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Waves of Disruption

The future of Ireland's
Financial Services Sector



Foreword



Financial services globally has undergone dramatic change in the last five years largely driven by regulation. In this point of view, we outline how in the next five years financial services will not just change but be dramatically disrupted by technology driven innovation. For Ireland, which has become a well-established global financial services centre, the change will be significant and will impact employment and the nature of work profoundly. The rate of innovation is increasingly exponential, driven by technologies such as:

- Artificial intelligence
- Software robotics
- Blockchain
- Mobile devices
- Cyber
- Internet of things

These technologies offer new ways to do things; new customer experiences, replacement of many manual activities and roles, more efficient operations and new business models. To enable and develop this requires very different skills and expertise. We believe the extent to which Ireland's financial services sector benefits from this will be due largely to the level of investment companies make in innovation and the extent that government policy encourages the development of talent and people to drive this innovation.

Yours Faithfully

David Dalton

Consulting Partner and Head of Financial Services
ddalton@deloitte.ie

Financial Services has grown to be a major economic sector in Ireland

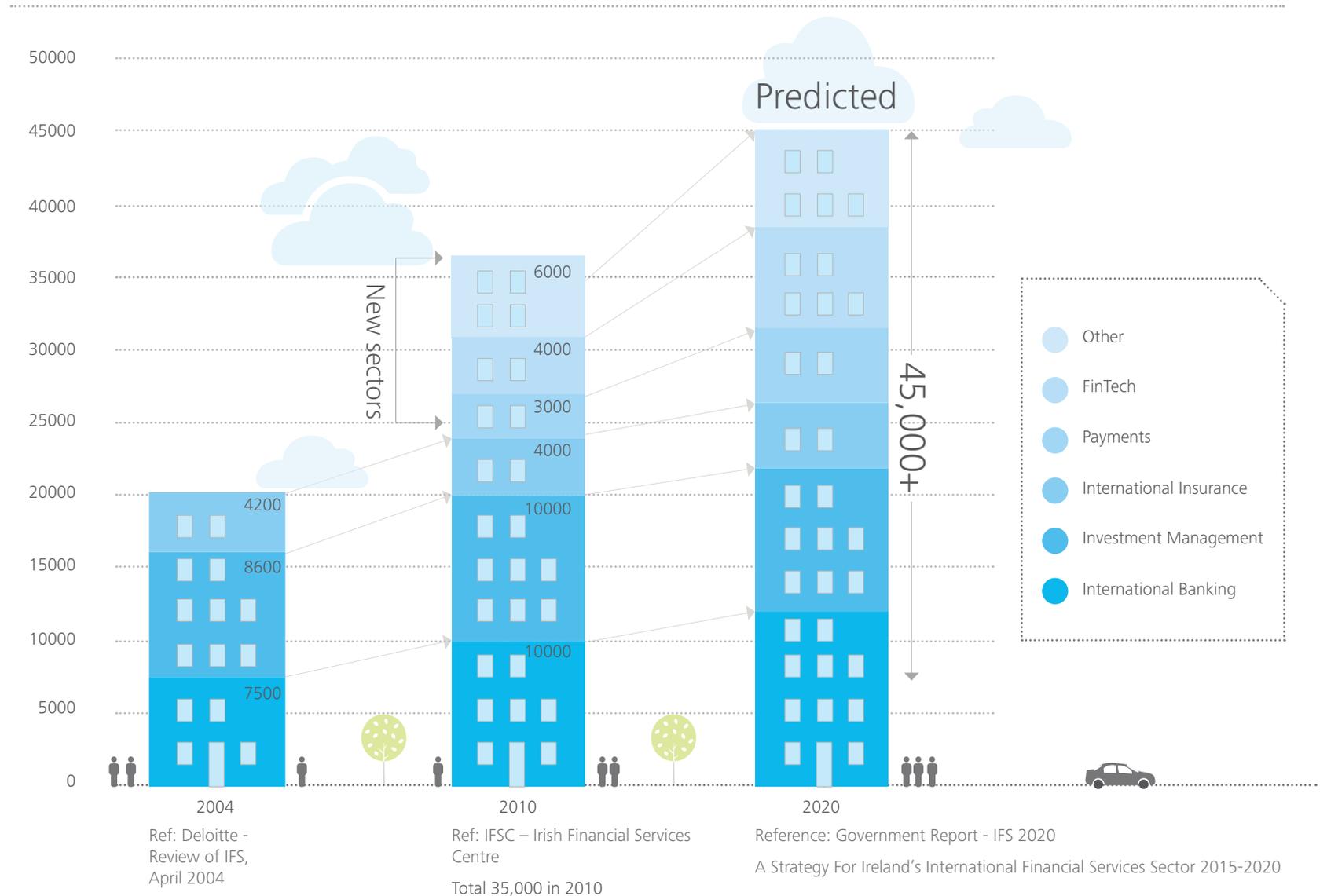
A global centre for International Financial Services (IFS) has been built in Ireland over 30 years.

The IFS industry now employs in the region of 37,000 people.

Ireland is now recognised globally as being an IFS hub with a particular focus on investment management, aviation financing and payments.

IFS employment is projected to grow by a further 10,000 people by 2020.

Separately and even with the recent economic crisis Ireland still employs significant numbers in its domestic banking and insurance sectors, in the region of 50,000 people.



Underpinning this, is a well-developed international and domestic IFS ecosystem

What has made IFSC successful to date

What has made IFSC successful to date

Ireland built its IFS sector on a well-educated workforce, with a cost and tax advantage versus major financial centres. Ireland now faces threats from other centres in the availability and cost of talent, and will, therefore, need to move up the value chain, focusing on key areas of expertise.

Availability of skilled labour force

Over 90% of recent respondents in the 2015 Finus IFS Skills Analysis report² said that the ability to recruit key talent will be a key factor to future growth. In addition, results from Deloitte's 2015 HC Trends survey highlight that leadership and the ability to develop capabilities at all levels is a significant challenge for Irish organisations, with 90% identifying this as a priority and only 26% of Irish organisations being ready to address this.

Approachable and practical regulatory regime

While regulatory requirements are starting to converge globally, the need for a pro-active, innovative regulatory environment in Ireland remains critical to encourage, support new industry players.

Low and transparent rates of Corporation Tax

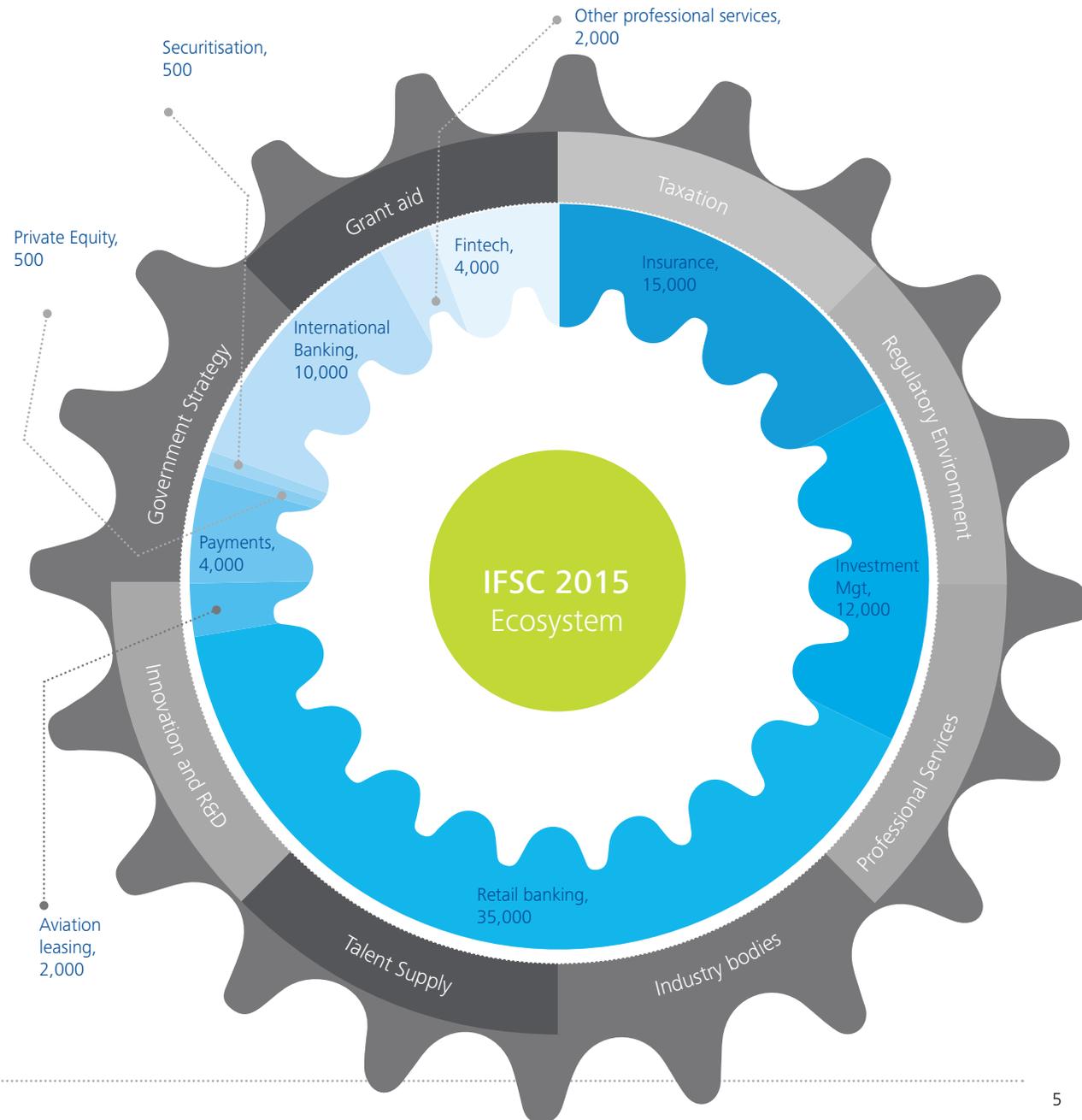
EU countries in reality have far less-disparities between effective rates of Corporation Tax than recently reported in popular media. The 12½% headline rate, whilst important, is no longer the only factor for attracting and retaining global IFS firms. Rather the creation of a tax landscape which stimulates innovation in IFS and incentivises development of key skills is more critical, such as new Knowledge Development Box (KDB) proposals for entrepreneurial relief and SARP for attracting talent from abroad.

English speaking and cultural links to North America

One of the "hard" geographic benefits of Ireland together with time favourability that will continue to be important for English speaking countries especially as we compete at a global level. However Ireland needs to also increase links to Asia including China, India and Indonesia.

Member of EU and Eurozone

Important, but as the EU widens and harmonises will become less of a differentiator. This may become critical in the unfortunate event of Brexit materialising.



But there are significant technological forces that will disrupt the IFS landscape

The Government's recent strategy 'IFS 2020' targets growth in the industry to over 45,000 people in 2020. However this growth comes with a health warning.

Every facet of the IFS industry is being disrupted. We have seen this happen in banking with the prevalence of mobile app alternatives to traditional banking services.

What is causing this disruption? How it will impact the IFS industry? We set out a range of possible scenarios that we need to prepare for and in particular how innovation will become a key driver for how firms adapt to this new disrupted world.

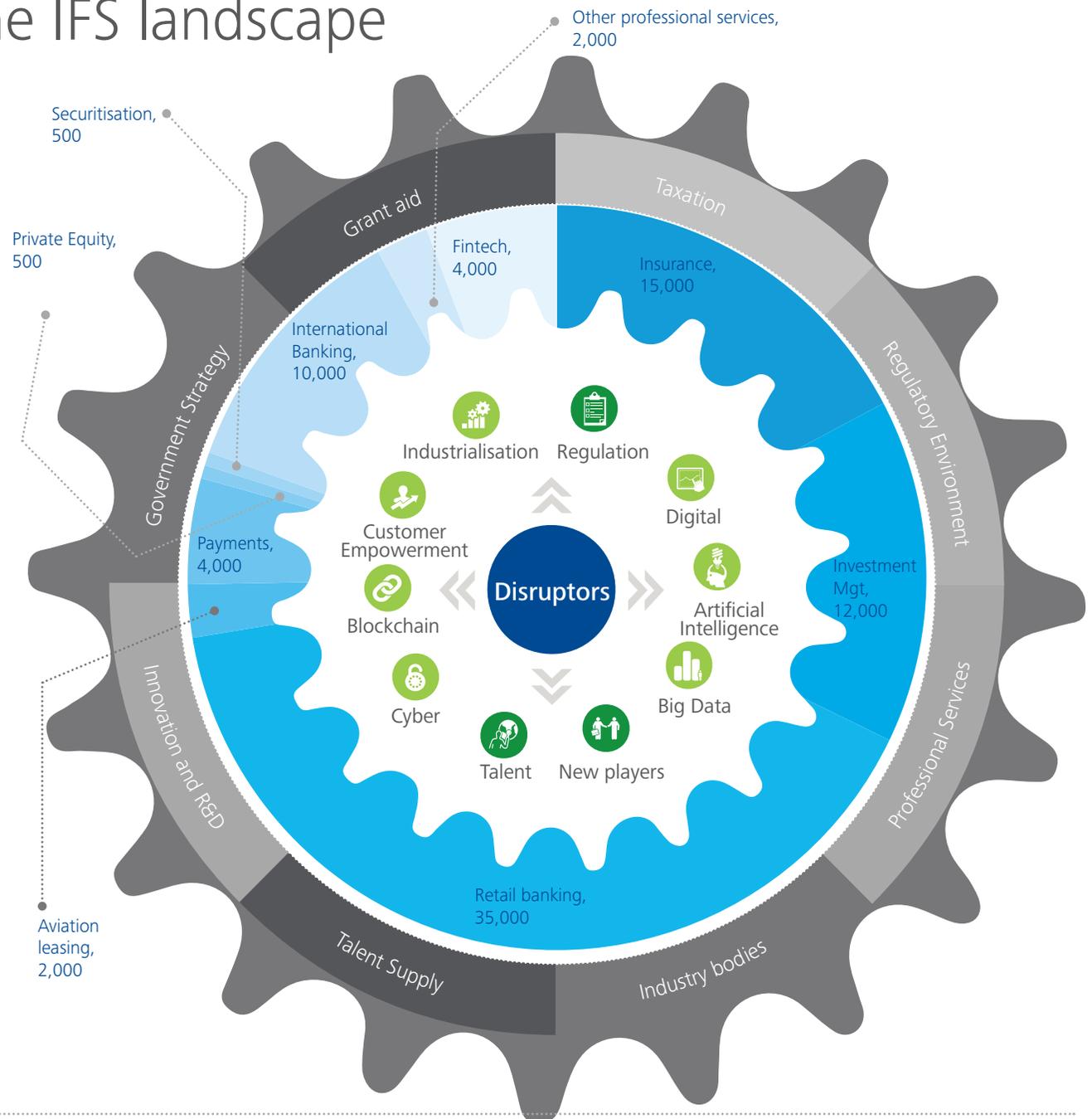
Financial services globally has been impacted by a range of forces:

- Regulatory reform in response to the 2008 global financial crisis
- Growing consumer empowerment driven by generational changes
- Globalisation and availability of low cost locations and labour
- Industrialisation of core functions and activities

More recently, new technological disruptors are emerging including:

- **Digitisation** of the core activities of financial services.
- **Big data** technologies allowing profoundly different insights into business activities.
- **Machine learning and artificial intelligence** leading to robotisation of work.
- **Blockchain** technology fundamentally challenging traditional technology platforms.

³The World Economic Forum 2015 report "The Future of Financial Services" foresees a completely disrupted FS landscape across all sectors. It also forecasts most disruption occurring where "greatest source of customer friction meet largest profit pools".



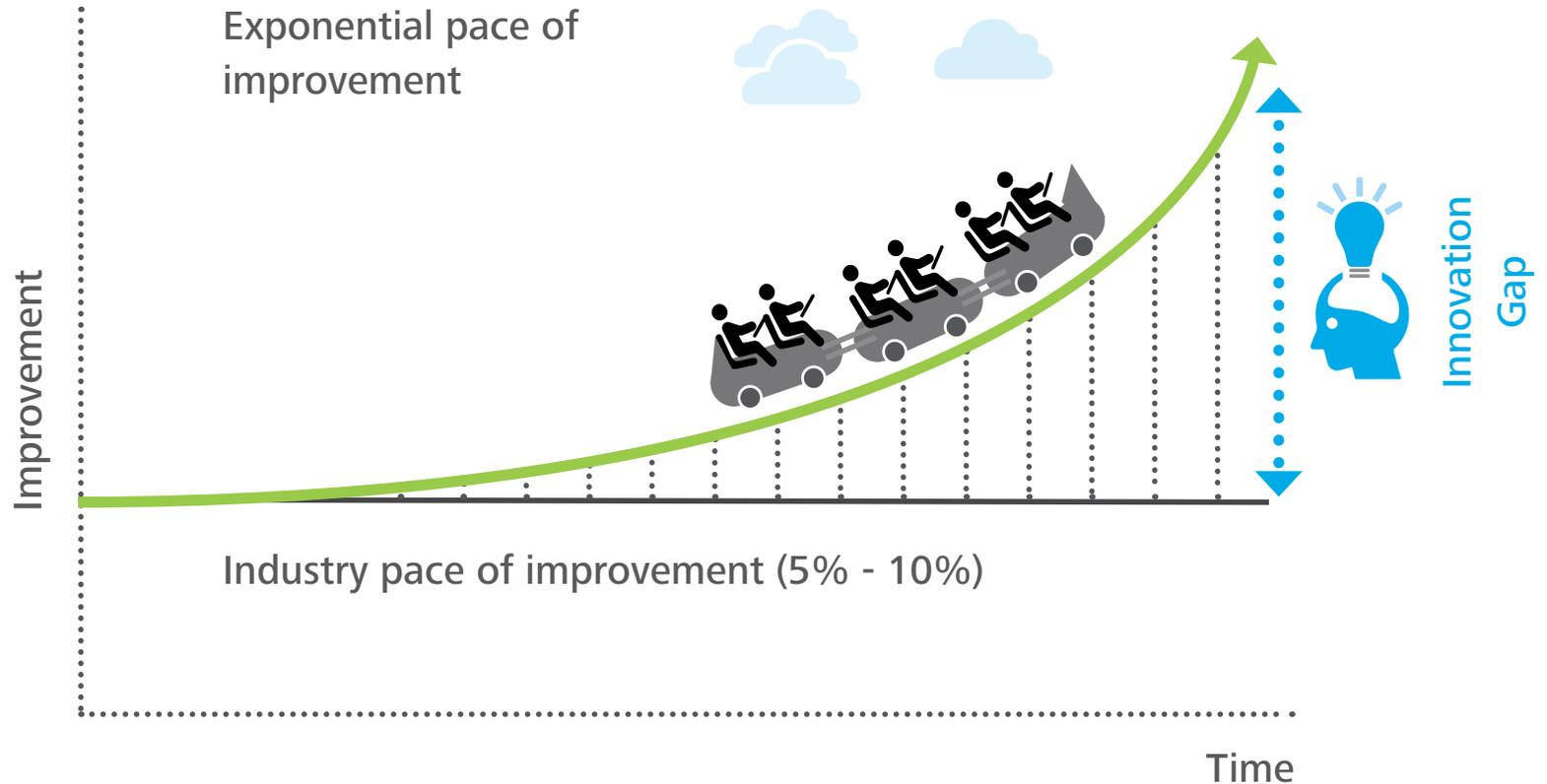
And the pace of disruption will increase

Exponential improvement in core digital technologies is fuelling exponential innovation. The cost-performance of three core digital technology building blocks—computing power, storage, and bandwidth—has been improving at an exponential rate for many years. As the rate of improvement accelerates, we are experiencing rapid advances in the innovations built on top of these core “exponential” technologies.

The current pace of the latest technological advances is unprecedented in history and shows no signs of stabilising as other historical technological innovations, such as electricity, eventually did. Latest technology advances are a key driver of IFS disruption. **As technology change accelerates from linear to exponential, digitisation of experiences and business processes becomes easier.**

At first these changes go unnoticed as they appear incremental. However, as they evolve, the impacts to traditional business become disruptive and challenge the underlying business model. Many of the fees and charges based FS businesses available today will become disintermediated.

With this lower cost structure, premium financial services will be made accessible to a greater portion of the population, while at the same time opening up the industry to new players.



“

Exponentials will continue to change the landscape for many industries in the next decade. Beyond understanding the technologies coming online, organisations—particularly those that have been evolving more linearly—need to understand the broader context of their industries, markets, and business models.

- Neil Jacobstein, Artificial Intelligence & Robotics co-chair, Singularity University⁵

“

A new technology that scales quickly from one to a million users has become a common and straightforward phenomenon. Scaling an organization at exponential speed, however, is quite another matter. Organisational growth is usually linear—incremental and slow. In recent years, however, a new breed of exponential organizations (ExOs) such as Waze and WhatsApp have experienced dramatic growth trajectories and achieved multibillion-dollar valuations in just a few years.

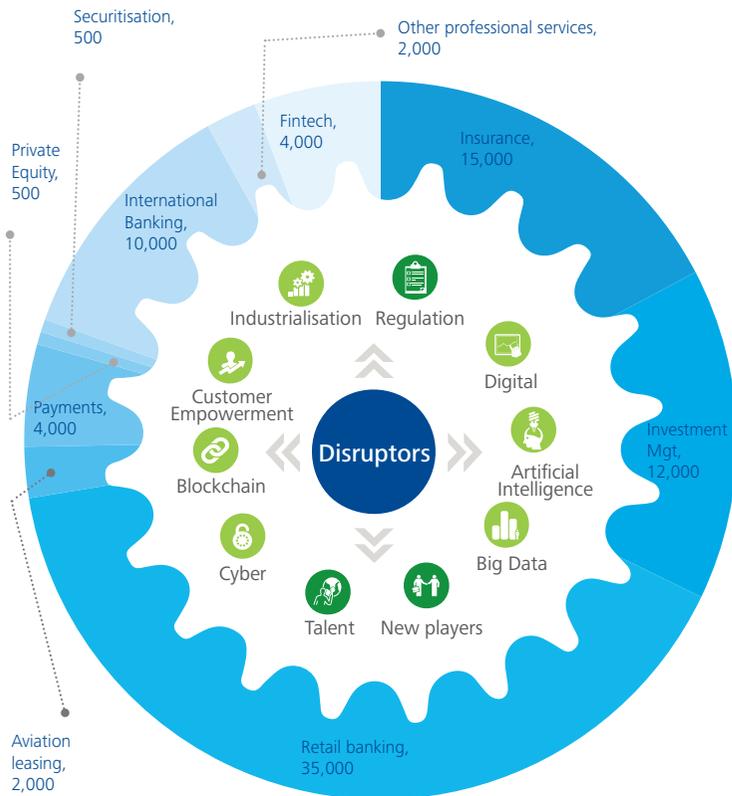
- Salim Ismail, Founding executive director, Singularity University; Lead author, *Exponential Organizations: Why New Organizations Are Ten Times Better, Faster, and Cheaper Than Yours (and What to Do About It)*⁴

Certain disruptive forces will shape the future success

Disruptors can be broadly grouped into four categories: Technology, Participants, Data and Processes and Regulation

The heaviest impact is clearly from new technologies which are also a new and evolving disruptive force in the IFS sector.

The other disruptive forces have always existed in the sector but are becoming an increasing source of disruption driven in turn by technology, costs and wider macro-economic factors



Technology	Participants	Data & Processes	Regulation
<p>Blockchain</p> <p>Sequential distributed transaction database using secure cryptography. Creation of secured datasets has the potential to transform the FS value chain.</p> <p>Rubix, US Insurance USAA, Chainsmiths</p>	<p>New Players</p> <p>Non-traditional players, Start-Ups, Tech companies, Social Media, Retailers, Telcos are entering the FS Industry and creating new offerings.</p> <p>Banking – Metro Bank, Movenbank, Payments – Realex, Insurance – Googles Gocompa</p>	<p>Industrialisation</p> <p>Where volume-intensive, commoditised and non-compete tasks are standardised and automated in scalable centralised model. Anti-Money Laundering requirements. Know your customer requirements. Corporate Actions (Investment Management).</p>	<p>Business Model Analysis regulators will put a bigger emphasis on viability and sustainability of the business model putting some key challenges in place for strategy</p>
<p>Artificial Intelligence</p> <p>Programmed Intelligence exhibited by machines - machine learning is the next level of improved performance from analysing prior experience.</p> <p>Kensho, Wealthfront, Nutmeg</p>	<p>Talent</p> <p>Global demand for talent in skilled roles. Globalisation of talent. Supply and demand shortage. Ulster Bank and Dogpatch – co-sharing space to create innovative environment where FinTech talent will flourish.</p>	<p>Big Data (Icons)</p> <p>Ability to process large complex unstructured data sets and monetise data assets.</p> <p>Deloitte Analytics</p> <p>IBM Watson collaborating with DBS Bank to improve customer experience.</p>	<p>Distribution models focus on conflicts and commissions meaning many distribution models will need to change and adapt</p>
<p>Cyber Security</p> <p>New security protocols necessary for mobile digitised, tech enabled FS tools to minimise hack ability.</p> <p>CyberEdge from AIG, Digidore – Cyber Security</p>	<p>Customer Empowerment</p> <p>A generation who have grown up with social media, mobile devices and internet offerings that have fundamentally different expectations. Bonkers.ie customer portal allows comparison of best financial products in Irish market.</p> <p>CurrencyFair FX</p>	<p>Capital and Return on Equity Higher pressure to use capital efficiently and sells products that do not carry a high capital weighting</p>	<p>Conduct risk and acting in the best interests of the customer financial institutions must act in the customer's best interests</p>
<p>Digital</p> <p>Conversion of manual information and processes into digitally enabled data and capabilities.</p> <p>Atom, Brite:Bill for billing</p>			<p>Product development and product governance Much bigger focus on the product manufacturer and ensuring that products are suitable and that customers clearly understand what they do.</p>

Four scenarios for how IFS might be impacted

The key criteria for Ireland to be successful is the availability of skilled talent that can thrive in this new disrupted world. As a country of just 4.5m people, Ireland will always need to “punch above its weight” in terms of producing numbers of suitable graduates and also attracting skilled people from abroad into Ireland.

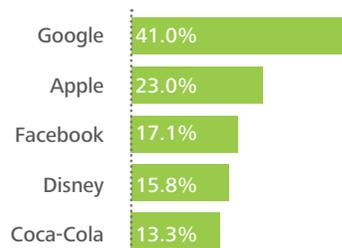
However, learning and development has been identified as one of the top 3 challenges facing Irish organisations which may impact our ability to execute this strategy (Deloitte 2015 HC Trends Survey). If we were able to meet this challenge, we could successfully create a scenario where ‘FinTech rules’ with Ireland potentially playing a leading role in driving and shaping the future of IFS.

However the opposite of this scenario is a chaotic, hyper-disrupted landscape where multiple small players may scramble to obtain whatever scarce resources are available in a disjointed way without making a serious global impact.

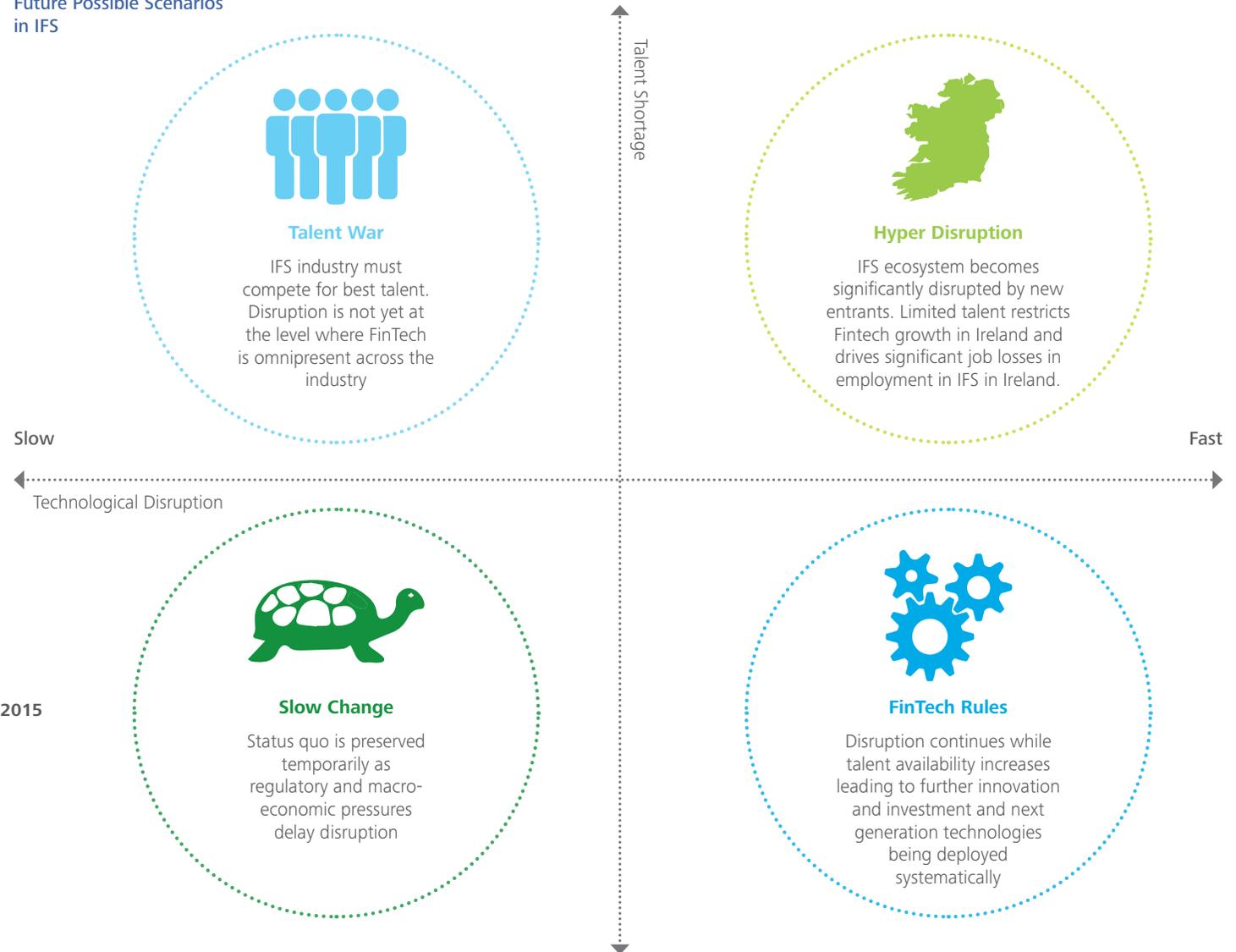
Currently, it could be argued that we are in the middle of a talent war – scenario 1: where disruption is only starting to impact and the buoyant Irish economy is creating competition for the best talent.

If something were to happen to slow down our underlying economy, so as to increase the overall supply of talent available, it is possible that the IFS industry would revert to status-quo, albeit temporarily.

Top five most popular employers Irish business students 2015



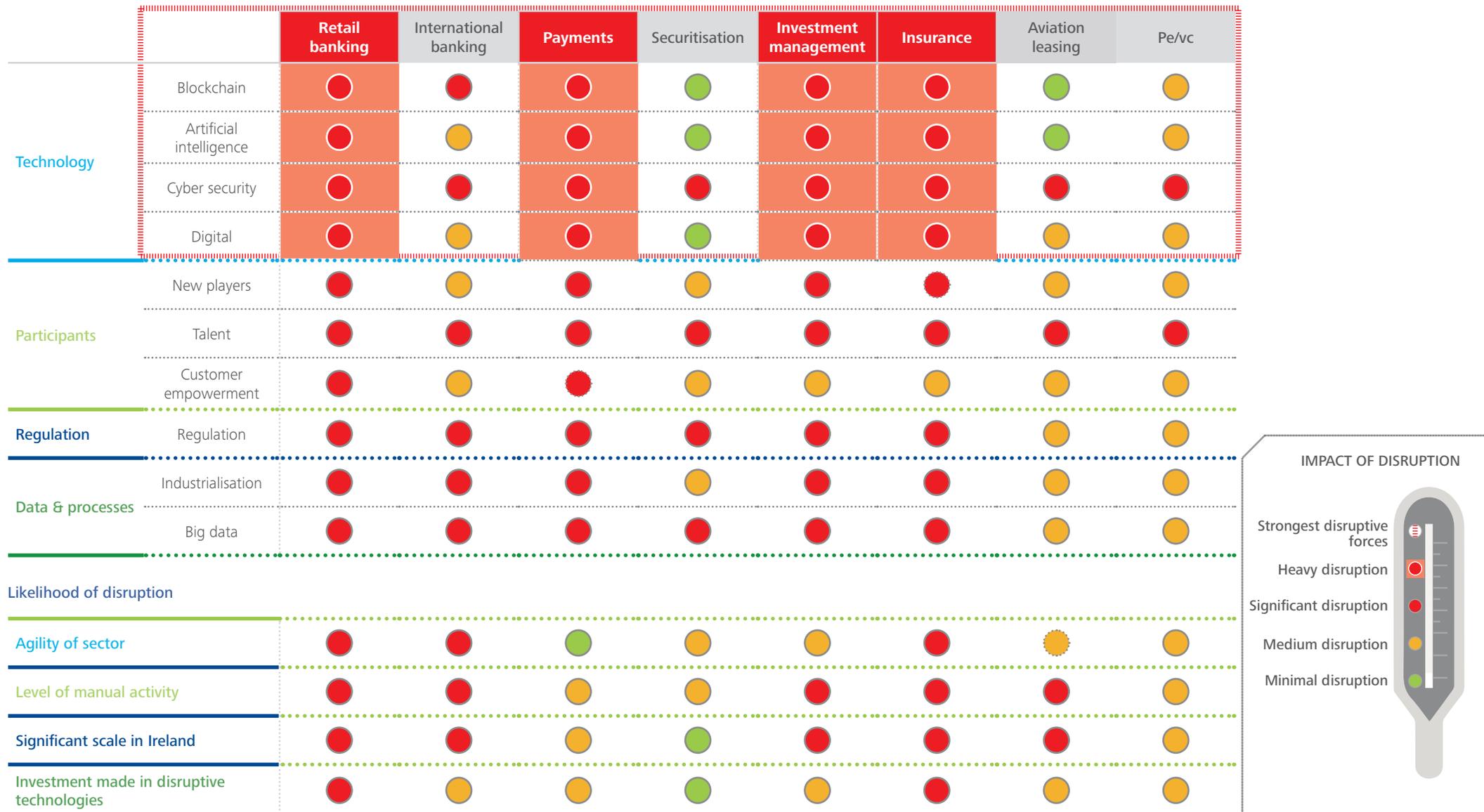
Future Possible Scenarios in IFS





Certain sectors will be more impacted than others

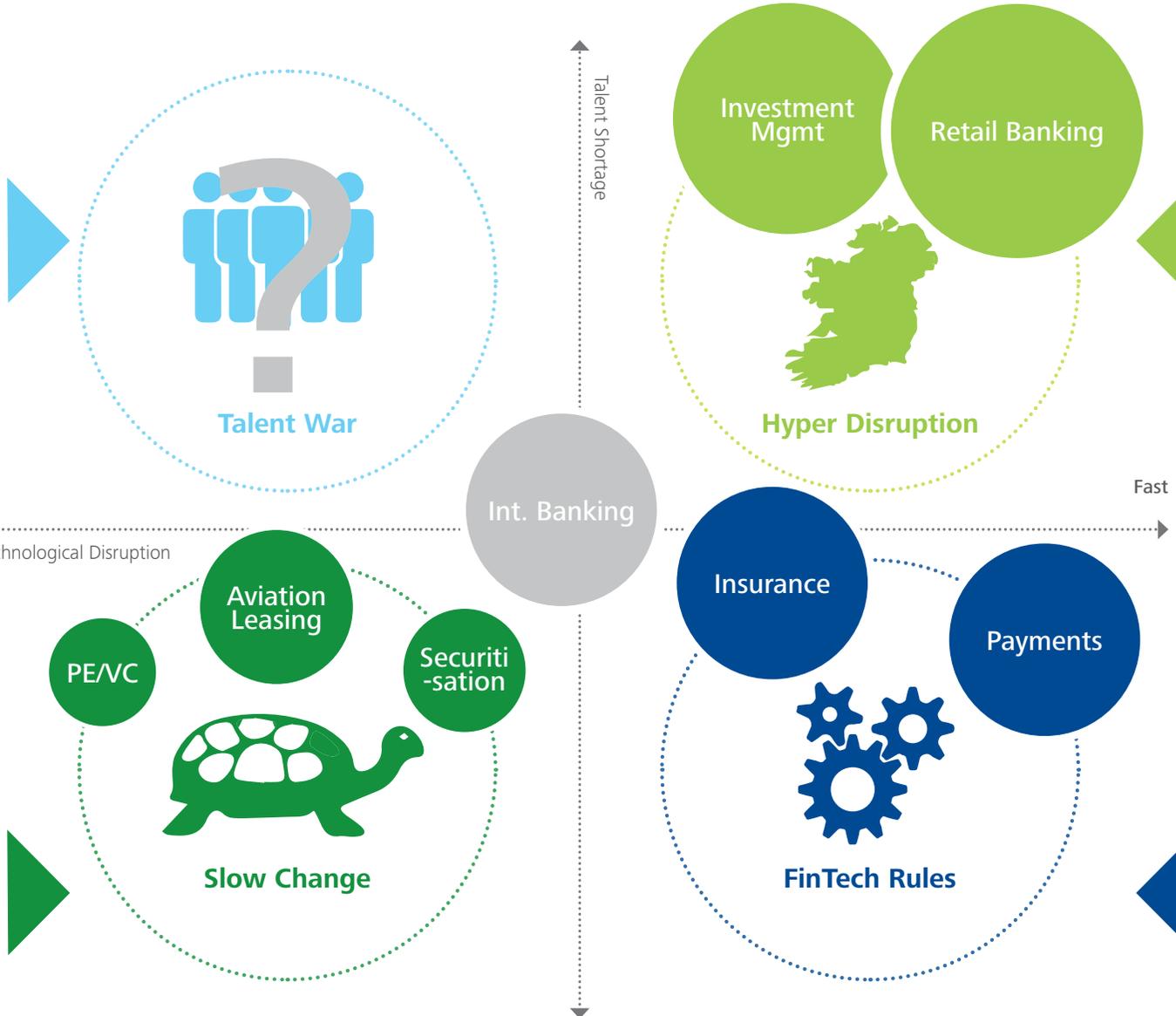
Impact of disruption



But what effect will this have on the industry?

Future Possible Scenarios in the IFS Industry

Arguably, the status of IFS to date. While it is difficult to be definitive, all trends point to all IFS sectors being disrupted with knock-on impacts on employment levels. Some exceptions e.g. specialist FO/MO roles in Int'l Banking.



Circle Size approx. relevant size to Ireland IFS Sector

Employment impacts will be most felt in Investment Management and Banking where disruption is high and level of operational roles is highest.

High Ops – Low Impact.
Unclear – Question Mark over what sectors will be positioned here.

Low Ops – High Impact.
Not the most relevant area for Ireland as the bulk of disruption occurs in highly operational tasks.

High Ops – High Impact.
Most relevant for Ireland as the bulk of roles are in this sector.

Low Ops – Low Impact.
Specific niche sectors such as aircraft leasing may occupy the space.

Lower relative employment levels and not as disrupted as other sectors. Tend to be highly skilled roles. Overall impact low.

Highly disrupted but set against a lower overall employment base in Payments and Insurance sectors.

On the horizon – the outlook for the industry...



Significant disruption will occur in Retail Banking, Fund Management, Payments and Insurance

Disruption is already occurring in retail banking and general insurance and will accelerate as technology change takes effect. Investment management is also being disrupted mainly in middle and back office functions as new technologies are developed together with the introduction of alternative delivery models. Customer and business interaction in these sectors will continue to be disrupted. IFS sector will need to move from primarily a service focus to more value-add areas such as customer experience, product innovation and data science.



Corporation tax rate alone will not be a key driver of innovation

The corporation tax rate has historically been a critical factor in Ireland's ability to attract and retain FS firms. However competitor economies including Northern Ireland, are adjusting down their corporation tax rates, to replicate Ireland's success.

Emerging tax initiatives such as Knowledge Box, R&D tax credits, and the EU BEPS proposals will shape the new tax landscape for IFS.

The creation of an IFS environment conducive to entrepreneurship and innovation (including a more favourable CGT Regime) will become critical to attracting top firms and top talent.



The regulatory environment will struggle to keep pace with the rate of innovation

Regulatory bodies will need to invest in their own capabilities to stay current on the latest innovations and FinTech developments, similar to Project Innovate by the FCA in the UK. Regulator and Government should take steps to encourage increased level of collaboration among key industry participants.

The Regulator should also actively engage the FinTech sector to understand businesses that may currently be unregulated with a view to putting appropriate structures and supports in place.



Number of back-office roles in Ireland will reduce

With many back office roles becoming eliminated through technology advances such as Blockchain, or off-shored for cost reasons, Ireland will need to find replacement roles in IFS to maintain sector growth and employment levels. Staffing in legacy back-office and other primarily administrative roles will dramatically reduce as Blockchain, Robotics, AI and other new disruptive technologies are introduced.



Growth will occur in Payments, RegTech, Cyber and Aircraft Leasing

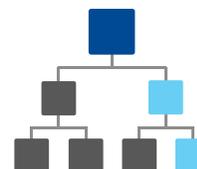
Ireland is well-positioned to take advantage of specific new disruptive areas. For example firms in Payments and RegTech (Realex, Fundtech) are already creating a clustering effect.

Ireland will, with the right focus, gravitate towards specific IFS sectors such as Payments, RegTech, Cyber and Aircraft Leasing where significant capability and potential exists to become a global centre of excellence



Our ability to attain talent and up-skill within companies will drive success in the industry

According to the latest Financial Skills Bulletin (Jul 2015) Ireland has a serious shortage in Business, Financial and ICT skills. Ireland will need to significantly increase the level of STEM graduates by 2020 in order to meet the IFS industry demand. 3rd level education providers will look to fundamentally increase type and supply of suitable courses and places. Government should also step up efforts to position Ireland as a destination of choice for global top talent.



New business models will create new opportunities for Ireland

Driven by technological improvement, industrialisation and greater industry collaboration, new business models will emerge. In particular where activities are carried out on a shared basis, for example, in the areas of Know Your Customer (KYC) shared industry global utility models will be introduced.

There are clear imperatives for Ireland to continue to succeed

Top 5 Government



Talent

Ireland needs to increase its overall volume of STEM graduates, thereby helping to alleviate the Talent shortage across all industries including IFS. Ireland must also accept, by virtue of its small size, that it will always be dependent, to a greater or lesser degree, on attracting top talent, and take steps to do so.



Regulation

Regulatory bodies need to embrace this disruption rather than resist it. They need to create climate for FinTechs to thrive similar to the UK. Otherwise Ireland will lose out on this valuable opportunity to other countries.



Tax

While Ireland's headline corporation tax rate will diminish in importance as a factor over the next five years, Ireland's high tax regime for entrepreneurs and start-ups negates Ireland as an attractive location for FinTech. Our CGT rate is one of the highest in the EU at 33%. Similarly senior executives of global firms are unwillingly to re-locate to Ireland due to our high income taxes. Employees earning over €39k are taxed higher than any other OECD country. The time is right to establish clear tax incentives to attract talent, start-ups and reward innovation and entrepreneurship at all levels across the IFS industry.



Innovation

Ultimately success will come down to and be driven by how far Ireland is willing to embrace and invest in Innovation across the IFS industry. IFS industry investment lags far behind peer industries. Ireland itself is recently ranked 10th in Europe for Innovation by the World Economic Forum (WEF) and 48th as a global centre of financial services (GFCI).



Investment Strategy

The focus on attracting large MNCs has been successful to date, but it is not enough solely to sustain the future job creation aspirations within IFS 2020. A broader approach which includes nurturing of FinTech Start-Ups and SMEs will be required. There is also significant untapped venture capital potential in this sector, which Ireland can exploit to grow the indigenous FinTech base.



Invest in Innovation

Historically the IFS industry has not invested significantly in innovation. According to the 2012 R&D ranking of industry sectors across the top 1500 global companies (EC), Banking for example ranks second-last, with total investment of less than \$10bn. This compares with the Pharma and Biotech sector of almost \$100bn in the same period. However there is evidence that Banking is now taking notice with 84% of banks in 2014 reporting increasing innovation investment (etma-infosys finacle). However this level of investment will need to be material and sustained and not a "token gesture" investment in order to combat the technological changes in-play.



Talent

Companies need to align their workforce and focus on developing the capabilities to meet the industry disruptions. As a talent war emerges, IFS firms must look to retain and engage talent by investing in and developing employees for new emerging roles e.g. data scientist, innovation officer etc.



Collaboration

Collaboration between established IFS firms, new market entrants, the regulatory authorities, industry bodies and government needs to be built out in a structured, unified manner to ensure goal congruency and consistency of purpose in the furtherance of Ireland as a global centre of IFS. The government IFS 2020 Vision has kick-started this process.



Disruption impact assessment

Firms need to prepare for and anticipate impending disruption for their specific sector. In order to thrive, firms will need to conduct impact assessments to pro-actively assess their situation and take tangible steps to address changing customer requirements.



Chief Innovation Officer

IFS firms need to establish innovation teams aligned to business functions with leaders at board level in the role of Chief Innovation Officer. The importance of innovation must be clearly defined and accepted at executive level.



Contributors

Banking



Gerry Fitzpatrick
Partner
Banking Sector Lead
E: gfitzpatrick@deloitte.ie



David Reynolds
Partner
Retail Banking
E: davidreynolds@deloitte.ie



John McCarroll
Partner
Banking & IFRS9
E: jmccarroll@deloitte.ie

Insurance



Glenn Gillard
Partner
Insurance Sector Lead
E: ggillard@deloitte.ie



Donal Lehane
Partner
Insurance & Payments
E: dlehane@deloitte.ie



Mary Fulton
Partner
Insurance
E: mfulton@deloitte.ie



Eimear McCarthy
Partner
Insurance
E: emccarthy@deloitte.ie

Investment Management



Mike Hartwell
Partner
Investment Management
Lead
E: mhartwell@deloitte.ie



Christian MacManus
Partner
Investment Management
E: chmacmanus@deloitte.ie



Brian Forrester
Partner
Hedge Funds & Asset Services
E: bforrester@deloitte.ie



Brian Jackson
Partner
Investment Funds
E: brijackson@deloitte.ie



Darren Griffin
Partner
Investment Management
E: dagriffin@deloitte.ie

Real Estate



Padraic Whelan
Partner
Real Estate
E: pwhelan@deloitte.ie

Aviation and Structured Finance



Brian O'Callaghan
Partner
Structured Finance
E: bocallaghan@deloitte.ie



Pieter Burger
Partner
Aviation Leasing
E: piburger@deloitte.ie



Niamh Geraghty
Partner
IM and Structured Finance
E: ngeraghty@deloitte.ie

Technology



Harry Goddard
Partner
Consulting Lead
E: hgoddard@deloitte.ie



Simon Murphy
Partner
Technology, Consulting
E: smurphy@deloitte.ie

Risk & Regulation



Colm McDonnell
Partner
Risk and Regulation Lead
E: cmcdonnell@deloitte.ie



Sean Smith
Partner
Risk & Regulation
E: seansmith1@deloitte.ie

Tax



Deirdre Power
Partner
FS Tax Lead
E: depower@deloitte.ie



Conor Hynes
Partner
Insurance Taxation
E: chynes@deloitte.ie



Declan Butler
Partner
Tax
E: debutler@deloitte.ie

Talent



Valerie Daunt
Director
Human Capital
E: vdaunt@deloitte.ie

Notes

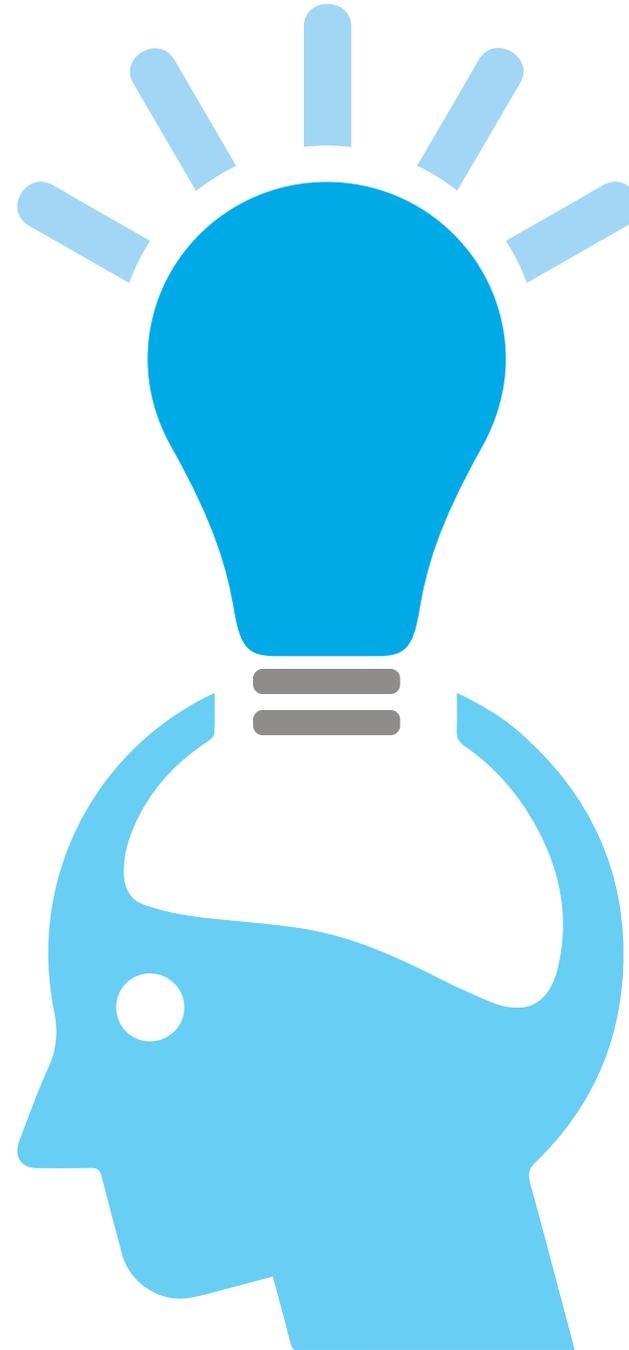


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End Notes

Summary of references referred to in this document:

1. "A Strategy for Ireland's International Financial Services Sector 2015-2020" - Irish Government report
2. Eurostat, EU Statistics 2013-14
3. Finuas IFS Skills Analysis Report 2015
4. "The Future of Financial Services" – World Economic Forum 2015
5. "Exponential Technology" – Deloitte University Press 2015
6. Global Financial Centres Index 2015





Contacts

Authors



David Dalton

Partner

Head of Financial Services, Ireland

E: ddalton@deloitte.ie



Warren Marmion

Director

Financial Services

E: wmarmion@deloitte.ie

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For more details please contact:

Dublin

Deloitte

Deloitte & Touche House

Earlsfort Terrace

Dublin 2

T: +353 1 417 2200

F: +353 1 417 2300

Cork

Deloitte

No.6 Lapp's Quay

Cork

T: +353 21 490 7000

F: +353 21 490 7001

Limerick

Deloitte

Deloitte & Touche House

Charlotte Quay

Limerick

T: +353 61 435500

F: +353 61 418310

Galway

Deloitte

Galway Financial Services Centre

Moneenageisha Road

Galway

T: +353 91 706000

F: +353 91 706099

www.deloitte.com/ie

