7. INOVAÇÃO, DIMENSÃO DA EMPRESA e DINÂMICAS SECTORIAIS

Manuel Mira Godinho

Economia da Inovação e do Conhecimento

MEGC&TI

Plano da aula

1. **“Hipóteses de Schumpeter”; Questões de investigação e normativas relevantes**
2. Dimensão da empresa
3. Dinâmicas (inter) sectoriais
4. Empreendedorismo e dinâmicas (intra) sectoriais (demografia setorial)

As "HIPÓTESES DE SCHUMPETER"

- Inovação = f (dimensão da empresa)
- Inovação = f (concentração do mercado)

Inúmeros estudos teóricos e empíricos sobre estas hipóteses desde anos 60 → Resultados inconclusivos

Questões de partida

(relacionadas com as "hipóteses de Schumpeter")

Relação entre inovação e distribuição dimensional

- Empresas de maior dimensão são mais inovadoras que empresas de menor dimensão? (ou: vice-versa?)

Relação entre inovação e estrutura do mercado

- Inovação é mais favorecida por sectores mais concentrados (dominados por poucas empresas de grande dimensão) ou mais concorrenciais (onde as empresas maiores não determinam o funcionamento do mercado)?

Para além das hipóteses de Schumpeter

- Teoria económica convencional argumenta que apenas com mercados concorrenciais se consegue "eficiência" (maximização do "bem-estar social")
- Por esta razão, em muitos países há políticas da concorrência (ou "anti-trust"), existindo agências reguladoras que fiscalizam situações e comportamentos não concorrenciais;
- Prática da regulação muito influenciada por hipótese dos "mercados contestáveis" (W. Baumol, 1982)
- Lógica de Baumol: Competitividade de empresas (… dos EUA) nos mercados globais exige "dimensão"

Empresas mais inovadoras dos últimos 20 anos?

- Google
- Amazon
- Facebook
- Apple
- Alibaba
- Tencent
- …

List of public corporations by market capitalization
From Wikipedia, the free encyclopedia

This list is up to date as of September 30, 2020. Indicated changes in market value are relative to the previous quarter.

Rank	First quarter	Second quarter	Third quarter
1	Microsoft ▼1,200,000[13]	Apple Inc. ▲1,576,000[14]	Apple Inc. ▲1,981,000[14]
2	Apple Inc. ▼1,113,000[14]	Microsoft ▲1,551,000[13]	Microsoft ▲1,592,000[13]
3	Amazon.com ▲970,590[15]	Amazon.com ▲1,432,590[15]	Amazon.com ▲1,577,000[15]
4	Alphabet Inc. ▼799,180[16]	Alphabet Inc. ▲979,700[16]	Alphabet Inc. ▲999,570[16]
5	Alibaba Group ▼521,740[17]	Facebook, Inc. ▲675,690[18]	Alibaba Group ▲795,400[17]
6	Facebook, Inc. ▼475,460[18]	Tencent ▲620,920[19]	Facebook, Inc. ▲746,100[18]
7	Tencent ▲471,660[19]	Alibaba Group ▲579,740[17]	Tencent ▲646,790[19]
8	Berkshire Hathaway ▼440,830[20]	Berkshire Hathaway ▼432,570[20]	Berkshire Hathaway ▲509,470[20]
9	Visa ▼357,020[21]	Visa ▲412,710[21]	Visa Inc. ▲425,510[21]
10	Johnson & Johnson ▼345,700[22]	Johnson & Johnson ▲370,590[22]	TSMC ▲420,440[23]

Averiguações recentes a Google (Alphabet), Facebook, Amazon, Apple, Twitter

Três questões diferentes

(1) Excesso de poder de mercado
(2) Respeito pela privacidade dos dados pessois (GPRD – RGPD)
(3) Responsabilização por transmissão de conteúdos

Políticas antitrust (1) + (2) e (3) a aumentarem intensidade…

Vamos ver:

- UE
- EUA
- China

Comissária da Concorrência da CE

- Margrethe Vestager
- Vice-Pres. da CE
  e Comissária da Concorrência

- *"Desde 2014 é Comissária Europeia para a Concorrência. Uma das suas decisões mais polémicas foi, no verão de 2016, a exigência à Apple o pagamento de 13 mil milhões de euros em impostos não cobrados na Irlanda. O Presidente dos Estados Unidos, Donald Trump, caracterizou-a como alguém que "odeia verdadeiramente os Estados Unidos". Esta reputação de Vestager assenta numa longa lista de iniciativas que realizoui: além de obrigar a Apple a pagar 13 mil milhões de euros em impostos, multou a Google em mais de 8 mil milhões de euros devido a violações antimonopolio, exigiu pagamentos de impostos à Starbucks, obrigou a Visa e Mastercard a cortarem 40% das taxas cobradas e está a analisar a possibilidade de a Amazon.com gozar de vantagens injustas. Vestager tem também actuado contra instituições não-Americanas, como a Gazprom da Rússia e a fusão prevista na área da ferrovia da Siemens (Alemanha) com a Alstom (França)."* (Fonte: Wikipedia)

Margrethe Vestager (from: Wikipedia)

- European Commissioner for Competition, 2014–2019

- On 31 August **2014**, Prime Minister Thorning-Schmidt nominated Vestager as Denmark's EU Commissioner in the Juncker Commission. Despite her repeated denials of campaigning for the Environment portfolio, eventually she was designated the Competition dossier in the Juncker Commission. On 3 October 2014, she won the European Parliament's backing following her confirmation hearing.
- In her confirmation hearings, Vestager said she favored settlement of cases before they come to a final executive judgment, for reduced fines or negotiated concessions from the companies.
- Like her predecessor, Joaquín Almunia, Vestager has since been focusing on state aid cases. Within a few months in the office, she brought **antitrust charges against Google**; Almunia had initially opened the investigation into Google in 2010, and had reached a settlement deal with Google by 2014 but was unable to convince the European Commission to accept it before his term ended. Vestager inherited Almunia's case but has shown greater desire to continue pursuing Google/Alphabet over the alleged antitrust violations. Also, she initiated **investigations into the tax affairs of Fiat, Starbucks, Amazon.com and Apple Inc**. under competition rules.
- […]
- In August **2016**, after a two–year investigation, Vestager announced **Apple Inc. received illegal tax benefits from Ireland**. **The Commission ordered Apple to pay a fine of €13 billion,** plus interest, in unpaid Irish taxes for 2004–2014; the largest tax fine in history. In July **2020, the European General Court struck down the decision as illegal, ruling in favor of Apple**.
- As a result of the EU investigation, Apple agreed to re-structure out of its 2004–2014 Irish BEPS tool, the Double Irish in Q1 2015; Apple's replacement Irish BEPS tool, the CAIA arrangement caused Irish 2015 GDP to rise by 34.4 per cent, and was labelled Leprechaun economics by Nobel Prize-winning economist, Paul Krugman in July 2016.
- In July **2017, a fine of $2.7 billion against Alphabet (formerly Google) was levied based on the European Commission claim that Google breached antitrust rules**. This fine was later appealed.
- In October **2017, Vestager ordered Amazon to pay €250 million of back taxes**, and in January 2018, the EU Commission **fined Qualcomm €997 million for allegedly abusing its market dominance on LTE baseband chipsets**. In July **2018, she fined Alphabet (Google) €4.3 billion for entrenching its dominance in internet search** by illegally tying together their service and other mobile apps with Android. On 22 January 2019 she fined Mastercard €570 million for preventing European retailers from shopping around for better payment terms. In March 2019, Vestager **ordered Google to pay a fine €1.49 billion for abusive practices in online advertising**. Vestager's actions against American companies as competition commissioner **received criticism from US President Donald Trump (who also dubbed her as the EU's "Tax Lady"), stating "She hates the United States, perhaps worse than any person I've ever met."**
- […]
- Following the 2019 European Parliament election, Vestager was proposed as President of the European Commission.[40] In June 2019, Prime Minister Mette Frederiksen proposed that Vestager continue as Denmark's Commissioner for another five years.[41] While, initially thought to become First Vice-President,[42] Ursula von der Leyen has since proposed that Vestager, Frans Timmermans and Valdis Dombrovskis all serve as Executive Vice-Presidents of the Commission with Vestager having responsibility for a "Europe fit for the Digital Age".

Antitrust: Commission sends Statement of Objections to Amazon for the use of non-public independent seller data and opens second investigation into its e-commerce business practices

10 November 2020

- The European Commission has informed Amazon of its preliminary view that it has breached EU antitrust rules by distorting competition in online retail markets. The Commission takes issue with Amazon systematically relying on non-public business data of independent sellers who sell on its marketplace, to the benefit of Amazon's own retail business, which directly competes with those third party sellers.

- The Commission also opened a second formal antitrust investigation into the possible preferential treatment of Amazon's own retail offers and those of marketplace sellers that use Amazon's logistics and delivery services.

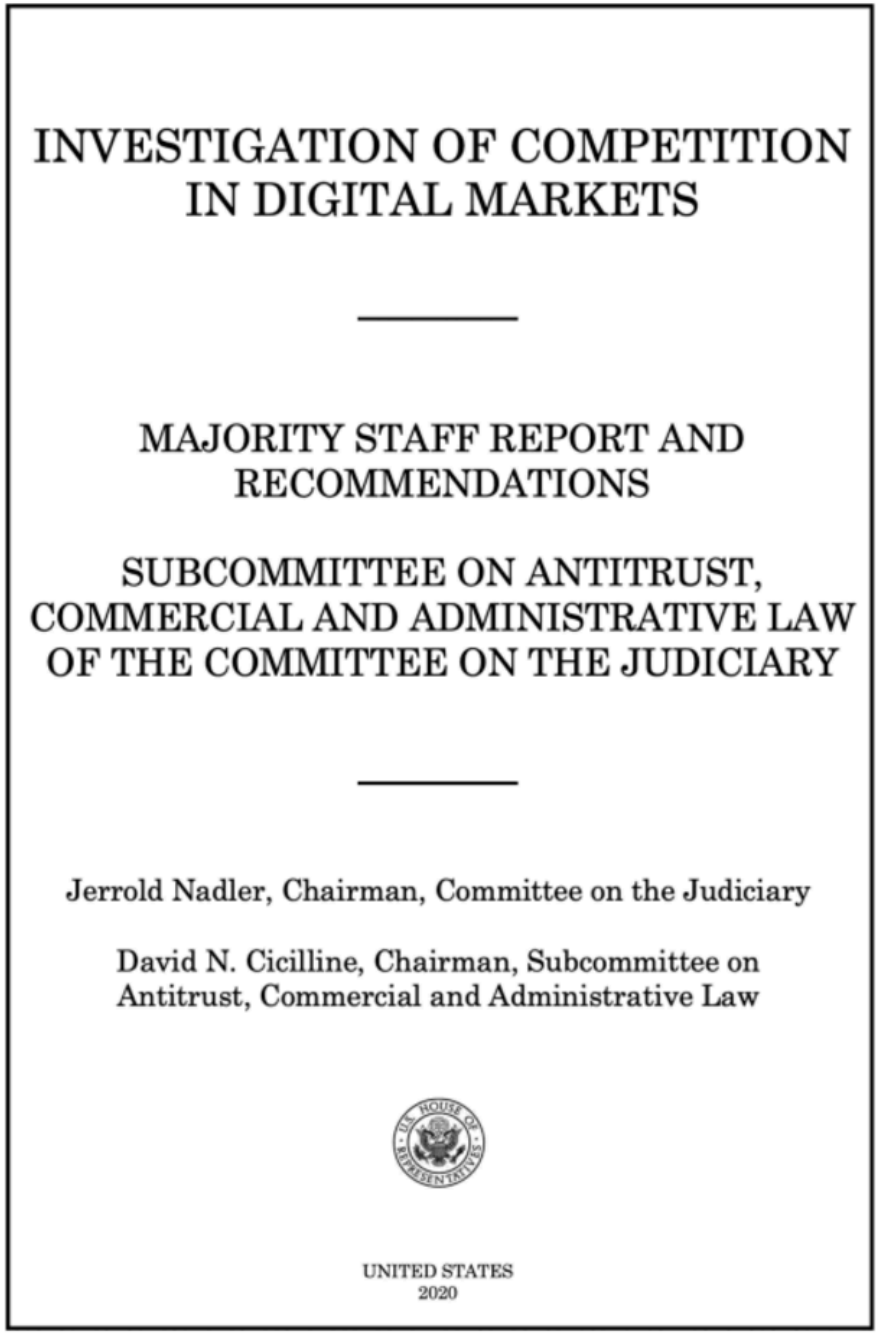
European commission to appeal against €13bn Apple tax ruling

The Guardian, Fri 25 Sep 2020 14.34 BST

- The European commission is appealing against a court ruling that said Apple did not have to pay €13bn (£11.9bn) in alleged back taxes to the Irish government, reopening a landmark battle in the EU's campaign to stop sweetheart deals for multinationals.
- The bloc's competition chief, Margrethe Vestager, said on Friday she would appeal to the EU court of justice to try to oblige Ireland to collect the alleged unpaid taxes and interest from the tech giant.
- "The commission … respectfully considers that in its judgment the general court has made a number of errors of law," her office said in a statement.
- The commission needed to use all available tools to ensure companies paid their fair share of tax, it said. "Otherwise, the public purse and citizens are deprived of funds for much needed investments – the need for which is even more acute now to support Europe's economic recovery. We need to continue our efforts to put in place the right legislation to address loopholes and ensure transparency."
- In 2016 the commission ordered Apple to pay for gross underpayment of tax on profits across the European bloc between 2003 and 2014. **It said the iPhone maker had used two shell companies incorporated in Ireland, with the agreement of tax authorities in Dublin, to report Europe-wide profits at effective rates well under 1%.**
- Apple and the Irish government rejected the claim, saying no state aid had been paid, and successfully challenged the order in the bloc's Luxembourg-based general court. It ruled in July that the EU's executive body had failed to prove Apple benefited from an allegedly illegal arrangement. The decision had wider repercussions for the commission's plans to clamp down on tax avoidance in member states.
- The deadline to appeal was midnight on Friday.
- Vestager said the case raised important issues for state aid rules in tax planning cases and would be pursued, saying the commission believed the general court had made errors of law.
- "Making sure that all companies, big and small, pay their fair share of tax remains a top priority for the commission," said her statement. "If member states give certain multinational companies tax advantages not available to their rivals, this harms fair competition in the European Union in breach of state aid rules."
- The appeal means the €13bn – plus €1.3bn in interest – stays in an escrow account until the court of justice ruling, which could take two years.
- Apple played down the appeal's chance of success and said it had abided by Irish law. "The general court categorically annulled the commission's case in July and the facts have not changed since then."
- Ireland's finance minister, Paschal Donohoe, said in a statement the appeal had been expected and that Ireland would study it in detail before responding.
- Some opposition politicians want Ireland to tap the escrow account to fund pandemic-related spending. The government has refused, saying the money is contested and that Ireland must protect its foreign investment strategy.

EUA: Outubro 2020

- Oct. 2020: House Judiciary Committee issued its final report on its investigation of competition in digital markets (1)
- On October 20th the Department of Justice launched a federal antitrust lawsuit against Google (1) +(2)?
- October 2020: Facebook, Twitter and Google face questions from US senators (averiguação quanto a conteúdos transmitidos) (3)



WHAT GOOGLE, APPLE, AMAZON, AND FACEBOOK HAVE AT STAKE IN THE ANTITRUST FIGHT

Here's what the House Judiciary report means for each company

By Russell Brandom Oct 8, 2020, 8:45am EDT

On Tuesday afternoon, the House Judiciary Committee issued its final report on its investigation of competition in digital markets, the end result of years of research and hearings. Technically, there were three reports: a majority opinion from Democrats and two others from different Republican factions, part of an ongoing split in congressional efforts to bring tech companies in line. But while the politics of the documents are byzantine, the message of the majority report is crystal clear: Apple, Amazon, Facebook, and Google have gotten too powerful. Over 449 pages, the report lays out a playbook for how to pare back that power and use the conventional tools of antitrust law to reshape the digital world.

The report is comprehensive, and it takes on each company from a different angle, laying out different problems and proposing different solutions. Despite the "Big Tech" moniker, these are four very different companies, and the usual antitrust remedies will affect them very differently. In the piece below, we'll walk through each step and break down exactly what the Democrats' antitrust plan could mean for their future.

https://www.theverge.com/21506682/google-apple-amazon-facebook-antitrust-report-house-judiciary

Big Tech

Apple	IoS	Applestore		
Google	Android	Chrome	Youtube	Google Maps
Facebook		Instagram	Whatsapp	
Amazon		Amazon Basics	Amazon Web Services	

Oct. 2020: House Judiciary Committee issued its final report on its investigation of competition in digital markets

- **Amazon** has significant and durable **market power** in the U.S. online retail market…The platform has **monopoly power** over many small- and medium-sized businesses that do not have a viable alternative to Amazon for reaching online consumers.
- The **strong network effects** associated with **Facebook** have tipped the market toward monopoly such that Facebook competes more vigorously among its own products—Facebook, Instagram, WhatsApp, and Messenger—than with actual competitors… Facebook's monopoly power is firmly entrenched and unlikely to be eroded by competitive pressure from new entrants or existing firms…. In the absence of competition, Facebook's quality has deteriorated over time, resulting in worse privacy protections for its users and a dramatic rise in misinformation on its platform.
- **Apple** exerts **monopoly power** in the mobile app store market, controlling access to more than 100 million iPhones and iPads in the U.S…..In the absence of competition, Apple's **monopoly power over software distribution to iOS devices** has resulted in harms to competitors and competition, **reducing quality and innovation** among app developers, and **increasing prices and reducing choices for consumers**.
- **Google** has a **monopoly** in the markets for general online search and search advertising. Google's dominance is protected by high entry barriers, including its click-and-query data and the extensive default positions that Google has obtained across most of the world's devices and browsers. A significant number of entities—spanning major public corporations, small businesses, and entrepreneurs—depend on Google for traffic, and no alternate search engine serves as a substitute.

- **The remedies proposed by the judiciary report look an awful lot like what's happening in Europe already — and what's likely to be pressed as part of the Justice Department's case. Like most antitrust actions, they would be bad for their target and good for the competition**

Gigantes da Comunicação na Net averiguados relativamente aos conteúdos transmitidos

Facebook, Twitter and Google face questions from US senators (Published BBC 28 October 2020)

- The chief executives of Facebook, Twitter, and Google faced more than three and a half hours of questions from US senators on Wednesday. At present, the companies cannot be sued over what their users post online, or the decisions they make over what to leave up and take down. Some politicians have raised concerns this "sweeping immunity" encourages bad behaviour. But the chief executives say they need the law to be able to moderate content. Facebook's Mark Zuckerberg, Twitter's Jack Dorsey and Google's Sundar Pichai were summoned before the Senate after both Democrats and Republicans agreed to call them in for questioning.
- **'A loophole'**
- Senators are worried about both censorship and the spread of misinformation. And some industry watchers agree the legislation - known as Section 230 - needs to be revisited. "[It] allows digital businesses to let users post things but then not be responsible for the consequences, even when they're amplifying or dampening that speech," Prof Fiona Scott Morton, of Yale University, told the BBC's Tech Tent podcast. "That's very much a publishing kind of function - and newspapers have very different responsibilities. "So we have a bit of a loophole that I think is not working well for our society."
- Mark Zuckerberg was "unable to connect" to the committee initially As the hearing began, Mr Zuckerberg vanished, unable to connect to the committee meeting - something Republican senator Roger Wicker called a "most interesting development". But after a brief recess, Mr Zuckerberg told politicians he supported changes to the rule "to make sure it's working".
- **What is Section 230?**
- Section 230 is the main legal protection preventing social networks being sued. It means websites themselves are not generally responsible for illegal or offensive things users post on them. They are treated as neutral middlemen - like newspaper sellers rather than the editors that decide what goes in the paper. Originally seen as a way to protect internet providers such as BT or Comcast, it has become the main shield for huge sites such as Facebook, Twitter and YouTube, which cannot possibly review every post from their users before publication.
- But politicians say Section 230 is outdated. Democrats take issue with the spread of lies online without consequences for the sites. Republicans say big tech is using its moderation powers to censor people it does not agree with - making editorial calls rather than staying neutral. And both sides agree they want to see the social networks held accountable.
- Mr Dorsey told the committee Section 230 "is the most important law protecting internet speech" and its abolition "will remove speech from the internet". But he found himself faced with pointed questions over the implementation of Twitter's policies about what it removed or labelled misinformation.
- Asked why Twitter would label a post from US President Donald Trump about the security of mail-in ballots but leave posts by Iran's Ayatollah Ali Khamenei that threatened violence against Israel unlabelled, Mr Dorsey replied the Iranian leader's tweets were considered "sabre rattling", which did not violate its terms of service. Mr Dorsey also found himself facing questions from Republican senators over Twitter's limiting of a New York Post article about Joe Biden's son. "The New York Post isn't just some random guy tweeting," Republican Ted Cruz said. "Who the hell elected you and who put you in charge of what the media are allowed to report and what the American people are allowed to hear?"
- Mr Zuckerberg, meanwhile, revealed a "private meeting" with the FBI had warned firms to be wary of leaked material. He said that Facebook, and he "assumed" the other companies, had been warned about a possible "hack and leak operation in the days or weeks leading up to this election". The FBI "suggested that we be on high alert and sensitivity, that if a trove of documents appeared that we should view that with suspicion that it might be part of a foreign manipulation attempt," he said. On Section 230, Mr Zuckerberg told the committee Section 230 encouraged free expression and "helped create the internet as we know it". But he added: "The internet has also evolved. "And I think that Congress should update the law, to make sure that it's working as intended."
- Mr Pichai, though, fiercely defended the law. "Our ability to provide access to a wide range of information is only possible because of existing legal frameworks like section 230," he said. "The United States adopted Section 230 early in the internet's history. "And it has been foundational to our leadership in the tech sector."
- '**Political ploy**'
- Both President Trump and his election rival Joe Biden have called for the removal of Section 230, though for different reasons. But some Democrats used their time to criticise the entire hearing, positioned so close to the election, as a political ploy. "I've been an advocate of reform of Section 230 for literally 15 years," senator Richard Blumenthal told the committee, referring to his time as a state attorney general. "But frankly I am appalled that my Republican colleagues are holding this hearing literally days before an election, when they seem to want to bully and browbeat the platforms here to try and tilt them towards President Trump's behaviour. "The timing seems inexplicable." His colleague Brian Schatz, refusing to ask any questions of the three chief executives, "because this is nonsense", said: "What is happening here is a scar on this committee and the United States Senate. "We have to call this hearing what it is. "It's a sham."

American trustbusters take on Google

- The Economist October 24th 2020, Technology and competition, NEW YORK

It was a long time coming. On October20th the Department of Justice (doj) at last launched a **federal antitrust lawsuit against Google**. It is the first time American trustbusters have gone after big tech since their protracted battle against Microsoft 20years ago. Eleven states signed on to the suit, in which the doj accuses the technology giant of abusing its online-search monopoly. Others are likely to bring their own cases against the firm. William Barr, the attorney-general, called it "monumental". He is both right and wrong. Google and its parent company, Alphabet, are not the only ones to come under pressure. Amazon, Facebook and Apple (though not Microsoft, which has trodden carefully since its antitrust run-in) have been variously lambasted for enabling election manipulation, violating privacy and abusing their digital monopolies. In that grand scheme of things, the Google case can seem piffling. It carves out only some alleged misdeeds in one part of the business of a single firm. Specifically, the doj's lawyers accuse Google of an illegal monopoly in "general search services, search advertising, and general search text advertising". They say that to retard rivals like Microsoft's Bing search engine, Google uses a web of "exclusionary" contracts with smartphone-makers which, they claim, cover 80% of American search queries on mobile devices. They say Google pays Apple over $8bn a year in advertising revenue to ensure its search engine is the default on Apple devices, and has similar deals with manufacturers using its Android operating system. Google denies wrong doing. The sums involved are large but the charges are narrow, argues Mark Shmulik of Bernstein, a research firm. They cover only text search, not images or video. Fiona Scott Morton of Yale University, an antitrust expert critical of Google (and an adviser to Apple), notes that the suit does not tackle allegations that Google abuses its market power in digital advertising or the claims that it handicaps potential rivals in specialised searches such as travel. The doj's narrow focus may be shrewd. It is harder to prove Google has cornered digital advertising more broadly: it has less than a third of that market, and Facebook on its heels with a quarter. In product specific search Google has been eclipsed by Amazon. An antitrust expert who supports Google acknowledges that the complaint is "well-crafted" and "is going to have legs". If so, it has a lot of walking to do—and could end in an unremarkable settlement, with Google making token changes to its behaviour and paying a fine that looks hefty until you consider its annual net profit of$34bn. By then, technology may have evolved to make the suit appear less relevant, as happened with Microsoft. Nonetheless, the doj's move does carry a whiff of grandness. It could rejuvenate America's antitrust apparatus, decrepit after two decades of relaxed enforcement that has let many industries grow concentrated. It may prompt monopolists to curb ad behaviour, unleashing long-suppressed creative destruction. As Mr Barr put it, "If we let Google continue its anti competitive ways…Americans may never get to benefit from the 'next Google'."

Schumpeter | Free the data serfs!

The fight back against big tech's feudal lords has begun

Sir Tim Berners-Lee had a Romantic vision when he created the World Wide Web in 1989. In his words, he helped "weave" it together as a way of connecting anything to anything—as if he were sitting at a loom, not at CERN, a particle-physics laboratory in Geneva. But those were halcyon days. Now the web risks falling into what he has called a dystopia of prejudice, hate and disinformation. People around him talk of "digital feudalism" to describe the control big technology platforms have over data. As a result, Sir Tim has co-founded a startup, Inrupt, that aims to shift the balance of power. It is one of many incipient efforts aimed at putting data back into the hands of the people.

It sounds quixotic. The use of data, after all, is now the world's biggest business. Some $1.4trn of the combined $1.9trn market value of Alphabet (the owner of Google) and Facebook, comes from users' data and the firms' mining of it, after stripping out the value of their cash, physical and intangible assets, and accumulated research and development. They are not sated yet. Around the world, sensors on everything from cars to kitchens are expected to churn out exponentially more personal information as the "Internet of Things" expands. The tech giants have their beady eyes on it.

Their relentless appetite for data is a mounting concern for policymakers in two ways. The first is political. The platforms' business models depend on network effects and scale to keep users engaged and to sell more advertising. The result is a culture of virality that, while entertaining, poisons public discourse and disquiets governments. The second is economic. The bigger the tech firms are, the harder it is for potential rivals to overcome their data advantage, which suppresses innovation. Viktor Mayer-Schönberger of Oxford University notes that access to capital is no longer the biggest problem for startups. It is access to data.

So trustbusters are on the warpath. The Department of Justice lawsuit in America against Google, filed on October 20th, accuses the company of using contracts with device-makers, such as Apple, to block other search engines. Google denies this, saying people use its services because they choose to, not because they have to. Whatever the merits of the case, for some the only remedy is to break up the tech giants. That is simplistic. The problems will not be solved just by cutting big tech down to size. Any solution must make data more evenly accessible so that potential rivals can grow.

This can be done in several ways. One is to empower individuals. Another is to consider collective action. A third is to rely on governments. All three will need to reinforce each other to have a chance of success.

Start with the individual. It is seductive to argue that each person should have ownership rights over their data. Yet unless laws change radically, in practice it is hard to wrest control back from the tech platforms, because an individual's bargaining power is woefully weak. Fortunately, other options are surfacing.

One is a subscription model, along the lines of Netflix or Spotify. MeWe, an "anti-Facebook" social network (with Sir Tim on its board), spares its users bombardments of advertisements and targeted news, and charges fees instead. Another option is to start gathering data on behalf of the individual from all sorts of sources. Inrupt, for instance, is working with the government of Flanders, a region of Belgium, to give every citizen a "pod" to store personal data. It hopes private firms will build user-friendly apps around the data, with people's consent, says John Bruce, its co-founder. The better the apps, the more eager people will be to furnish it with their data. In India something similar is happening in financial services. Individuals' and firms' financial data can be transferred to financial-services firms via "account aggregators" that obtain the owners' consent. This can help speed up credit-scoring and loan underwriting. It could also be an alternative to huge data guzzlers such as Ant Financial, a Chinese fintech firm.

A second way to strengthen the power of those who provide data is by collective action—particularly important when so much value on the web comes not from individuals' data but from their interactions with others. Glen Weyl, an economist at Microsoft, a software colossus, proposes "unions" that bargain on behalf of groups of people for a share of the income generated from the use of their data. The aim, says Mr Weyl, is not to destroy the platforms, just as labour unions do not want to shut down factories. Andrew Yang, a former American presidential hopeful, has proposed a "digital dividend" to individuals via collective bargaining.

These efforts, however valiant, are in their infancy. They may not amount to anything unless governments, too, weigh in—as they have done with the European Union's General Data Protection Regulation, and the California Consumer Privacy Act. Though the chief aim of both is privacy, they have dramatically bolstered individuals' rights over their own data. The European Commission, the EU's executive arm, long more interventionist than America on tech regulation, plans to go a step further, proposing a Data Act in 2021 that will seek to wrench open the bloc's public and private data vaults. As with the American government, the EU continues to threaten the cudgel of antitrust law against the tech giants.

Domesday

Silicon Valley says it has got the message. This year Facebook offered to pay users for recordings of their own voice, to improve speech recognition. The tech firms are making it easier for users to shift photo files to other platforms. But they are token moves. Switching platforms remains fiendishly hard. Scale and virality are so vital to their business models that they lobby fiercely against regulation. They reassure themselves that most consumers continue to support the exchange of data for free stuff. Yet they must be aware that access to data is becoming one of the philosophical issues of the age. Feudalism eventually gave way to greater property rights. One day data serfdom will go the same way, too. ■

Gigantes da Comunicação na Net averiguados relativamente aos conteúdos transmitidos

Facebook, Twitter and Google face questions from US senators (Published BBC 28 October 2020)

- The chief executives of Facebook, Twitter, and Google faced more than three and a half hours of questions from US senators on Wednesday. At present, the companies cannot be sued over what their users post online, or the decisions they make over what to leave up and take down. Some politicians have raised concerns this "sweeping immunity" encourages bad behaviour. But the chief executives say they need the law to be able to moderate content. Facebook's Mark Zuckerberg, Twitter's Jack Dorsey and Google's Sundar Pichai were summoned before the Senate after both Democrats and Republicans agreed to call them in for questioning.
- **'A loophole'**
- Senators are worried about both censorship and the spread of misinformation. And some industry watchers agree the legislation - known as Section 230 - needs to be revisited. "[It] allows digital businesses to let users post things but then not be responsible for the consequences, even when they're amplifying or dampening that speech," Prof Fiona Scott Morton, of Yale University, told the BBC's Tech Tent podcast. "That's very much a publishing kind of function - and newspapers have very different responsibilities. "So we have a bit of a loophole that I think is not working well for our society."
- Mark Zuckerberg was "unable to connect" to the committee initially As the hearing began, Mr Zuckerberg vanished, unable to connect to the committee meeting - something Republican senator Roger Wicker called a "most interesting development". But after a brief recess, Mr Zuckerberg told politicians he supported changes to the rule "to make sure it's working".
- **What is Section 230?**
- Section 230 is the main legal protection preventing social networks being sued. It means websites themselves are not generally responsible for illegal or offensive things users post on them. They are treated as neutral middlemen - like newspaper sellers rather than the editors that decide what goes in the paper. Originally seen as a way to protect internet providers such as BT or Comcast, it has become the main shield for huge sites such as Facebook, Twitter and YouTube, which cannot possibly review every post from their users before publication.
- But politicians say Section 230 is outdated. Democrats take issue with the spread of lies online without consequences for the sites. Republicans say big tech is using its moderation powers to censor people it does not agree with - making editorial calls rather than staying neutral. And both sides agree they want to see the social networks held accountable.
- Mr Dorsey told the committee Section 230 "is the most important law protecting internet speech" and its abolition "will remove speech from the internet". But he found himself faced with pointed questions over the implementation of Twitter's policies about what it removed or labelled misinformation.
- Asked why Twitter would label a post from US President Donald Trump about the security of mail-in ballots but leave posts by Iran's Ayatollah Ali Khamenei that threatened violence against Israel unlabelled, Mr Dorsey replied the Iranian leader's tweets were considered "sabre rattling", which did not violate its terms of service. Mr Dorsey also found himself facing questions from Republican senators over Twitter's limiting of a New York Post article about Joe Biden's son. "The New York Post isn't just some random guy tweeting," Republican Ted Cruz said. "Who the hell elected you and who put you in charge of what the media are allowed to report and what the American people are allowed to hear?"
- Mr Zuckerberg, meanwhile, revealed a "private meeting" with the FBI had warned firms to be wary of leaked material. He said that Facebook, and he "assumed" the other companies, had been warned about a possible "hack and leak operation in the days or weeks leading up to this election". The FBI "suggested that we be on high alert and sensitivity, that if a trove of documents appeared that we should view that with suspicion that it might be part of a foreign manipulation attempt," he said. On Section 230, Mr Zuckerberg told the committee Section 230 encouraged free expression and "helped create the internet as we know it". But he added: "The internet has also evolved. "And I think that Congress should update the law, to make sure that it's working as intended."
- Mr Pichai, though, fiercely defended the law. "Our ability to provide access to a wide range of information is only possible because of existing legal frameworks like section 230," he said. "The United States adopted Section 230 early in the internet's history. "And it has been foundational to our leadership in the tech sector."
- '**Political ploy**'
- Both President Trump and his election rival Joe Biden have called for the removal of Section 230, though for different reasons. But some Democrats used their time to criticise the entire hearing, positioned so close to the election, as a political ploy. "I've been an advocate of reform of Section 230 for literally 15 years," senator Richard Blumenthal told the committee, referring to his time as a state attorney general. "But frankly I am appalled that my Republican colleagues are holding this hearing literally days before an election, when they seem to want to bully and browbeat the platforms here to try and tilt them towards President Trump's behaviour. "The timing seems inexplicable." His colleague Brian Schatz, refusing to ask any questions of the three chief executives, "because this is nonsense", said: "What is happening here is a scar on this committee and the United States Senate. "We have to call this hearing what it is. "It's a sham."

(**BBC 28 October 2020)**

A three-part composite shows Sundar Pichai, Jack Dorsey and Mark Zuckerberg

China to clamp down on internet giants

BBC, 15 Nov 2020

China has proposed new regulations aimed at curbing the power of its biggest internet companies.

- The regulations suggest increasing unease in Beijing with the growing influence of digital platforms. The new rules could affect homegrown tech giants like Alibaba, Ant Group and Tencent, as well as food delivery platform Meituan. The move comes as the EU and the US are also seeking to curb the power of internet giants. Chinese tech shares were sharply lower after the proposed regulations were released on Tuesday. The news came as JD.com and Alibaba were gearing up for Singles Day, the annual online sale which is their biggest day of the year. The sell-off continued on Wednesday, with Alibaba, JD.com, Tencent, Xiaomi and Meituan all heading lower, shedding more than $200bn (£150bn) from their combined value.

What do the rules do?

- The 22-page draft by the State Administration for Market Regulation (SAMR) will for the first attempt to define anti-competitive behaviour for the tech sector. The new rules will attempt to stop companies from sharing sensitive consumer data, teaming up to squeeze out smaller rivals and selling at a loss to eliminate competitors. They would also clamp down on platforms forcing businesses into exclusive arrangements, something which Alibaba has been accused of by merchants and competitors. The regulations will also take aim at companies that treat customers differently based on their data and spending habits. The SAMR is seeking reviews and feedback from the public on the antitrust guidelines until the end of the month.

How dominant are these companies?

- Alibaba and JD.com dominate the online retail market in China, together accounting for roughly three-quarters of Chinese ecommerce. As of September, Alibaba boasted 881m mobile monthly active users - more than half of China's population. Beijing has separately raised concerns about Alibaba's affiliate company Ant Group, which pulled its stock market launch last week after regulators raised concerns over the increasing power of online lenders and how they might affect the broader financial system. The share market offering was supposed to be the world's largest. Ant has around 1.3bn users, mostly in China, where it runs Alipay, the country's dominant digital payment system. Tencent, which has a competing payment system and is also the world's largest gaming company, could also come in for scrutiny.

A global trend?

- If the Chinese authorities have concerns about the explosive growth of some internet platforms, they aren't alone. The European Union has announced antitrust charges against Amazon, which it accuses of abusing its market power in Germany and France. Meanwhile, US authorities are taking action against Google's dominance as an internet search engine. The US Department of Justice has described the tech giant as a "monopoly gatekeeper of the internet". It's the biggest antitrust suit in the US since a case against Microsoft in the late 1990s.

Plano da aula

1. "Hipóteses de Schumpeter"; Questões de investigação e normativas relevantes
2. **Dimensão da empresa**
3. Dinâmicas (inter) sectoriais
4. Empreendedorismo e dinâmicas (intra) sectoriais (demografia setorial)

Qual a distribuição dimensional?

Admita-se sector com 100 mil trabalhadores

- 10.000 empresas de 10 trabalhadores cada?
- 100 empresas de 1.000 trabalhadores cada?

… ou…

- distribuição não homogénea, p.ex.

5 empresas com + de 5 mil trabalhadores (40k)
10 empresas com + de mil e - de 5 mil (30k)
250 empresas com + de 500 e - de mil (20k)
500 empresas com menos de 500 (10k)

Etc. (outras possibilidades)

Firm size distribution in Portugal in 1980 and 2009

Source: Authors' calculations based on Quadros de Pessoal (Portuguese matched employer-employee dataset).

Fonte: Braguinsky, S, L Branstetter, and A Regateiro (2011),

Questões adicionais

(relacionada com "industrial dynamics")

<u>Relação entre inovação e outras características das empresas e dos sectores</u>

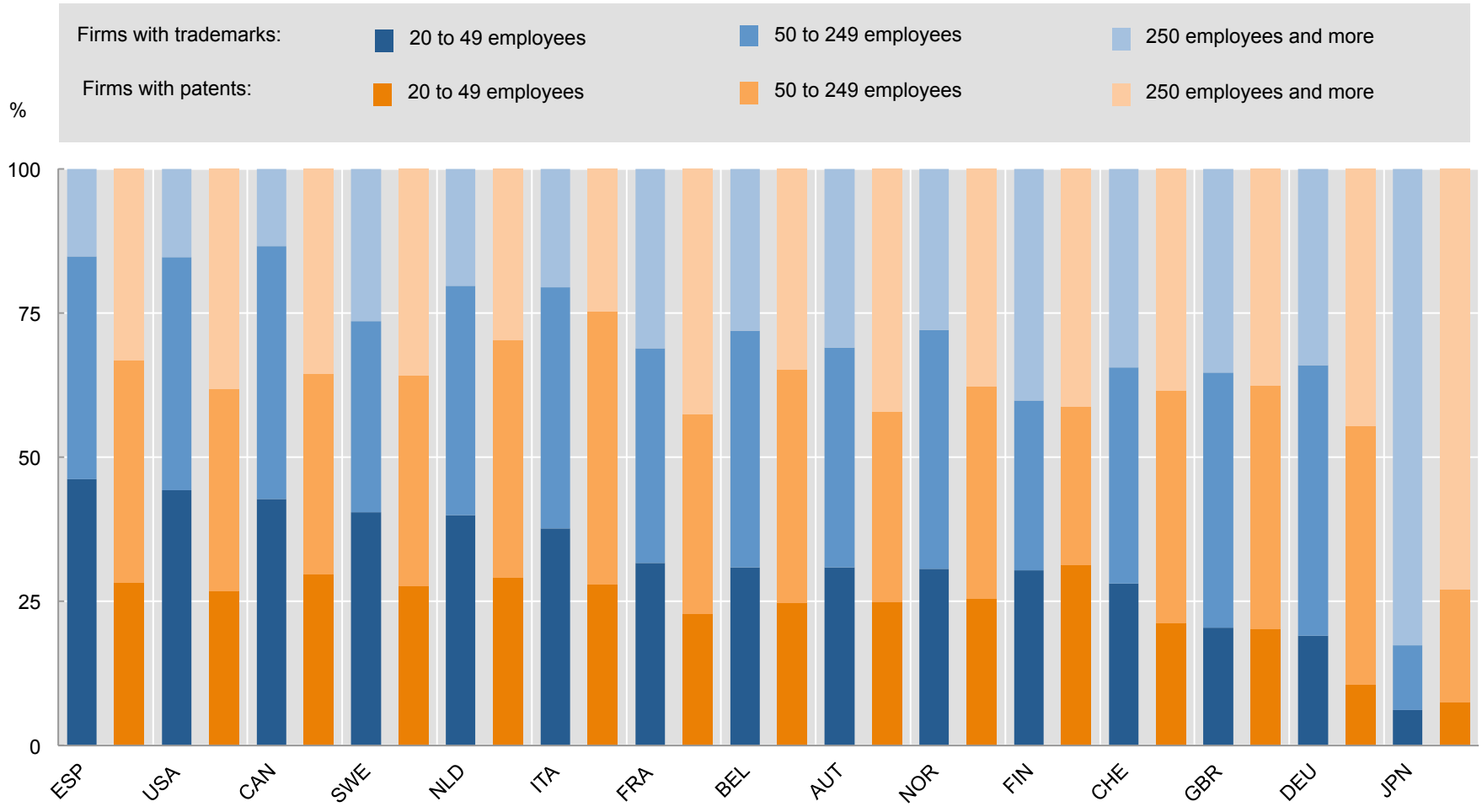
- Empresas mais maduras são mais inovadoras que as mais jovens (ou vice-versa)?
- Que relação existe entre inovação e demografia do sector (idade média, distribuição etária, entradas, saídas, taxas de empreendedorismo)
- Que relação existe entre inovação e intensidade de I&D (ou de conhecimento) dos sectores?

Dimensão das empresas

- Dimensão das empresas e inovação (patenteamento)
- Dimensão das empresas, idade e criação (e destruição de emprego)

Firms with patents, by size, 2009-11

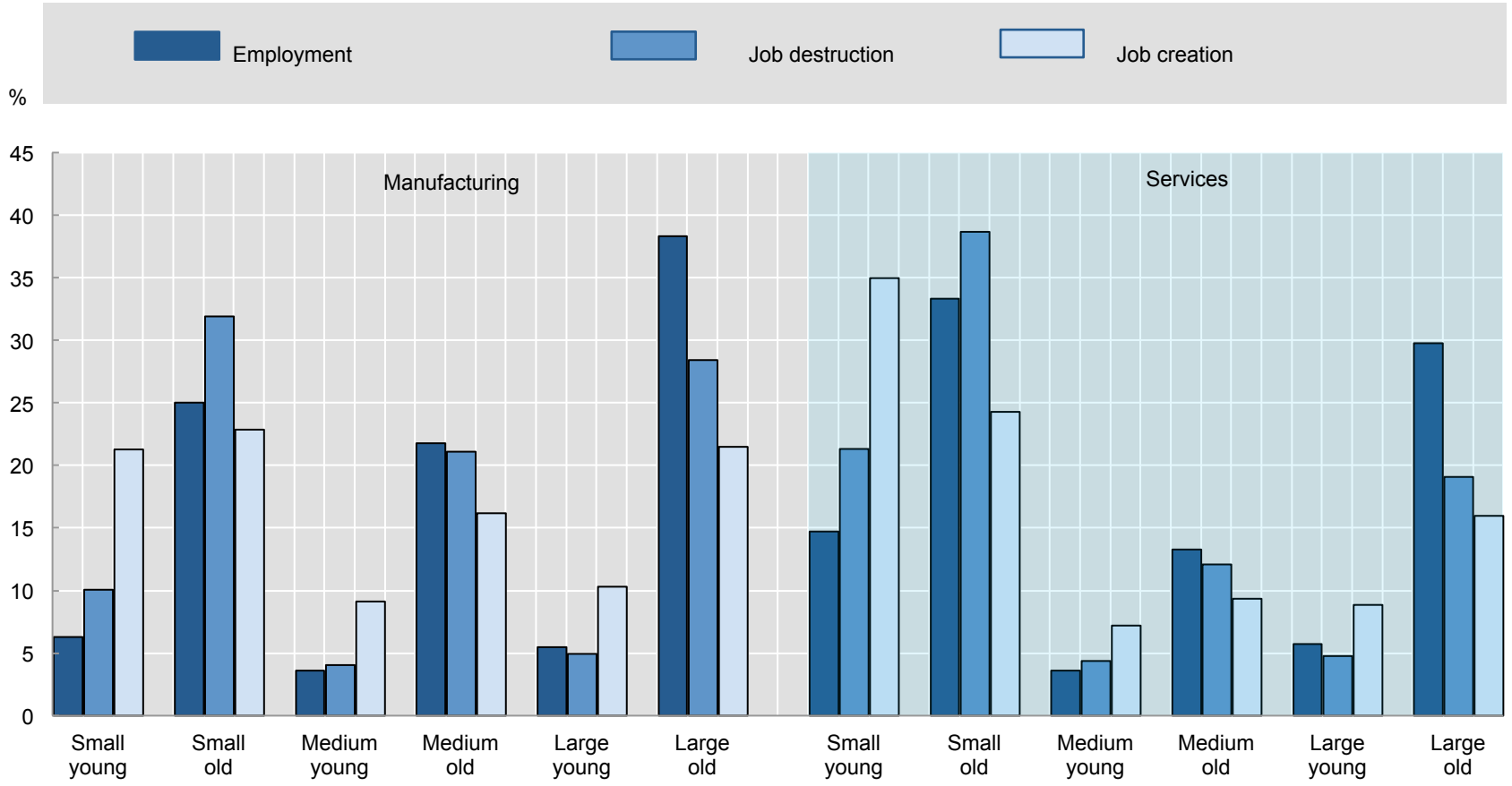
As a percentage of firms with more than 20 employees



Firms with patents are firms that filed at least one patent application at the European Patent Office (EPO) or at the USPTO in 2009-11.

Fonte: OECD Science, Technology and Industry Scoreboard 2013 - © OECD 2013

Employment, job creation and job destruction, manufacturing and services, 2001-11
By firm age and size, average over 15 countries



Figures refer to the preliminary results of the OECD DYNEMP project based on data from Austria, Belgium, Brazil, Finland, France, Hungary, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Spain, Sweden and the United States.

Data refer to the manufacturing, construction and market services (except financial services) sectors.

Young firms are 5 years old or less, old firms are 6 years old or more.

Small firms have between 1 and 49, medium firms have between 50 and 249 and large firms have more than 250 employees.

Fonte: OECD Science, Technology and Industry Scoreboard 2013 - © OECD 2013

Plano da aula

1. "Hipóteses de Schumpeter"; Questões de investigação e normativas relevantes
2. Dimensão da empresa
3. **Dinâmicas (inter) sectoriais**
4. Empreendedorismo e dinâmicas (intra) sectoriais (demografia setorial)

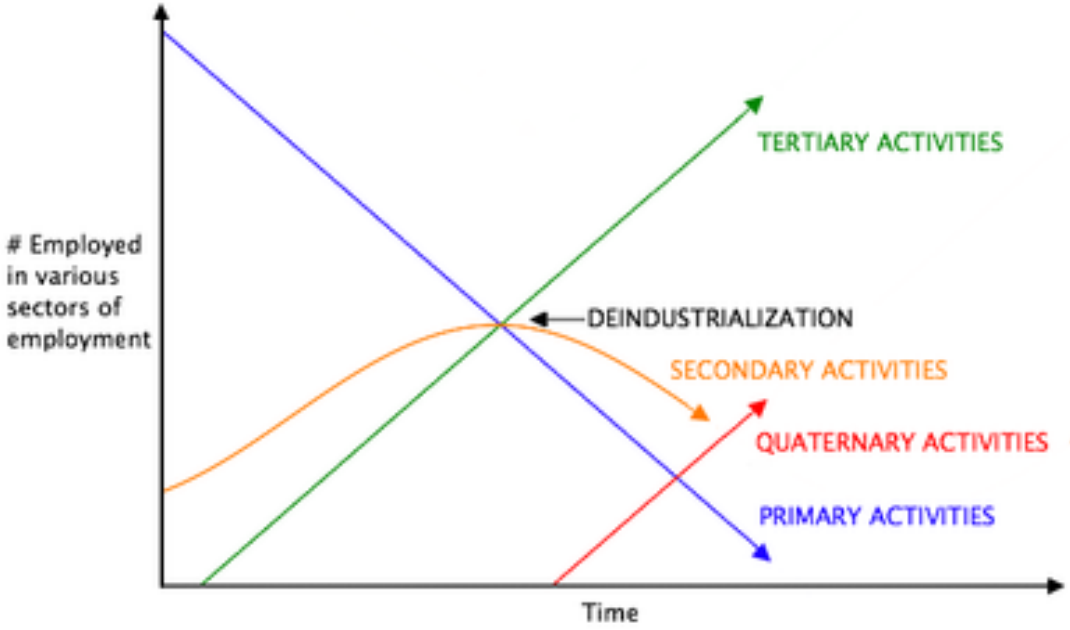
Sector (1)

- O que é um sector: Conjunto de empresas que produzem um produto para um determinado mercado
- Porém: muitas empresas são multi-produto (estatisticamente afectas ao sector do seu produto principal)
- No mesmo sector podem conviver empresas empregando diferentes tecnologias
- No mesmo sector podem existir empresas de diferentes dimensões (distribuição log-normal da dimensão)
- Classificações de sectores: Estatística: ISIC; NACE; CAE

Sector (2)

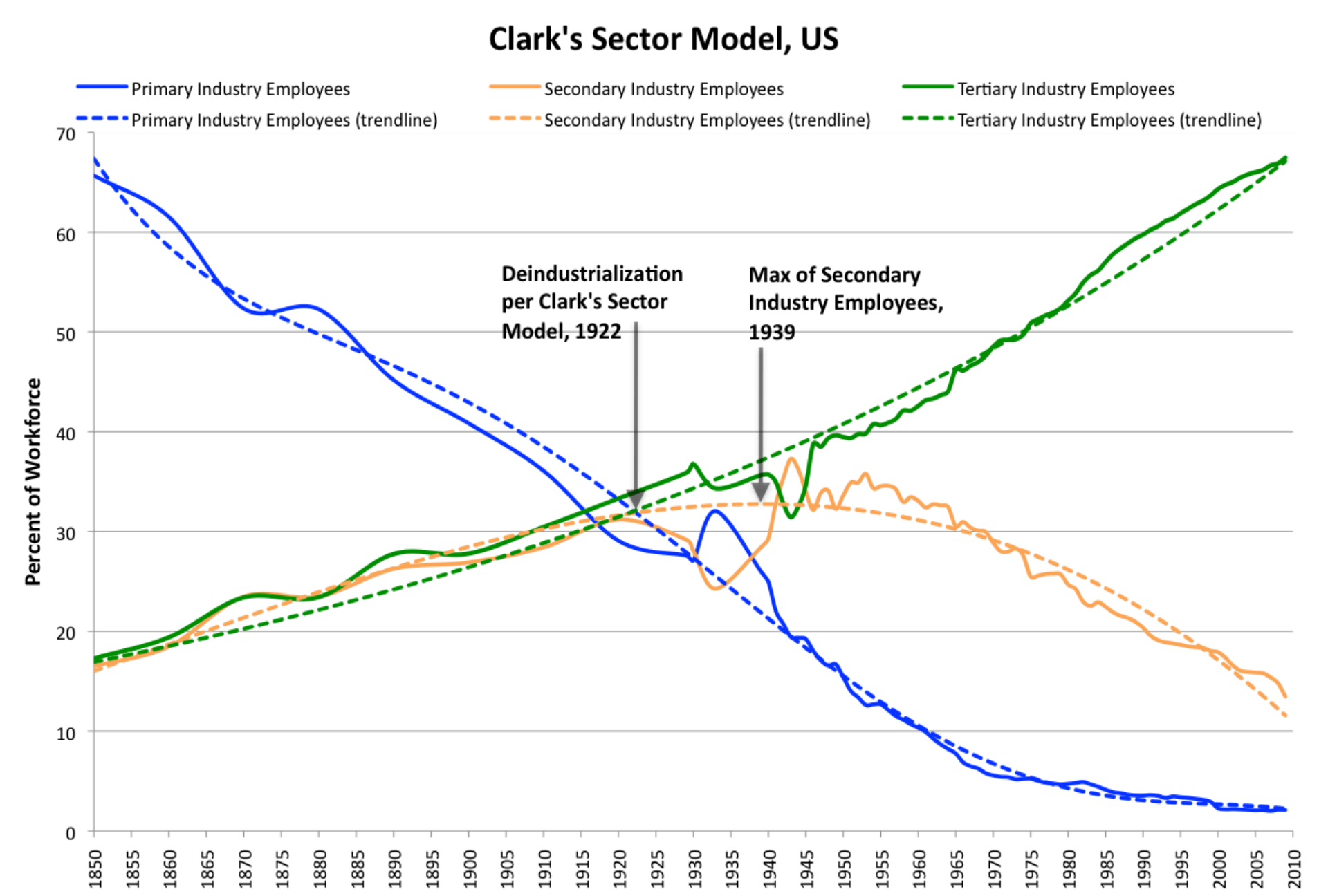
- A composição sectorial da economia não é indiferente: diferentes sectores têm diferentes taxas de inovação; de crescimento da procura; de criação de emprego; de geração de rendimentos
- Certos sectores geram efeitos transversais (spill-over effects) e efeitos “motrizes”

Modelo dos 3 sectores de Clark (1950)



Fonte: http://en.wikipedia.org/wiki/Three-sector_hypothesis

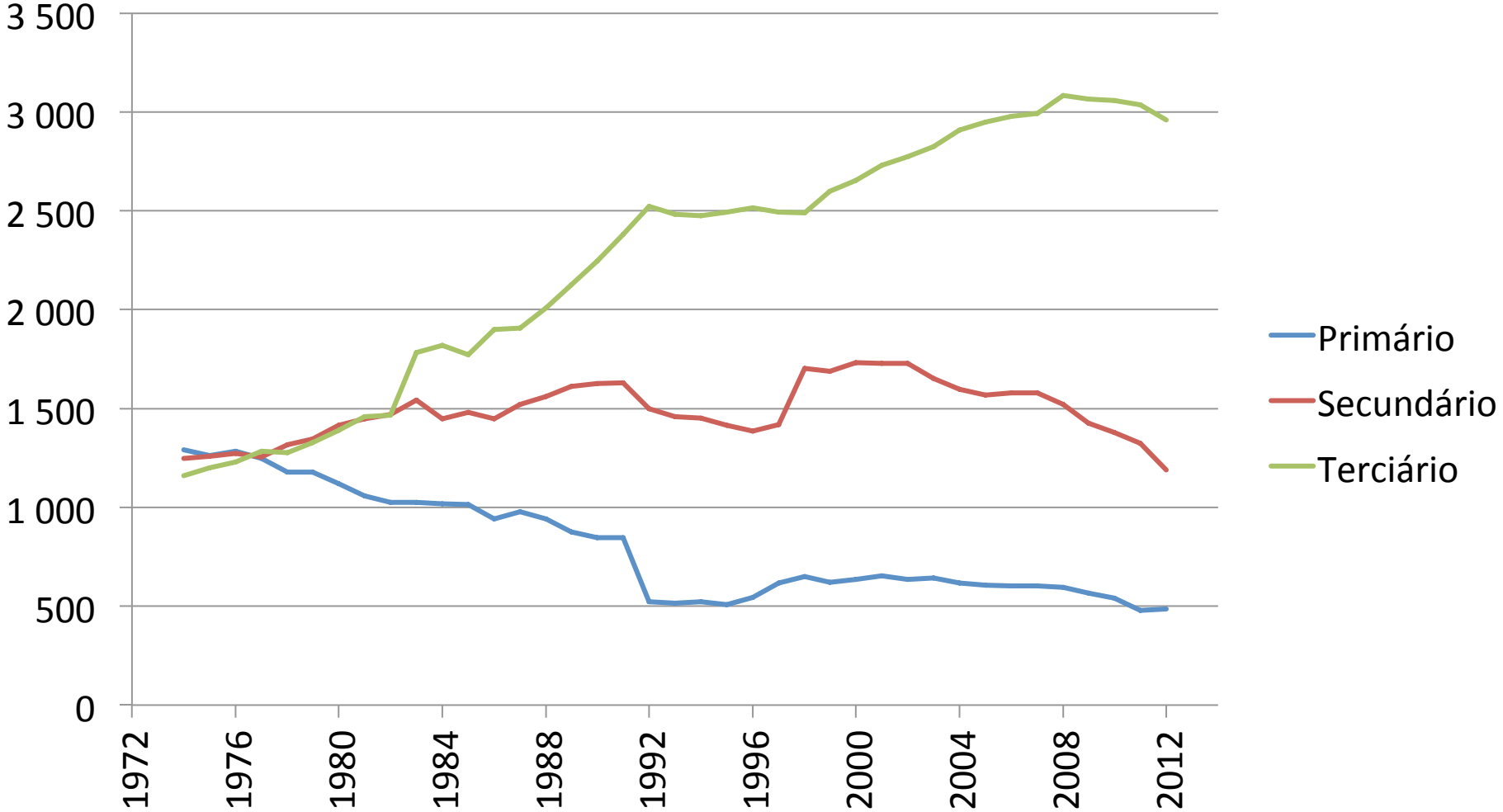
Today the tertiary sector has grown to such an enormous size that it is sometimes further divided into an information-based quaternary sector, and even a quinary sector based on non-profit services



Fonte: http://www.63alfred.com/whomakesit/clarksmodel.png

Portugal 2012 (10^3) →

S1	S2	S3
486	1188	2960
10,5%	25,6%	63,9%



Fonte: Construído a partir de http://www.pordata.pt/Portugal/Populacao+empregada+total+e+por+sector+de+actividade+economica-32

Outras classificações de sectores

- Tradicionais e não tradicionais
- Trabalho e capital intensivos
- Taxonomia de Pavitt
- Grupos de intensidade tecnológica
- Grupos de intensidade congnitiva
- Intensidade ICT (TIC) e Digital

Manufacturing industries classified according to their global technological intensity (ISIC Revision 2 and NACE Revision 1.1)

OECD classification

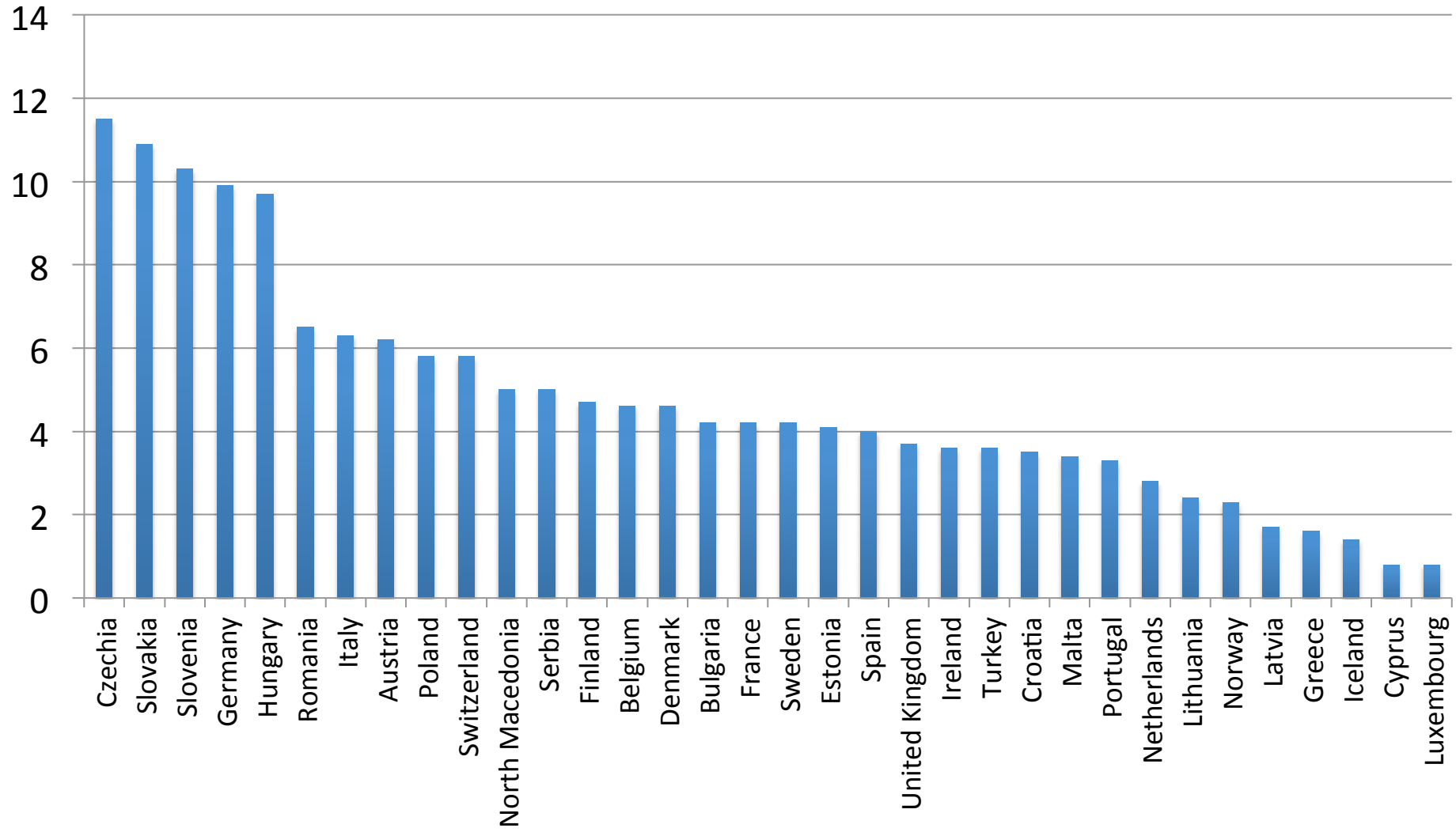
High-technology	NACE Revision 1.1	ISIC Revision 2
1. Aerospace	35.3	3845
2. Computers, office machinery	30	3825
3. Electronics-communications	32	3832
4. Pharmaceuticals	24.4	3522
5. Scientific instruments	33	385
Medium-high-technology		
6. Motor vehicles	34	3843
7. Electrical machinery	31	383-3832
8. Chemicals	24-24.4	351+352-3522
9. Other transport equipment	35.2+35.4+35.5	3842+3844+3849
10.Non-electrical machinery	29	382-3825
Medium-low-technology		
11. Rubber and plastic products	25	355+356
12. Shipbuilding	35.1	3841
13. Other manufacturing	36.2 through 36.6	39
14. Non-ferrous metals	27.4+27.53/54	372
15. Non-metallic mineral products	26	36
16. Fabricated metal products	28	381
17. Petroleum refining	23	351+354
18. Ferrous metals	27.1 through 27.3+27.51/52	371
Low-technology		
19. Paper printing	21+22	34
20. Textile and clothing	17 through 19	32
21. Food, beverages, and tobacco	15+16	31
22. Wood and furniture	20+36.1	33

The standard approach in this area rests on a classification developed by the OECD in the mid-1980s. The OECD distinguished between industries in terms of R&D intensities, with those (such as ICT or pharmaceuticals) spending more than 4% of turnover being classified as high-technology, those spending between 1% and 4% of turnover (such as vehicles or chemicals) being classified as medium-tech, and those spending less than 1% (such as textiles or food) as 'low tech'.

source: http://www.google.pt/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CD8QFjAB&url=http%3A%2F%2Fepp.eurostat.ec.europa.eu%2Fcache%2FITY_SDDS%2FAnnexes%2Fhrst_st_esms_an9.pdf&ei=2Q6BUqOPAoeB7Qa6lYGYDA&usg=AFQjCNEqPuPVzc14Tv9Dzx1SGg5Hryrktg&sig2=0ARfYlMKTVXVfPAQ-5vjGA&bvm=bv.56146854,d.Yms&cad=rja

Employment in high- and medium-high technology manufacturing sectors, % of total employment, 2019

Source : https://ec.europa.eu/eurostat/tgm/refreshTableAction.do?tab=table&plugin=1&pcode=sdg_09_20&language=en



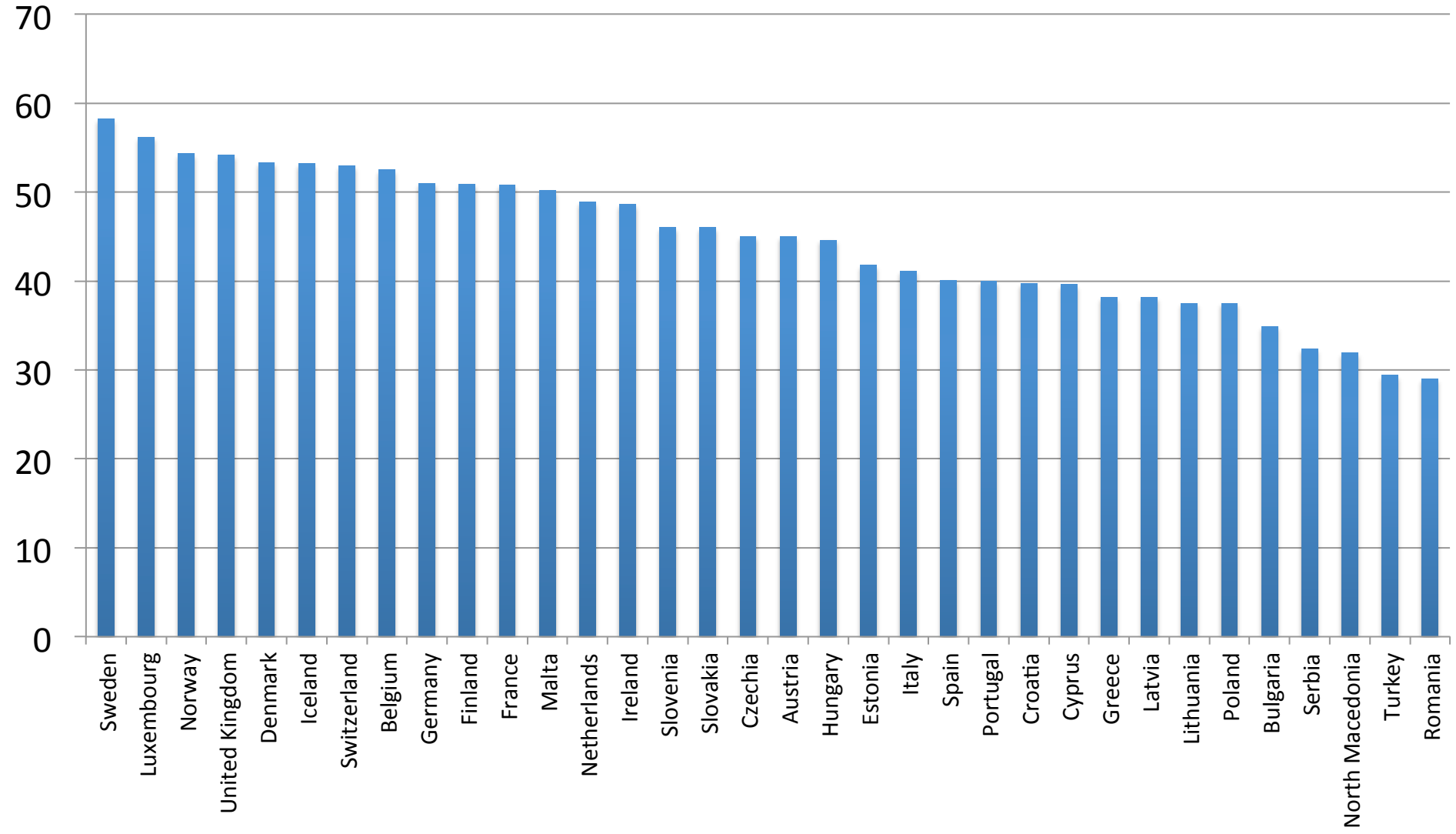
Knowledge intensive industries

OECD/Eurostat definition

- High tech manufacturing
- High tech, business, telecommunication, and financial services
- Education and healthcare services

Employment in high- and medium-high technology manufacturing sectors and knowledge-intensive services, % of total employment, 2019

Source : https://ec.europa.eu/eurostat/tgm/refreshTableAction.do?tab=table&plugin=1&pcode=sdg_09_20&language=en



KIBS

- **Knowledge Intensive Business Services (KIBS) are services and business operations heavily reliant on professional knowledge.**
- **They are mainly concerned with providing knowledge-intensive support for the business processes of other organizations.**
- As a result, their employment structures are heavily weighted towards scientists, engineers, and other experts.
- It is common to distinguish between **T-KIBS**, (those with high use of scientific and technological knowledge - R&D services, engineering services, computer services, etc.), and **P-KIBS**, who are more traditional professional services - legal, accountancy, and many management consultancy and marketing services. These services either supply products which are themselves primary sources of information and knowledge, or use their specialist knowledge to produce services which facilitate their clients own activities. Consequently, KIBS usually have other businesses as their main clients, though the public sector and sometimes voluntary organisations can be important customers, and to some extent households will feature as consumers of, for instance, legal and accountancy services.

Fonte: http://en.wikipedia.org/wiki/Knowledge_intensive_business_services

MEASURING THE DIGITAL ECONOMY

- **OECD (2020)** ***Report for the G20 Digital Economy Task Force:***

  A ROADMAP TOWARD A COMMON FRAMEWORK FOR MEASURING THE DIGITAL ECONOMY

- **(Next 4 slides)**

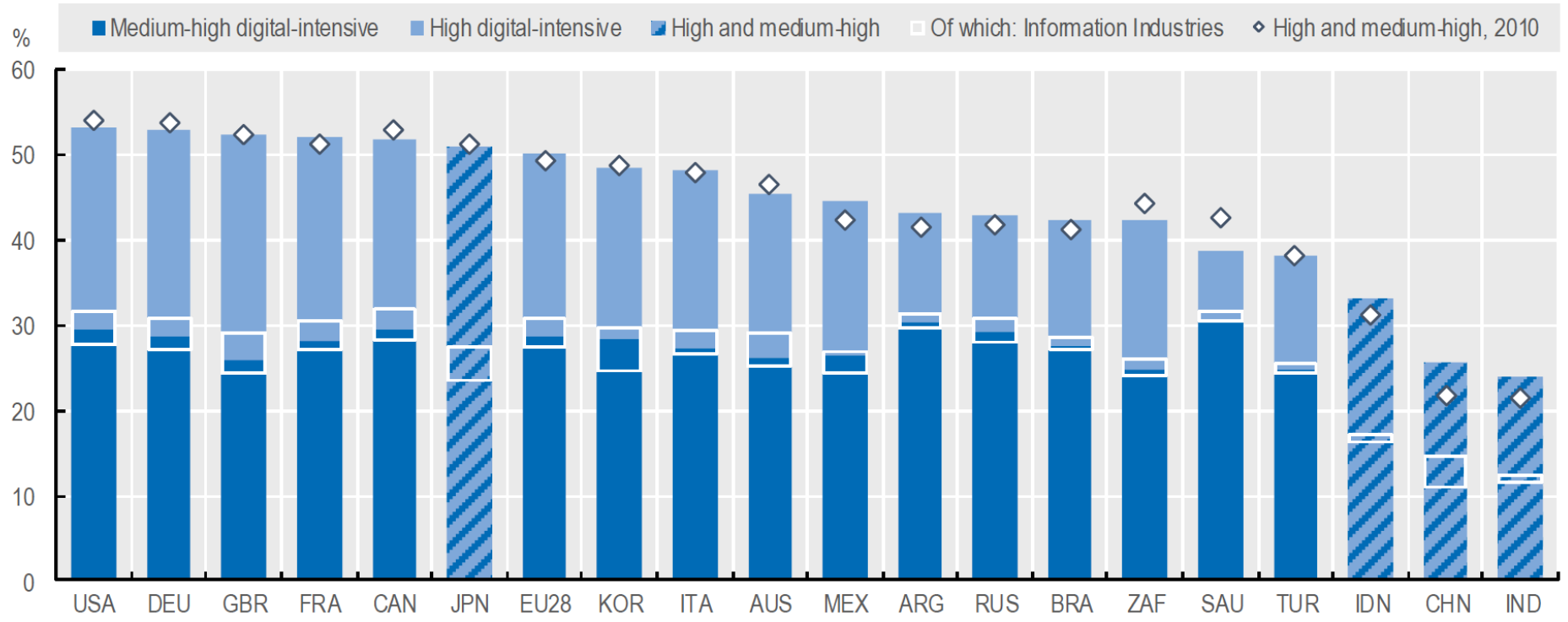
Taxonomy of sectors by digital-intensity, overall ranking, 2013-15

ISIC Rev.4 industry denomination	Quartile intensity	ISIC Rev.4 industry denomination	Quartile intensity
Agriculture, forestry, fishing	Low	Wholesale and retail trade, repair	Medium-high
Mining and quarrying	Low	Transportation and storage	Low
Food products, beverages and tobacco	Low	Accommodation and food service activities	Low
Textiles, wearing apparel, leather	Medium-low	Publishing, audiovisual and broadcasting	Medium-high
Wood and paper products, and printing	Medium-high	Telecommunications	High
Coke and refined petroleum products	Medium-low	IT and other information services	High
Chemicals and chemical products	Medium-low	Finance and insurance	High
Pharmaceutical products	Medium-low	Real estate	Low
Rubber and plastics products	Medium-low	Legal and accounting activities, etc.	High
Basic metals and fabricated metal products	Medium-low	Scientific research and development	High
Computer, electronic, optical products	Medium-high	Advertising and other business services	High
Electrical equipment	Medium-high	Administrative and support service	High
Machinery and equipment n.e.c.	Medium-high	Public administration and defence	Medium-high
Transport equipment	High	Education	Medium-low
Furniture; other manufacturing; repairs	Medium-high	Human health activities	Medium-low
Electricity, gas, steam and air cond.	Low	Residential care and social work activities	Medium-low
Water supply; sewerage, waste	Low	Arts, entertainment and recreation	Medium-high
Construction	Low	Other service activities	High

Source: Calvino et al. (2018) based on Annual National Accounts, STAN, ICIO, PIAAC, International Federation of Robotics, World Bank, Eurostat Digital Economy and Society Statistics, national Labour Force Surveys, US CPS, INTAN-Invest and other national sources.

Jobs in digital-intensive sectors and Information Industries, 2017

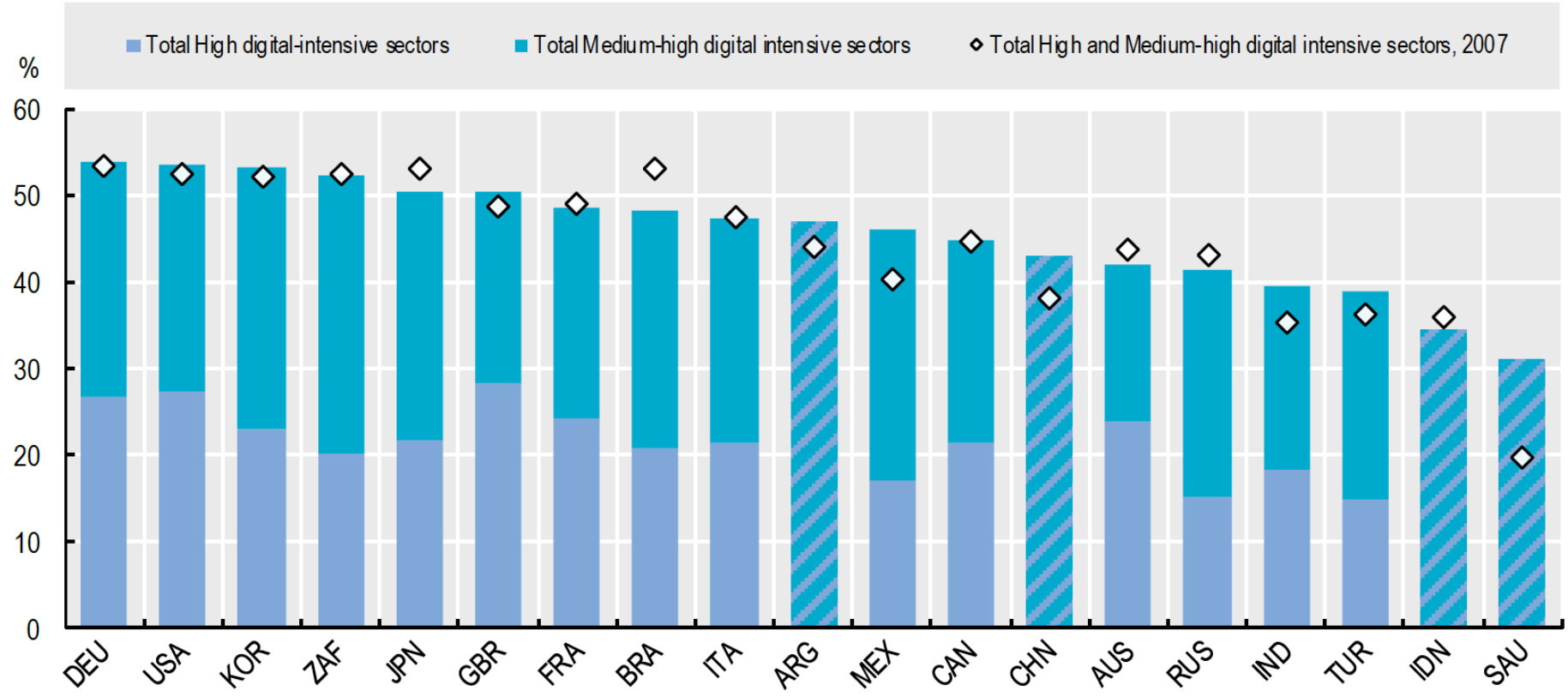
As a percentage of total employment



Source: OECD 2020 A roadmap toward a common framework for measuring the Digital Economy

Value added by digitally-intensive sectors, 2017

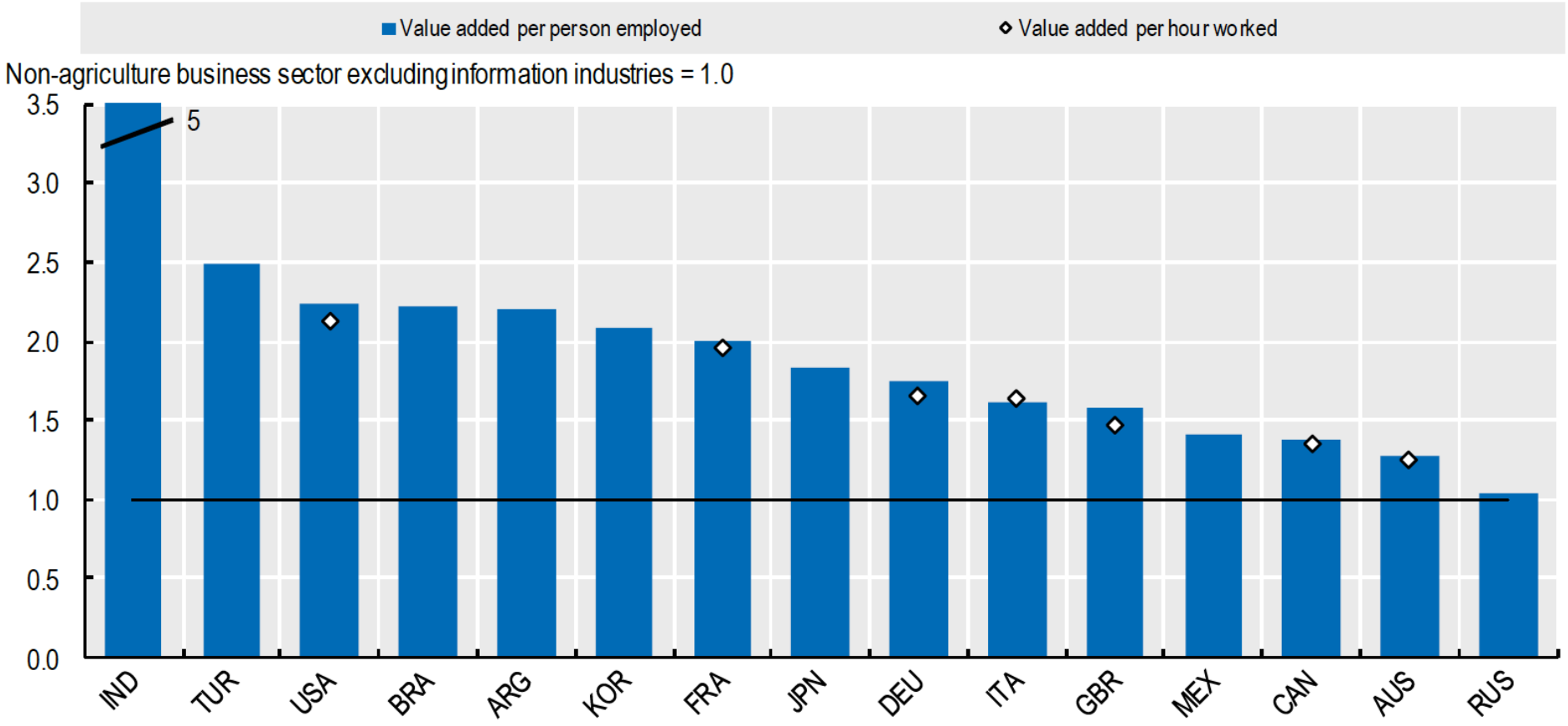
As a percentage of total value added



Source: OECD 2020 A roadmap toward a common framework for measuring the Digital Economy

Labour productivity in Information Industries, 2016

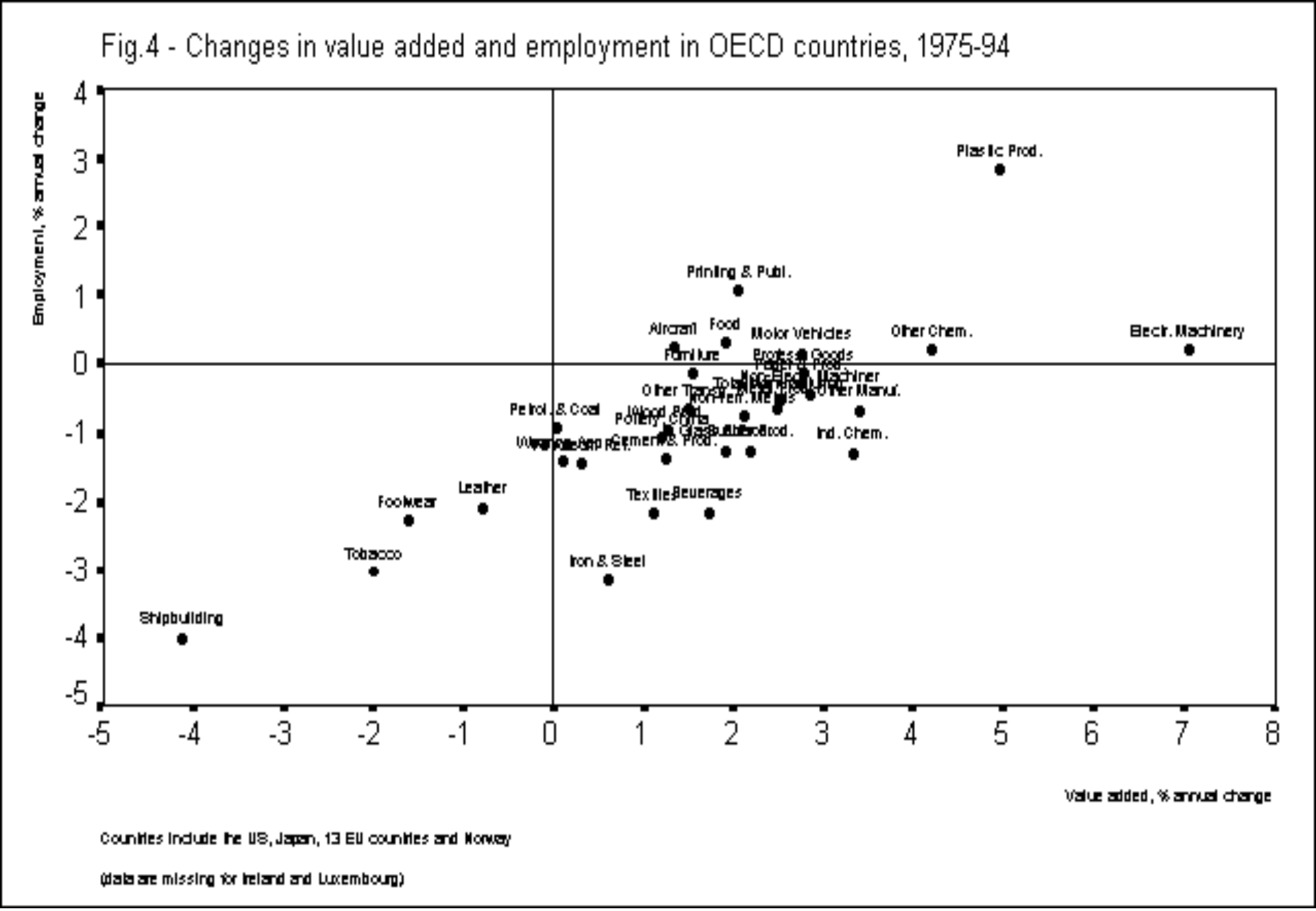
Relative to labour productivity of other industries in the non-agriculture business sector



Source: OECD 2020 A roadmap toward a common framework for measuring the Digital Economy

Dinâmicas setoriais

- Composição setorial da economia é um dado relevante para compreender o desempenho económico
- Em particular, o "perfil de especialização" da economia influencia a sua competividade
- Qual a composição setorial da economia, bem como sua especialização, tendo em conta as tendências (atuais, futuras)?
- Mercados de setores "emergentes" crescem mais rápido, oferecendo mais oportunidades aos produtores desses produtos



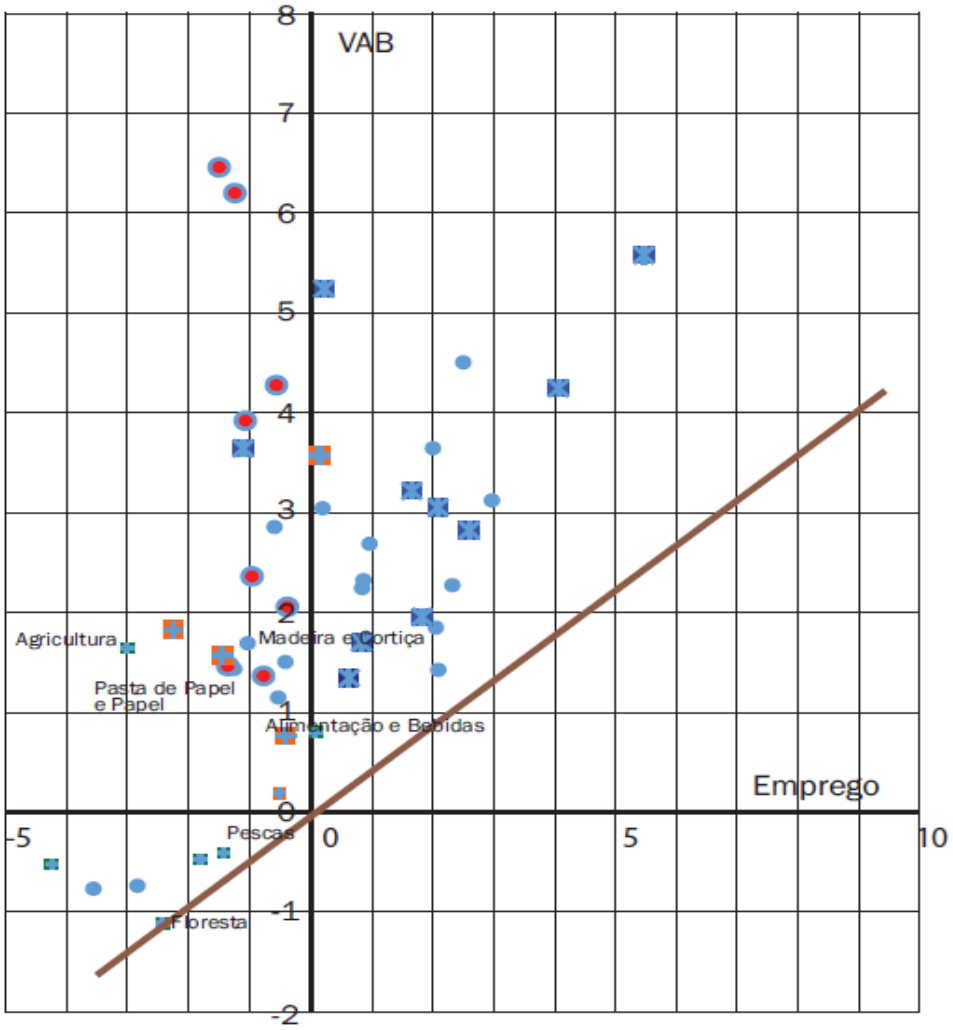
Fonte: *M. Pianta ,* UNEMPLOYMENT AND THE SECTORAL COMPOSITION OF THE ECONOMY

Dinâmicas sectoriais

- Gráfico anterior revela que diferentes sectores (gráfico tem apenas sectores industriais) têm diferentes contributos em termos de criação de emprego e VAB
- Dinâmicas existentes relacionadas com "destruição criativa" schumpeteriana e "ciclo de vida" dos produtos (efeito "TEMPO")
- Demografia interna dos sectores também é relevante (empreendedorismo, natalidade, mortalidade)

Figura semelhante à anterior, mas cobre período maior (1970-2007) e nesta os eixos do VAB e Emprego estão invertidos (para UE15)

Figura 3. Taxas médias de crescimento anual do VAB e Emprego, UE15, 1970-2007



Fonte: Dados originais extraídos da EU KLEMS Database 1970-2007.

Verifica-se para o conjunto da UE15, observando a figura 3, que muitos sectores perderam historicamente emprego entre 1970 e 2007, destacando-se todos aqueles que constituem nosso objecto neste estudo: a agricultura, a silvicultura (floresta), as pescas, bem como as indústrias transformadoras da alimentação, bebidas, e tabaco, da pasta de papel e do papel, e da madeira e da cortiça. Evoluções similares tiveram outras indústrias consideradas de baixa tecnologia, como o têxtil e vestuário ou o sector do calçado. Os sectores mais dinâmicos em termos de produtividade tendem a ser as indústrias de alta tecnologia (pequenos círculos encarnados), com crescimentos significativos do VAB e relativamente pequenas reduções do emprego. Em contrapartida, alguns sectores de serviços intensivos em conhecimento (quadrados azuis) revelaram bom crescimento para ambas as variáveis observadas, passando a deter um maior peso no conjunto da economia da UE15.

Figura 3. Taxas médias de crescimento anual do VAB e Emprego, UE15, 1970-2007

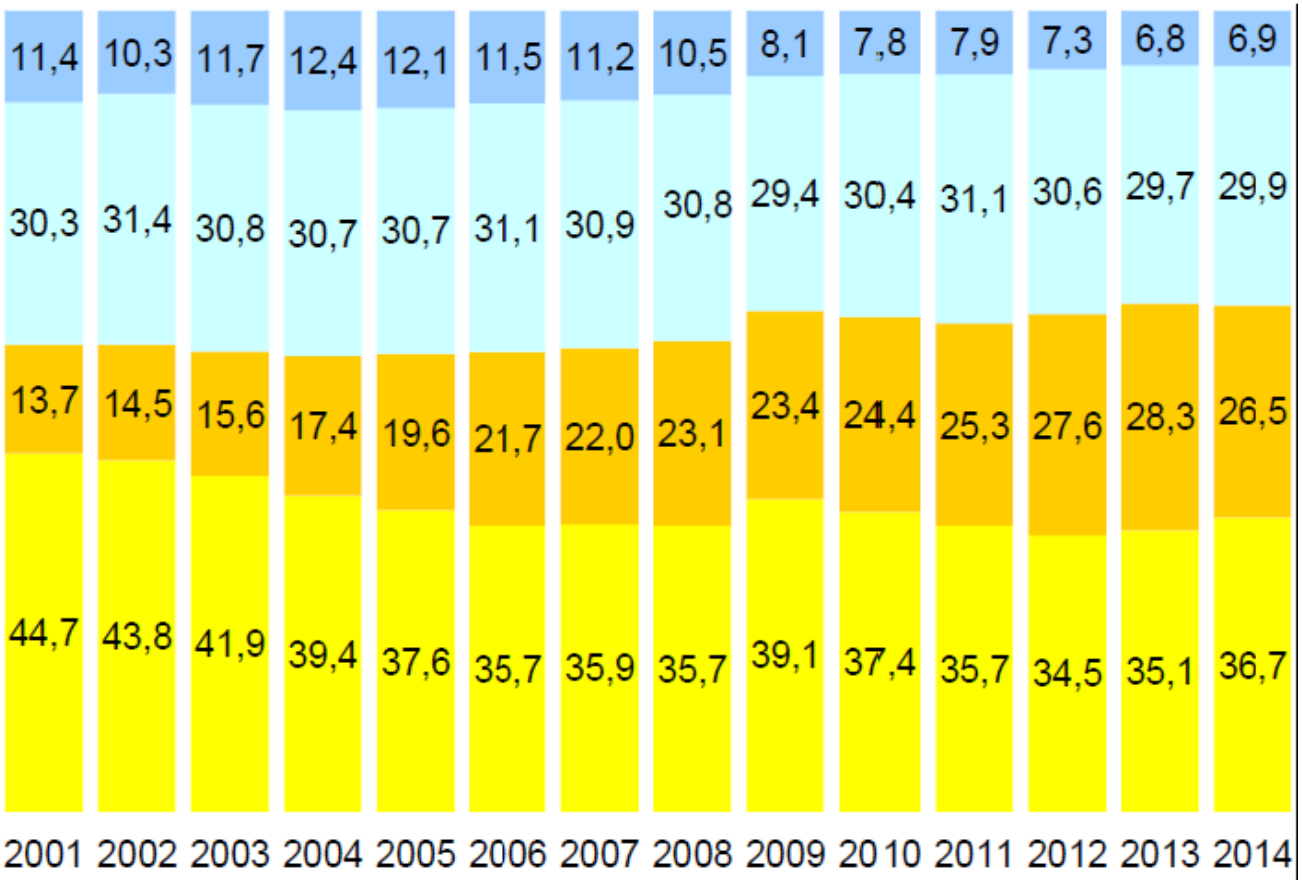
Os sectores identificados :

- Com designação por extenso, são os sectores industriais de baixa tecnologia e outros sectores não industriais de baixa tecnologia;
- Com círculos vermelhos são os sectores industriais de alta tecnologia;
- Com quadrados laranja são os sectores industriais de média-alta tecnologia;
- Com quadrados azuis maiores são os sectores conhecimento intensivos de serviços.

Portugal: Exportação de produtos Industriais por Grau de Intensidade Tecnológica

Fonte: GEP (2015), http://www.gee.gov.pt?cfl=35609

amarelo - baixa tecnologia; laranja - média-baixa tecnologia; azul claro - média-alta tecnologia; azul escuro - alta tecnologia



Ano	High-Tech %
2014	6,9%
2015	7,2%
2016	8,9%
2017	9,2%
2018	8,7%
2019	10,3%

Balança comercial dos Produtos Industriais Transformados por níveis de intensidade tecnológica (2014-2019)

		TOTAL	Alta	Média-Alta	Média-Baixa	Baixa
2014	Importação (Cif)	47 223	6 840	17 763	8 744	13 876
	Exportação (Fob)	45 526	3 159	13 620	12 040	16 707
	Saldo (Fob-Cif)	-1 697	-3 681	-4 143	3 296	2 831
	Cobertura (Fob/Cif) [%]	96,4	46,2	76,7	137,7	120,4
2015	Importação (Cif)	49 750	7 328	19 447	8 366	14 609
	Exportação (Fob)	47 064	3 372	14 166	12 120	17 405
	Saldo (Fob-Cif)	-2 687	-3 955	-5 281	3 754	2 796
	Cobertura (Fob/Cif) [%]	94,6	46,0	72,8	144,9	119,1
2016	Importação (Cif)	52 219	8 292	20 584	8 133	15 211
	Exportação (Fob)	47 386	4 223	13 907	11 294	17 963
	Saldo (Fob-Cif)	-4 833	-4 069	-6 676	3 161	2 753
	Cobertura (Fob/Cif) [%]	90,7	50,9	67,6	138,9	118,1
2017	Importação (Cif)	58 500	9 077	23 299	9 754	16 370
	Exportação (Fob)	51 916	4 781	15 485	12 889	18 762
	Saldo (Fob-Cif)	-6 584	-4 296	-7 814	3 135	2 392
	Cobertura (Fob/Cif) [%]	88,7	52,7	66,5	132,1	114,6
2018	Importação (Cif)	63 226	9 884	25 709	10 637	16 995
	Exportação (Fob)	54 464	4 723	17 349	13 197	19 195
	Saldo (Fob-Cif)	-8 762	-5 161	-8 360	2 560	2 199
	Cobertura (Fob/Cif) [%]	86,1	47,8	67,5	124,1	112,9
2019	Importação (Cif)	68 940	12 890	26 941	11 471	17 638
	Exportação (Fob)	56 590	5 848	18 537	12 937	19 268
	Saldo (Fob-Cif)	-12 350	-7 042	-8 404	1 466	1 630
	Cobertura (Fob/Cif) [%]	82,1	45,4	68,8	112,8	109,2

Fonte: A partir de dados de base do INE - 2014 a 2017 - definitivos, 2018 provisórios, 2019 - preliminares, com última actualização em 11-03-2020 (http://www.ine.pt).

Plano da aula

1. "Hipóteses de Schumpeter"; Questões de investigação e normativas relevantes
2. Dimensão da empresa
3. Dinâmicas (inter) sectoriais
4. **Empreendedorismo e dinâmicas (intra) sectoriais (demografia setorial)**

Empreendedorismo

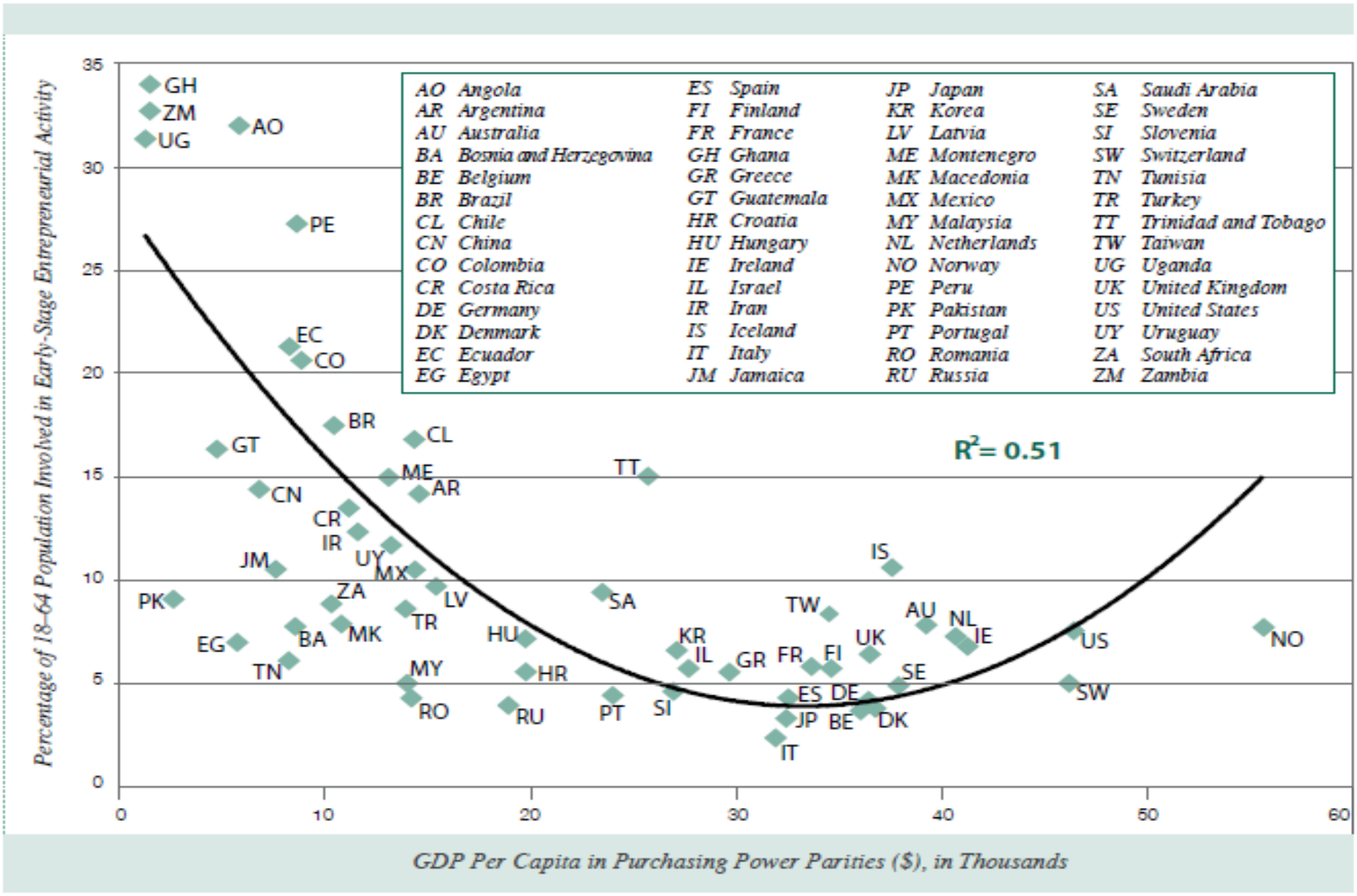
- **Interesse crescente pela temática do empreendedorismo**

- **Políticas públicas orientadas para promoção de empreendedorismo**

Global Entrepreneurship Monitor (GEM)

- GEM Data is based on experts' surveys
- One of the principal measures in GEM is 'total early stage entrepreneurial activity' (TEA)
- TEA is the percentage of the adult population aged 18–64 years who are in the process of starting a business (a nascent entrepreneur) or started a business less than 42 months old before the survey took place (owner-manager of a new business).
- The general picture shows a decline in overall levels of TEA with increasing economic development.
- However, there are large variations in early-stage entrepreneurial activity […]. The GEM results confirm that countries have unique sets of economic and social conditions that affect entrepreneurial activity.

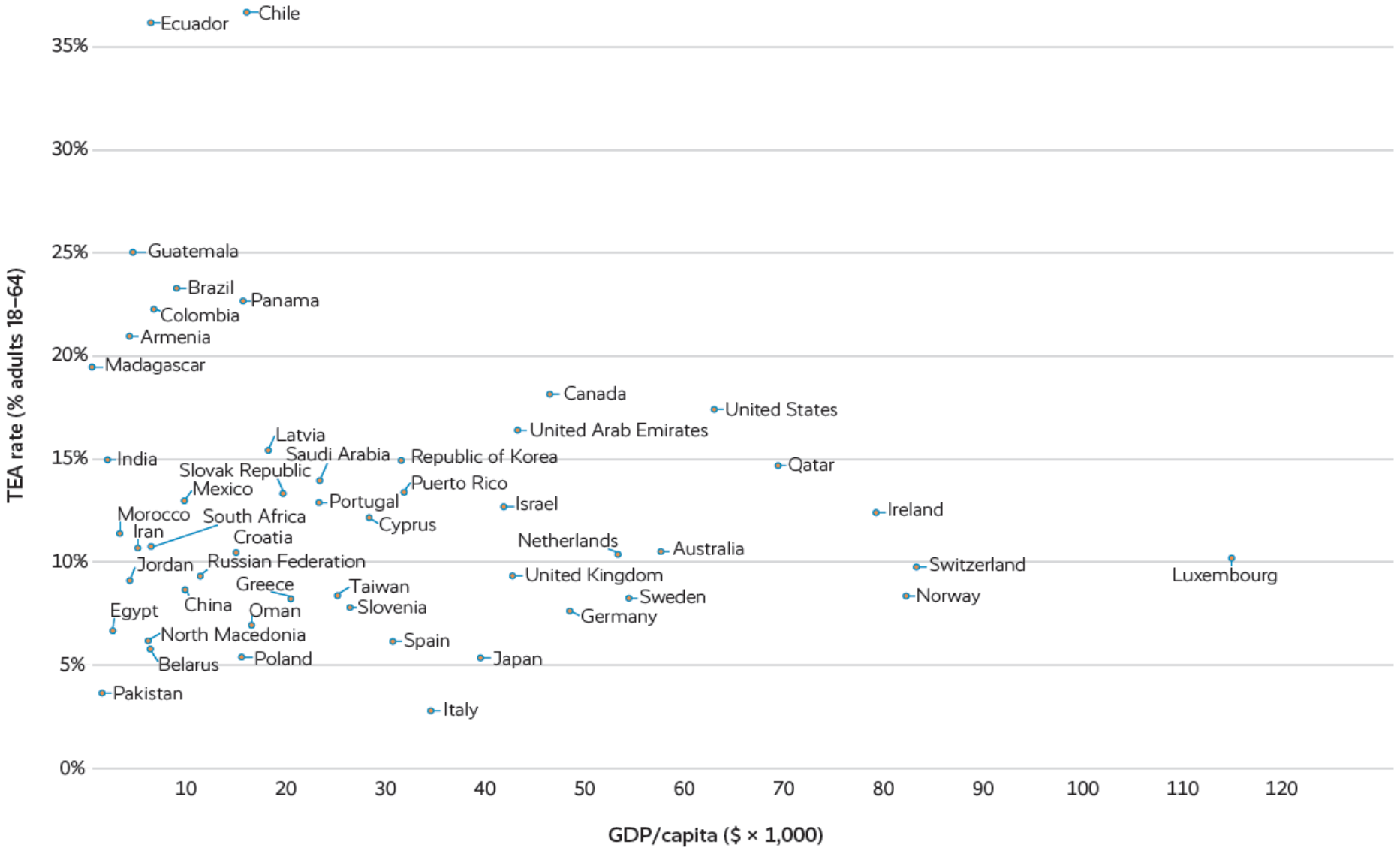
GEM: TEA and GDP per capita in 2010



[1] *Bolivia and Vanuatu a not showed in this figure, because their TEA rates are outsiders*

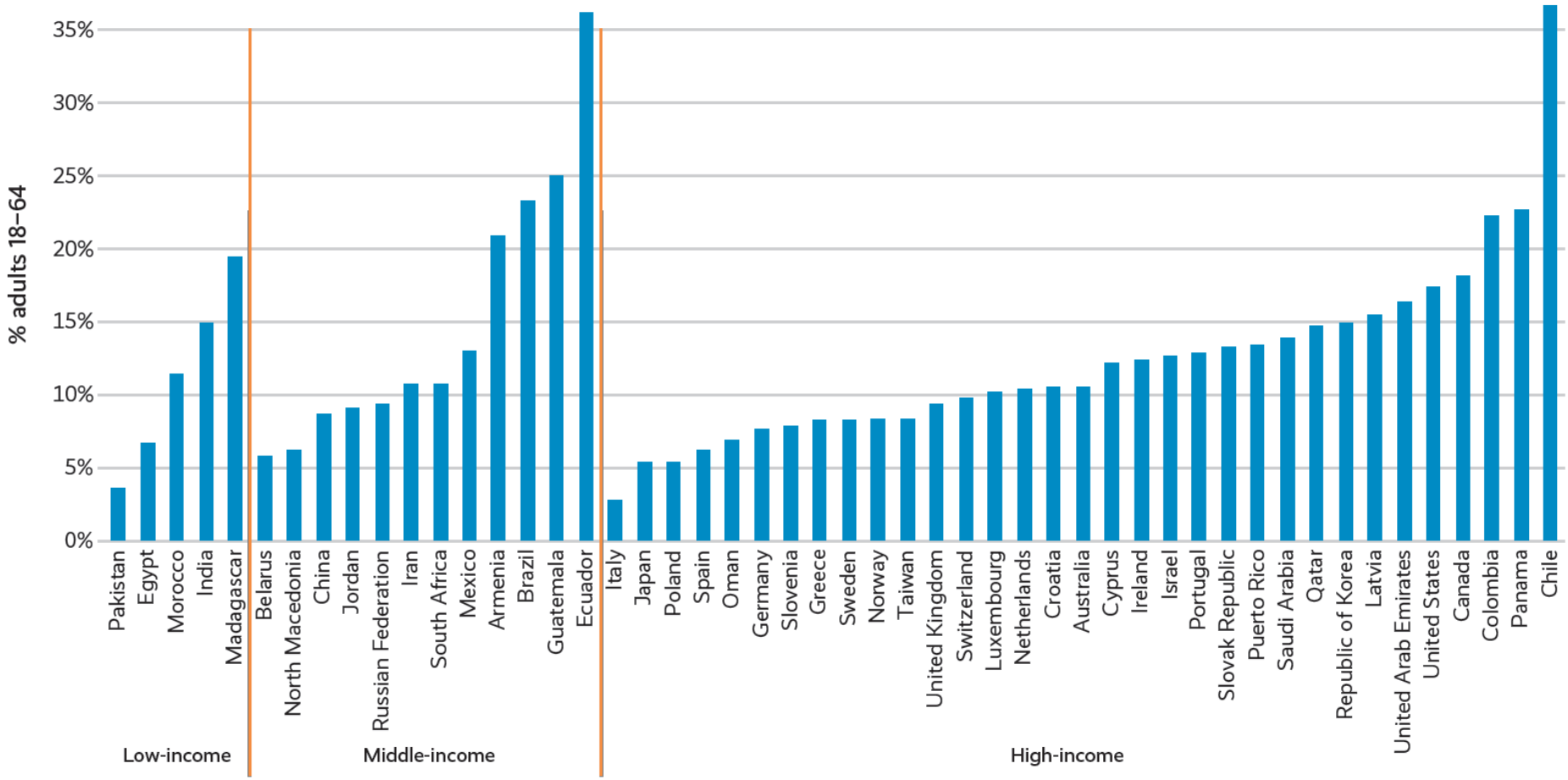
Source: GEM Adult Population Survey (APS) and IMF World Economic Outlook Database

TEA rates and GDP/capita in 2019



Source: Global Entrepreneurship Monitor 2019/2020 Global Report

Total early-stage Entrepreneurial Activity (% adults 18–64), grouped by income level

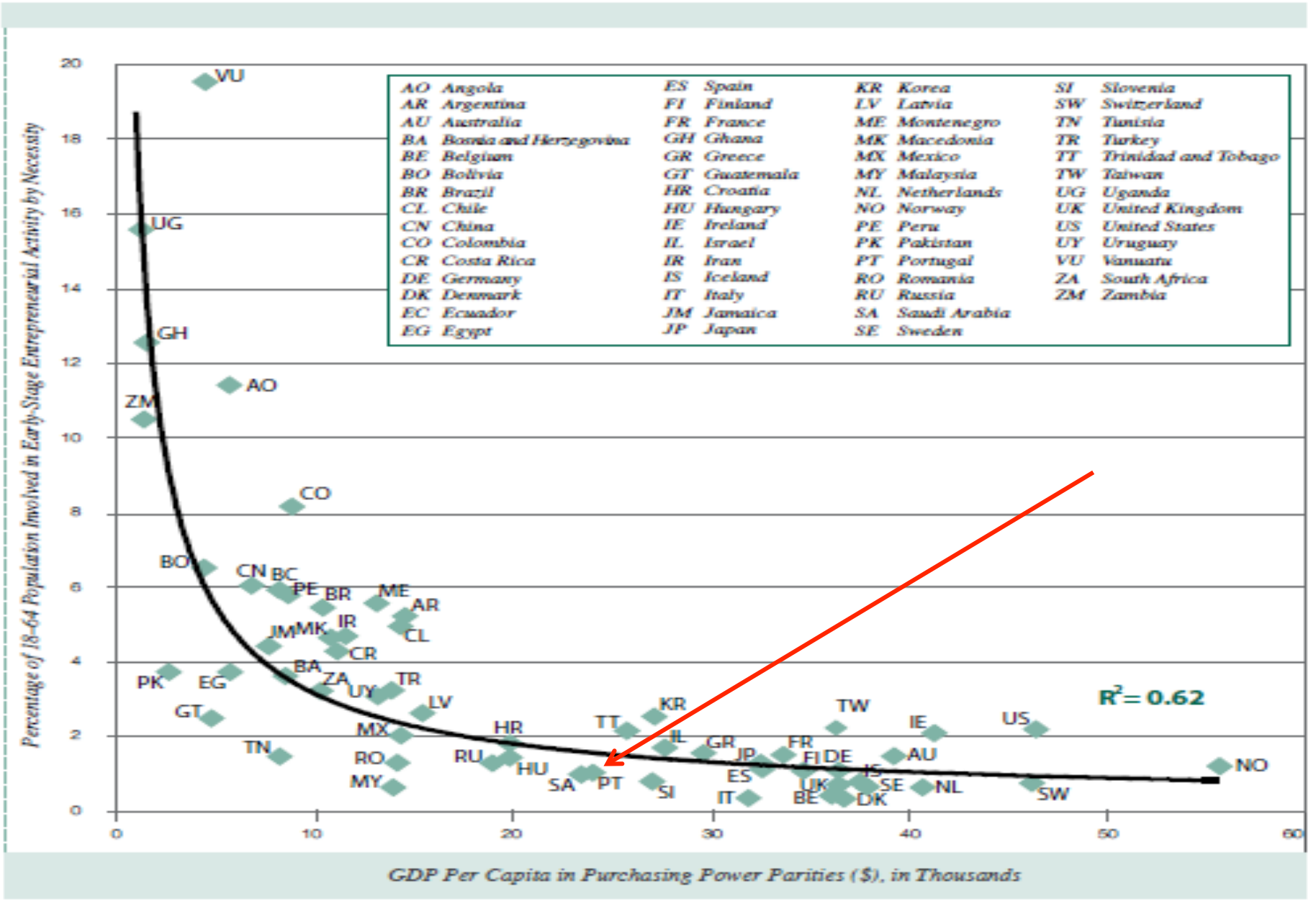


Source: Global Entrepreneurship Monitor 2019/2020 Global Report

Diferentes tipos de empreendedorismo

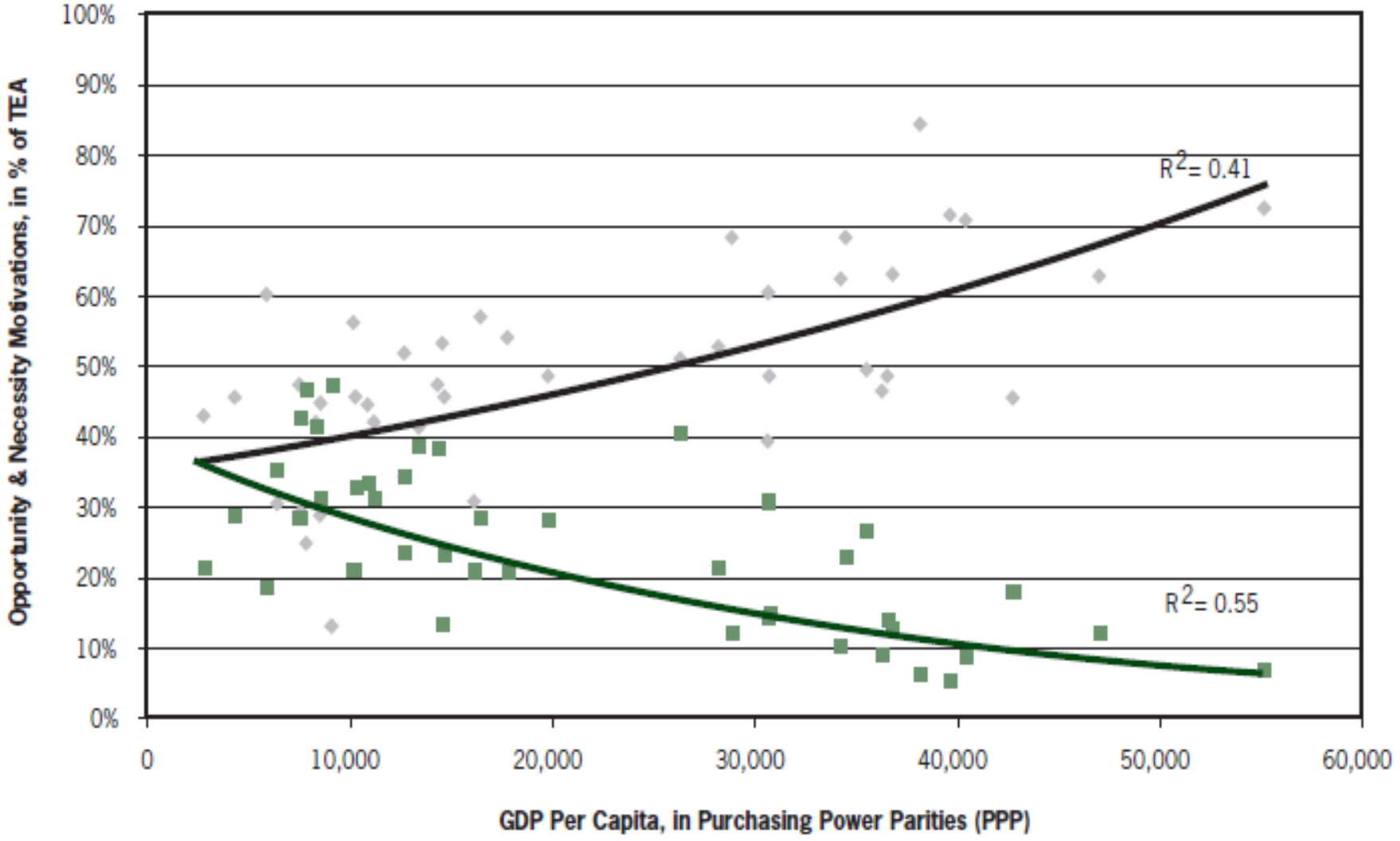
- **“Empreendedorismo de Necessidade”** → Empresa é criada por não existirem melhores alternativas
- **“Empreendedorismo de Oportunidade”** → Criação de empresa decorre de identificação de oportunidade de

Figure 6: Necessity-Based Early-Stage Entrepreneurial Activity and Per Capita GDP 2010



Source: GEM Adult Population Survey (APS) and IMF World Economic Outlook Database

Mecessity- (green line) and opportunity-based (black line) entrepreneurship (share of early-stage activity)
Source: GEM 2008



As "empresas de base cognitiva" (EBC)

- No empreendedorismo por oportunidade: interesse nas empresas de crescimento rápido ("gazelles") e nas "empresas de base cognitiva" (EBC)
- EBC consideradas vector essencial de introdução de inovações "radicais" na economia
- Um aspecto relevante desta linha de investigação é que sectores não são homogéneos: mesmo nos sectores tradicionais / Low-tech podem existir um número significativo de EBC

EBC em Portugal

Período **1995-2002**

Número de entradas

- ***High Tech*: 1857**
- ***ICT*: 3222**
- ***Low Tech:* 287897**

Emprendedorismo em Portugal, 1995-2000

Todos os sectores e sectores intensivos em conhecimento

	Todos (337)		Classificação MMG (34)
Taxa Entrada	**11%**		**16%**
Taxa Saída	**8%**		**8%**
Taxa Crescimento (emprego total)	**5%**		**11%**
% de Licenciados no pessoal da empresa	**6%**		**25%**

Fonte: Mamede, Mota e Godinho (2010)

Table 5 - Percentage of firms per n. of years of duration for each entry cohort

	Year of entry	Firms' duration (n. of years)							censored	Total
		1	2	3	4	5	6	7		
Todos os sectores	1995	18.4	9.7	7.7	6.2	5.5	6.1	6.3	40.0	100.0
	1996	17.3	9.4	8.1	7.1	7.7	7.2		43.1	100.0
	1997	17.4	9.8	8.8	9.5	8.6			45.9	100.0
	1998	16.6	11.0	11.8	10.6				49.9	100.0
	1999	18.7	14.4	13.0					53.9	100.0
	2000	22.6	15.3						62.0	100.0
	Total	18.9	12.1	7.6	4.9	3.0	1.7	0.8	50.9	100.0
Sectores intensivos em conheci-mento	1995	14.6	8.0	6.5	5.9	5.4	5.9	5.8	48.0	100.0
	1996	13.3	7.8	7.2	6.9	7.1	6.7		51.0	100.0
	1997	14.6	7.6	7.1	6.8	8.0			55.9	100.0
	1998	11.4	8.3	9.5	10.3				60.5	100.0
	1999	14.9	9.5	12.9					62.7	100.0
	2000	17.8	14.1						68.0	100.0
	Total	14.9	9.9	6.5	4.2	2.7	1.5	0.7	59.7	100.0

Bibliografia para ponto 4

- Braguinsky, S, L Branstetter, and A Regaterio (2011), “The incredible shrinking Portuguese firm”, NBER Working Paper No. 17265.
- Global Entrepreneurship Monitor 2019/2020 Global Report
- Mamede, R., D. Mota e M. M. Godinho (2010), Are the dynamics of knowledge intensive industries any different? Chapter 12 in Franco Malerba (ed.), Knowledge Intensive Entrepreneurship and Innovation Systems, Routledge, pgs 265-284

ANEXOS

Knowledge-intensive services (NACE Revision 2)

Eurostat classification

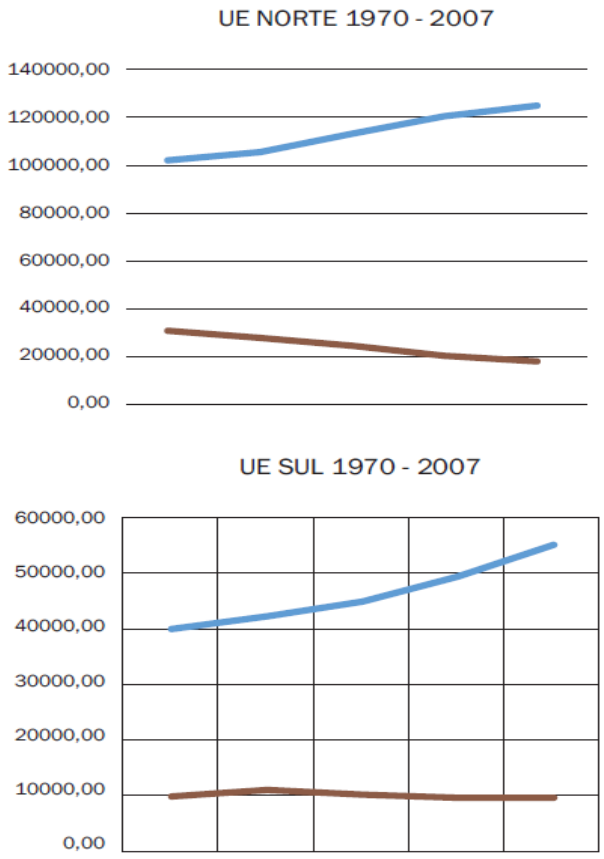
KIS	Total knowledge-intensive services	**50 to 51** Watet transport, Air transport **58 to 63** Publishing activities, Motion picture, video and television programme production, sound recording and music publishing activities, Programming and broadcasting activities, Telecommunications, Computer programming, consultancy and related activities, Information service activities (section J) **64 to 66** Financial and insurance activities (section K) **69 to 75** Legal and accounting activities, Activities of head offices; management consultancy activities, Architectural and engineering activities; technical testing and analysis, Scientific research and development, Advertising and market research, Other professional, scientific and technical activities, Veterinary activities (section M) **78** Employment activities **80** Security and investigation activities **84 to 93** Public administration and defence, compulsory social security (section O), Education (section P), Human health and social work activities (section Q), Arts, entertainment and recreation (section R)

Alteração da estrutura produtiva, UE15 e Portugal

EU 1970-2007 e 2008-2013

Portugal 1970-2006

Figura 1. Evolução do Emprego, em milhares, na UE Sul e na UE Norte, 1970-2007



Fonte: Dados originais extraídos da EU KLEMS Database 1970-2007.

Na figura 1 a linha azul é o emprego total e a linha castanha é o emprego industrial;

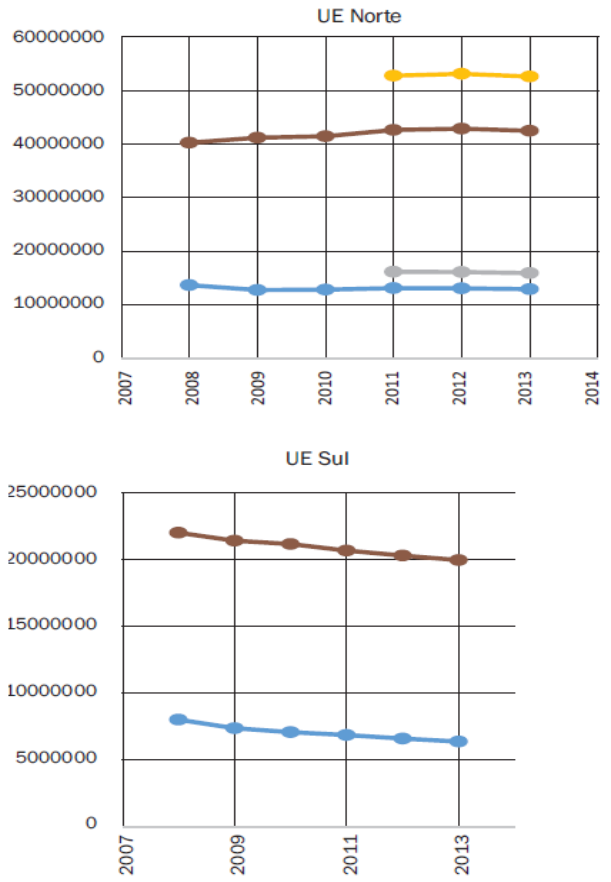
Na figura 2 a linha castanha é o emprego total e a azul o emprego industrial

UE Sul é PT, ES, IT e GR
UE Norte é UE15-UE Sul

A fonte dos gráficos deste slide e dos dois seguintes é:

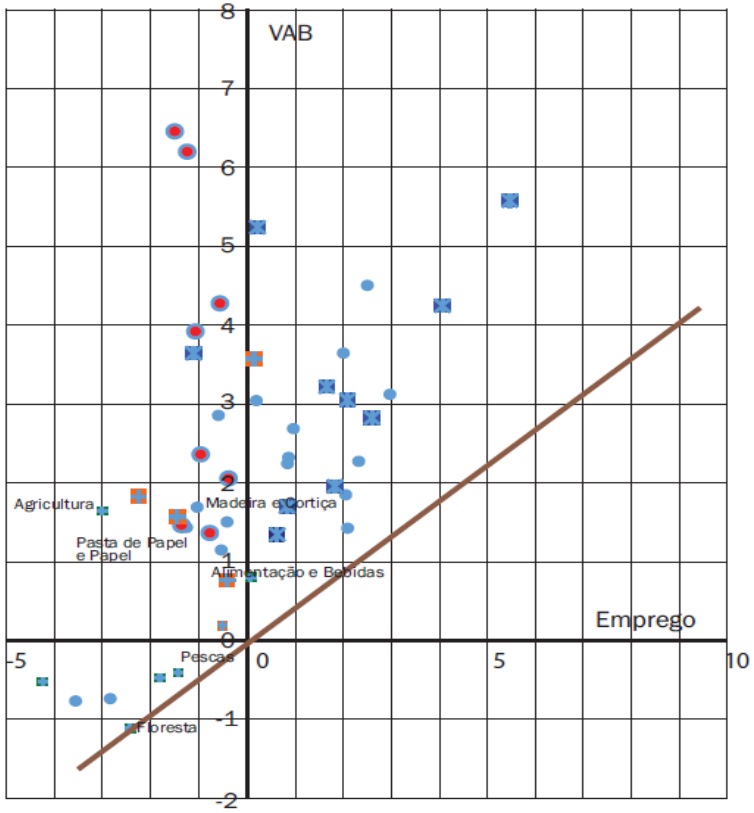
M. M. Godinho (2016), O sistema sectorial de inovação agro-florestal em Portugal: Tendências e Perspectivas. Chapter in IESE, Agricultura, Floresta e Desenvolvimento Rural. Lisboa: Instituto de Estudos Sociais e Económicos.

Figura 2. Evolução do Emprego, na UE Sul e na UE Norte, 2008-2013.



Nota: O gráfico da UE Norte tem duas linhas para cada uma das séries por apenas existir informação para França para 2011-2013
Fonte: Dados obtidos no site do Eurostat.

Figura 3. Taxas médias de crescimento anual do VAB e Emprego, UE15, 1970-2007



Fonte: Dados originais extraídos da EU KLEMS Database 1970-2007.

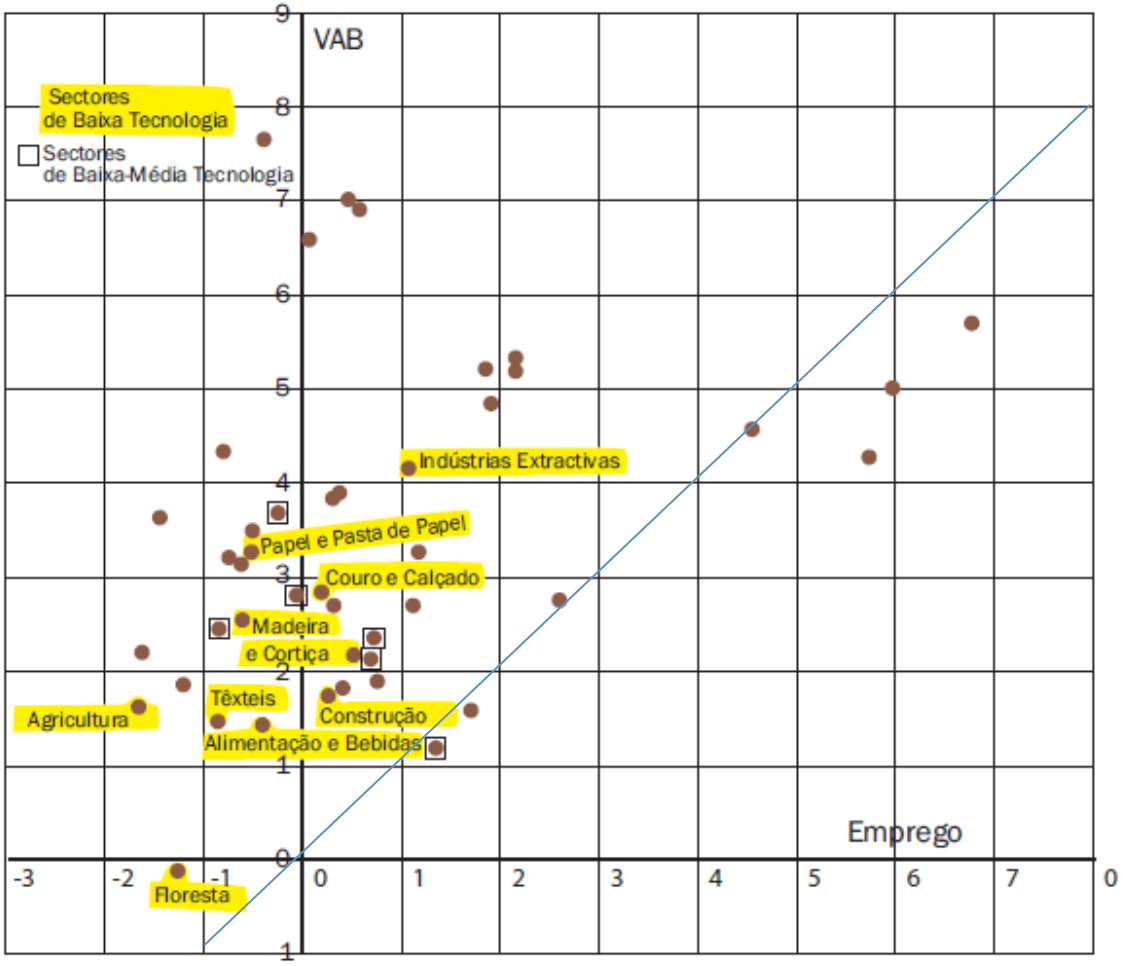
Verifica-se para o conjunto da UE15, observando a figura 3, que muitos sectores perderam historicamente emprego entre 1970 e 2007, destacando-se todos aqueles que constituem nosso objecto neste estudo: a agricultura, a silvicultura (floresta), as pescas, bem como as indústrias transformadoras da alimentação, bebidas, e tabaco, da pasta de papel e do papel, e da madeira e da cortiça. Evoluções similares tiveram outras indústrias consideradas de baixa tecnologia, como o têxtil e vestuário ou o sector do calçado. Os sectores mais dinâmicos em termos de produtividade tendem a ser as indústrias de alta tecnologia (pequenos círculos encarnados), com crescimentos significativos do VAB e relativamente pequenas reduções do emprego. Em contrapartida, alguns sectores de serviços intensivos em conhecimento (quadrados azuis) revelaram bom crescimento para ambas as variáveis observadas, passando a deter um maior peso no conjunto da economia da UE15.

Figura 3. Taxas médias de crescimento anual do VAB e Emprego, UE15, 1970-2007

Os sectores identificados :

- Com designação por extenso, são os sectores industriais de baixa tecnologia e outros sectores não industriais de baixa tecnologia;
- Com círculos vermelhos são os sectores industriais de alta tecnologia;
- Com quadrados laranja são os sectores industriais de média-alta tecnologia;
- Com quadrados azuis maiores são os sectores conhecimento intensivos de serviços.

Figura 4. Taxas médias de crescimento anual do VAB e Emprego, Portugal, 1970-2006



A Figura 4 é análoga à anterior, mas refere-se apenas à economia portuguesa, revelando que, do mesmo modo que para a UE15, houve em Portugal uma retração significativa de emprego em muitos sectores. Nota-se, porém, que as reduções de emprego nos sectores em apreço são menos significativas em Portugal, e o crescimento do VAB fez-se em geral a ritmos superiores, no intervalo de 1% a 2% ao ano. A excepção a este padrão é a agricultura, onde apesar de o emprego ter caído menos em Portugal, o VAB aumentou menos rapidamente que na UE15, revelando um menor dinamismo da produtividade. O sector da silvicultura (floresta) é também um caso a assinalar, com retrocessos em ambas as variáveis a nível europeu e nacional, embora neste caso de forma menos acentuada.