

# Avoiding the “Detroit Moment”

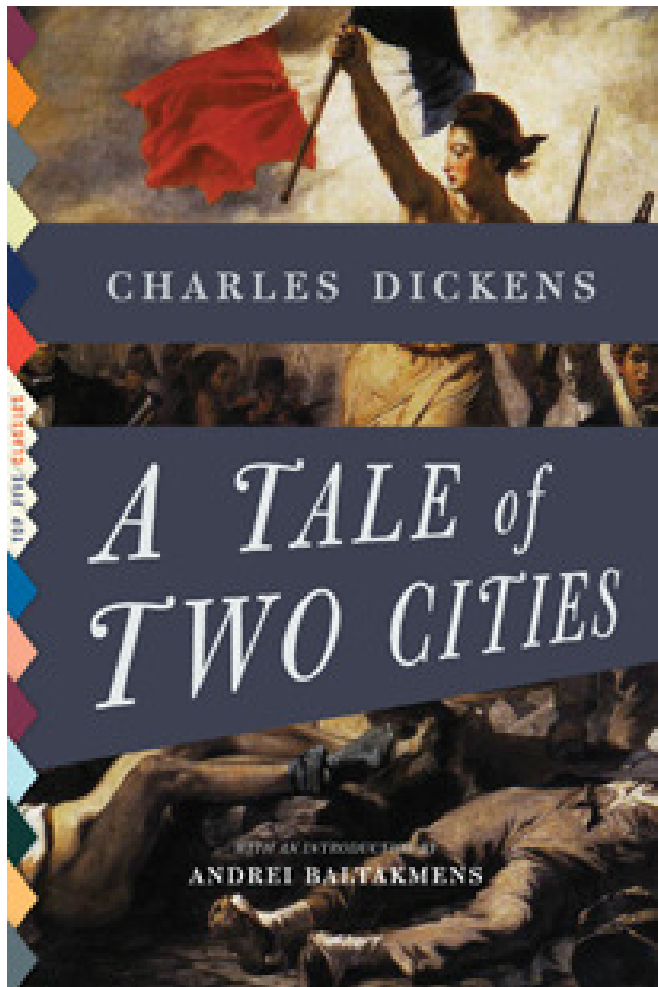
*Perspectives from Silicon Valley*

Shomit Ghose - Jan 14<sup>th</sup>, 2016

Things I've Written: [about.me/shomit](http://about.me/shomit)

Twitter: [@shomit](https://twitter.com/shomit)

# 1960



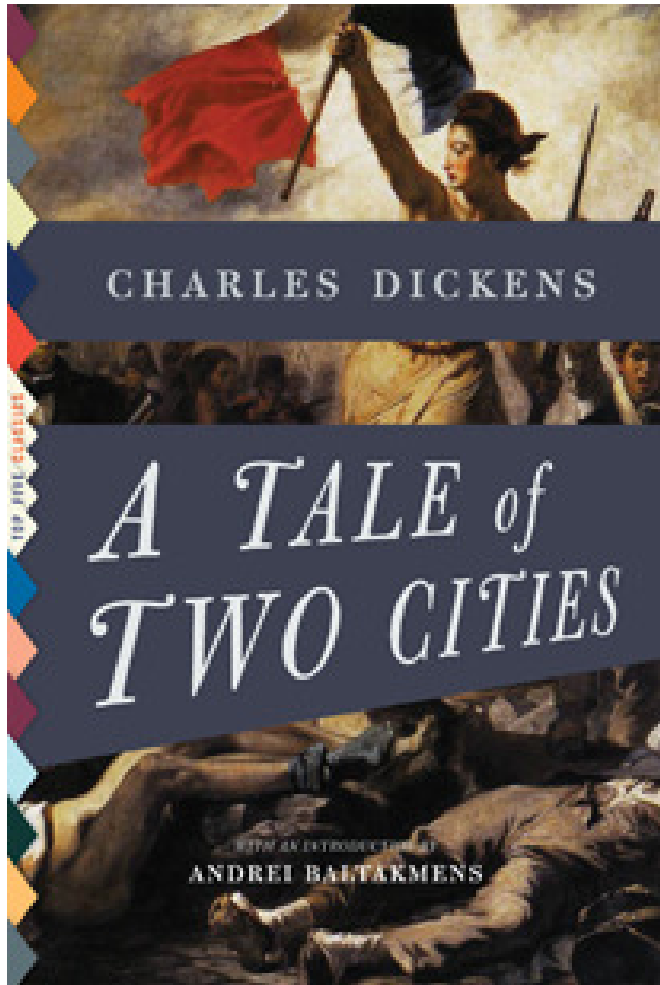
- 1.7 million people
- World's largest center of manufacturing
- Highest per-capita income in USA

*Detroit, Michigan*

- 200,000 people
- Fruit growing & packing
- "Valley of Heart's Delight"

*San Jose, California*

# Today



- 700,000 people
- Poorest city in USA

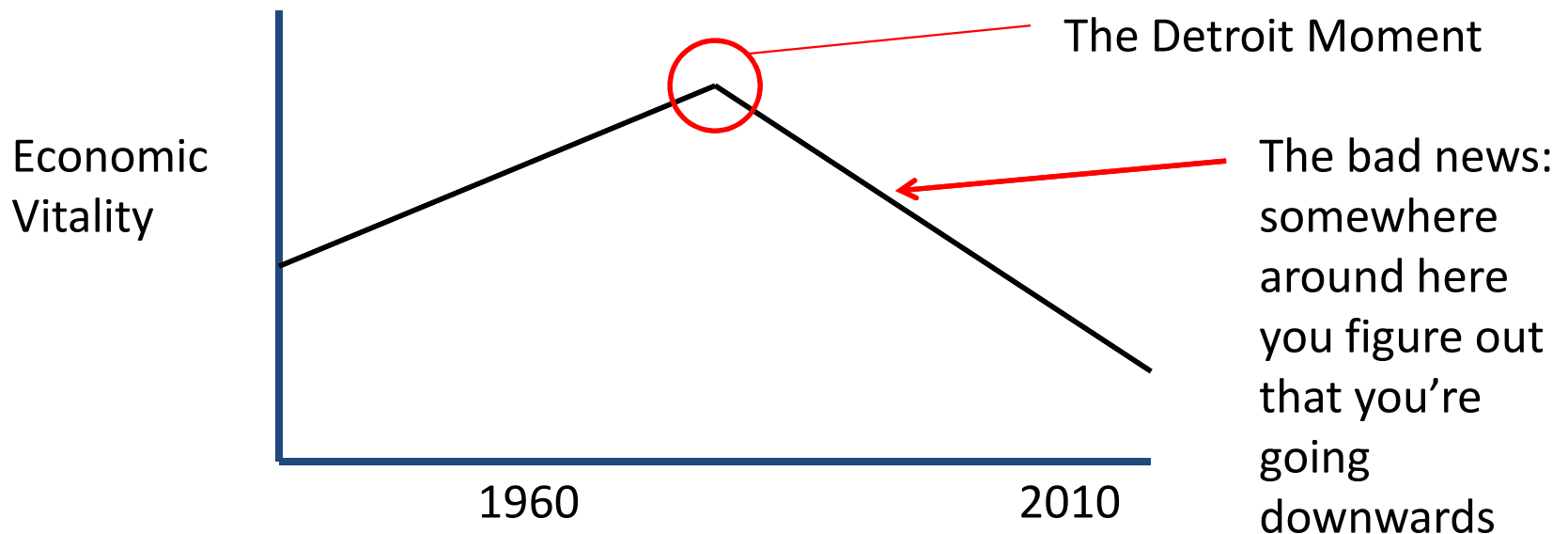
*Detroit, Michigan*

- 1,000,000 people
- USA's highest median household income
- "Capital of Silicon Valley"

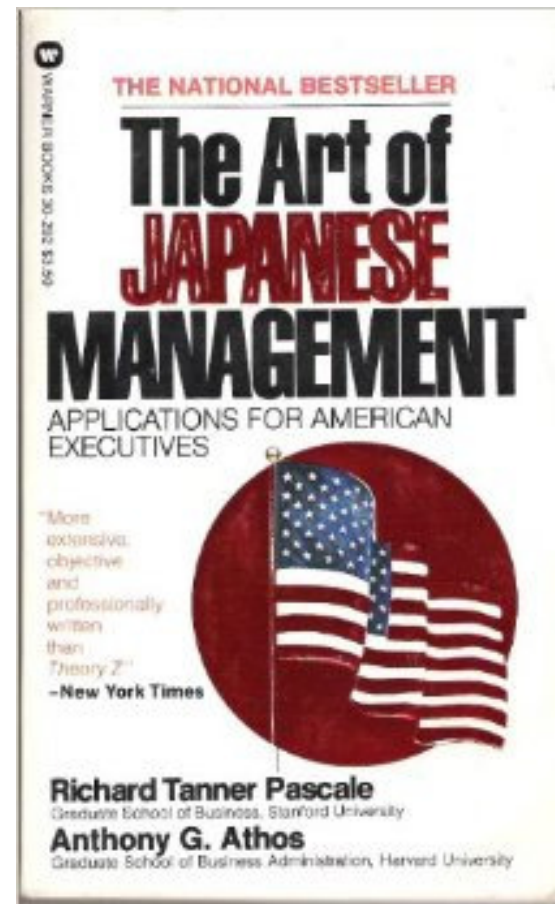
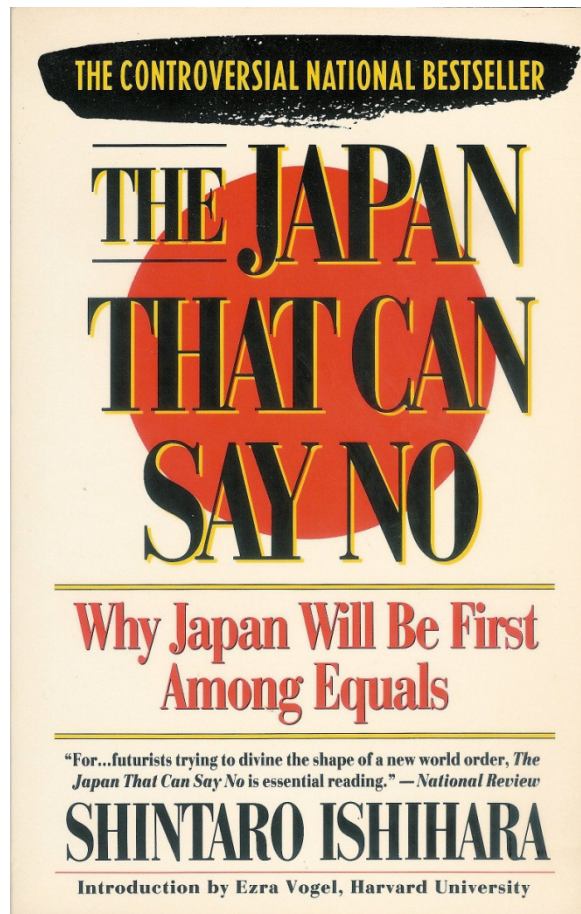
*San Jose, California*

# “The Detroit Moment”

So somewhere in the past 45-50 years, Detroit went – imperceptibly – from an upward trajectory to a downward trajectory

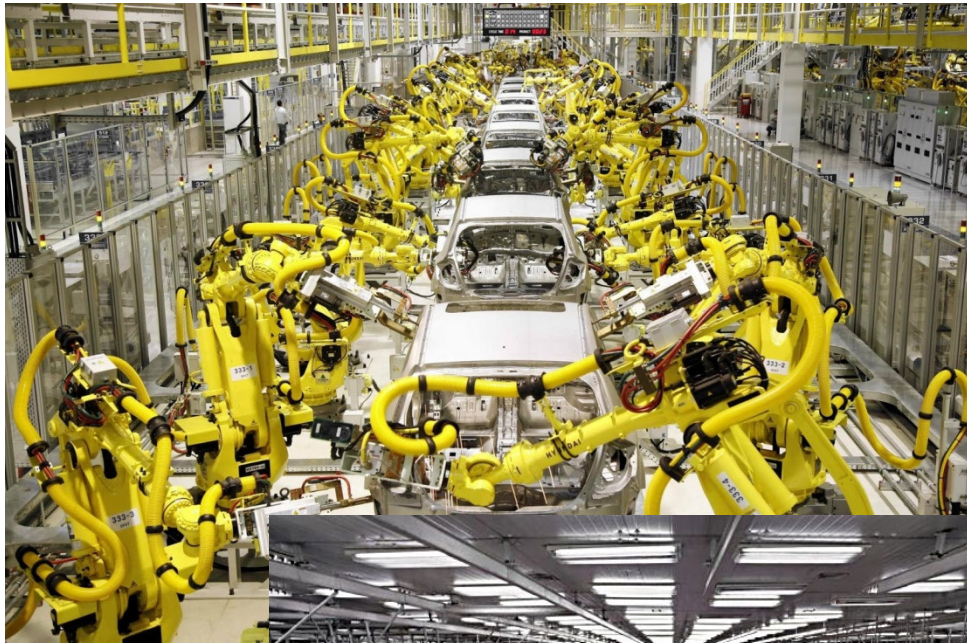


# Remember 1990?



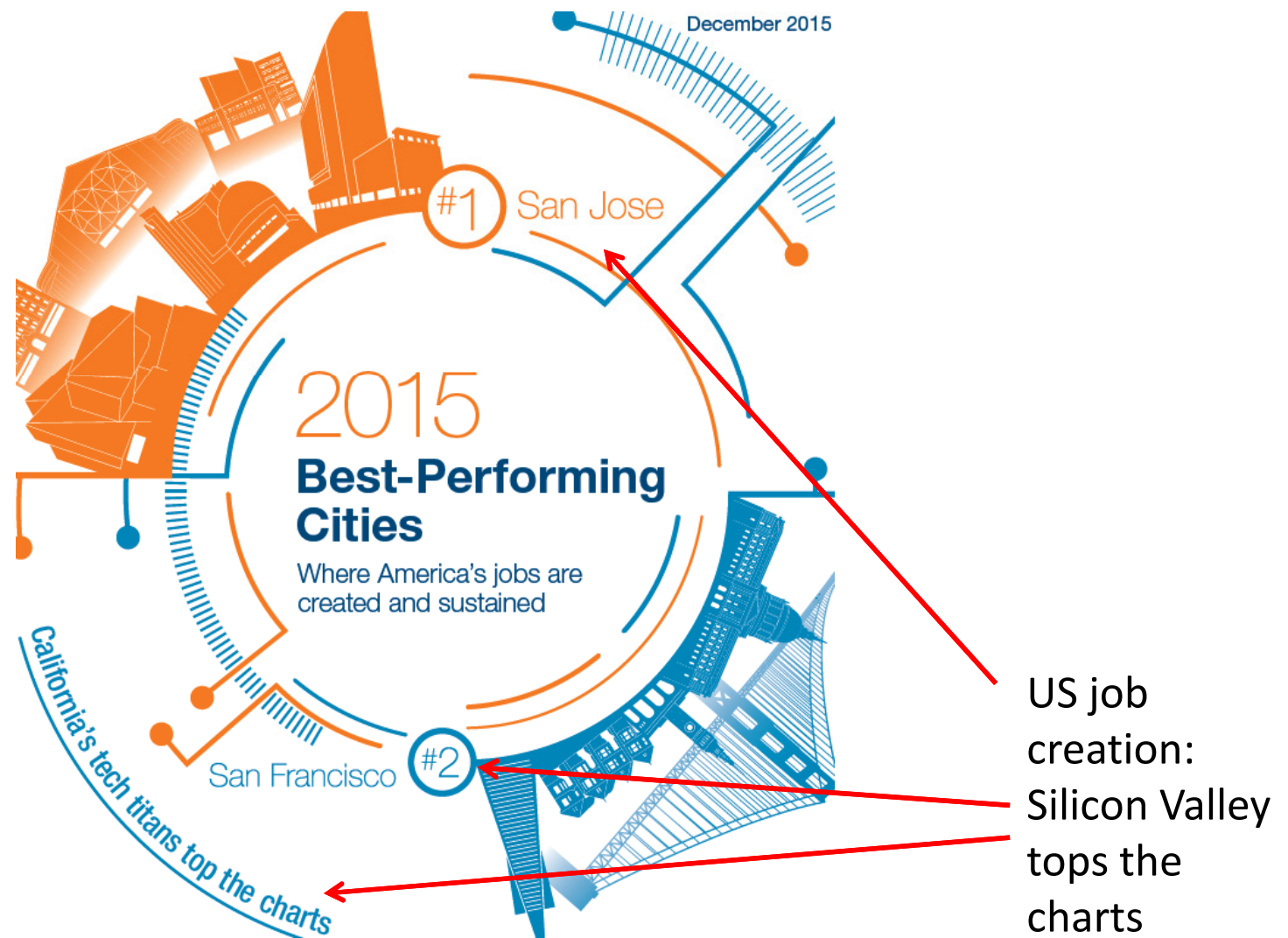


# Avoiding the Detroit Moment



- Jobs are lost due to:
  - Globalization
  - Technology
- So job creation needs to leverage:
  - Globalization
  - Technology

# Some Data from Silicon Valley



# Silicon Valley Job Creation: Average Wages

US County	Average Weekly Wage
Santa Clara, CA	\$2,109
San Mateo, CA	\$1,863
<i>New York, NY</i>	<i>\$1,842</i>
San Francisco, CA	\$1,730

Of the 4 richest large counties in America, 3  
comprise Silicon Valley  
(Nationwide average is \$968/week)



# Impact of Start-ups on US Economy

**Table 1: Five Largest Public Companies by Market Capitalization**

This table shows the five largest public companies by market capitalization. Market capitalization and number of employees are from Thomson One as of August 28, 2015.

Rank	Company	VC-backed?	Market Capitalization \$b	Employees
1	Apple	Yes	646	93,000
2	Google	Yes	449	54,000
3	Berkshire Hathaway		356	316,000
4	Microsoft	Yes	351	128,000
5	Exxon Mobil		314	75,000

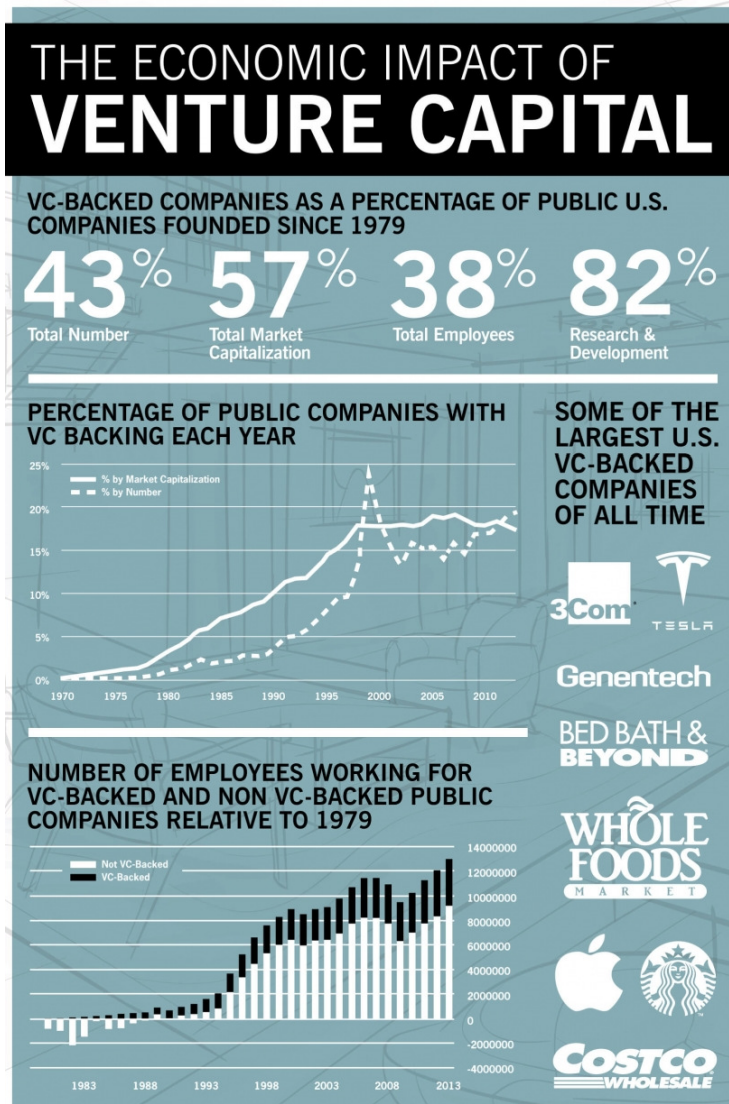
# Impact of Start-ups on US Economy

**Table 2: VC-backed Companies as a Percentage of U.S. Public Companies**

This table provides summary statistics on the number and impact of VC-backed companies as a fraction of the total universe of independent U.S. public companies, as of 2014.

	VC-backed	%	Total
Number	665	17%	3,832
Enterprise Value \$b	4,647	18%	26,111
Market Capitalization \$b	4,824	21%	23,140
Employees	4,111,000	11%	38,070,000
Revenue \$b	1,461	10%	14,628
Net Income \$b	168	16%	1,062
Research and Development \$b	131	44%	298
Total Taxes \$b	66	11%	589

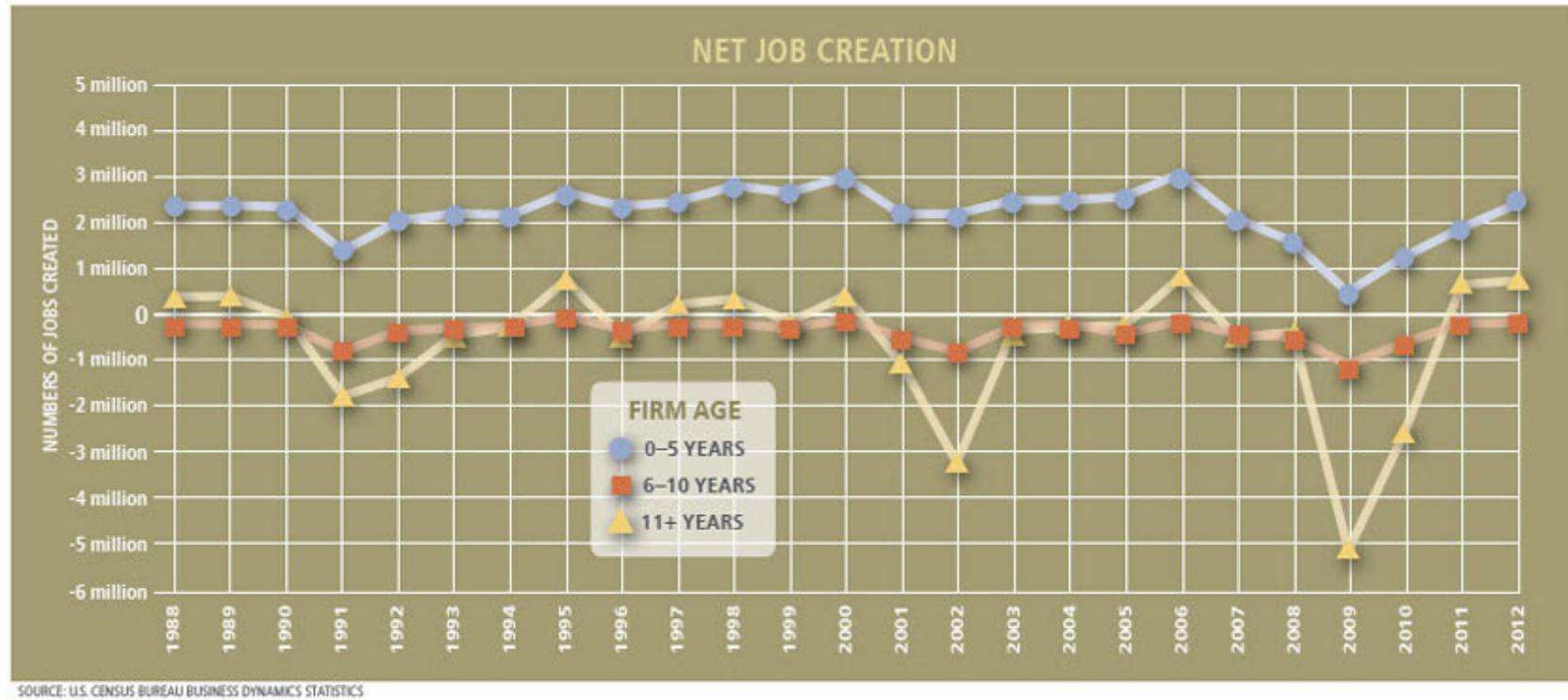
# Impact of Start-ups on US Economy



Since 1979...

As a percentage of all US public companies...

# And Young Companies Drive Job Growth



[http://www.kauffman.org/~media/kauffman\\_org/resources/2014/entrepreneurship%20policy%20digest/september%202014/entrepreneurship\\_policy\\_digest\\_september2014.pdf](http://www.kauffman.org/~media/kauffman_org/resources/2014/entrepreneurship%20policy%20digest/september%202014/entrepreneurship_policy_digest_september2014.pdf)

# Job Creation: Venture-Backed Company Examples

Company	Employees at IPO	Employees Now	# Change
Microsoft	1,153	128,000	126,847
Intel	460	106,700	106,240
eBay	138	31,500	31,362
Google	3,021	53,600	50,579
Apple	1,015	92,600	91,585

# Insights Given Today

- Four (unappreciated) people factors behind Silicon Valley's success
- Four key technology factors that will drive the future



# Four (Unappreciated) People Factors Behind Silicon Valley's Success

## 1. Educated

- Innovation-driven economy that constantly draws more innovators
- Also known as: “The World is Not Flat”

## 2. Diverse

- Steady stream of entrepreneurial, technically educated immigrants to help drive innovation

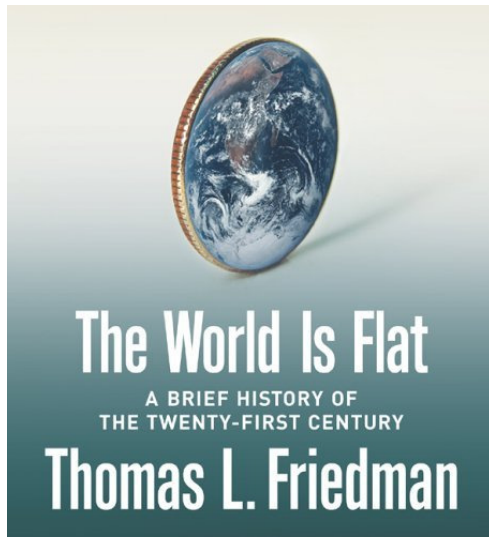
## 3. Networked

- Lateral professional networks

## 4. Experienced

- Entrepreneurially experienced investors

# Globalization: “The World is Flat”

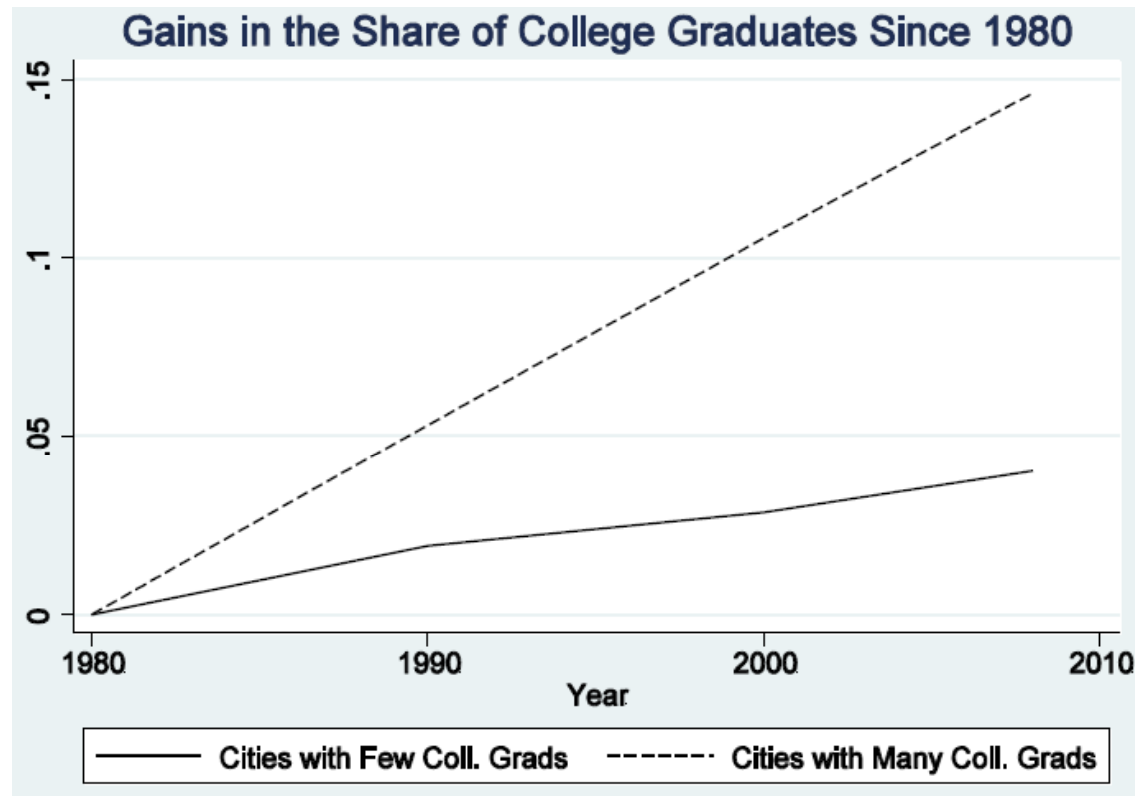


- The world is flat???
- No!
  - Innovation-based economies like Silicon Valley keep the world from being flat

Denmark: definitely  
not flat



# Innovation Economies: Not Flat!

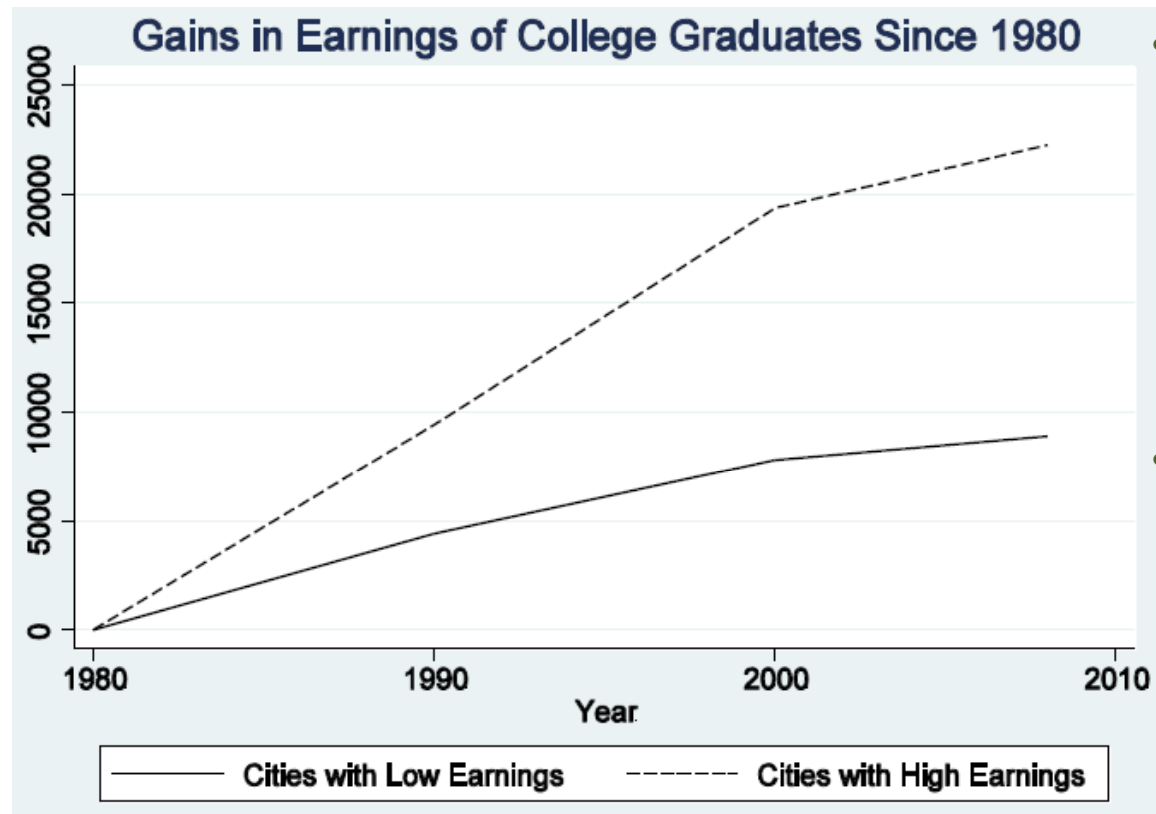


- The reason why there are so many educated people in Silicon Valley is...
- ... that there are so many educated people in Silicon Valley!

- If the world were truly flat, these two lines would be getting closer together as cities from the lower graph retain their home-grown talent
- Instead, highly educated cities are getting ever more educated

Data from: The New Geography of Jobs, Enrico Moretti, 2012

# Innovation Economies: Not Flat!

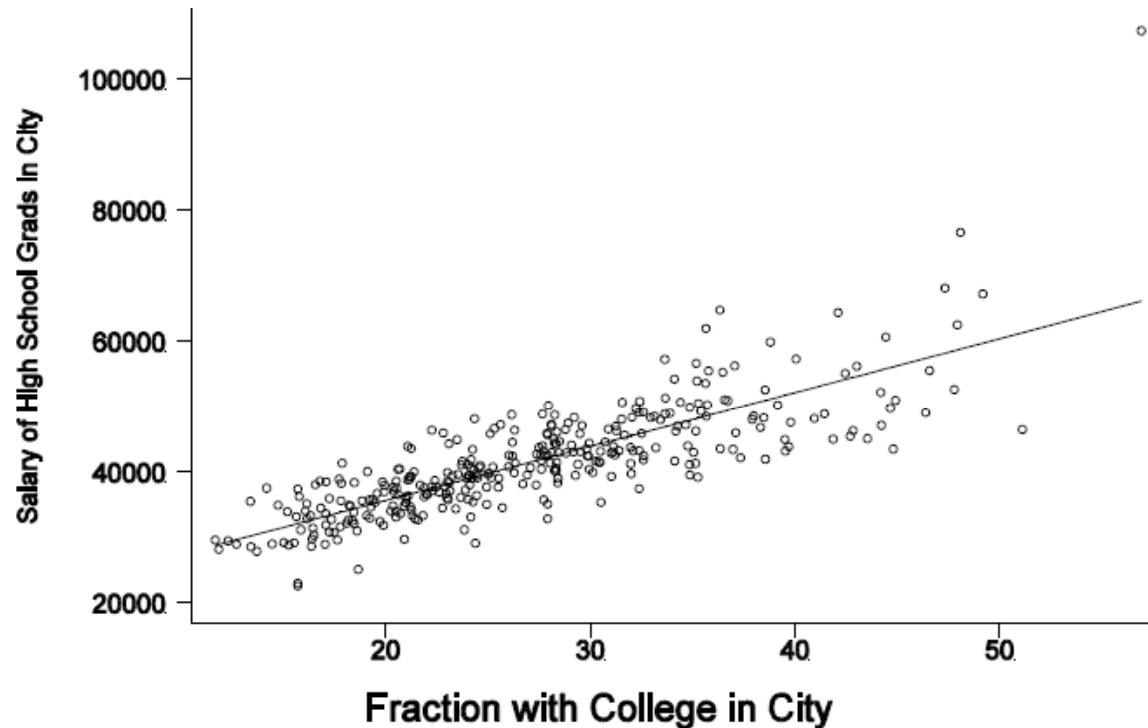


- The reason why there are so many highly paid people in Silicon Valley is...
- ... that there are so many highly paid people in Silicon Valley!

- If the world were truly flat, these two lines would be getting closer together as low cost cities pull jobs from high cost cities
- Instead, highly educated, high income cities are getting ever richer

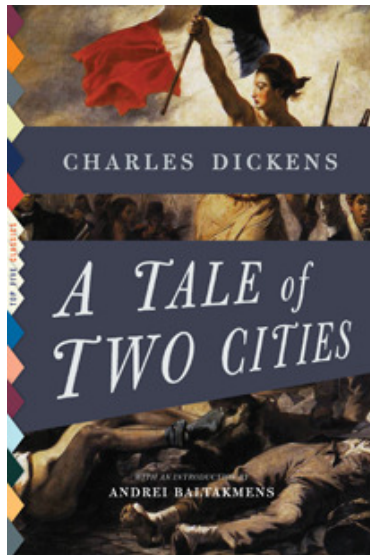
Data from: The New Geography of Jobs, Enrico Moretti, 2012

# Why Drive Innovation Jobs?



- The more college educated people you have, the more money people without college educations make

Data from: The New Geography of Jobs, Enrico Moretti, 2012



San Jose, CA (Silicon Valley)

- College graduate salary: \$87,033
- High school graduate salary: \$68,009
- Percentage of adults with college degree: 47%

Is a high school graduate in San Jose smarter than a university graduate in Merced?

Merced, CA (2 hour drive from Silicon Valley)

- College graduate salary: \$62,411
- Percentage of adults with college degree: 11%

Data from: The New Geography of Jobs, Enrico Moretti, 2012

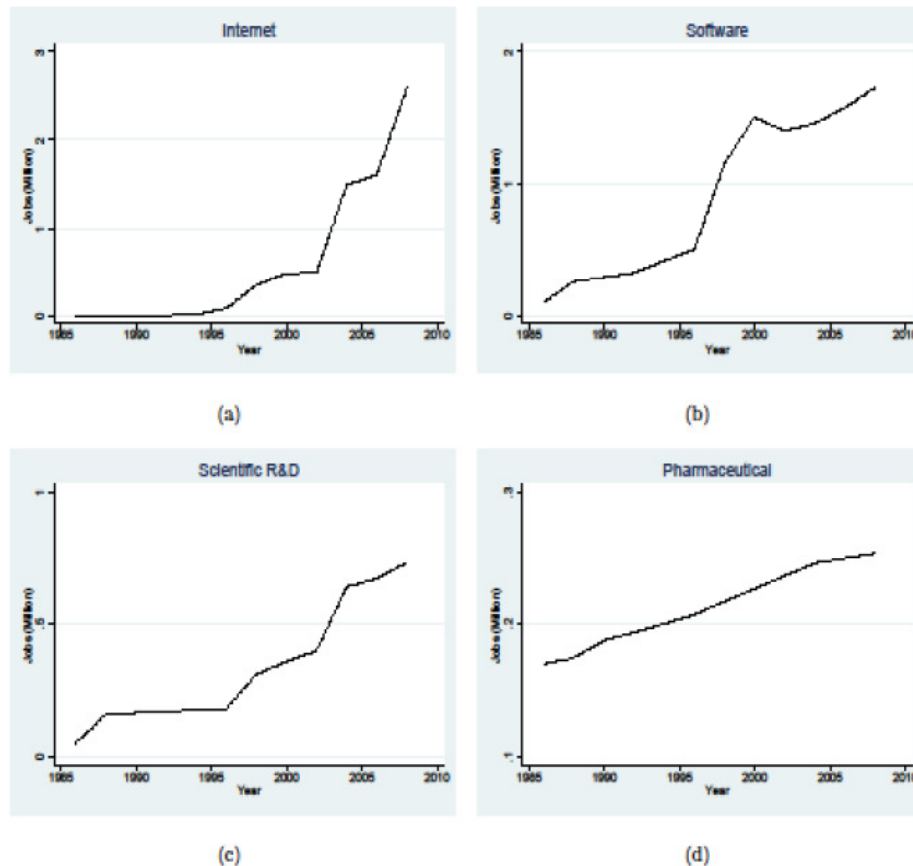


# Why Innovation Jobs?

- For each new high-tech job in a city, **5 additional non-high-tech jobs** are created within the next 10 years
- The reason why **creating innovation jobs** is so crucial to a region
  - The reason why Silicon Valley leads the US in job creation

# Innovation-Driven Jobs Increasing Steadily

Figure 2: The Rise of Jobs in Innovation



Data from: The New Geography of Jobs, Enrico Moretti, 2012

# The Immigrant Impact

- “American Made 2.0: How Immigrant Entrepreneurs Continue to Contribute to the U.S. Economy”
- Between 2006-2012, immigrants started **1/3** of US venture-backed companies that went IPO
- Today, **the average** immigrant-founded VC-backed public company **employs 2,579 people**

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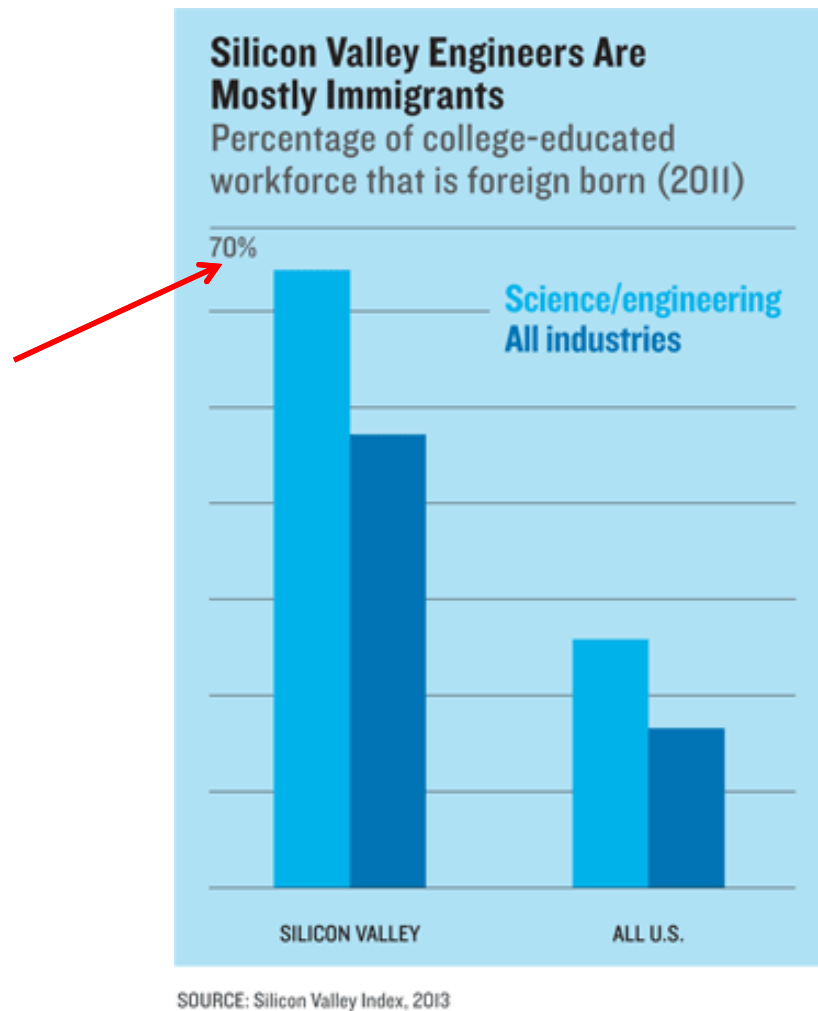
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# The Immigrant Impact



- Technology world moves *fast*
- Fastest way to keep technology growing is to import technical talent from countries with good universities
- Immigration to Silicon Valley: further evidence that the world isn't flat

# The Immigrant Impact

- Nations of origin – immigrant start-up founders in the U.S.:
  - Public companies:
    - #1: India (21%)
    - #2: Taiwan (10%)
    - #3: Israel (10%)
    - #4: UK (8%)
    - #5: Germany (7%)
  - Private companies:
    - #1: India (20%)
    - #2: UK (15%)
    - #3: Canada (11%)
    - #4: France, Israel, Germany
- 57% of companies located in California, 16% Massachusetts, 4% New Jersey
- 40% entered on employer-sponsored visas, 38% entered on educational visas

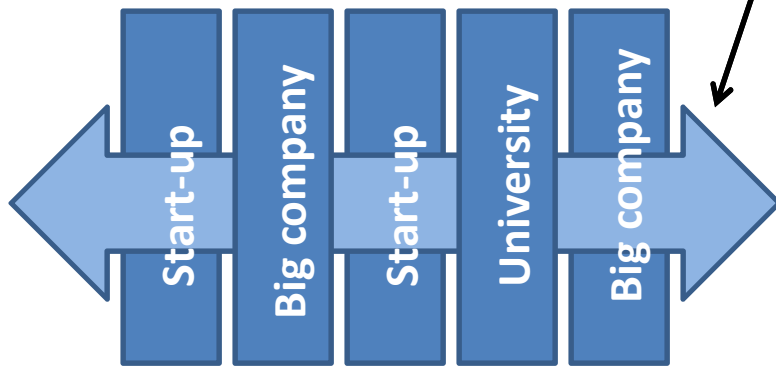
# Lateral Networks: Silicon Valley vs. Massachusetts

- Silicon Valley:
  - Educated population
  - Great universities: Stanford, UC Berkeley
  - \$24.2 Billion in VC investments in 2014
- Massachusetts:
  - Educated population
  - Great universities: MIT, Harvard
  - \$4.9 Billion in VC investments in 2014
- But in the 1970s, there were more technology jobs in Boston than Silicon Valley
- Why did Silicon Valley win the start-up race?

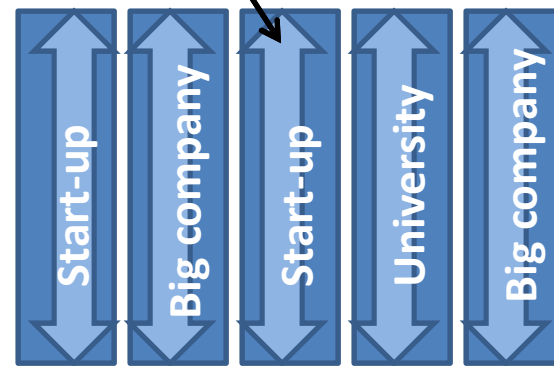


# Silicon Valley vs. Massachusetts

- Population with lateral networks (Silicon Valley) vs. population with vertical networks (Boston)



Silicon Valley: open,  
lateral networks across  
organizations



Boston: vertical networks  
within self-contained  
organizations

# Some Data on Venture Capitalists

CRUNCH NETWORK

## Entrepreneurial Experience Separates Top VCs From Other Investors

Posted Dec 2, 2015 by Rhett Morris (@rhettmorris)

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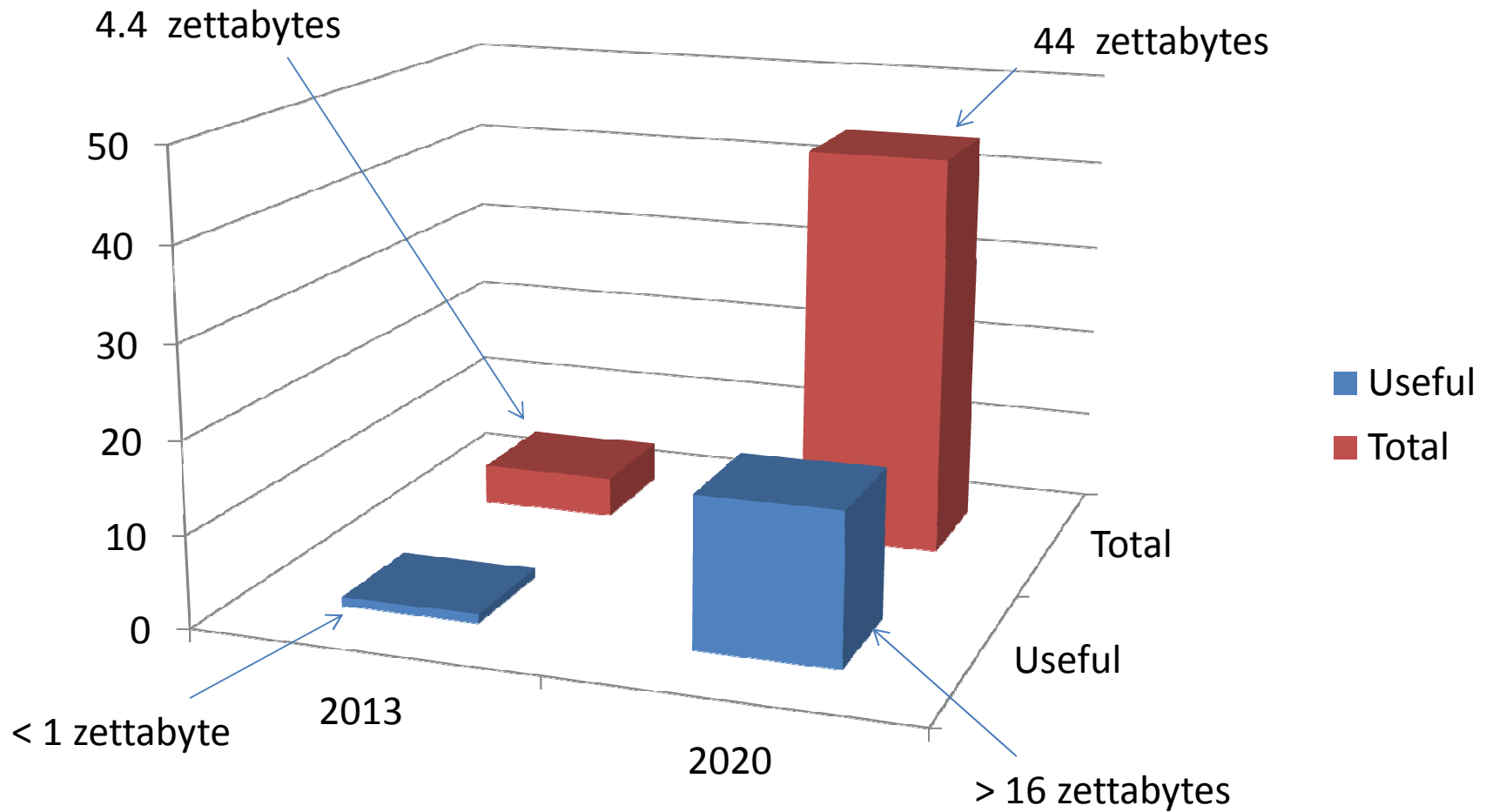


- High-performing VC funds:
  - 60% of partners are former entrepreneurs
- “Average” VC funds:
  - 27% of partners are former entrepreneurs
  - Rest were primarily bankers
- About half of US venture dollars invested in Silicon Valley

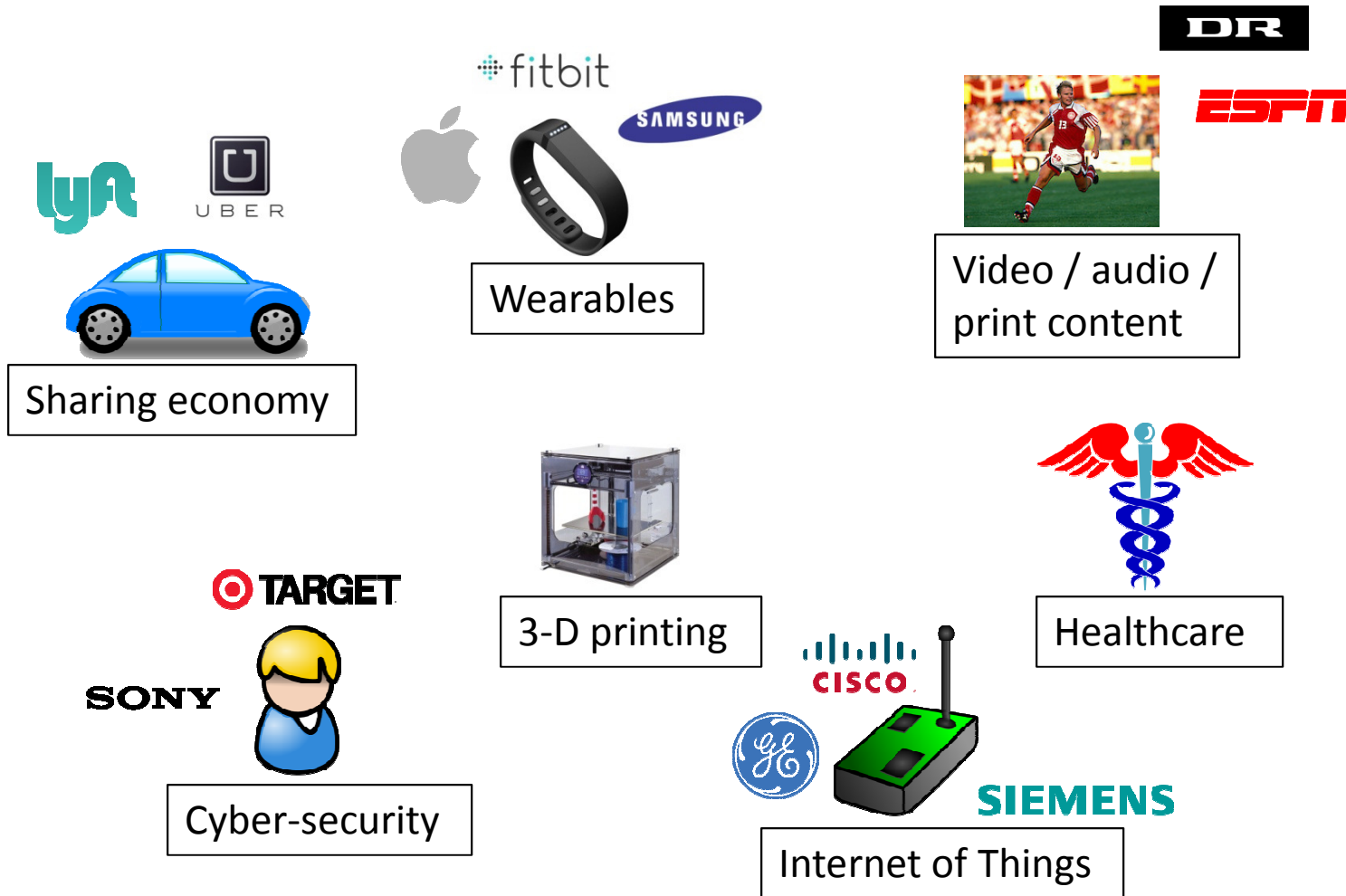
# Four Key Technology Factors for the Future of Business

1. It's all about the data
2. It's all about the data
3. It's all about the data
4. It's all about the data

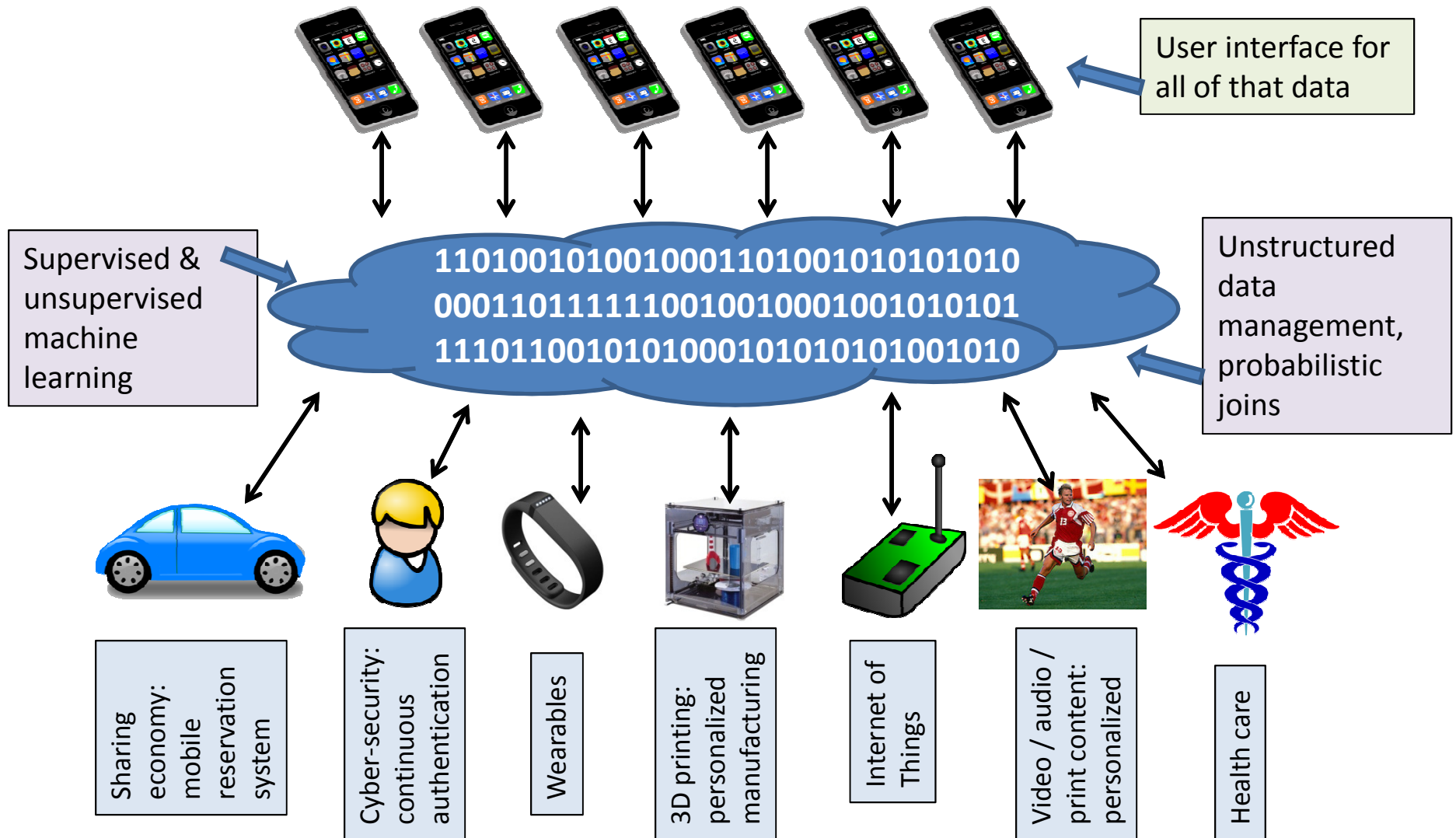
# Data: the “Third Platform”



# What One Thing Do the Following Have in Common?

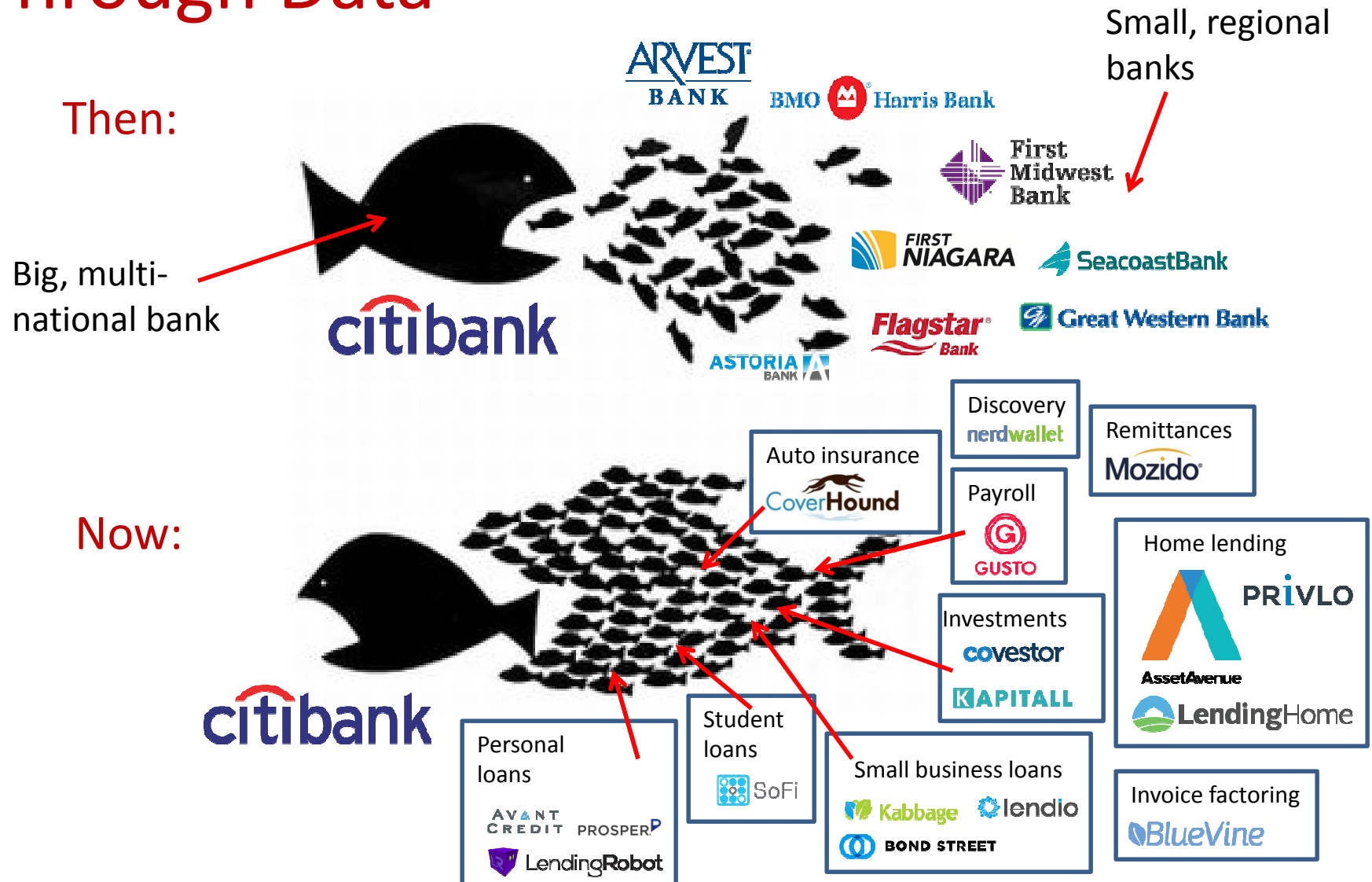


# Everything is Data-Driven






# The Banking Industry: Disruption Through Data



# Real-life Example: ZestCash


- “All data is credit data”




zestcash

Online Loan Application

Name:




The data says: greater credit risk!



zestcash

Online Loan Application

Name:



The data says: lesser credit risk!

# Another Example, Square: Mobile Point-of-Sale Transactions



IPO Nov 2015

~\$4 billion market cap today

- Is Square in the transaction enablement business or the data business?
- Data!
  - E.g., Square offers loans to merchants even though the merchant doesn't know they need a loan!
  - Loan based on transaction volumes
  - Repayment taken directly out of transaction stream

# The Biggest, Most Expensive Computer You'll Ever...

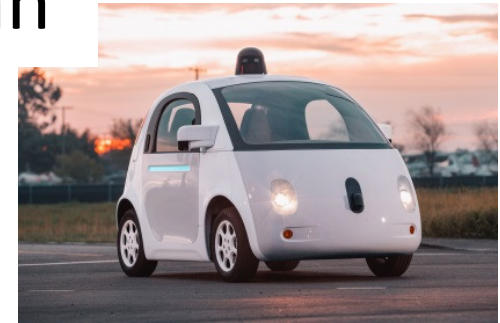
...Own

Connected car



... Or loan

Self-driving  
spot-rental



All data-driven

navdy

Driver assist

Z  
ZENDRIVE

TRUVOLO

SMARTDRIVE

Driver tracking /  
performance

REMOTO™

Control via mobile

metromile

Real-time insurance

Lytx

Driver safety

Automile

Fleet management

C  
cario  
MAKING CARS SMARTER

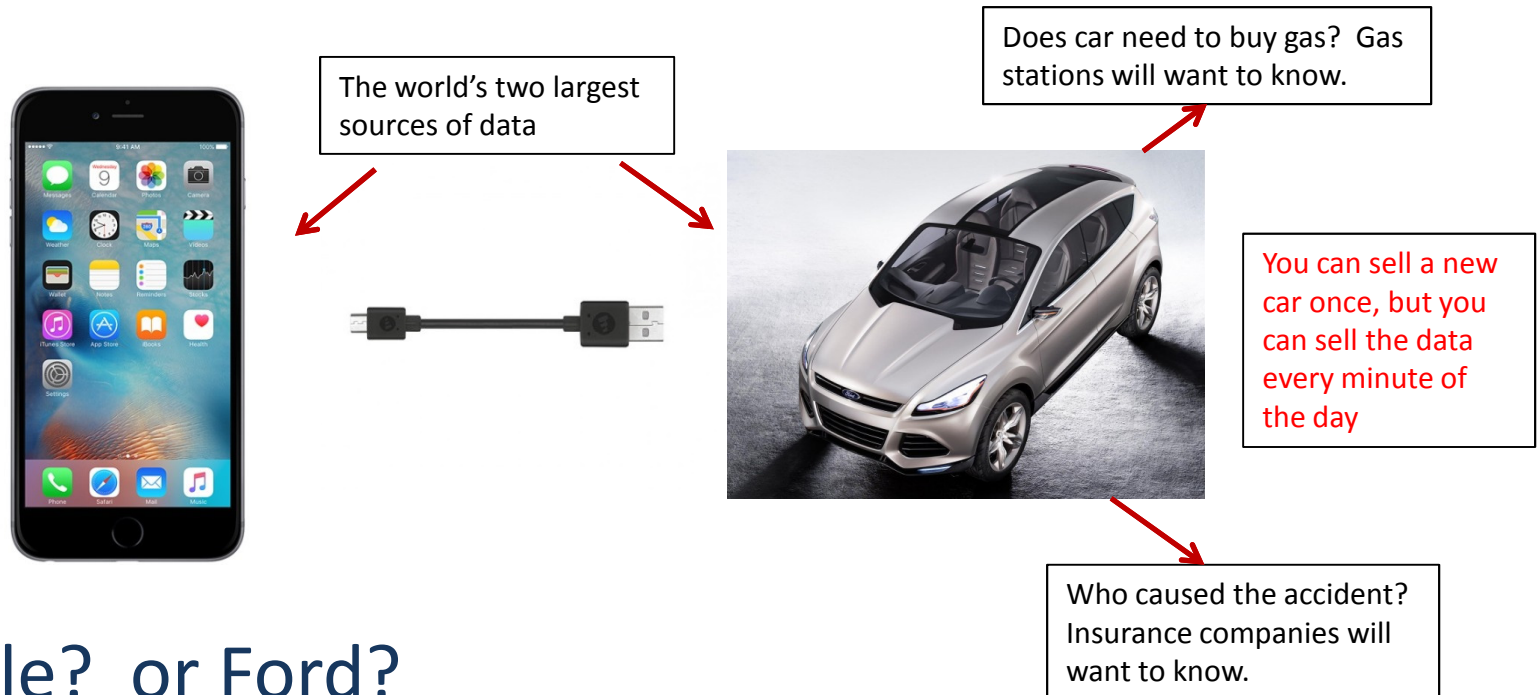
Auto service provider  
connectivity

Airbiquity

Airbiquity

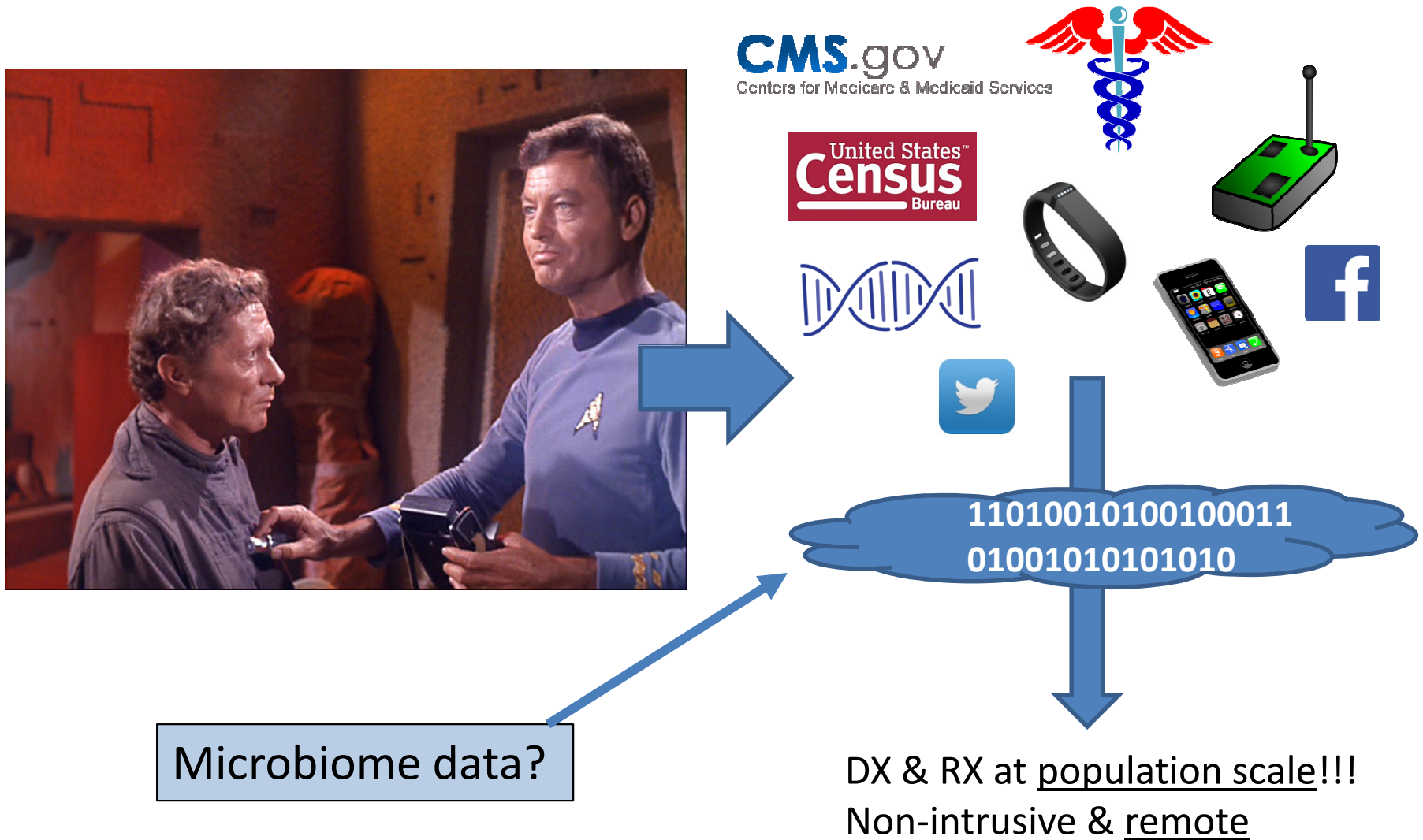
Connected car  
management

# Who Will Control the Automobile?



- Google? or Ford?
  - Whoever has the better software and data science team
  - Winner will get the vast (and incredibly valuable) streams of auto data

# The Tricorder as a Data Mash-up



See: <http://venturebeat.com/2015/06/21/continuous-healthcare-big-data-and-the-future-of-medicine/>

# Where Will Europe's Silicon Valley Be?

- Job creation
- Income creation
- Tax revenues
- Quality of life





# Denmark Not Mentioned Anywhere in this Article!

**Forbes** / Entrepreneurs

DEC 16, 2015 @ 09:35 AM 800 VIEWS

## Four European Tech Hubs That Are Hot On Berlin's Heels



**Alison Coleman,** CONTRIBUTOR

*I write about entrepreneurs, in particular, the disruptive ones*

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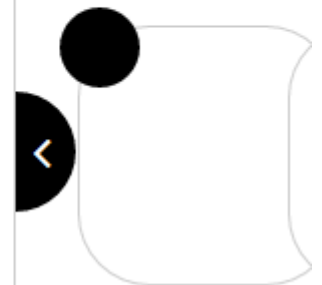
FULL BIO ▾

In the race to become Europe's biggest tech start-up hub, the cities of Berlin, London and Stockholm were fastest off the blocks. But tailing them are a handful of entrepreneurial hotspots that are flourishing in other parts of Europe.

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Reported 2015

## START-UPS

### Taking London's Success Elsewhere in Britain

By MARK SCOTT OCTOBER 2, 2014 1:32 PM 1 Comment

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### Czech tech: Eastern Europe's Silicon Valley?

Jenny Cosgrave | @jenny\_cosgrave  
Wednesday, 3 Dec 2014 | 10:58 AM ET



## THINKING BUSINESS

3 September 2014 Last updated at 19:05 ET

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### Portugal's growing number of young entrepreneurs

By Joao Pedro Pereira  
Business reporter, Lisbon



Magda Tili and her husband run an estate a

When Portugal was hit by an econom and her husband Miguel realised that decent living they would have to set i

At the time, Mr Tili was working as an ce

## POLITICS

### France reclaims 'entrepreneur' roots with leading number of start-ups in Europe

Sara Miller Llano  
Tuesday, 6 Jan 2015 | 10:27 AM ET  
THE CHRISTIAN SCIENCE MONITOR



Robyn Beck | AFP | Getty Images

Emiota representative Johann Gobba wears Belti, a smart belt from Paris-based Emiota, at CES Unveiled, at the 2015 Consumer Electronics Show media preview day, January 4, 2015 in Las Vegas, Nevada.



1 COMMENT Join the Discussion

# Avoiding Denmark's "Detroit Moment"

## Berlin, the Startup City: Big Dreams and Growing Pains

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BY SAMANTHA MURPHY KELLY  
SEP 08, 2014

BERLIN — There's no shortage of Silicon Valley, and Berlin often t...  
When the Berlin Wall fell in 1989 other creatives to the city. While skyrocketed over the years — f... relatively affordable, offering yo... risk platform to jump-start both c...

### The New York Times Business Day At Spain's Door, a Welcome Mat for Entrepreneurs



Stacia Carr in the Lavapiés neighborhood of Madrid. Previously of San Francisco business and has benefited from a Spanish law that offers a special visa to foreign entrepreneurs.  
JAMES RAJOTTE FOR THE NEW YORK TIMES

By NICK LEIBER  
NOVEMBER 22, 2014

Last year, after more than a decade in Silicon Valley, Stacia Carr, a woman in a dark coat, standing in the Lavapiés neighborhood of Madrid. Previously of San Francisco business and has benefited from a Spanish law that offers a special visa to foreign entrepreneurs.

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MARKETS

## Germany pushes new stock exchange segment for startups

Germany's Economy Minister has outlined a range of government projects and funding. Berlin's aims are to boost access to venture capital for the country's startups and drive development of the Internet of Things.

Bloomberg

News Quick Markets Personal Finance Tech U.S. Politics Sustainability Luxury Video

Business is Bloomberg.

## Deal-Maker Macron Woos Vegas by Pledging France Can Change

By Helene Fouquet and Marie Mawad | Jan 6, 2015 9:00 AM PT | 0 Comments Email Print

Emmanuel Macron's arrival as **France's** economy minister has added some youthful appeal to the country's struggling Socialist government. This week he'll try to lend some of that sparkle to French startups seeking investors at the Las Vegas **Consumer Electronics Show**.



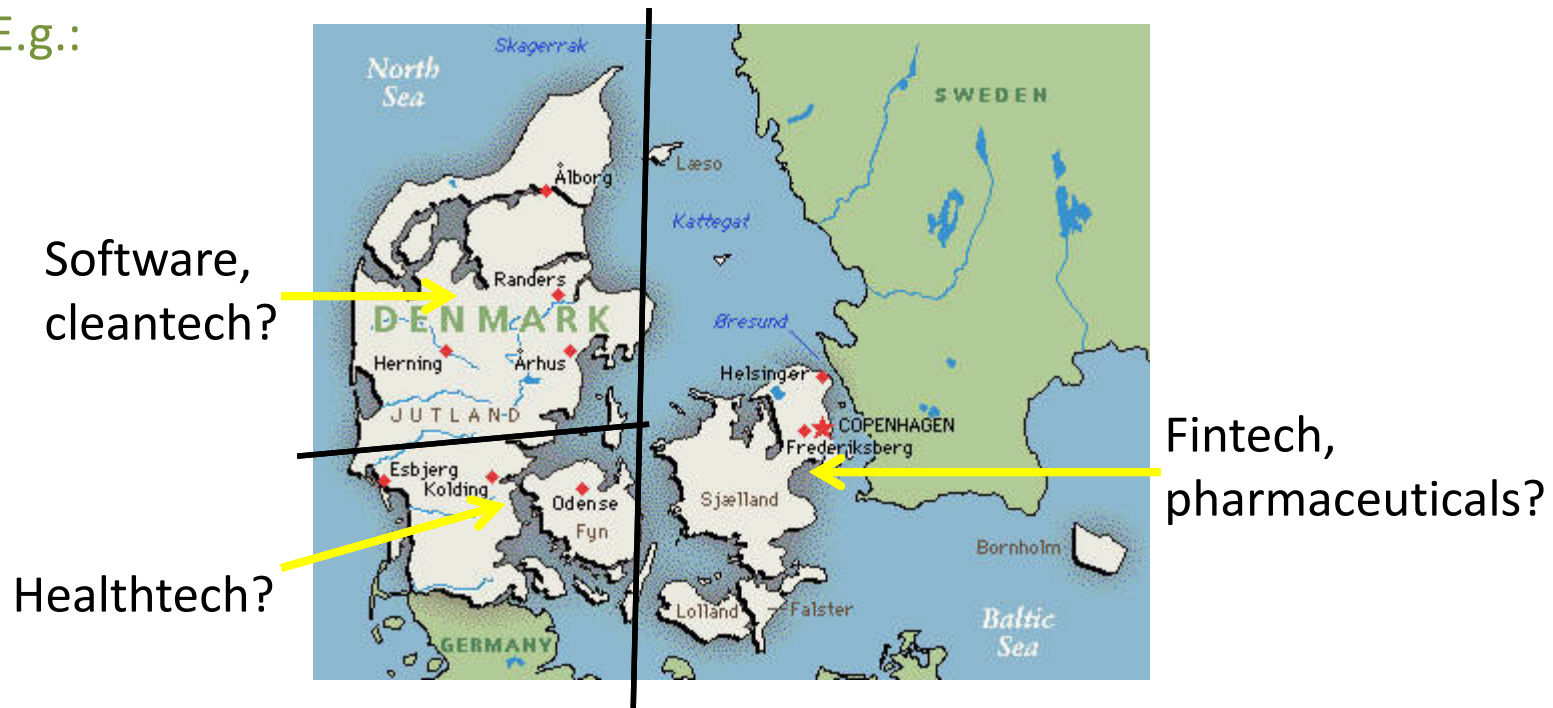
# Summarizing: A Few Thoughts on Avoiding a “Detroit Moment”

1. Innovation clusters → enabling lateral networks
2. Providing entrepreneurial guidance
  - “It’s not about the money”
3. The future of start-ups: an intense focus on data-driven business models

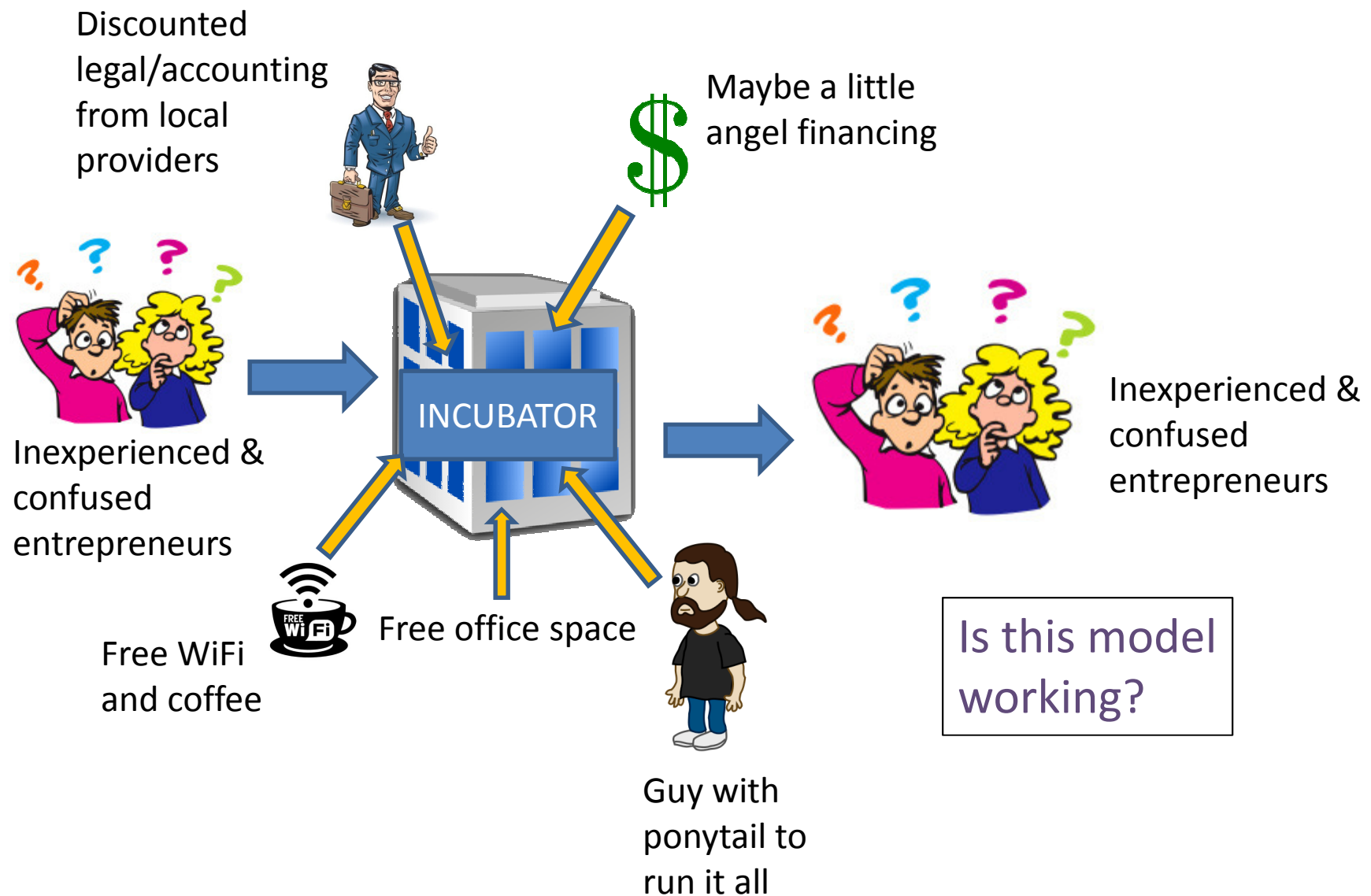


# Avoiding the Detroit Moment: Enabling Lateral Networks

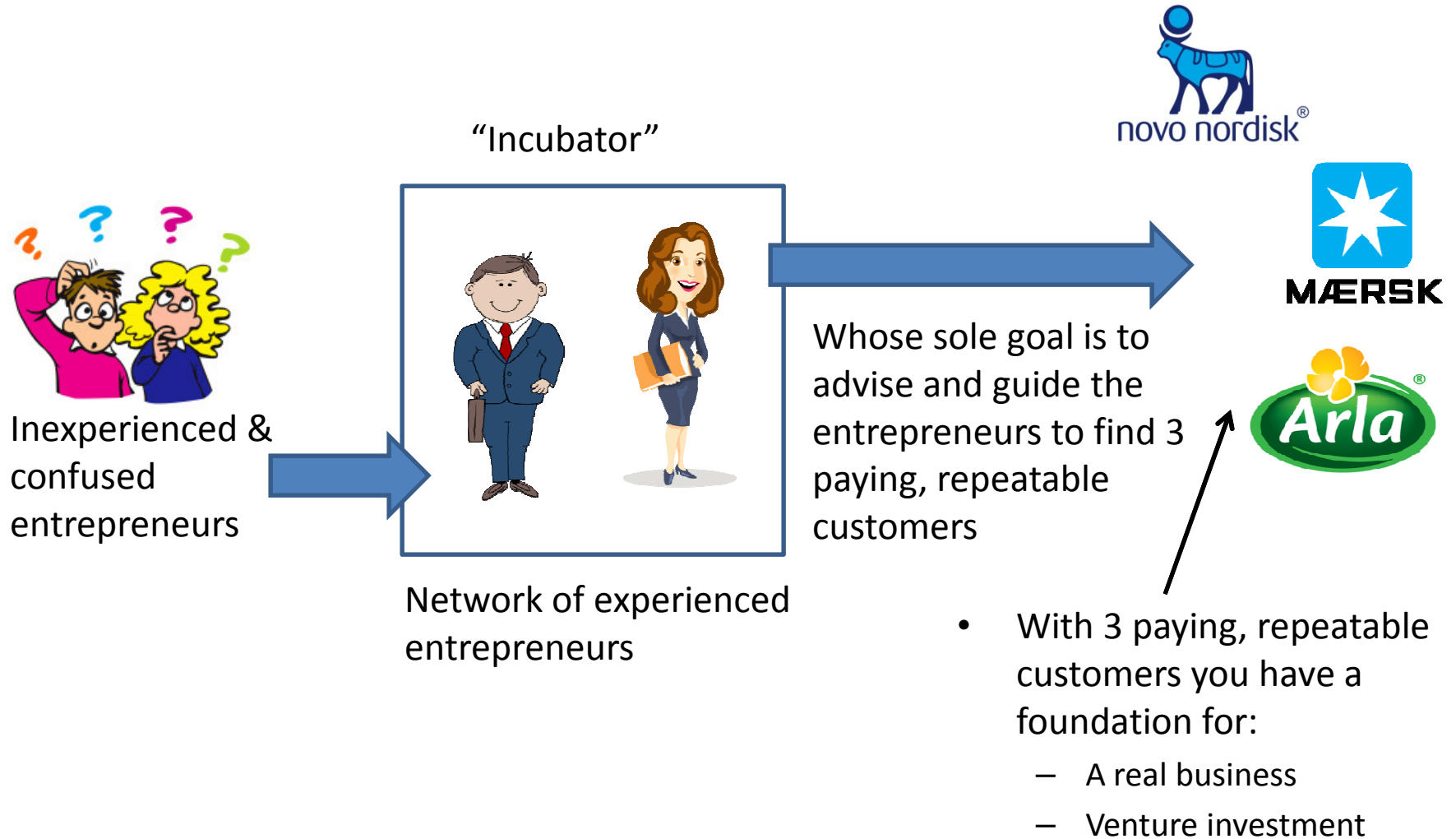
- Silicon Valley is geographically contiguous, but Denmark is geographically separated
- So clusters of innovation in Denmark that are specialized and localized to support lateral networks
  - Large companies + start-ups + universities + local governments
- E.g.:



# THOUSANDS of Incubators Worldwide



# Alternative: A People-Driven Approach to Incubation





# Future Business Models

**Danish Agro**



Precision agriculture



3-D manufacturing



Content



Everything is data-driven



Precision pharma dosing



"Internet of Things"  
(including large things like cars)



Retail (real-time) pricing



Next-generation financial services



Real-time insurance or credit rating



# Some Other Considerations

- Smooth US corporate bankruptcy policy: Chapter 7, Chapter 11
- IP rights: subtle!
- Non-competes (remember those lateral networks)
- Immigration policy / visa regimes
- Regulations for new landscape of eHealth & fintech
- ***Entrepreneur-friendly VC practices & financing terms***

# There's a Race Underway



But you have to race to win



# Avoiding the “Detroit Moment”



**Mindre tomt arbejde, tak!** For meget bureaukrati og for få varme hænder. Det kan vi gøre bedre, Danmark.

Læs



Man spejder forgæves efter Jesper Buch, der skabte Just-Eat og børsnoterede selskabet i London, på listen over de 100 rigeste danskere. Foto: Morten Germund

## Hvor er Danmarks stenrige IT-ikoner?



Af Carsten Steno Hansen  
26. september 2014, 14:56

I USA vrir det med IT-iværksættere blandt landets rigeste mennesker. Herhjemme har vi kun tre på listen. Høj skat, for tidlige exits, ringe talent og for få risikovillige investorer er en del af forklaringen.

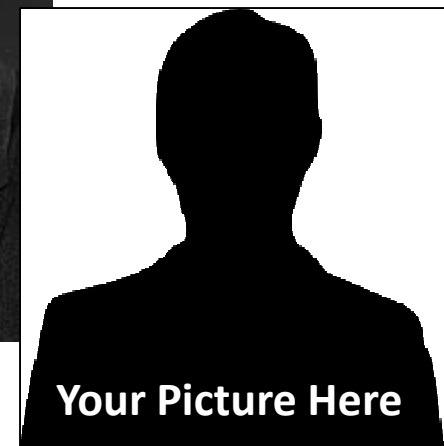


Kan lille Danmark  
vinde i start-up  
konkurrencen?



Danmark 2 – 0 Tyskland

# It's About the People!



# Go Global (Again)



CEO

Company  
on its  
way to  
get some  
revenue  
from  
England

Danish Start-up, Year 816