Europe, unicorns and global tech diffusion
The end of the American internet
The end of the American internet

When the consumer internet began, the majority of computers on earth were in the USA

Source: IMD, Apple, Google, CNNIC, @BenedictEvans
Global diffusion

There are now more smartphones in Europe than the USA

Source: IMD, Apple, Google, CNNIC, @BenedictEvans
Global diffusion

More smartphones in China than the USA and Europe combined

Source: IMD, Apple, Google, CNNIC, @BenedictEvans
Global diffusion

Computer use has spread far outside the old technology centres

Global computing installed base (m)

Source: IMD, Apple, Google, CNNIC, @BenedictEvans
Global company creation
Software company creation spreads from Silicon Valley to the world

Venture capital investments ($bn)

Source: NVCA
Tech, software and startups go global

You don’t have to be in the Valley anymore

So what about Europe?
A market with 450m people and $15tr of GDP

‘Big place, Europe...’
Studying STEM

Europe has a higher portion of graduates in STEM subjects than the USA

Source: UNESCO
And some great CS departments

A steady flow of great computer science graduates

Europe has 7 of the top 20 global CS departments

1: Oxford
2: Stanford
3: ETH Zurich
4: MIT
5: Cambridge
6: CMU
7: Imperial
8: Harvard
9: Princeton
10: Caltech

11: Singapore National
12: UCLA
13: Singapore Nanyang
14: Cornell
15: Tsinghua
16: Georgia Tech
17: HKUST
18: TU Munich
19: UCL
20: EPFL

Source: THE 2020
Everyone has a smartphone

Market-leading smartphone adoption

Source: Ofcom, Pew, CNNIC
They even have a word for ‘entrepreneur’

Company creation in Europe is comparable to the USA

Employees of new companies* as % all employees, 2015

Source: OECD
*Companies founded within the last 12 months
They even have a word for ‘entrepreneur’

European companies now raise 70% as many seed rounds as the USA

Source: Pitchbook

* Raising from $0.5m to $4m
So what’s the problem?
Where is Europe?

Only two European tech companies in the top 100 largest global companies, neither in consumer or internet.
A market with 450m people and $15tr of GDP...

‘Big place, Europe...’

Source: World Bank
But Europe is not one market

Europe is many different markets that entrepreneurs cannot treat as one

Source: World Bank
One market, and many

New York and LA get you more people than the top ten cities in any European country

Source: OECD
(Let’s not talk about China)

China has over 100 cities with more than 1m people each, and 5 ‘city clusters’ with 500m total population

Top ten metro markets by population, 2018 (m)

Source: OECD, World Bank
The US is more concentrated and homogeneous

Much easier for Americans to move across their continent to a cluster

- **Distributed**
  - SF Bay Area is 45% of early-stage
  - London/Oxford/Cambridge is 30% of Europe*

- **Mobility**
  - 0.2% of the EU moved country in 2017
  - 2% of Americans moved state

- **Language**
  - Only 16% of the EU is proficient in a foreign language

Source: Eurostat, US Census, Pitchbook
* Funding rounds raising between $3m and $20m, 2020 YTD
UK ecommerce penetration is ahead of the USA...

Up to 5pp ahead of US ecommerce penetration even before the lockdown surge

Source: ONS, US Census, @BenedictEvans
* Excluding cars, car parts, fuel, bars & restaurants. Seasonally adjusted.
But European digital adoption varies a lot

Only 38% of Italians made any online purchase in 2019

Source: Eurostat, BLS
Grape versus grain?

Percentage buying anytime online, 2019

Source: Eurostat
Segmenting Europe by tech adoption

Butter versus olive oil? Beer versus wine?

UK well ahead of USA

Small northern markets also leading

Germany a mixed picture

France, Spain, Italy 3-5 years behind
Europe is behind in ecommerce

65% of US ecommerce on 140% of the people, and a quarter of that is the UK

Source: Goldman Sachs
And worse in online advertising

UK online advertising is bigger than France and Germany combined

![Online advertising spend, 2019 ($bn)](chart)

Source: Zenith
On any measure, most Europeans are online less

Major European markets spend half as much time online as the USA or UK

Average daily minutes of internet use per individual, 2019

Source: Zenith
The same spread in the enterprise

Enterprises using cloud computing, 2018

Source: Eurostat
And this is reflected in funding

Since 2010, there has been almost double the early-stage startup investment in California than all of Europe

Source: Pitchbook
* Funding rounds raising between $3m and $20m
Tech in ‘Europe’?

Europe was always a harder place to build tech startups

- ‘Europe’ is not a market
- Digital adoption varies a lot
- A ‘startup’ ecosystem is still emerging
All change?
Narrative violation

Over 120 new $1bn+ tech companies have emerged in Europe in the last decade, today worth $600bn+
Narrative violation

Over 120 new $1bn+ tech companies have emerged in Europe in the last decade

Source: Dealroom, company announcements, Mosaic Ventures
And a surge in enthusiasm

‘Startup evangelism’ events reflect (and drive) a shift in attitude and consciousness

- Slush: 25k attendees
- Web Summit: 70k attendees
- 4YFN: 23k attendees
Even Italian ecommerce is growing (a bit)

Italian ecommerce sales rose 50% in the summer of 2020

Source: ISAT
Building the startup flywheel

What do you need for a cluster?

<table>
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<th>Spread of the SV funding/ownership/risk startup model</th>
<th>Dense support networks</th>
<th>Startup-led capital in depth</th>
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<td>Successes seed angels, founders and new funds</td>
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<td>Universities and R&amp;D labs spin out talent</td>
<td>Tax &amp; visa rules don’t block startups</td>
<td>And much more…</td>
</tr>
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</table>

And much more…
Hence, early-stage funding up 4x since 2010

Growth in ecosystem, creation, funding

Source: Pitchbook
* Funding rounds raising between $3m and $20m
Closing the gap?

From 40% of California in 2010 to 85% in 2019

Source: Pitchbook

* Funding rounds raising between $3m and $20m
Closing the gap?

... though still only a third of total US investment

**Early-stage capital* invested, $bn**

- USA
- California
- Europe

Source: Pitchbook

* Funding rounds raising between $3m and $20m
European leverage, or diffusion?
Three things have been top of mind for European tech

Fields where Europe has a specific advantage (these get talked up a lot)

**Frontier science**
Universities & research institutions

**Fintech**
Modern infrastructure
Flexible regulation
City of London

**Bio**
Huge data pools
Healthcare systems
Underexploited research
Europe has a lot of world-class research

Impact-weighted metrics show European research is doing OK...

Source: BEIS/SCOPUS
The US is a global magnet, but Europe keeps its talent

The US and Europe produce and retain AI talent, though the US is much better at pulling in researchers from elsewhere

Source: Macropolo

* Sample of 671 authors of 175 papers selected from 1,400 total submitted
Regulation as an advantage? (Seriously)

Structure of European markets and their regulators can make life much easier for startups in some sectors.

- **Flexibility**: US regulatory models can struggle to change rules as needed.
- **Competition**: A dozen economies experiment with different rules.
- **Local problems**: Solving locally-specific problems can be a sandbox for global growth.
Narrative violation?

Less than 20% of the value of European unicorns is in fintech and bio

Source: Dealroom, company announcements, Mosaic Ventures
And this is reflected in investing

European startup investing now goes far broader

Source: Pitchbook
* Funding rounds raising between $3m and $20m
A broadening base

European unicorns have expanded from a largely consumer story to a broader base

Source: Dealroom, company announcements, Mosaic Ventures
‘Software is eating the world’

(Remember?)
Tech has become central to society

Tech used to sell accounting tools to big companies - now it’s part of our life

- Mainframes: Big companies
- PCs: All companies
- Web: Middle-classes
- Smartphones: Everyone

Systemically important part of society
Shopify has come from nowhere (well, Canada) to $80bn

Over a million merchants, from the long tail to Unilever and Pepsico

Source: Shopify
Standing on the shoulders of giants

The scale of consumer adoption and expectation, and the growth of platforms, unlocks far bigger opportunities.
What’s the real opportunity?

‘Mail order retail by computer’ is a tiny portion of total consumer spending

Source: Goldman Sachs, World Bank
Moving to harder problems

First 20 years: information arbitrage. Second 20 years: change entire industries with software

**First 20 years: data arbitrage**
- Symptoms
- Mail-order books
- Restaurant reviews
- Tickets
- Listings, mortgage comparison

**Second 20 years: change the industry**
- Alphafold
- Netflix
- Food delivery
- Airbnb, rideshare, EVs
- Mortgages, fractional liquidity

Source: World Bank, UN

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Taking software from work to life

Software, automation, workflow, and tools...

From work & big business to daily life

From mainframes, to Salesforce, to Tinder
Conclusion
Silicon Valley’s ‘boiling the frog’ moment?

Does 2020 finally prompt tech companies to move outside the San Francisco Bay Area?

Source: S&P Dow Jones
The market moves from ‘computers’ to ‘people’

When the web began, the market was PCs. Now it’s everyone on earth

Source: IMD, OECD

* Daily expenditures between $10 and $100 per person in PPP
Global diffusion

Tech changes from a small industry with a cluster in Silicon Valley to global adoption and company creation

- Software and startup creation goes global
- Europe builds a flywheel
- And everyone will do anything online
Thank you

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