-2011 in 2011 dollars=\$792 billion**

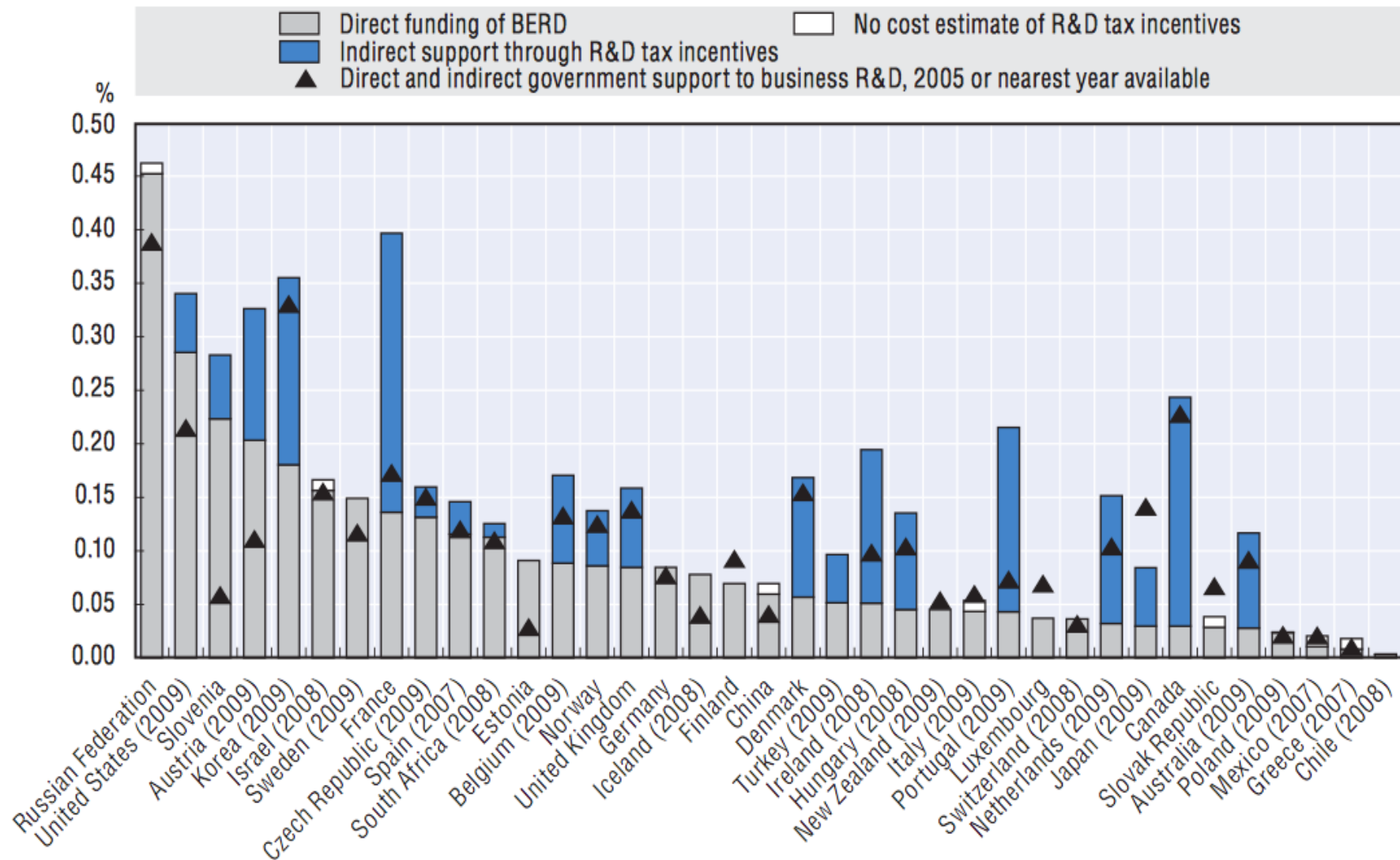
**NIH budget for 2012=\$30.9 billion**



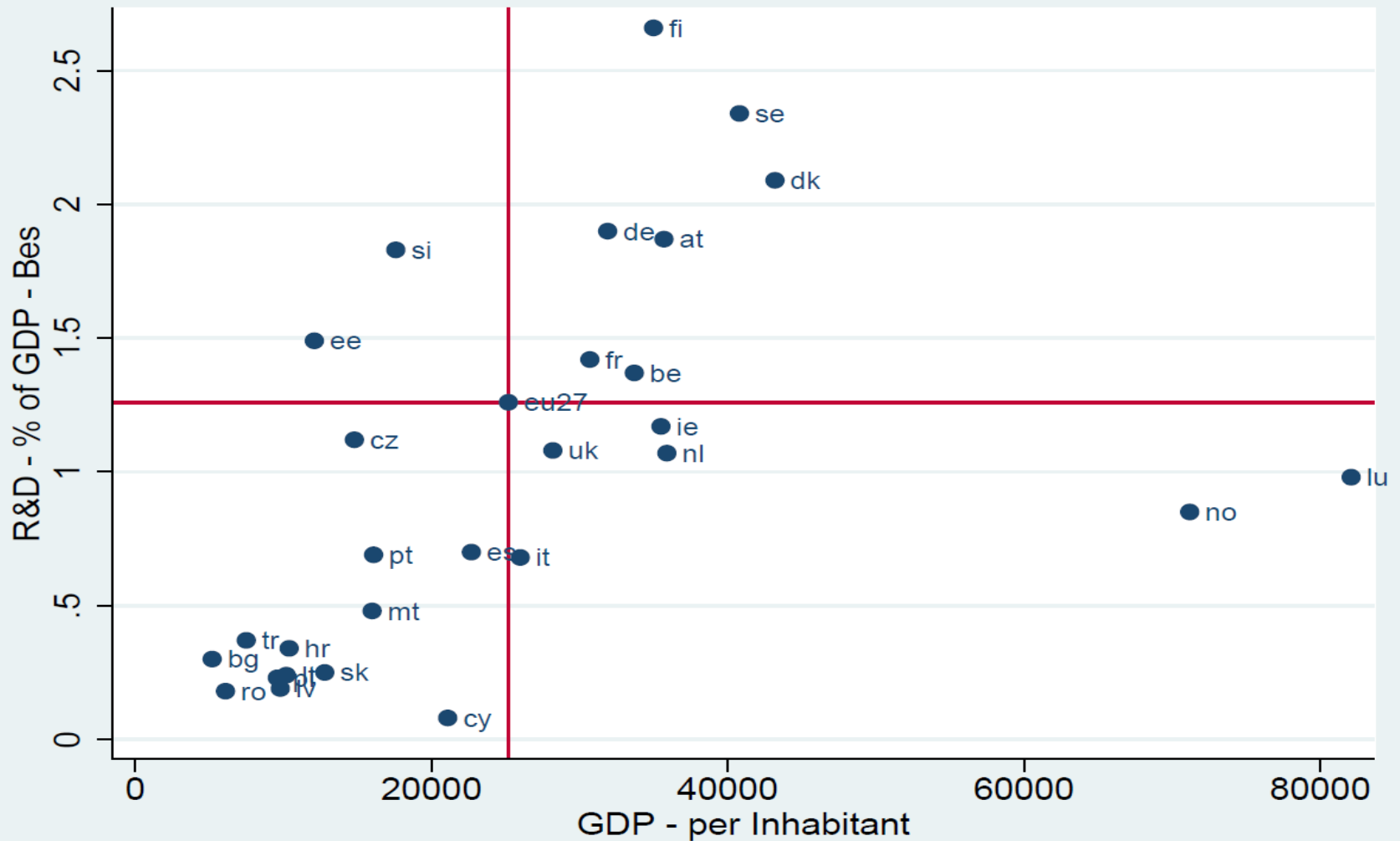


# Direct government funding of business R&D and tax incentives for R&D, 2010

As a percentage of GDP



# Business R&D spending (BERD)





Businessmen have a different set of delusions from politicians, and need, therefore, different handling. They are, however, much milder than politicians, at the same time allured and terrified by the glare of publicity, easily persuaded to be 'patriots', perplexed, bemused, indeed terrified, yet only too anxious to take a cheerful view, vain perhaps but very unsure of themselves, pathetically responsive to a kind word. You could do anything you liked with them, if you would treat them (even the big ones), **not as wolves or tigers, but as domestic animals** by nature, even though they have been badly brought up and not trained as you would wish....

**John M. Keynes's** private letter to **Franklin D. Roosevelt**

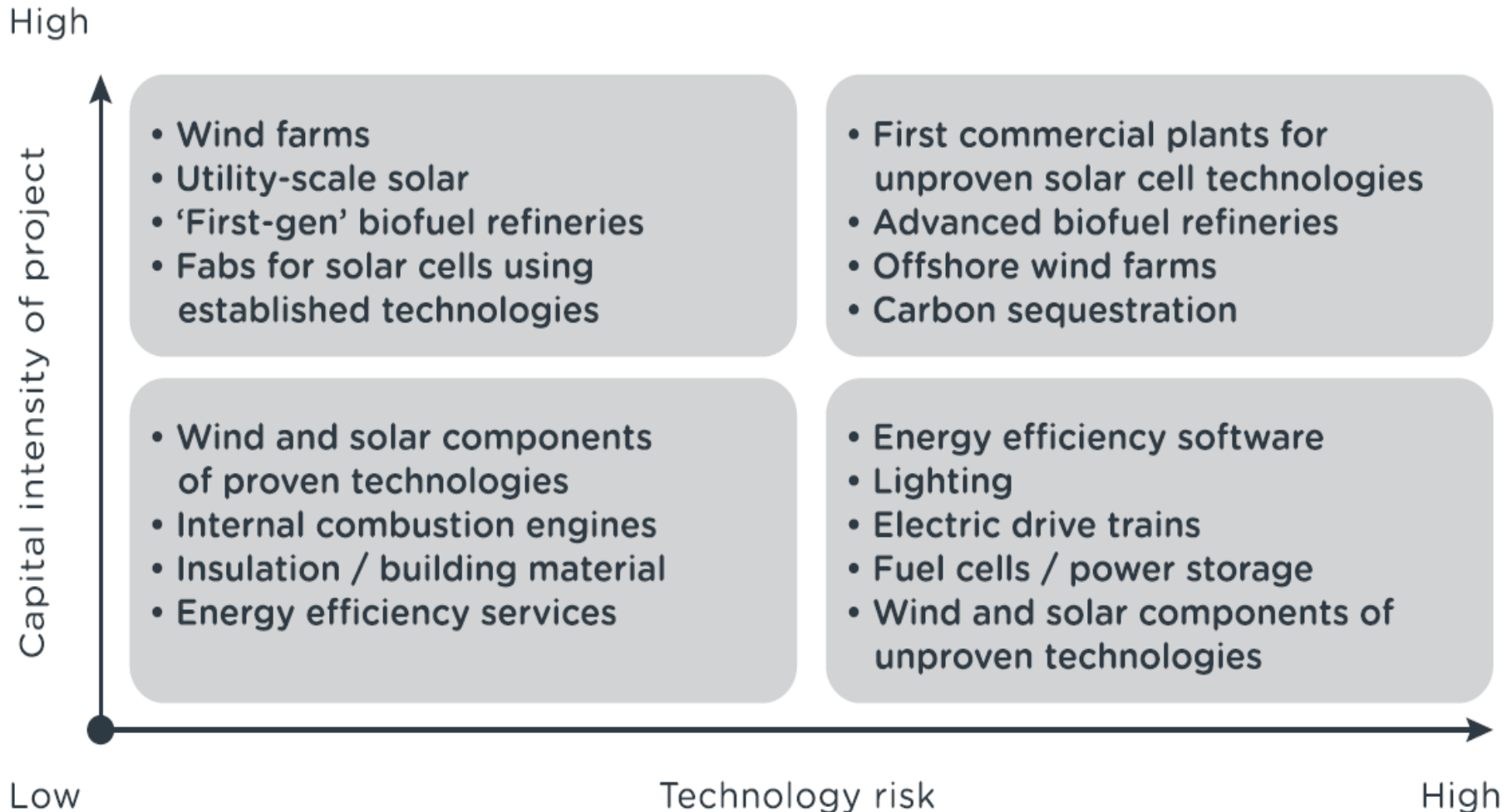
Feb 1, 1938

# 3 big battles

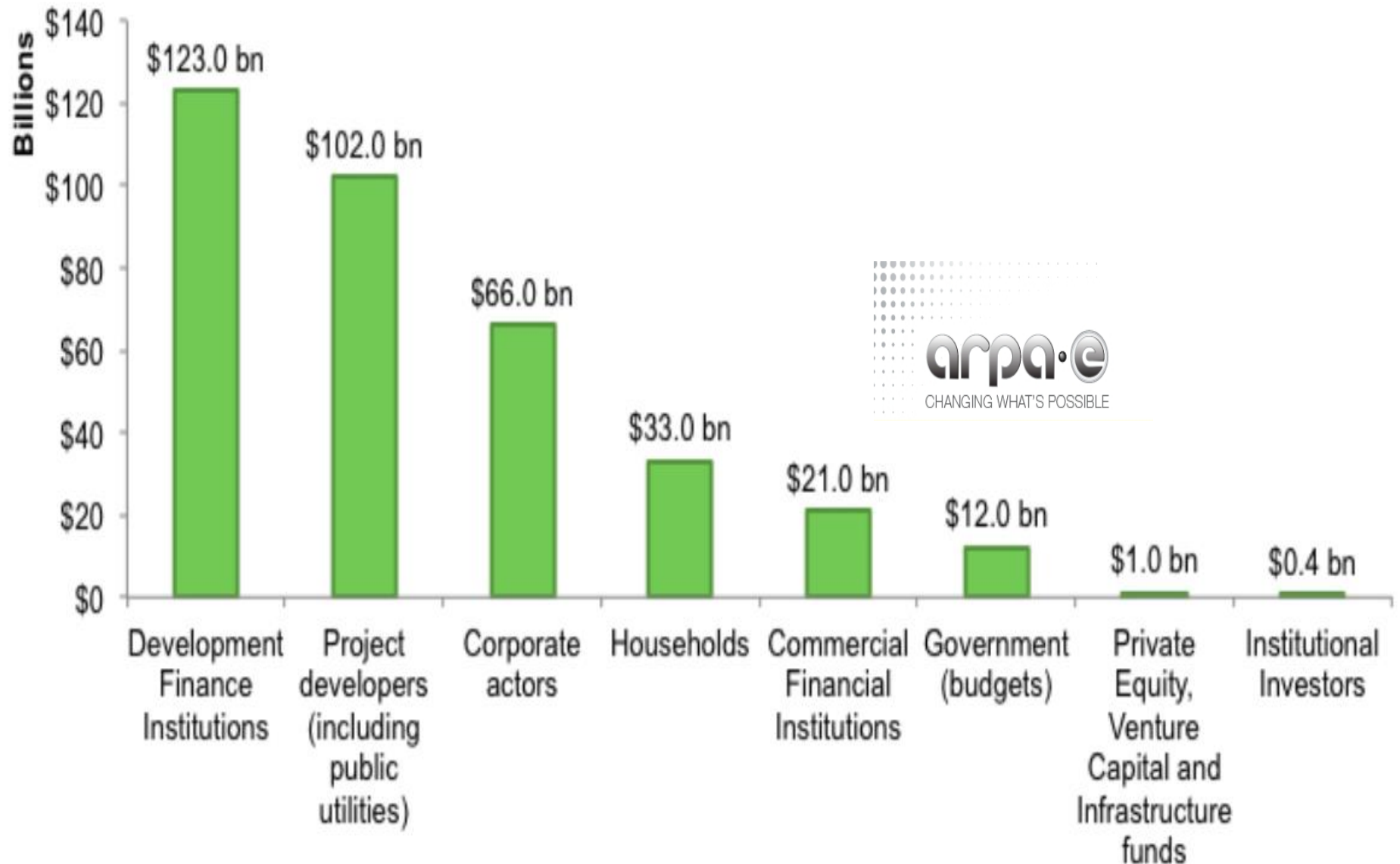
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# Technology risk in clean tech

*(venture capital will ride the wave, who will kick/push?)*



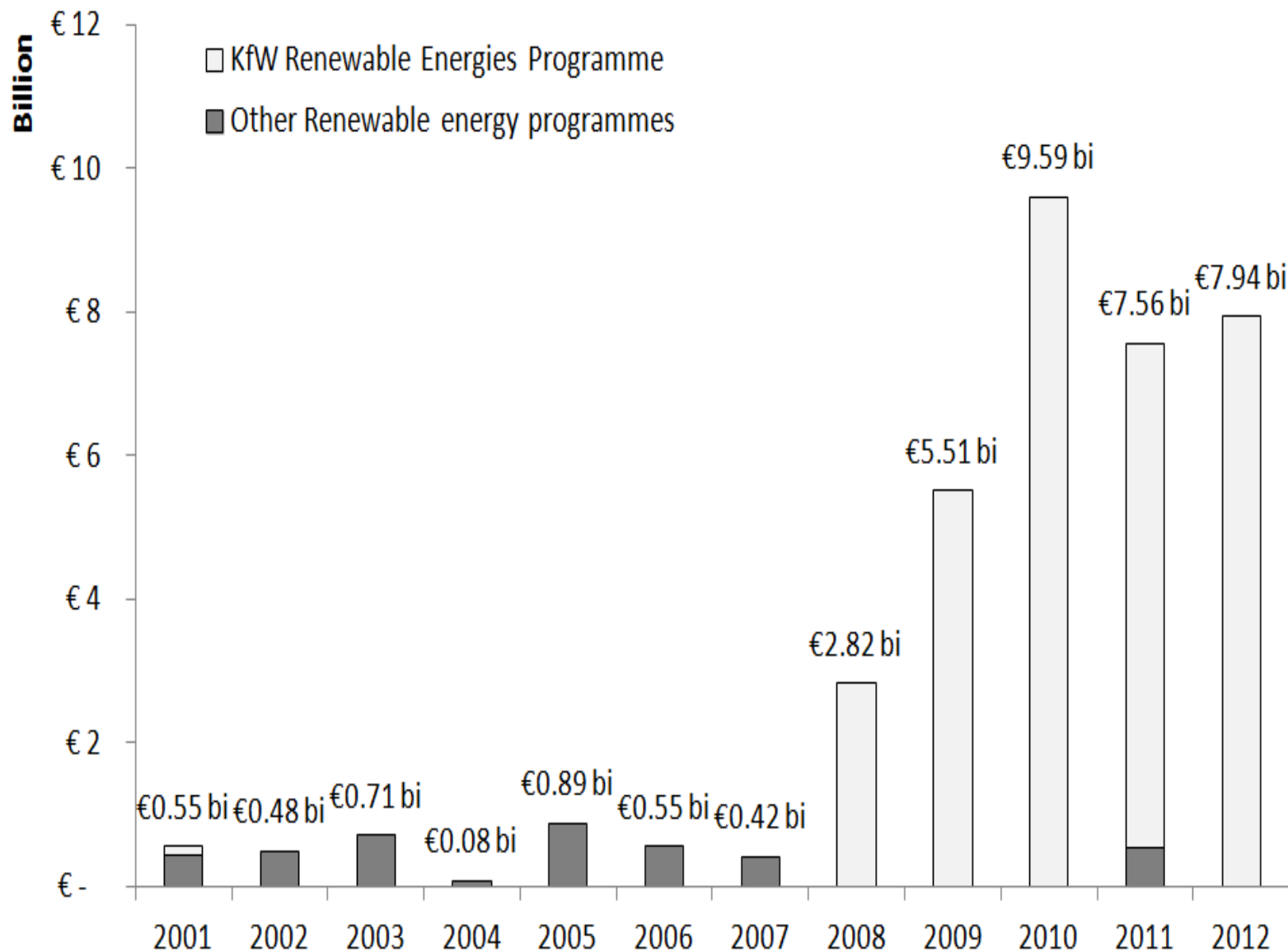
# Green tech public & private investments (2011)



Source: Climate Finance Initiative

# KfW funding for industrial environmental and climate protection projects in Germany

## 2001-2012



# The German lessons for Greece!

- **Middle** sized firms (small is NOT beautiful)
- **Patient long-term** finance (e.g. KfW)
- Strong well funded **science-industry** links (e.g. Fraunhofer) – & not just pushing on a string.
- High R&D/GDP
- ‘**Mission oriented**’ R&D (e.g. *Energiewende*)



# China Development Bank

China's 2020 goal of producing 20% energy from renewables.

5 year plan includes \$1.7 trillion dollars in 5 new (green) sectors.

CDB founded **CDB Capital**, a 'public equity' fund with **\$US 5.76 bn to finance innovative start-ups** from the energy and telecom sectors.

*Yingli Green Energy* received **\$1.7 bn** from 2008 through 2012 with a **\$5.3 bn line of credit** opened for it. **LDK Solar (\$9.1 bn)**; **Sinovel Wind (\$6.5 bn)**; **Suntech Power (\$7.6 bn)**; and Trina Solar (**\$4.6 bn**),

Patient committed finance has “allowed Chinese companies to further ramp up production and drive down costs” of renewable energy technologies



Source:

<http://www.youtube.com/watch?v=x54bVuduggU>

A key element to get **an energy breakthrough** is more basic research. And that **requires the government to take the lead**. Only when that research is pointing towards a product then we can expect the private sector to kick in.

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## INCOME INEQUALITY IN THE UNITED STATES, 1910-2010



Source: Piketty, 2013

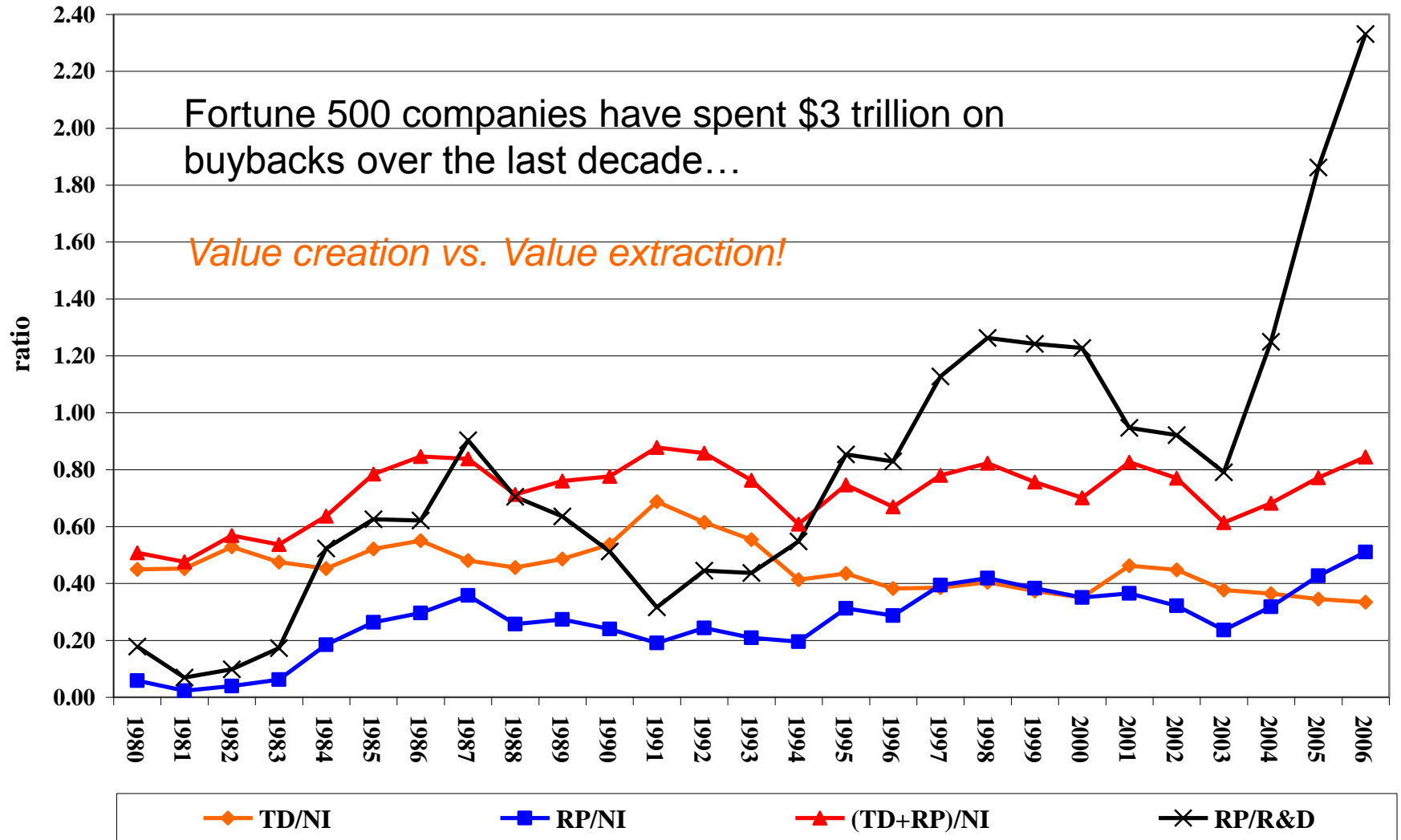
# Warren Buffet

“I have worked with investors for 60 years and I have yet to see anyone — not even when capital gains rates were 39.9 percent in 1976-77 — shy away from a sensible investment because of the tax rate on the potential gain. People invest to make money, and potential taxes have never scared them off. And to those who argue that higher rates hurt job creation, I would note that a net of nearly 40 million jobs were added between 1980 and 2000. You know what’s happened since then: lower tax rates and far lower job creation.”

And....why did capital gains fall in 1976?

# Repurchases, dividends, net income, R&D 1980-2006

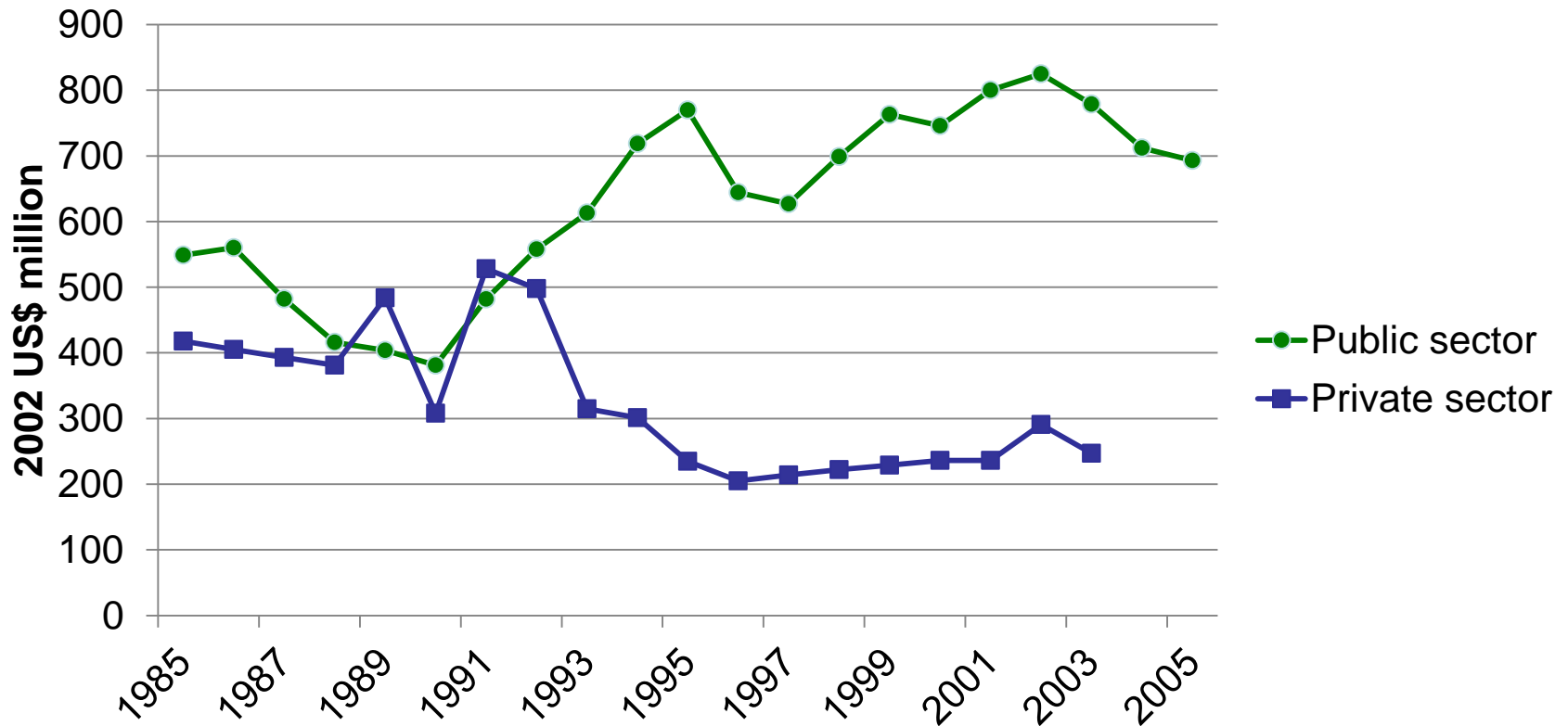
(293 corporations in the S&P500 in October 2007 in operation in 1980)



Source: Lazonick & Mazzucato, 2013; Lazonick, 2014

# Where are energy's Xerox Parcs & Bell Labs?

**Renewable energy R&D investments in the U.S.**  
*in million 2002 dollars*



Source: Nemet and Kammen (2007), "U.S. energy research and development: Declining investment, increasing need, and the feasibility of expansion", *Energy Policy*, 35 (1), 746-755

# Better 'deal' between public & private

- reforming tax system
- limiting share buybacks
- retaining golden share of IPR
- capping prices (Bayh Dole act allows it)
- income contingent loans
- retain some equity (Tesla & Solyndra lesson)
- % payback into an 'innovation fund'
- State investment banks

and more...(but where is the conversation?)

(discussed in Mazzucato, 2013; 2015)





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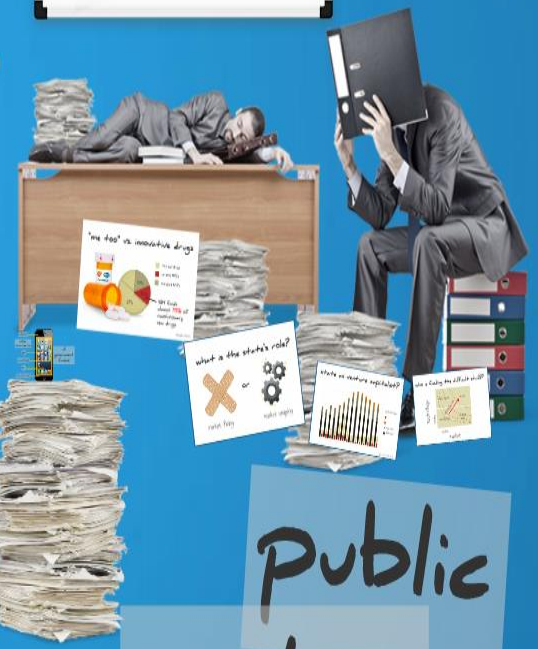
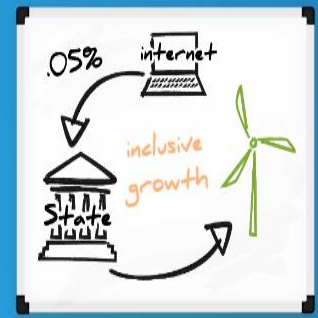
(discussed in Mazzucato, 2015)

# think again!



private  
sector

vs.



public  
sector

# References

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