



Society of Actuaries in Ireland

Broader Horizons

5 November 2015



Society of Actuaries in Ireland

Broader fields
Brid Horan

5 November 2015

What to expect

- A brief history (mine)
- Challenge
- Opportunity

Disclaimer: The views expressed in this presentation are those of the presenter and not necessarily (probably certainly not!) of the Society of Actuaries in Ireland

Why become an actuary?

- Why become an.....
 - *Engineer*
 - *Organ donor*
 - *Auditor*
 - *Accountant*
 - *Atheist*

www.beanactuary.org/why/

High salaries. Job security. Endless opportunities.



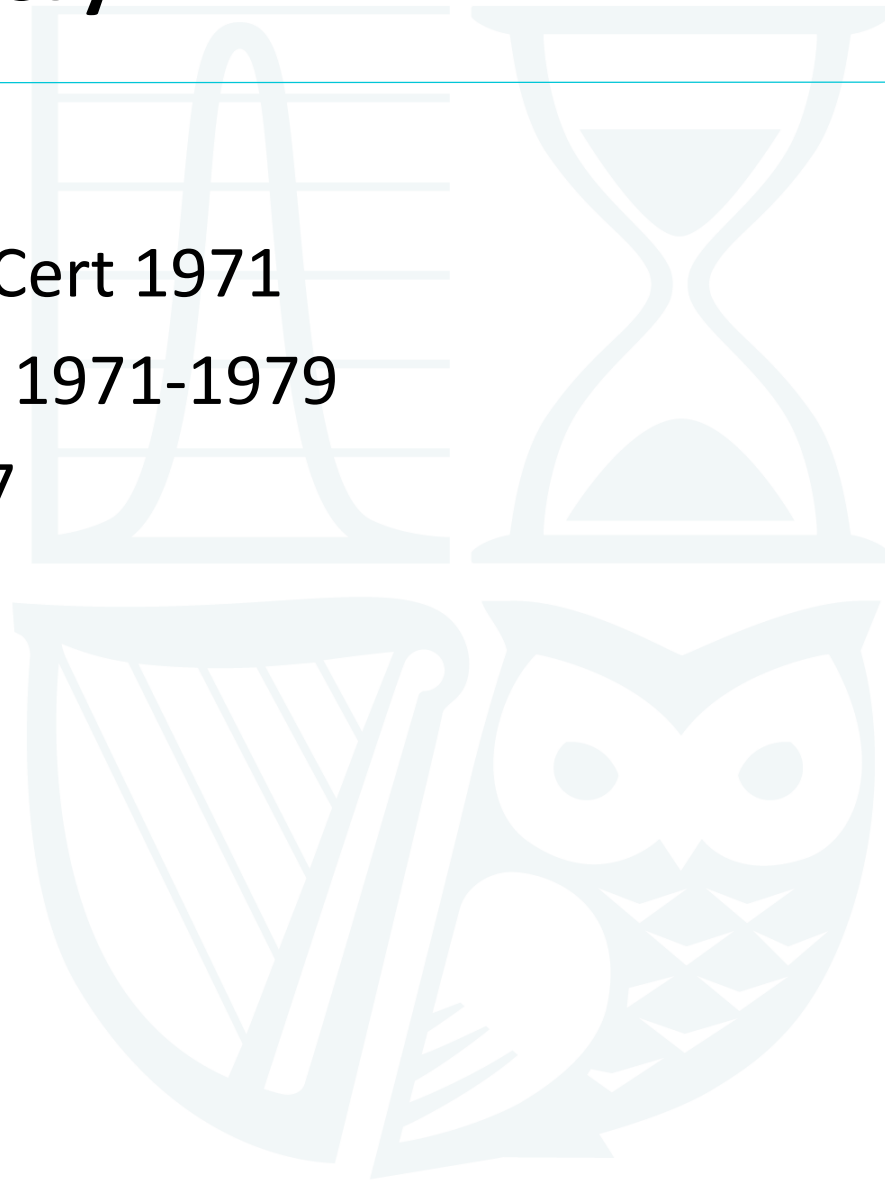
"I like to think that I'm helping people. I'm helping them get good health care, I'm helping them protect themselves in old age. I'm creating economic growth."

Most actuaries love being an actuary because it allows them to use their talents and have a meaningful positive impact. As one actuary put it: "I like to think that I'm helping people. I'm helping them get good health care, I'm helping them protect themselves in old age. I'm creating economic growth." But there are so many other great reasons to consider a career as an actuary:

- **Top-Ranked.** Actuary has consistently been rated [one of the top jobs in the United States](#).
- **Head start.** Actuaries [earn great starting salaries](#) that can double within the first five years.
- **Job security.** Actuaries enjoy certainty in uncertain times. We're [always in demand](#) as the world confronts risk.
- **Impressive impact.** Actuaries participate in high-level business decision-making and [solve real problems](#) in every industry.
- **Life in balance.** More than a fulfilling career, being an actuary allows you to maintain a low-stress, [highly sought-after work/life balance](#).

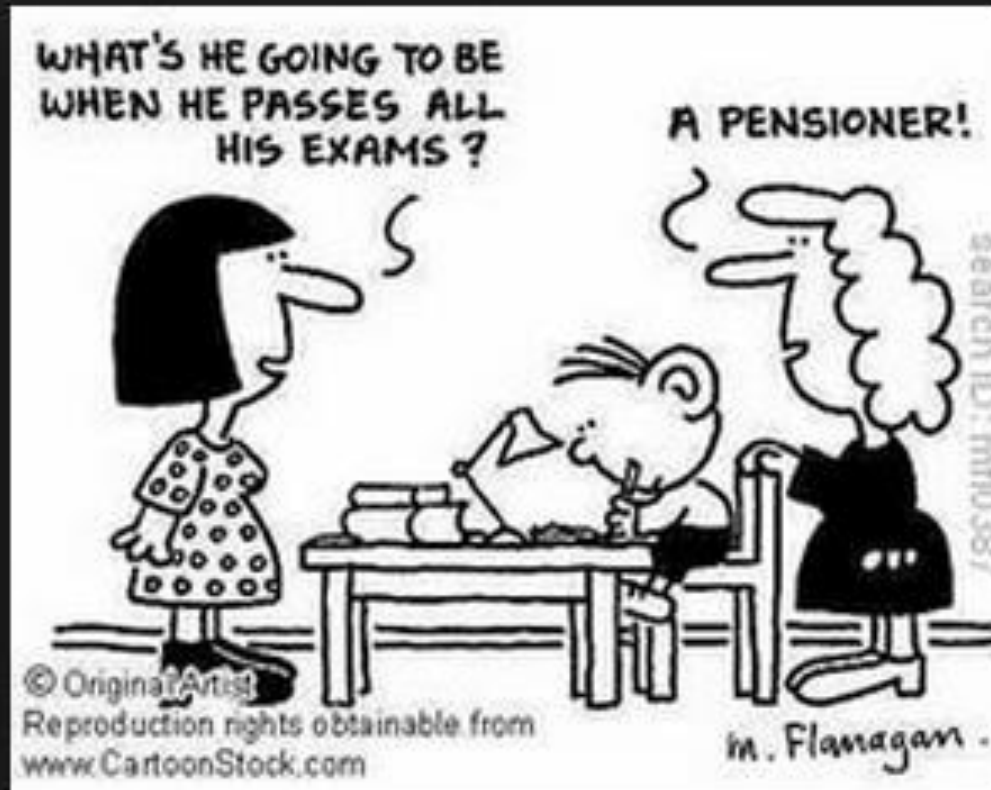
A brief history

- Leaving Cert 1971
- Irish Life 1971-1979
- AIA 1977





Moving on.....



A brief history

- Leaving Cert 1971
- Irish Life 1971-1979
- AIA 1977
- Trade union 1979-1985
- Home-maker 1985-1990
- KPMG 1990-1997
- ESB 1997-2014

Only half the story.....



Stereotypes Matter

EXPERIENCE THE RAW GUT-WRENCHING
DRAMA OF HUMAN CONFLICT THROUGH
ACTUARIAL CONSULTING



Preparing to do battle



The thrill of victory



The agony of defeat



#ILookLikeAnEngineer



A recruiting ad featuring a female engineer sparked a strong response — but the response to her hashtag campaign



#ILookLikeAnActuary



Tonya Manning @tbmanning - Aug 5

I love this campaign! The sexist reactions, not so much. And BTW, [#looklikeanactuary npr.org/sections/thetw...](https://www.npr.org/sections/thetw...)



Tar Heel, pension actuary, past-pres of Society of Actuaries. Volunteer w/ American Academy of Actuaries. Lecturer @ Columbia U. I think about retirement a lot.



Challenge: Marketing matters

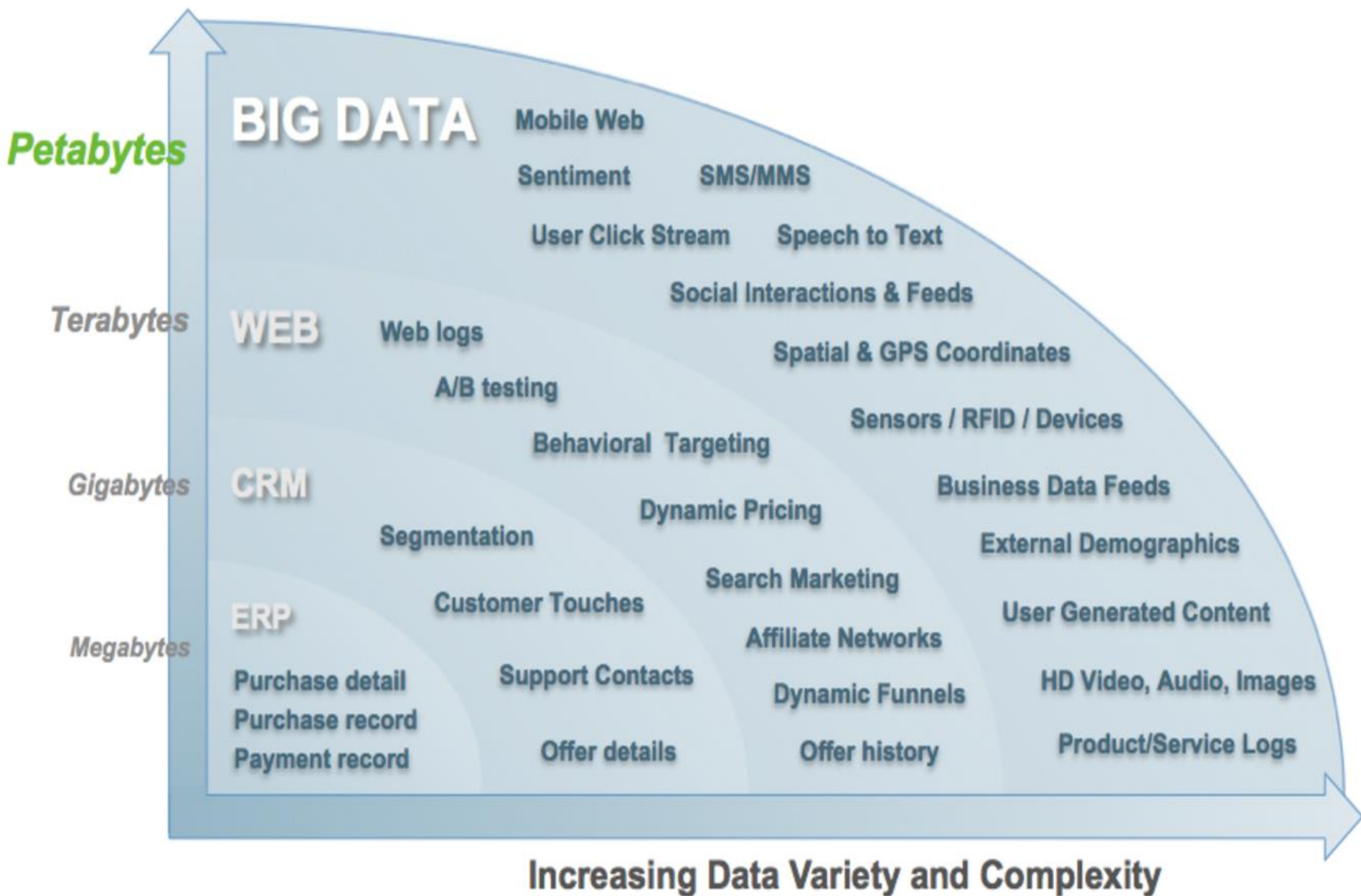
@ActuariesIE
115 (disappointed)
followers

Linkedin
44 followers

Engineers Ireland

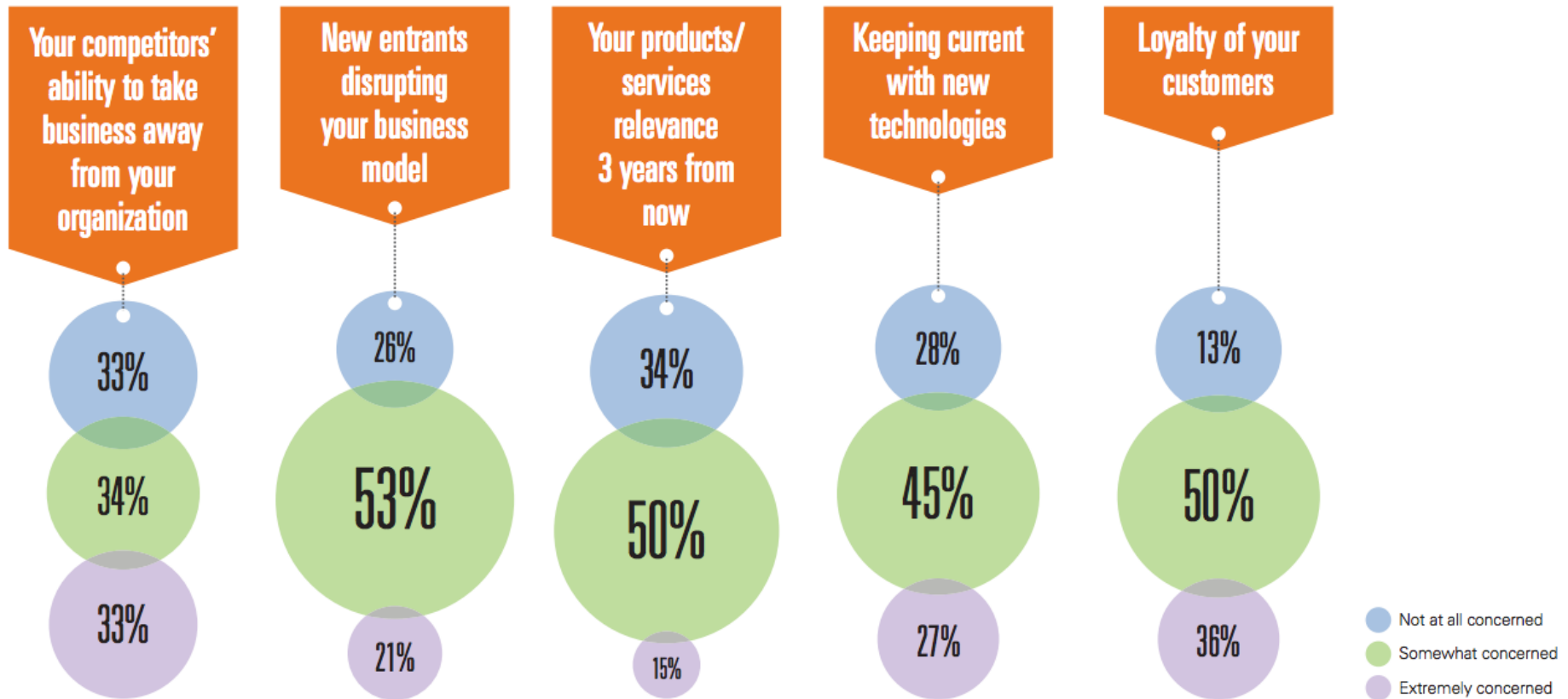
FIND US



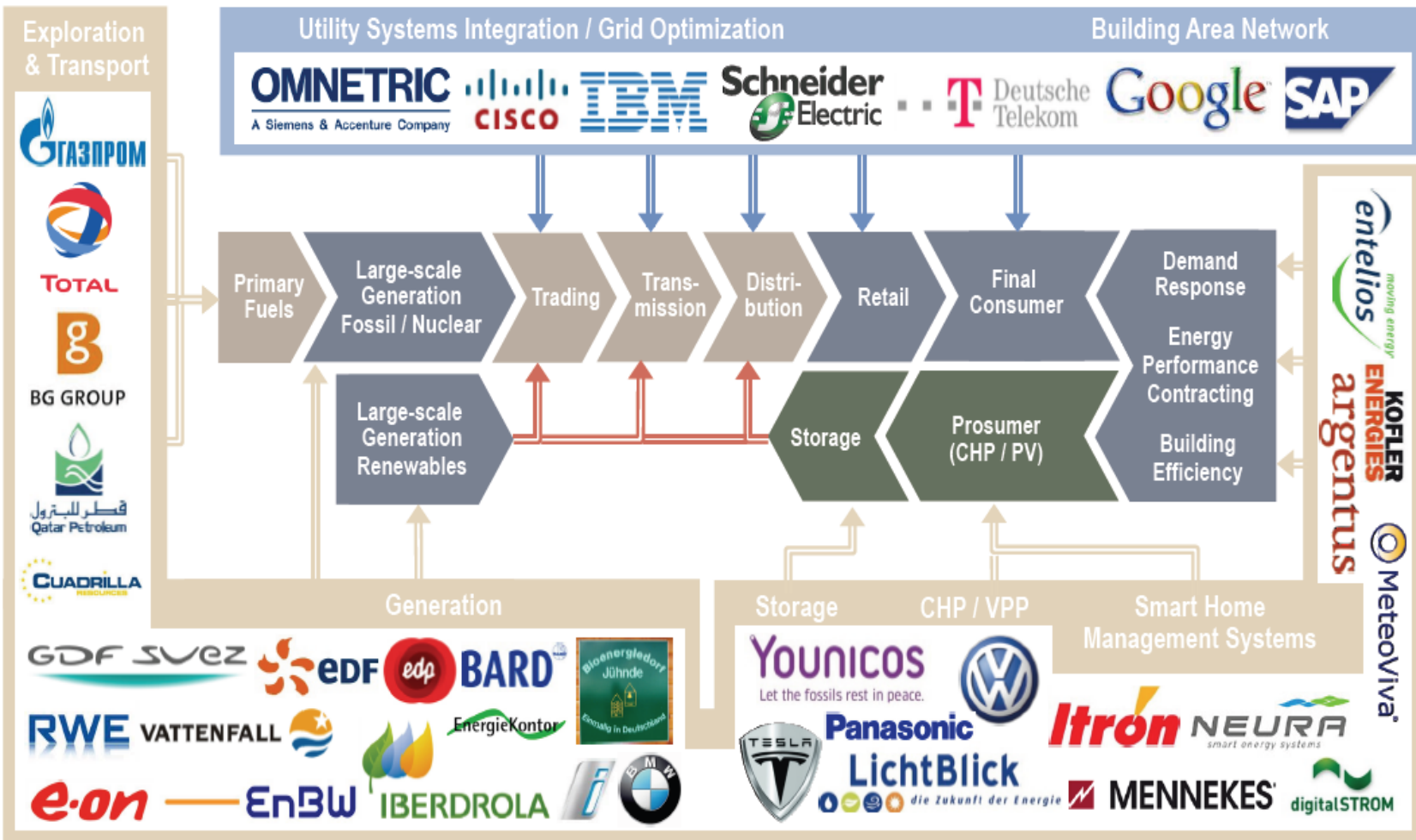


KPMG Perceptions Survey 2015: 163 Energy CEOs, 4 continents

Please indicate your level of concern in terms of the following:

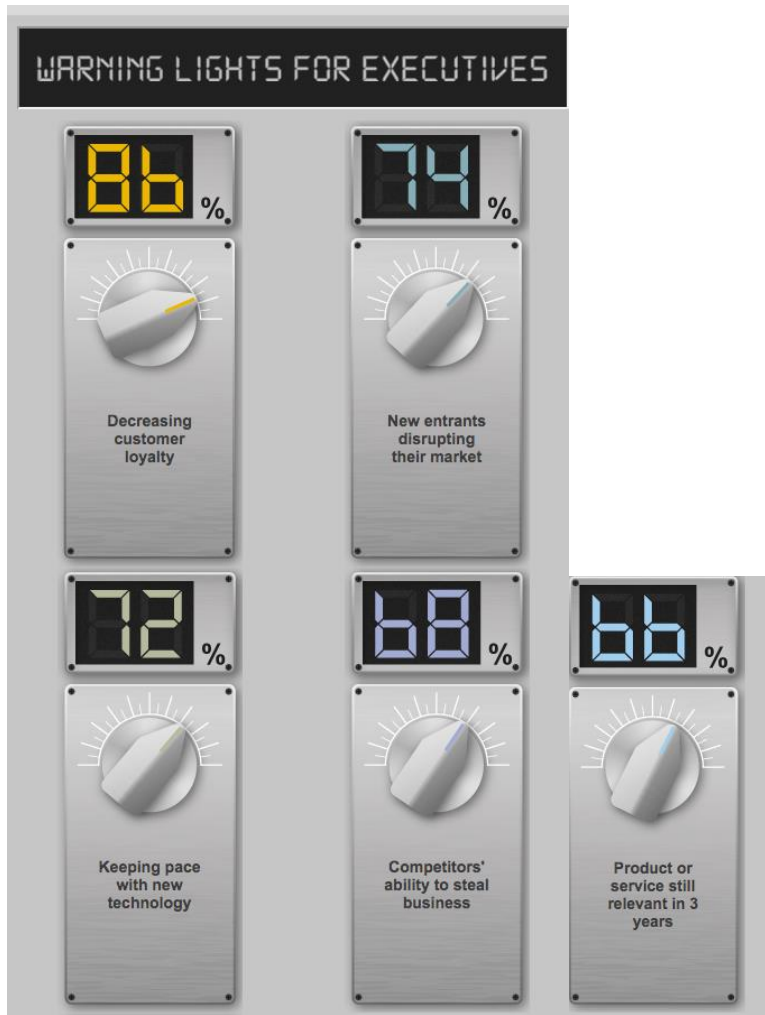


The "Nibble Chart": New competitor groups threaten established business models in the power supply industry



Source: BurgerWeinmann (2014)

KPMG >1200 CEOs 2015



PwC 175 CEOs Banking & Capital Markets



63%

of BCM CEOs see the shift in consumer spending and behaviour as a threat to growth, a significant jump in concern from last year (51%).



53%

of BCM CEOs see new market entrants as a threat to growth, up significantly from 32% last year.


**Up from
32%
last
year**

Retail banking

A NEW SEGMENTATION FOR RETAIL BANKING SERVICES



This guide was produced by Starling Bank and represents both live & future brand launches. The list of brands by category may not be exhaustive.

A photograph of a person standing on the edge of a white, rocky cliff. The cliff is covered in some green vegetation at the top. The ocean is visible in the background, and the sky is clear and blue. The person is small in the frame, emphasizing the height and scale of the cliff.

IF IT DOESN'T CHALLENGE YOU,
IT WON'T CHANGE YOU.

FRED DEVITO



Society of Actuaries in Ireland

Aviation Financing

5 November 2015

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Background

- UCD Graduate
 - Bachelor of Actuarial and Financial Studies
- Fellow of Institute of Actuaries
- CFA Charterholder

- Towers Watson London (9 years)
 - Investment Practice
 - Liability Driven Investment (LDI) specialist

- Aviation Finance Company (1 year)
 - Finance / Banking role
 - Arrange finance for airlines / aircraft lessors

Introduction

- Aviation financing overview
- My role
- Example transaction
- Roles for actuaries in aviation

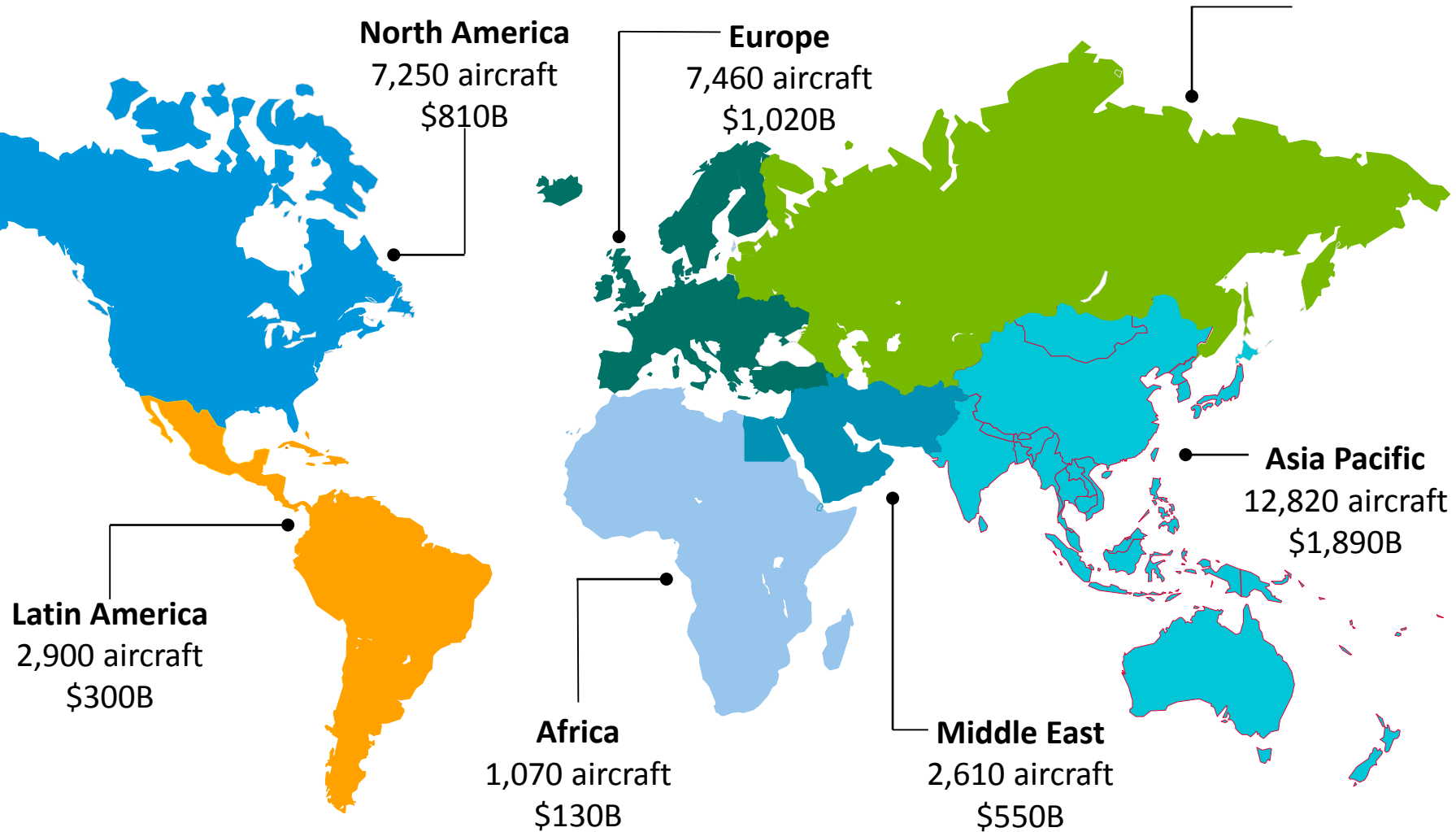


Five Aviation Finance Facts

1. 20% of all commercial aircraft are leased from Ireland
2. Leasing was started by Tony Ryan's GPA in Shannon
3. 9 of 10 largest lessors are based in Ireland
4. Aircraft are expensive assets
 - Boeing 737-800 costs \$50MM
 - Airbus A380 ("Superjumbo") costs over \$300MM
5. \$120BN of aircraft will be financed in 2015



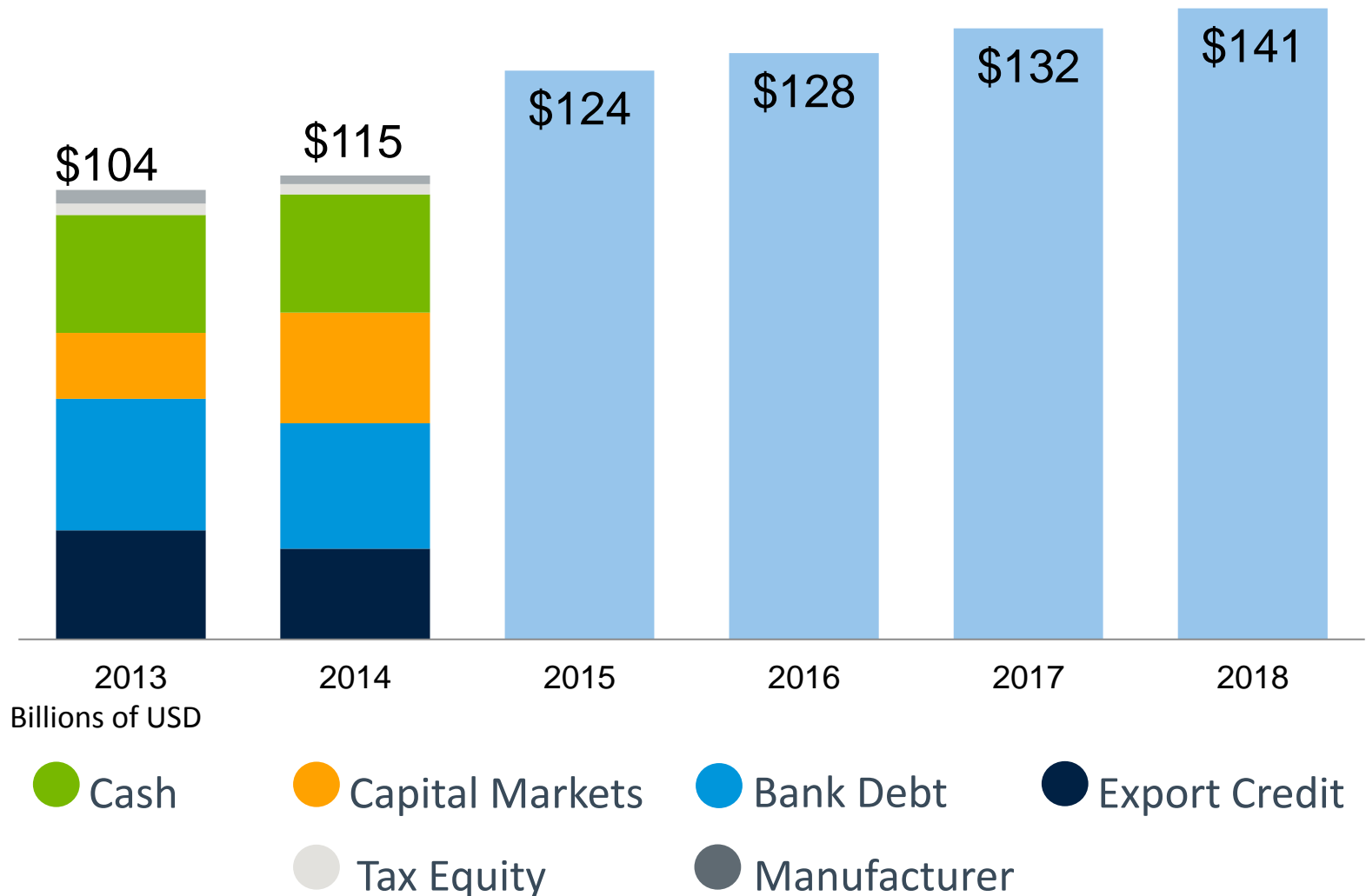
Global Aircraft Demand



35,000 new planes, value \$4,800bn, over next 20 years



Aircraft Finance – Market Overview





Parties Involved In Financing Transactions

- Lessor / Airline
 - Require capital to acquire aircraft
- Lender / Investor
 - Commercial bank
 - Capital market investors
- Arranger
 - Structures transaction
 - Brings together capital supply with demand
- Lawyers
 - Negotiate loan / bond documentation
- Accountants
 - Tax advice
 - Set up of financing structures



Example Transaction



Transaction Overview

- **\$90MM Senior Secured Debt**
- AFC sole **structuring agent** and **arranger**
- Financed purchase of **Boeing 787-8** “Dreamliner” aircraft

My Role

- Modelling debt
- Working with rating agency
- Working with client and investor to agree commercial terms
- Managing lawyers / accountants to ensure close in time for delivery



How Actuaries Can Contribute

- Analytics
 - Residual Value analysis of aircraft
 - Valuation of aircraft using Monte Carlo simulation
- Financing
 - Fixed income skills
 - Client relationship / Project management

Other possible areas

- Fleet planning
- Optimization of maintenance
- Credit analysis
- Holistic Risk management roles



Takeaways



- Strong long-term fundamentals
- Huge career opportunities in Ireland
- Actuaries have a lot to offer to the sector



Society of Actuaries in Ireland

Actuaries in Banking

Bryan O'Connor
Head of Products AIB

5th November 2015

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Agenda

- Why Banking?
- Whistle stop tour of career to date
- Actuarial skills – any use in banking?
- Deep dive on a couple of things in the Banking world
- Q & A

Why Banking?



Financial Services

Size and scope

Opportunity




Variety

Link from Insurance &
Wealth Management

General Management

Career History

Actuarial Skills – applicability?

- Good at maths 
- Analytical / Logical
- Problem solvers / “Curious” 
- Financial & Economics knowledge / “judgement”
- Report writing skills 
- Communication skills
- Product Pricing / Risk Pricing / Profitability
- Risk Management, including Credit Risk
- Capital Management / Balance Sheet Management



Some Banking Topics

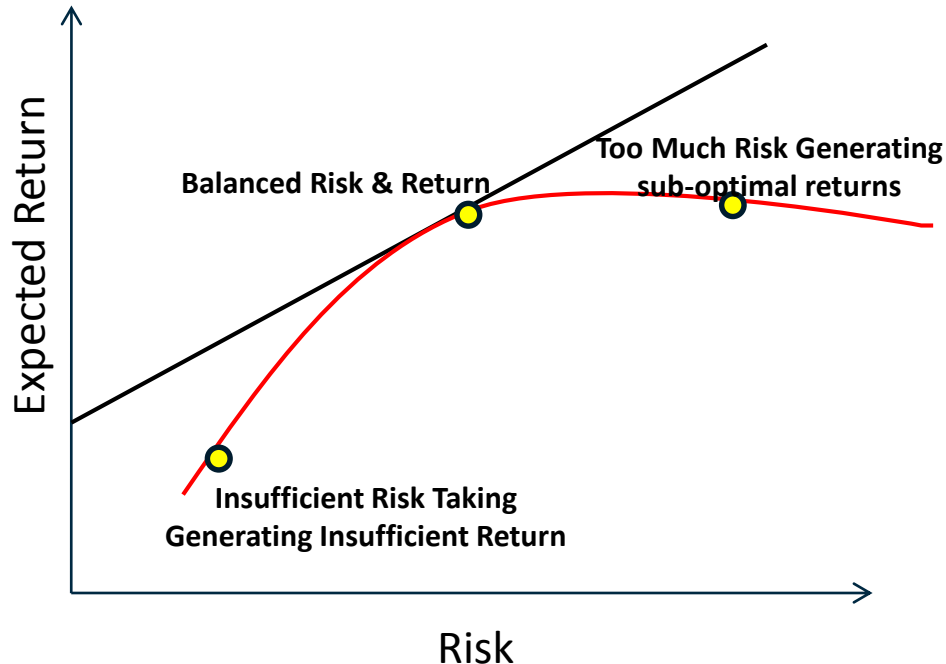
Current challenges in Banking Products World

- Move from Product to Customer Centric
- Rising cost of Regulatory agenda e.g. advice
- Drive profitable growth with margin compression
- Strategic investment “bets”
- Simplification agenda
 - Customer vs efficiency vs legacy systems
 - Digitalisation
- Future disrupters to the business
- Disintermediation
- Cost to serve

Liquidity & Funding Risk is one of the many risks inherent in Banking

Risk v Reward

- Businesses must take appropriate degree of risk to generate appropriate returns for Shareholders
- Eliminating risk fully is often impossible or too expensive
- Risks must be managed within appropriate frameworks to get correct balance of risk v reward



Types of Risk

Capital Adequacy Risk

Credit Risk

Operational Risk

Market Risk (Interest Rate & FX)

Liquidity & Funding Risk

People & Culture Risk

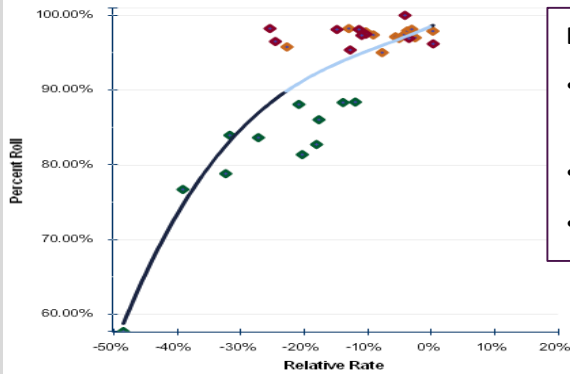
Regulatory Risk

Viability Risk

Growing importance of Models

Deposit Price Optimisation - Decisions based on statistical evidence

Elasticities & pricing scenario's

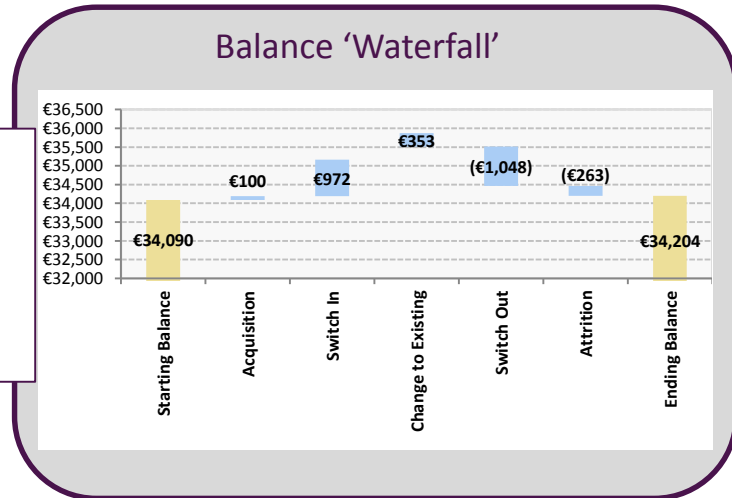


Elasticities and Pricing scenarios

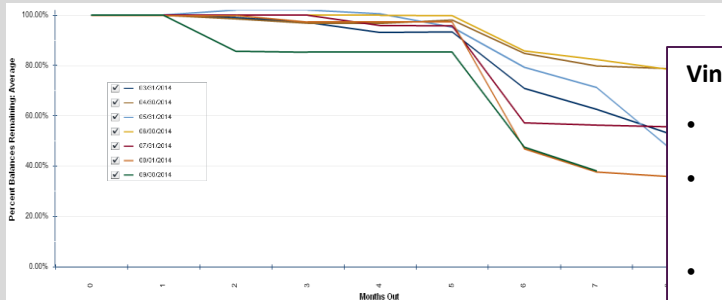
- Plots actual customer behaviour in response to relative rate positioning in the past
- Provide insights into likely future rate sensitivity
- Underpins the 'what-if' scenario platform

Balance Waterfall

- Deconstructing net flows into the component parts providing detailed portfolio insights
- Identify volumes and trends in acquisition (inflows) & attrition (outflows)



'Vintages'



Vintages

- Illustrates the 'decay curve' of new funds over time.
- Valuable 'behavioural life' insight can inform FTP calculations (Basel III)
- Informs product and segment pricing decisions

Credit Risk – Real opportunity

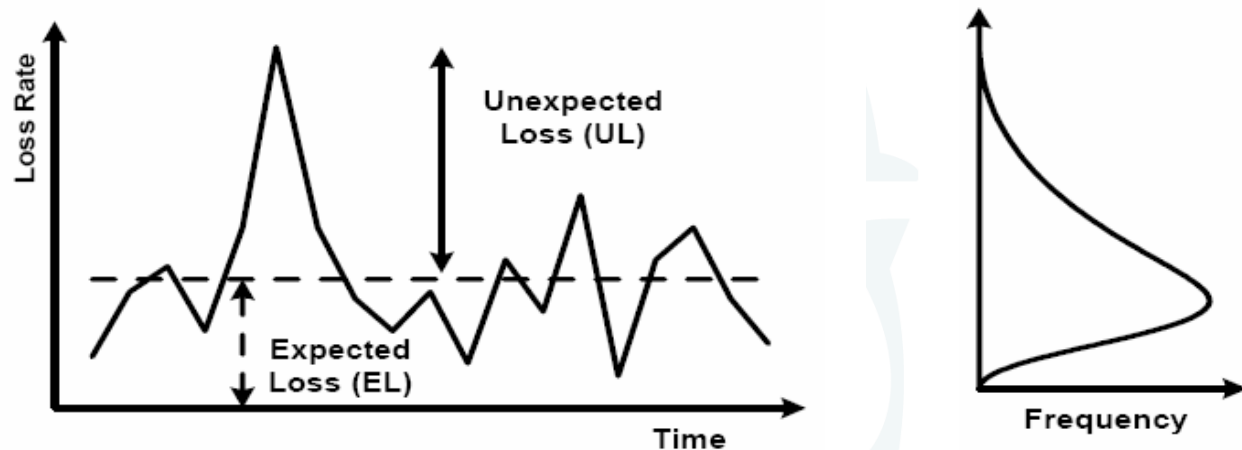
- Obvious entry point for actuaries – skills are very transferable
- Portfolio based Risk Management – for Retail and SME loan books
- Risk Based Pricing – parallels with GI/Life
- Profitability (RAROC)
- Provisions for future losses
- Significant modelling challenges call for ongoing “judgement”
- Capital calculations - Significant regulatory oversight +IFRS9

There is loss and there is loss

- *Provision: an expense set aside as an allowance for bad loans (where a customer defaults, or the terms of a loan have to be renegotiated, etc).*
- *In the event that the loan is not repaid, the provision covers the shortfall.*
- There's more than one way to handle future losses

Some Credit Jargon!

PD, EL, LGD, EAD,
IBNR



- Expected Loss: average level of losses a bank can reasonably expect to have
 - Managed through pricing & provisioning
- Losses above expected levels are usually referred to as Unexpected Losses (UL) - institutions know they will occur now and then, but they cannot know in advance their timing or severity.
- The market will not support prices sufficient to cover all unexpected losses. Capital is needed to cover the risks of such peak losses

The Bank must maintain sufficient Capital so that in extremely stressed conditions it can survive as a going concern without recourse to shareholders, or if not, at least be liquidated without recourse to depositors or taxpayers.



Conclusions