OLIVER WYMAN

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The Institute of Banking

Financial Services

2 June 2009

# Mortgage finance
International practices

Riyadh

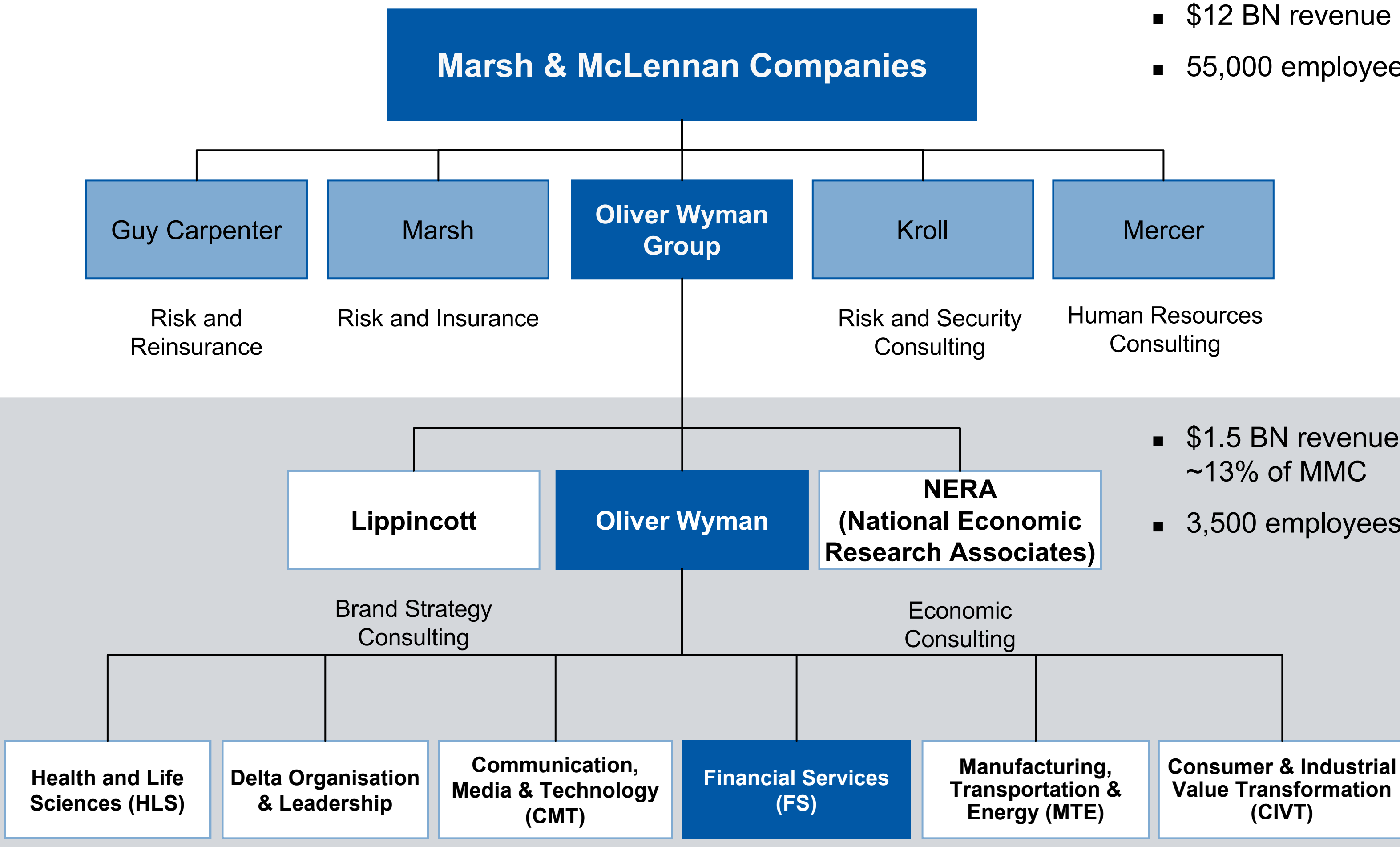
## Confidentiality

# Agenda

| Time | Topic/activity | By |
|---|---|---|
| **9:00 – 9:05** | **Welcoming note and Introduction** | IOB |
| **9:05 – 9:30** | ▪ Introduction and Saudi market | Greg Rung |
| **9:30 – 10:30** | ▪ Business models, products and pricing | Simon Low |
| **10:30 – 10:45** | ▪ Q&A | Oliver Wyman team |
| **10:45 – 11:00** | **Coffee Break** | |
| **11:00 – 11:30** | ▪ Distribution and customer management | Simon Low |
| **11:30 – 12:10** | ▪ Risk management | Nader Farahati |
| **12:10 – 12:30** | ▪ Operations and liquidity management | Mathieu Vasseux |
| **12:30 – 12:45** | ▪ Q&A | Oliver Wyman team |
| **12:45 – 13:00** | **Break and lunch** | |

# Introduction to Oliver Wyman and Speakers

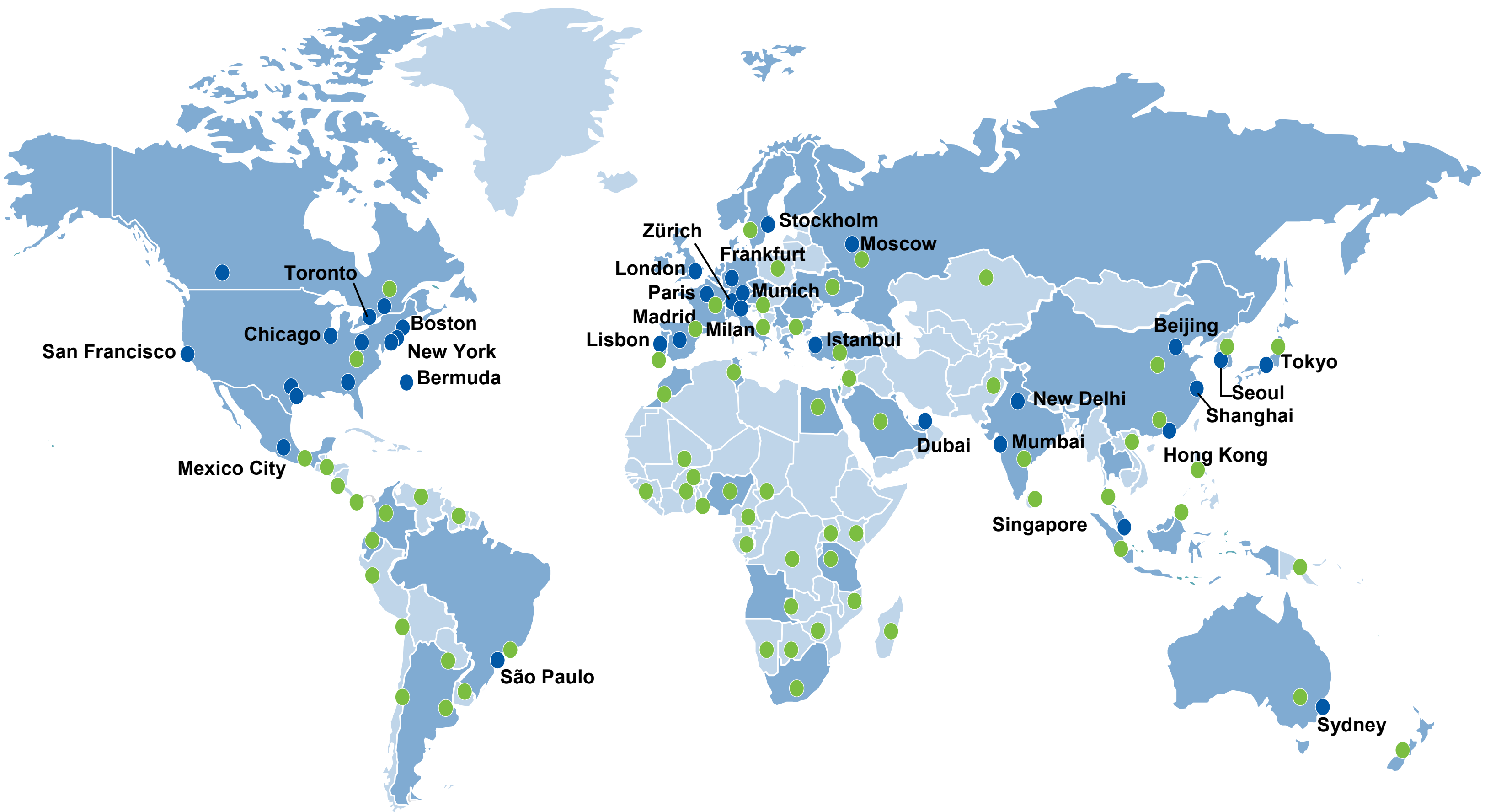
# Overview of Oliver Wyman Group




- $12 BN revenue
- 55,000 employees

- $1.5 BN revenue ~13% of MMC
- 3,500 employees

# Our global network




- Oliver Wyman office
- MMC Group office (not exhaustive)
- Significant Oliver Wyman case work: Jan '06-Jan '09

# Some facts about Oliver Wyman

- Number 1 consulting firm in quality

  (source: Corporate Executive Board)
- Number 3 in size and the fastest growing among the top-five global consulting firms

  (source: Harvard Business School)
- Approximately 3500 staff worldwide
- Three key differentiators
  - Sector specialisation (rather than country practices)
  - Quantitative
  - Combine strategy and execution
  - Fees based on results/deliverables (rather than tasks/man-hours)
- Deep content knowledge – over 50 substantial reports a year based on proprietary research
- Have been active in the Middle East for over 10 years
- In each sector, we target top clients – key sectors in Middle East / KSA are: banks, telcos, aviation, SWFs/private equity, life sciences
- Totally independent with no conflicts of interest, and the highest ethical standards
- First-class client reference list across multiple industry sectors

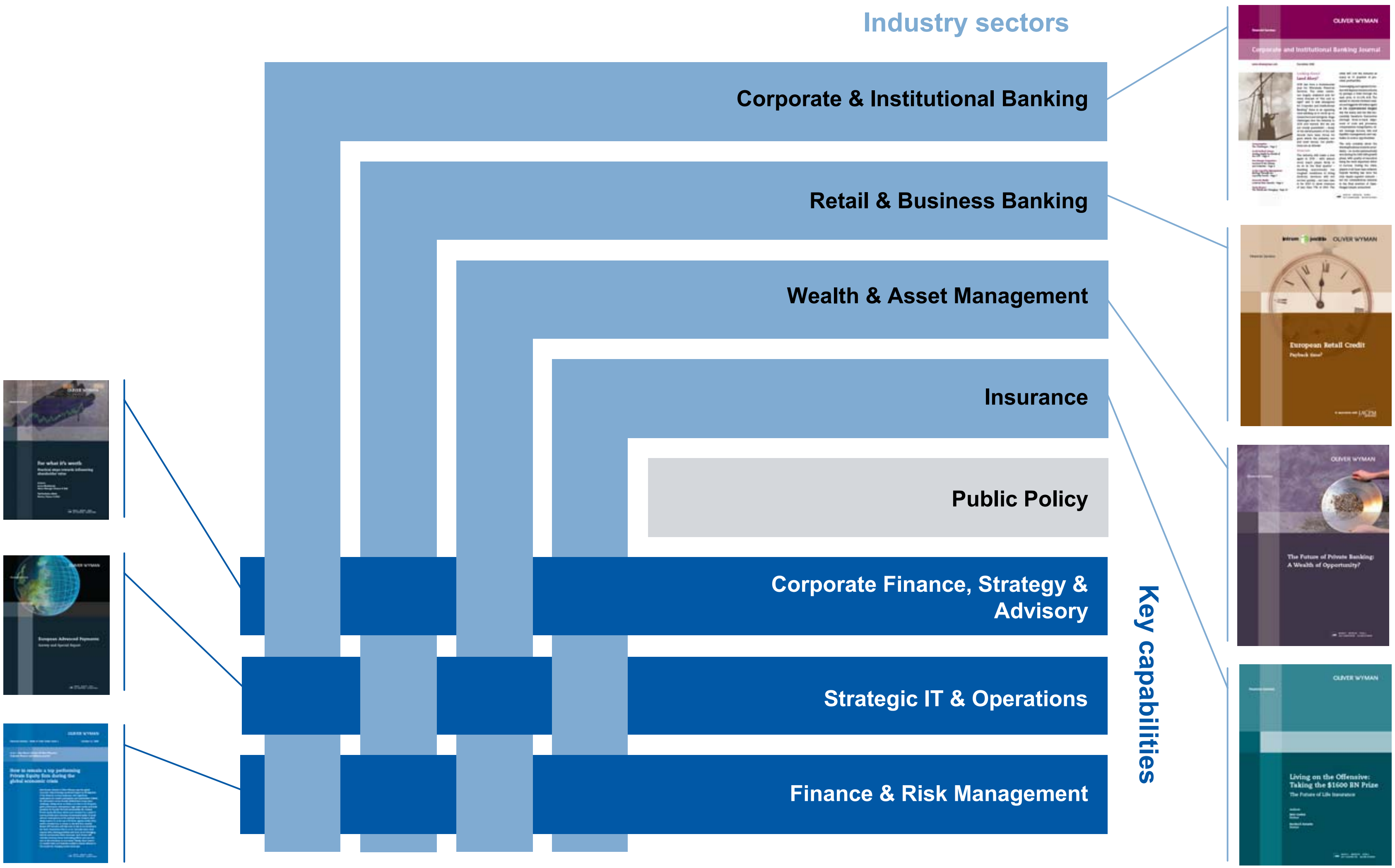
# Strong client base in the region

Non-exhaustive selection of examples

Saudi clients not displayed

| North Africa | Turkey | Middle East (excl. KSA) |
|---|---|---|
| Ministere de l'Economie et des Finances | Akbank | ADIA |
| Crédit du Maroc | Arap Türk Bankası / Arab Turkish Bank | mashreq |
| CIB | Türkiye İş Bankası | Emirates NBD |
| groupe banques populaires | Şekerbank T.A.Ş. | Credit Suisse |
| Socar | Finansbank | Dubai Group – Financing The Future |
| BMCE Bank | Yapı Kredi | Prudential |
| Poste Maroc | Garanti | Central Bank of the UAE |
| Wafa Assurance | | Qatar Investment Authority |
| Bank of Alexandria | | NBK |
| CNIA Assurance | | Dubai International Financial Centre |
| Attijariwafa bank | | Dubai International Capital |
| IFC International Finance Corporation | | GIB |
| BIAT | | Ministry of Economy & Finance |
| Banque Internationale Arabe de Tunisie | | NOOR Financial Investment Co. |
| | | Kuwait Investment Authority |
| | | The National Investor |
| | | Qatar Foundation |

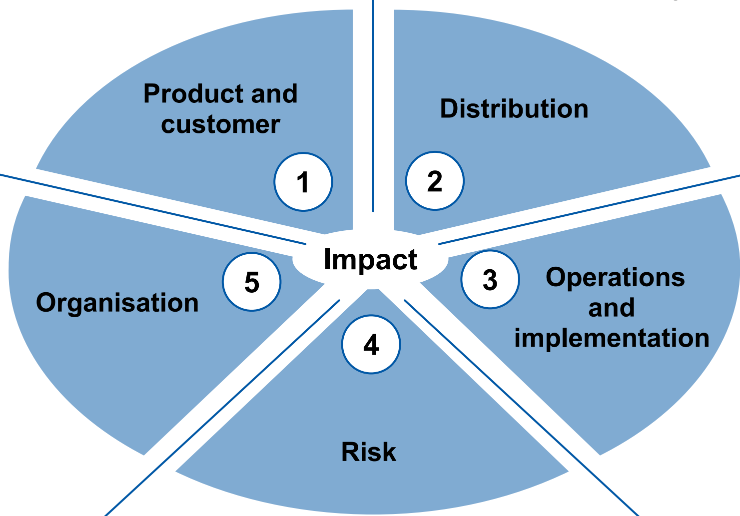
# Oliver Wyman Financial Services business line and functional specialisation



# Examples of Oliver Wyman work related to Retail and Business Banking

- New product piloting: Unsecured consumer finance
- Credit card product design: Pricing across credit, debit and prepaid cards
- Customer value management: Targeting, marketing, decision analytics, campaign management
- New segment entry and existing customer retention

- Branch performance: Sales incentives and non-monetary performance management
- Structured sales process design: Branch and intermediary
- Direct mail: Execution for consumer finance and SME
- Alternative channel design: Internet, ATM, SMS
- Channel integration strategies




- Credit card CVM organisational design and operation
- Design and introduction of portfolio level management function
- Multiple risk governance programs

- Mortgage credit process redesign: Automation, volume increase and cost reduction
- Unsecured lending limit management framework: Full range of treatments across multiple channels
- Overdraft pay/no pay implementation
- Collection process and tactic development
- Debt sale market review and purchase process

- Implementation of multiple Basel II programs
- IFRS impairment reduction
- Operational risk assessment

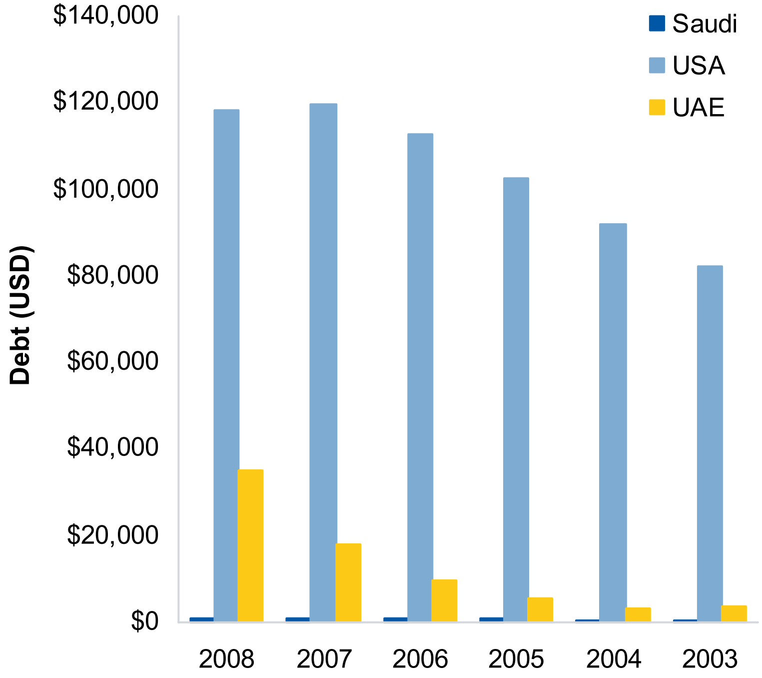
# Oliver Wyman Financial Services has a broad experience in Mortgage Banking

| Full range of players, products and business activities | Variety of mandates | Multiple geographies |
|---|---|---|
| ▪ First and second lien<br>▪ Prime and credit impaired<br>▪ Reverse mortgages<br>▪ Large and small mortgage banks<br>▪ Investment banks, dealers, principal finance (whole loan) and other capital markets players<br>▪ GSEs<br>▪ CRE players<br>▪ All activities/channels<br>– Origination (retail, wholesale correspondent)<br>– Servicing<br>– Funding<br>– Underwriting and risk transformation | ▪ Origination strategy<br>▪ Business startup<br>▪ Funding and financing strategy<br>▪ Pricing and underwriting strategy and design<br>▪ Capital Markets strategy<br>▪ Acquisition due diligence<br>▪ Comprehensive business turnaround<br>▪ Operating venture partnership<br>▪ Risk management<br>▪ Segment profitability<br>▪ Customer value proposition design<br>▪ Customer value management and measurement<br>▪ Operational optimization/ process re-design<br>▪ Compensation/incentives<br>▪ Pricing<br>▪ Brand strategy and management<br>▪ Merger integration<br>▪ Investor communication | ▪ US/North America<br>▪ Europe<br>▪ Asia<br>▪ Latin America<br>▪ Middle East |

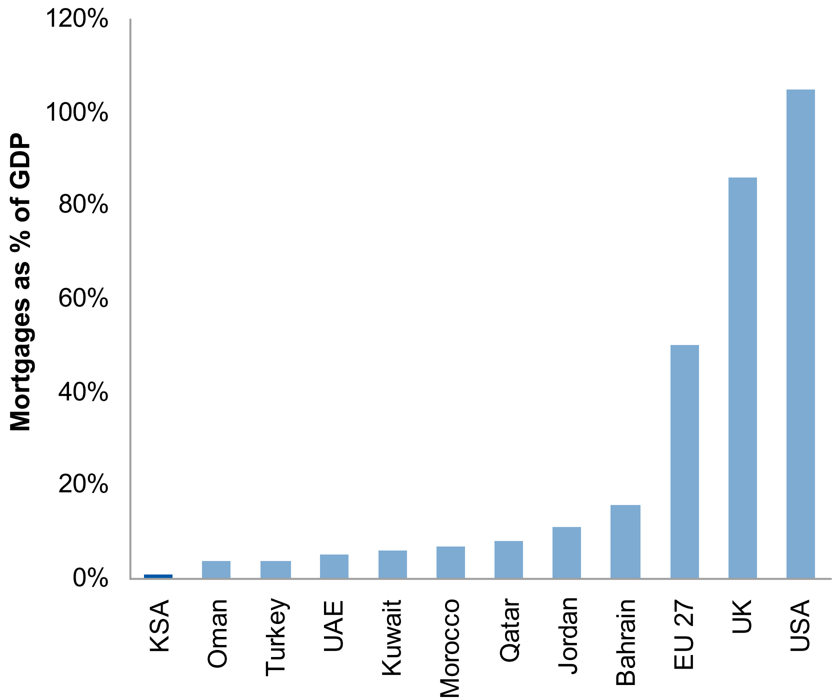
# Setting the scene: the Saudi market in context

# We have suggested this workshop given that the Saudi mortgage is being structured from a small base

**Household Real Estate Debt**




**Mortgage loans to GDP ratios of peer countries**

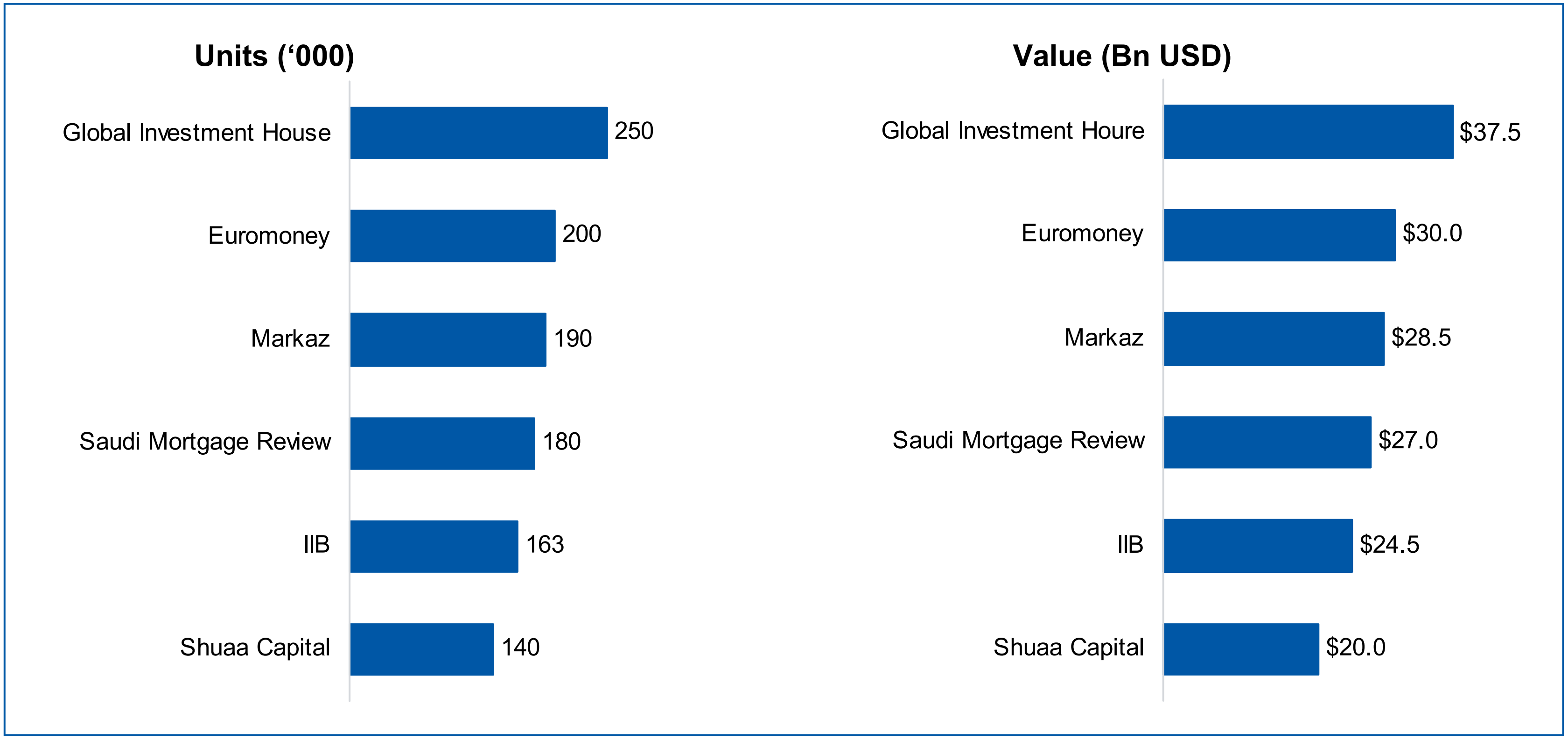



- Many mortgage loans camouflaged in personal loans (salary assignments with direct debit vs. capacity to repossess collateral)
- Mortgages account for less than 1% of GDP in KSA, compared with 50% in the European Union, 11% in Jordan, 7% in Morocco, 4% in Oman

Source: NCBC (2008), Euromoney (2008), Economist Intelligence Unit (2008), European Mortgage Federation (2007), Capgemini for US (2009), Oliver Wyman

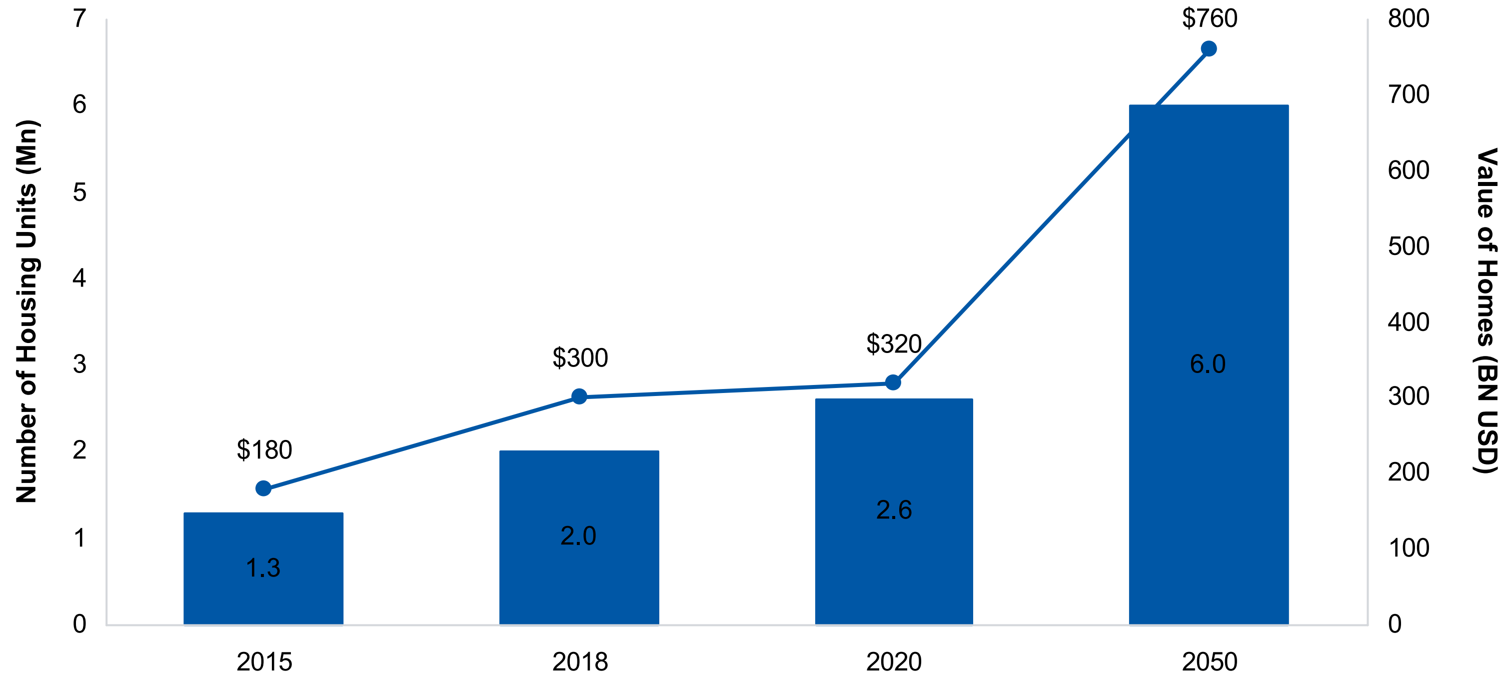
# Another reason for having this workshop is the potential of this market, with existing unmet demand…

**Annual demand and corresponding value in residential units**
Yearly averages, different estimates



# …which is forecasted to last for the next decades

**Projected demand for new homes**
Cumulative, from 2008



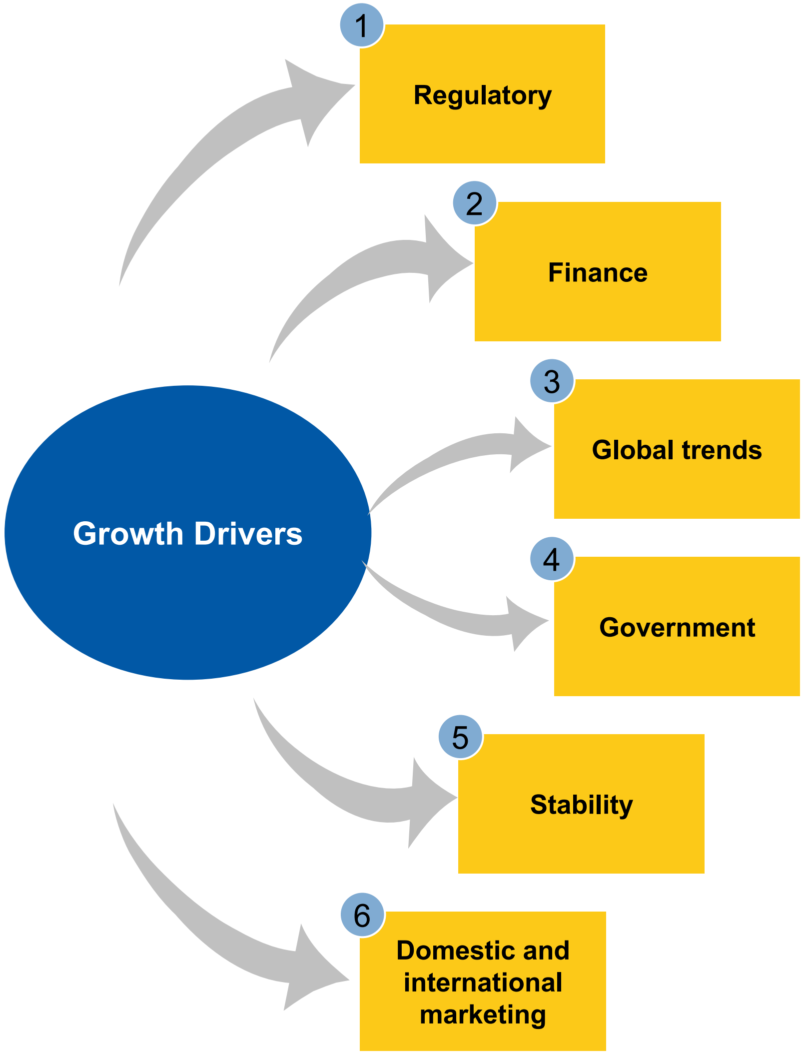

Source: Global Investment House, Euromoney, Shuaa Capital, Saudi Mortgage review, Markaz, IIB, OW analysis
Note: Assumes individual home price of $150K

# When looking at these facts, one can not ignore the recent history of the UAE market…

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|---|---|---|---|---|---|---|
| **Banking** | | | ▪ Tamweel established[3] | ▪ HSBC starts local mortgage lending[3] | | | ▪ Merger of Amlak and Tamweel[3] |
| **Regulatory** | ▪ Dubai freehold property rights for foreigners[3] | | | ▪ Abu Dhabi freehold property rights for foreigners[3] | | ▪ Establishment of RERA[3] | ▪ Mortgage law announced |
| **News** | | | | ▪ Stock market crashes - slight property correction[3] | ▪ First ana-lysts predict prices have peaked | ▪ More property advisors predict price peek[4] | ▪ Prices down 24% in Q4 '08 ▪ 20+ executives accused of fraud[5] |
| **Average Oil Price (USD)[1]** | 26 | 31 | 42 | 57 | 66 | 72 | 100 |
| **UAE Population (millions)[2]** | 4.0 | 4.0 | 4.1 | 4.1 | 4.2 | 4.3 | 4.3 |

1 Cushing, OK WTI Spot price as reported by United States Department of Energy
2 Informa
3 AME
4 Markaz

# …although most of the factors that explain the UAE bubble do not seem to apply to Saudi Arabia




- Foreign ownership laws
- Free zones
- Zero tax regime

- Era of easy credit in global markets
- Increased mortgage availability
- Cycle of speculation

- Global economic growth spillover effect
- Developed nations seeking new markets
- Momentum of rise in global property prices

- Vision 2015, including real estate and tourism growth
- Government owned developers
- Diversification from oil dependency

- Developers promised visas to buyer
- Large demand by HNWI in more volatile regions
- Establishment of regional HQ by 400 of fortune 500

- "Dubai Inc." brand image as a tourist destination
- Press reports of massive real estate projects
- Marketing efforts to draw MNC's and investors

Source: Markaz, Colliers, Fitch, OW analysis

# Saudi Arabia has its own risks and specificities on the demand and supply side

**Large and underserved mid- and low-income segments…**

- Less than 10% of population and 45% of households own their own home compared to around 70% in average mature economies
- Demand concentrated on households with monthly income of less than SAR 10,000; median income around SAR 5,000
- Leverage has increased over the past years with growth of consumer lending
- Cultural characteristics:
  – Borrowers fear of dying with a mortgage debt outstanding
  – Lack of interest among younger population to own a condominium; instead, many rent with the hope that a villa can later be purchased with a smaller loan

**…not guaranteed to be addressed due to issues on the supply side**

- Concerns with developments:
  – Focus: high end vs. low end; large developments coming to market at the same time (e.g. economic cities) – risk of localized over-supply
  – Delays/ execution risk
  – Over emphasis on price could mean less attention paid to quality
- Potential cost pressure:
  – Lack of skilled labour could drive salaries up
  – Rising raw material prices can have a negative impact on the industry (grew at +50% in H1 08; projected at +15% p.a.)
- "Do-it-yourself" nature of a significant portion of home construction leads to deviation from building standards
- Poor market for resale of homes

Source: Euromoney (May 2008), World bank, NCB (May 2008), Oliver wyman analysis

# Risk management needs to address a number of challenges

| | Challenges in modelling |
|---|---|
| **PD modelling** | ▪ Mortgage product is very new in Saudi Arabia<br>▪ Limited historical data, often not representative of current portfolios<br>▪ Credit bureau scores are newly available but not 100% reliable yet<br>▪ Saudi Arabia has not yet experienced a downturn, which is typically when most of the default occur<br>▪ Many banks do not have IT links between credit account and other accounts, which makes behavioural modelling hard |
| **LGD modelling** | ▪ Legal framework is new<br>▪ Enforcement is untested<br>▪ Significant differences in customer behaviour e.g. between locals and expats |

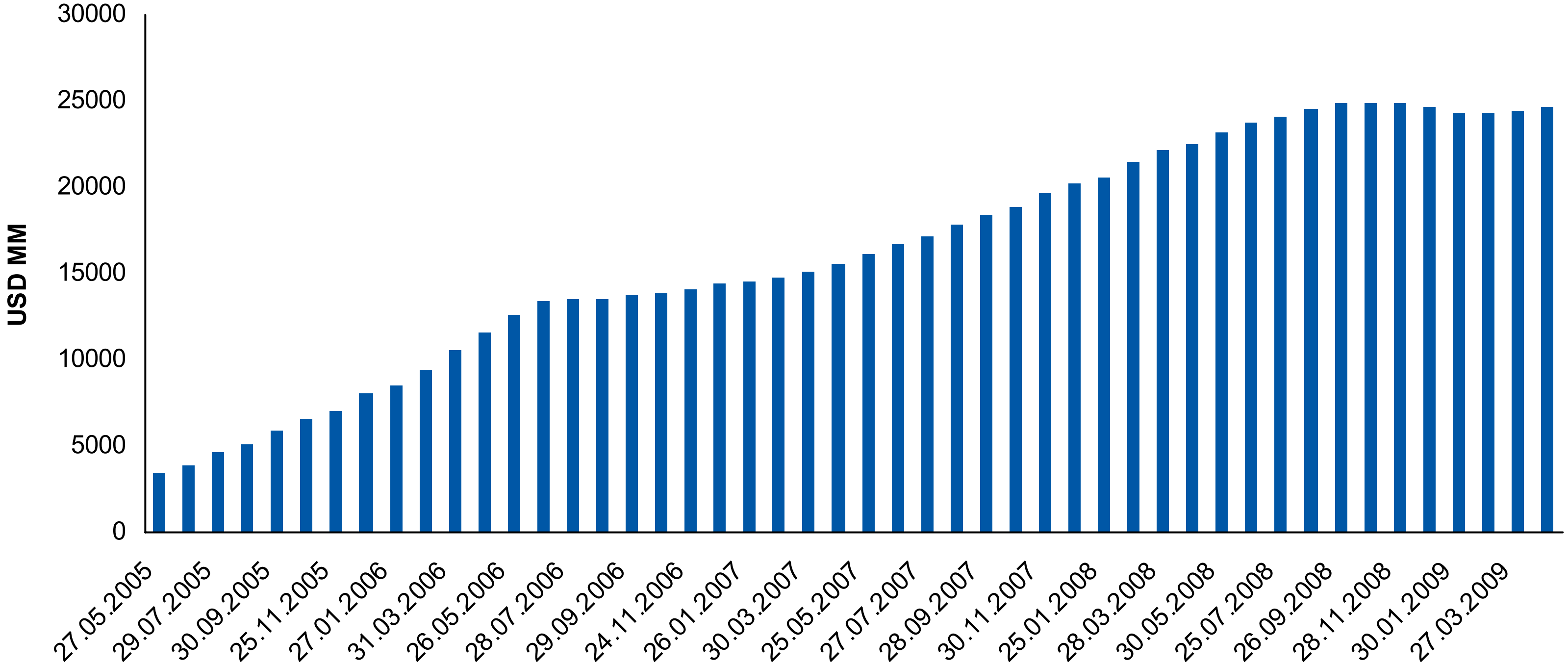
**There are a number of solutions that will be presented in a following section**

# The Turkish market has some similarities with Saudi Arabia

- **Importance of middle and lower income segments:**
  - Greatest level of demand comes from the middle and lower income groups while private developers focus on projects for upper-middle and top income groups due to high land prices.
  - Mortgage affordability for middle and lower income segments is highly dependent on movements in interest rates and home price appreciation
- **Boom in consumer lending over recent years** forcing the Central Bank to prevent distribution of credit cards to lower income groups
- **Limited penetration of intermediaries:** Currently very high rates of direct (i.e., branch) channel usage but indirect channel usage (i.e., REA, developers) will likely increase as the mortgage market develops
- **Limited capital supply:**
  - No secondary mortgage market to share risk – lenders must take on credit, interest and prepayment risks
  - Significant portion of mortgage lending funded through balance sheet
- **New law (2007)**
  - Aiming at developing primary market, creating a secondary market and developing funding channels for primary lenders.
  - These steps should improve registration of properties and building standards as only qualified housing will be eligible for financial backing under new law

# It has grown rapidly since 2004 and has long term potential despite the crisis

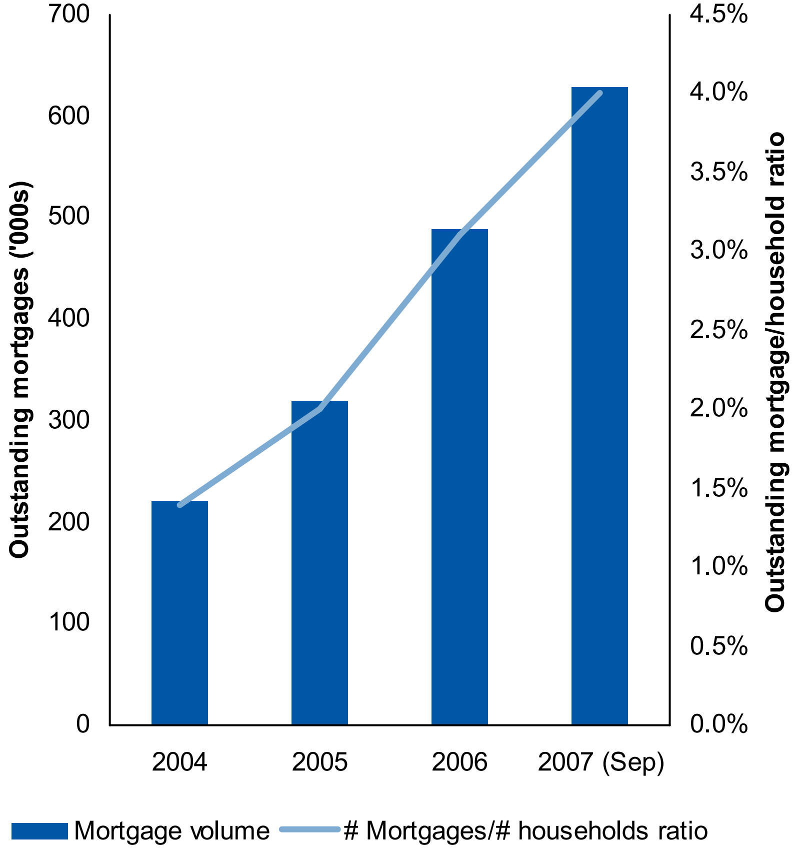
**Strong growth in mortgage balances outstanding**



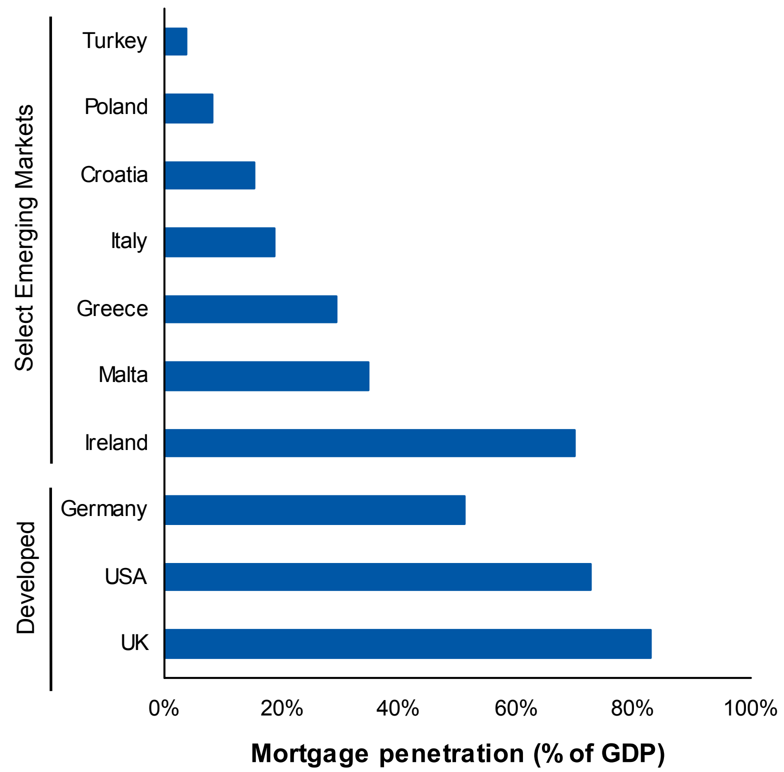

- At its peak growth in 2007, margins were low, banks trying to justify growth in mortgages with future cross sell etc.
- With recent decrease in interest rates, the product has become more profitable (loan rates did not go down as much)
- **Deficit** of about 7 million homes; annual growth rate projected at +20%
- **Urbanization**: 200% growth in population of Top 10 cities, between 1980 and 2020
- **Smaller households**: Households with more than 5 people dropped from 50% of total to 34% (1990-2005)

## Only a small percentage of households to date have mortgages in Turkey, and national mortgage penetration levels are low compared to emerging market peers

**Number of outstanding mortgages and household saturation by year**




**Mortgage penetration**
Mortgage balances outstanding as a % of GDP




Source: TBB; EIU; EMF

# To seize opportunities while coping with market uncertainty, leading banks have conducted detailed market analysis and built capabilities

Turkish client ("Client") example

## Project framework

**Market**
- Macro economic trends
- Supply side
- Demand side

**High potential channels and segments**
- Distribution channels
- Customer segments

**Filters**
- Profitability
- Competitors
- Proposition
- Client objectives
- Client capabilities

**Optimal strategy for the Client**
- Supporting strategy and action plan
- Capability development agenda
- Supporting org. structure

## Objectives of analysis phase

- Development of Turkish mortgage market view
  - Current view and 5-year projection of demand and supply of mortgages in the Turkish market
  - Market sizing with projected flows from different distribution channels and customer segments

- Analysis of future mortgage volume growth drivers
  - High potential distribution channels
  - High growth customer segments

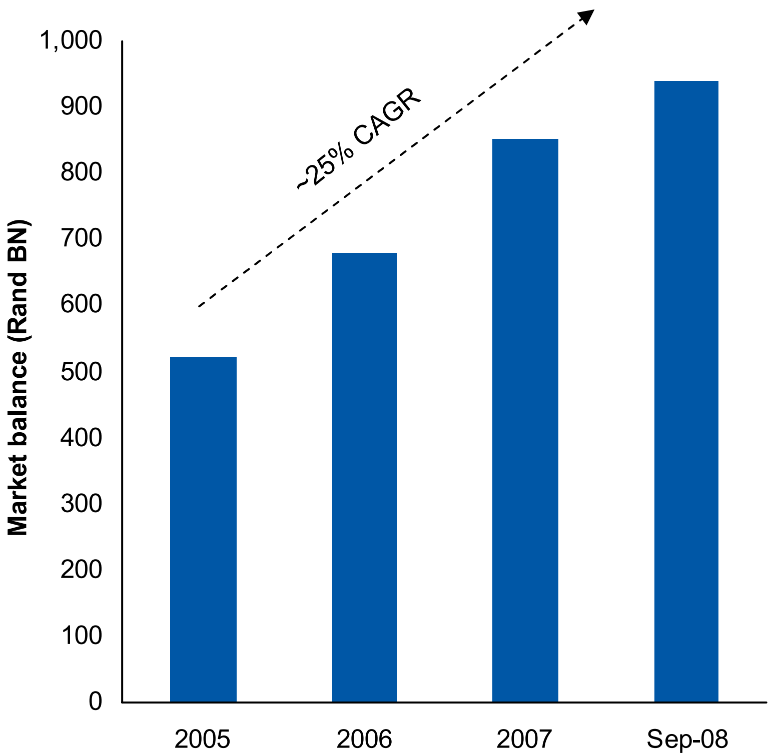
- Development and calibration of mortgage value (profitability) model
- Comprehensive analysis of competitive landscape and Client internal capabilities
- Construction and prioritization of the final list of propositions for the Client

## Objectives of roadmap phase

- Articulation of required capabilities and a high level roadmap to build and acquire capabilities
- Discussion around and agreement upon Client ownership and revised organizational structure

# South Africa has seen explosive growth in retail mortgage balances outstanding…

## Total mortgage loans outstanding

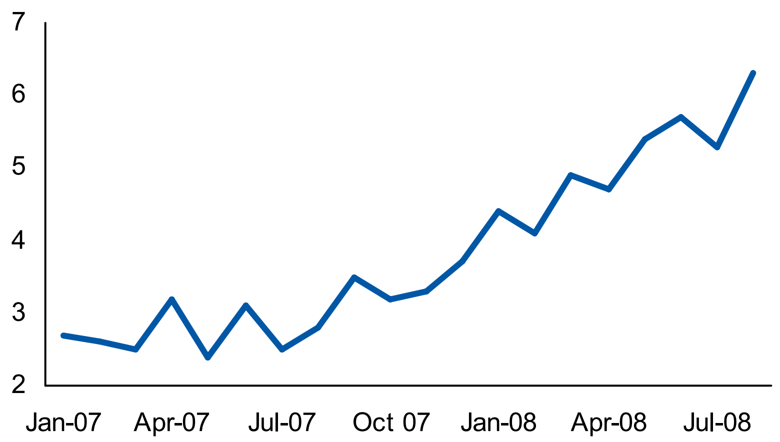



- Growing **middle class** has created a large demand for mortgages
- Before 2004, less than 25% of population qualified for a mortgage
  - Government and private-sector programmes, together with housing subsidies, have created a market in the **lower income** segment
  - Product innovation, e.g. Pension-Backed Loans, Let-to-buy…
- Non-traditional **distribution channels** used to supplement branch network, e.g.mobile branch offices/kiosks

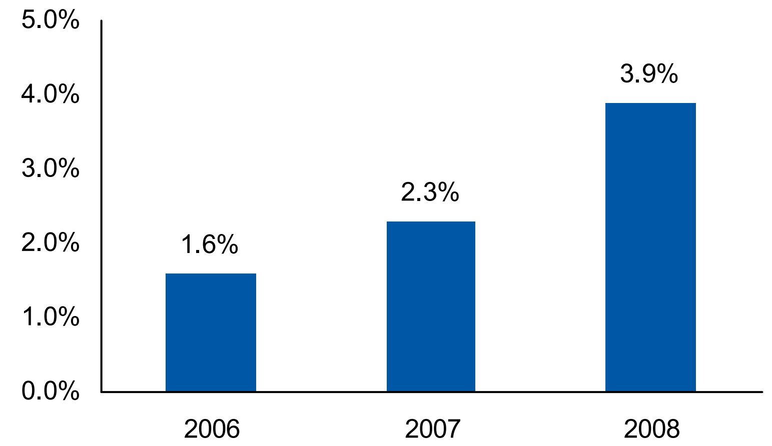
Source: South African Reserve Bank

# …with interesting insights for the Saudi market

**Ratio of houses for sale to houses sold**
Measure of supply compared to demand

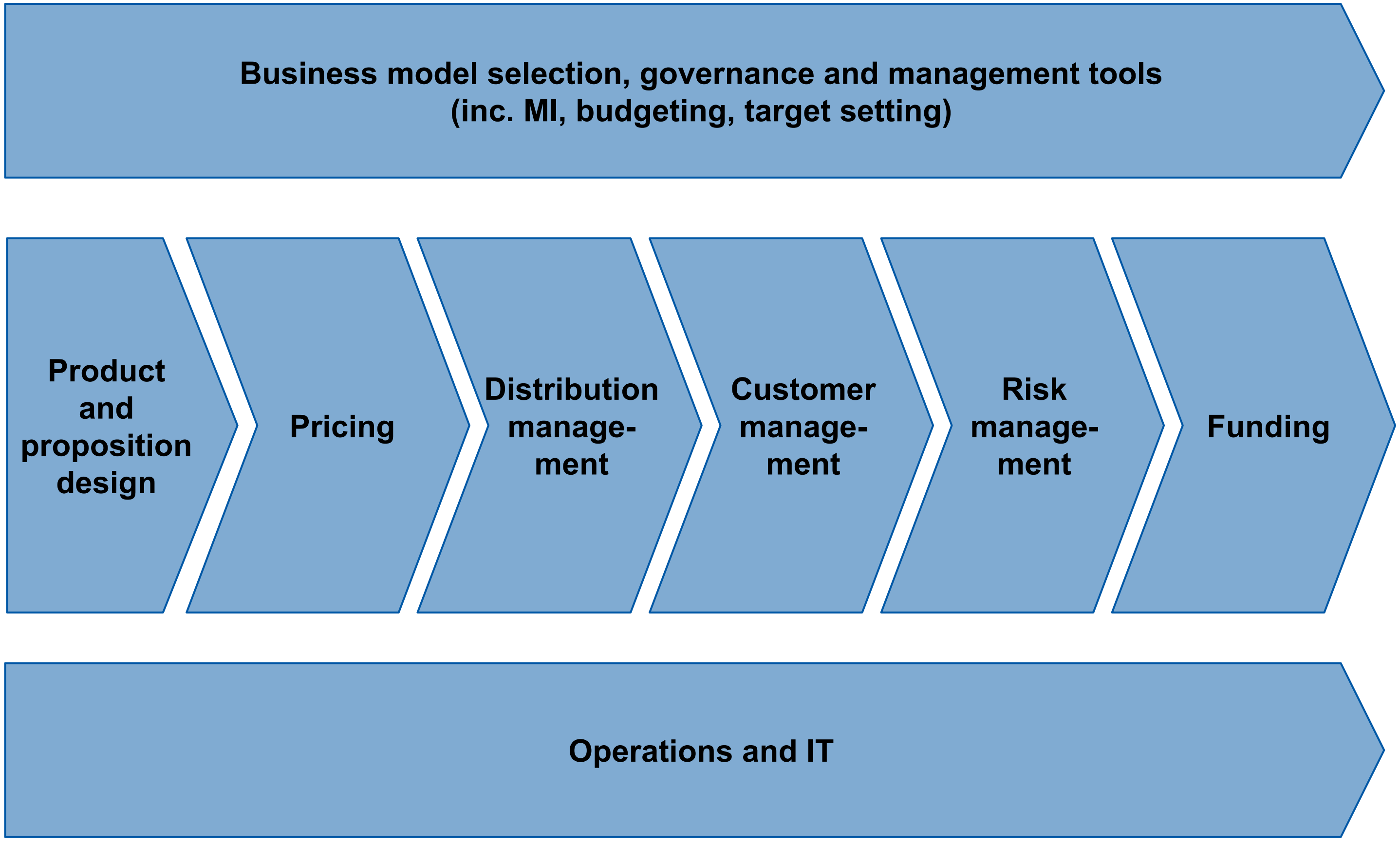



**NPL to total advances on residential mortgage books**
Aggregate for big 4 banks




- **Mortgage defaults rate increase orders of magnitude from year to year**, even in countries which are supposedly not affected by the crisis. Esp. sensitive to house prices...
- **Defaults rates have also varied significantly between the top 4-5 banks**, showing that even in the same country there can be differences due to policy, risk measurement capabilities, etc.
- What was once thought as a high EP market is now recognised to be **value destroyer** because banks got too aggressive with margins and risk levels
  - Large **broker** market where quality of business booked has been very poor
  - High **LTVs** historically and on book

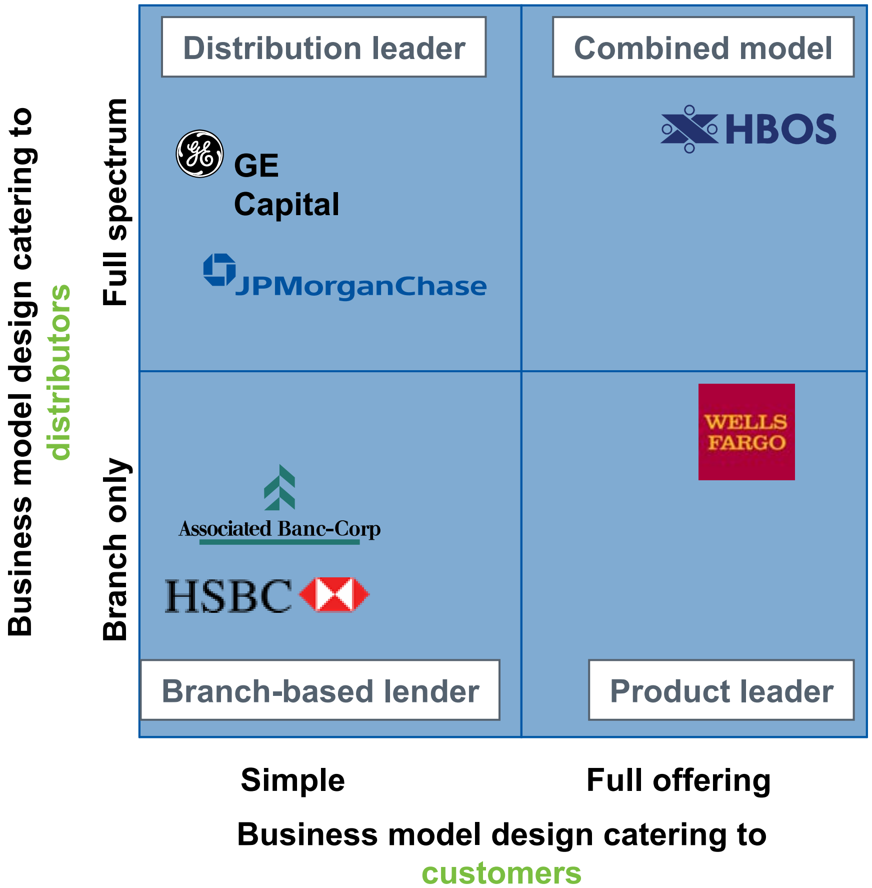
# As a consequence, we have chosen to focus today on some key parts of the value chain



# Business model selection

# Global mortgage lenders focus on building business models that cater to the needs of distributors and/or developing propositions for specific customer segments

**Global mortgage strategic landscape**




**Key questions and issues considered**

**Where the client should position itself on the strategic landscape…**

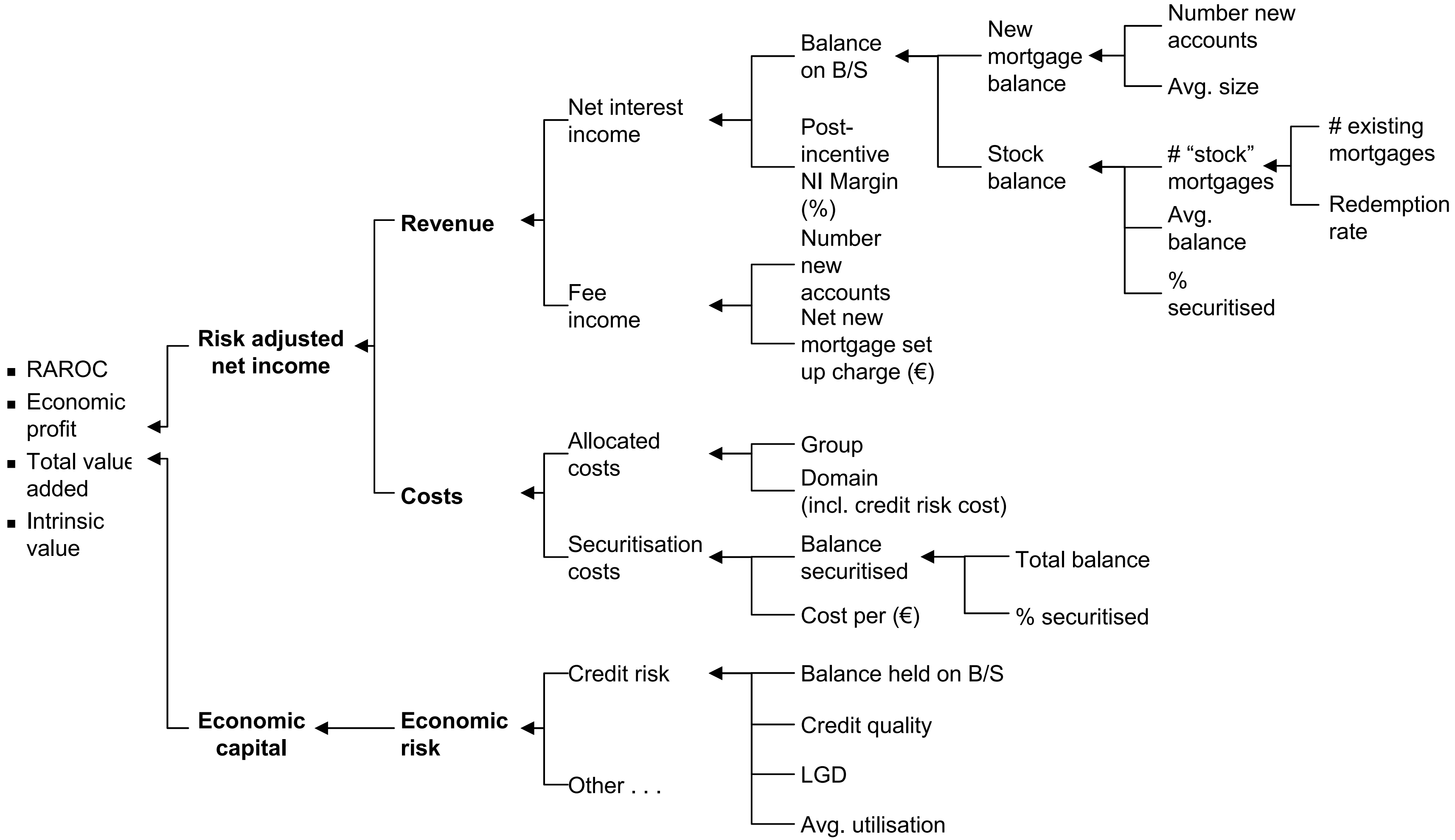
1. What can we learn from other mortgage business models?
2. Where should the client position itself on the strategic landscape?

**…and the investments that are necessary to get there**

3. What types of capabilities would the client need to develop?
4. What is the optimal organizational structure for the client?

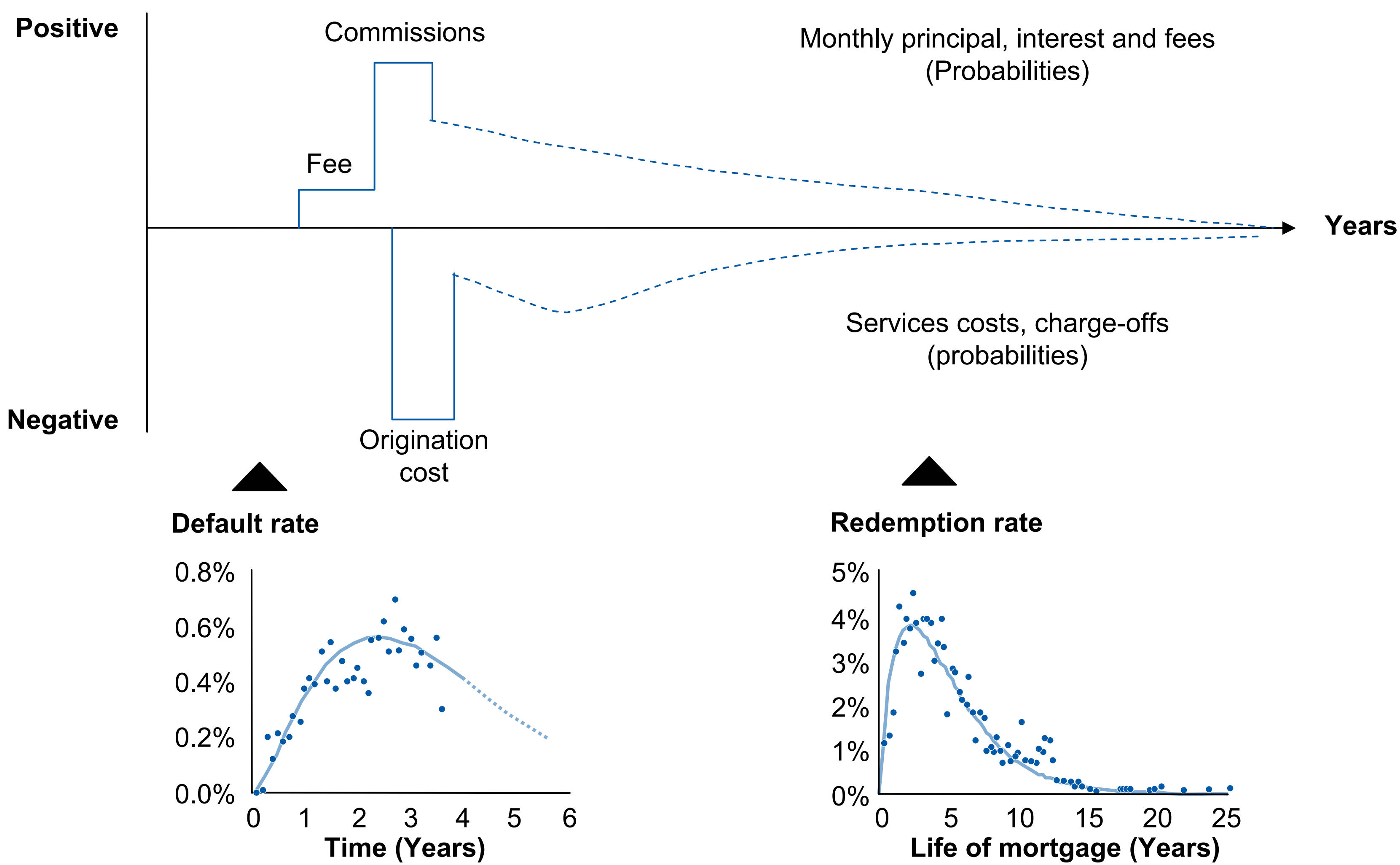
# It is essential that the economics of all loans are understood in detail to determine an optimal strategy

## Client example: Mortgages "assumptions map"



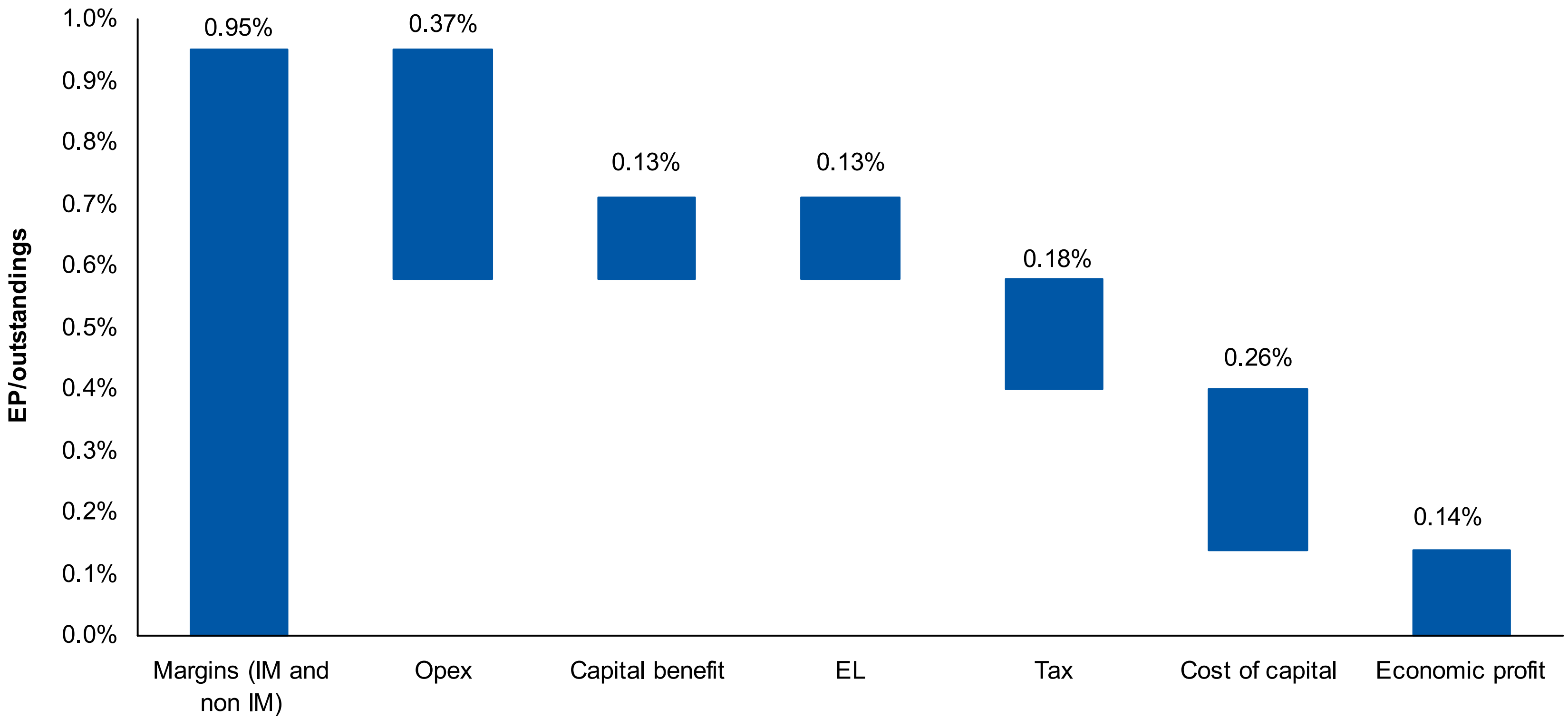
# Longer term products need economic profit measures to incorporate good information on behaviour over time if they are to add value

Illustration of NPV for Mortgage



# In addition to a "vertical" view of product economics, lenders must also examine the expected lifetime profitability of new business ("horizontal" view)

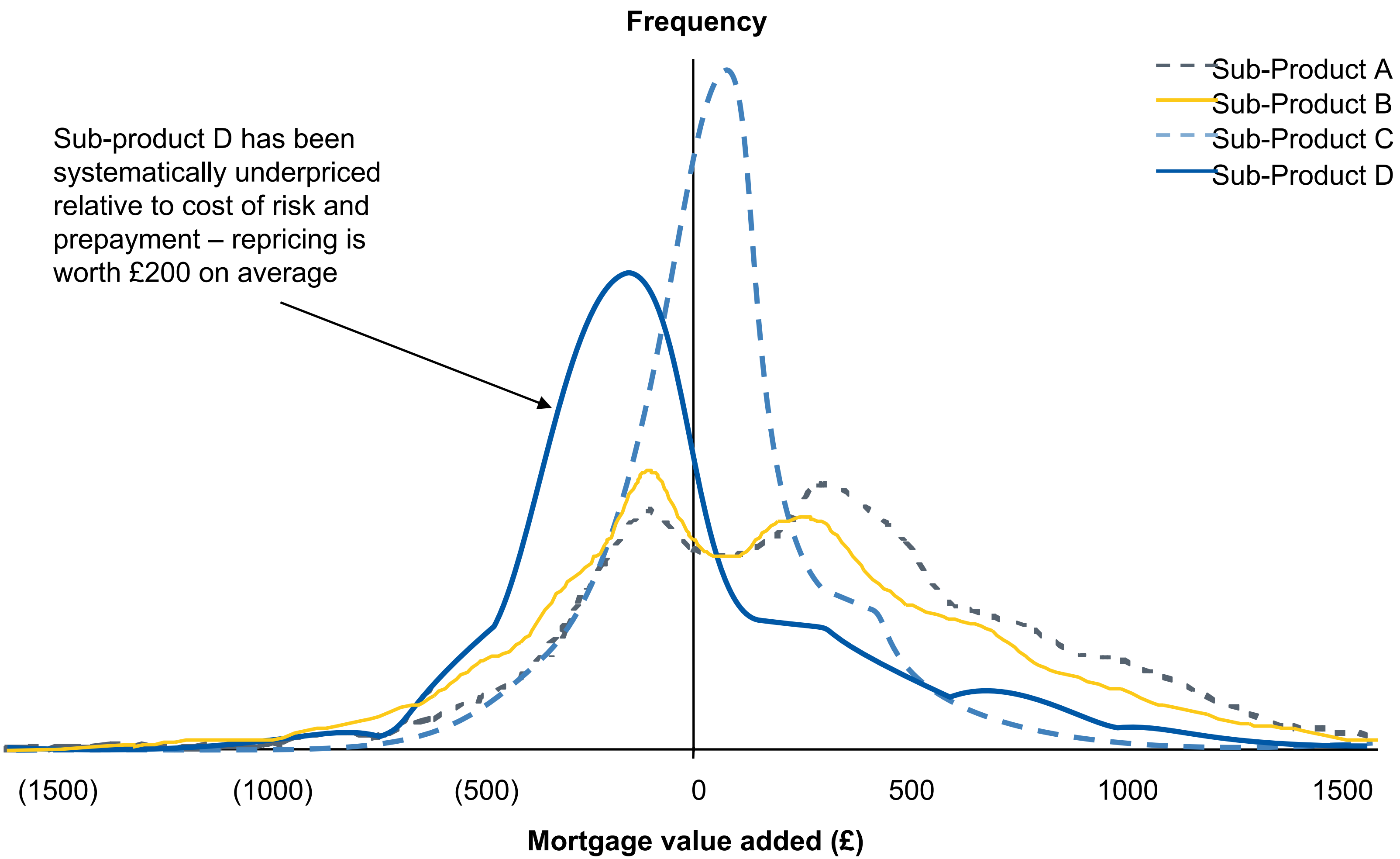
## Example – Mature Market product economics 2007




Source: BBA, Datamonitor, Company information, Analyst reports, Oliver Wyman estimates

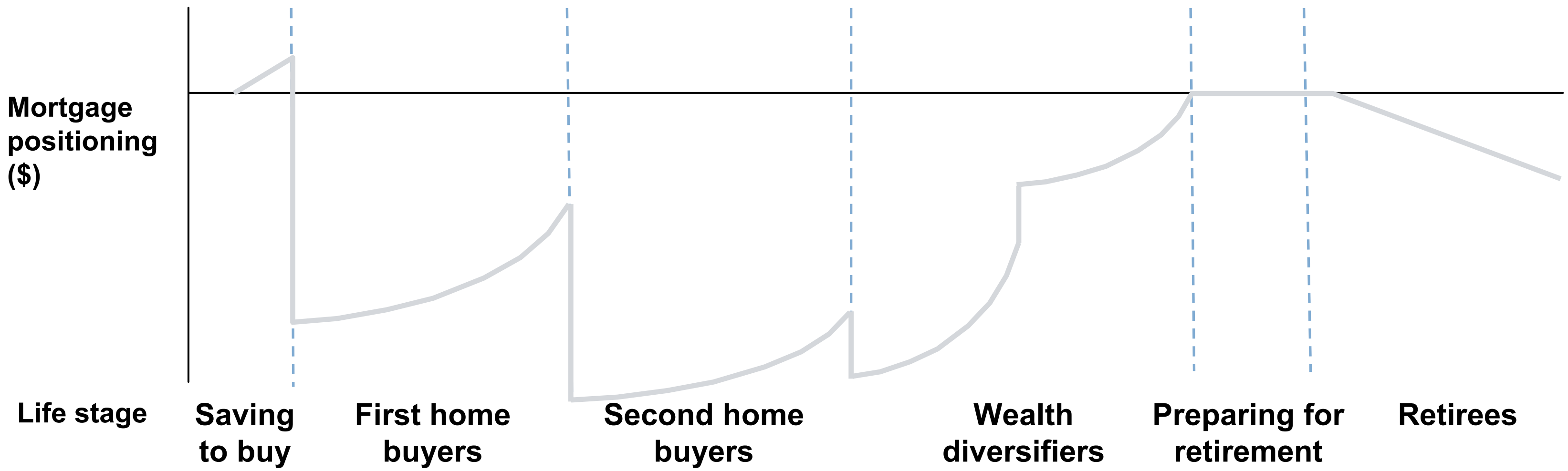
# Detailed analysis of sub-products and segments will provide insights that drive pricing and strategy

**Client example: Value added by sub product (mortgages)**



# Product and proposition design

# Customer lifestage targeted propositions are commonly used in mortgage



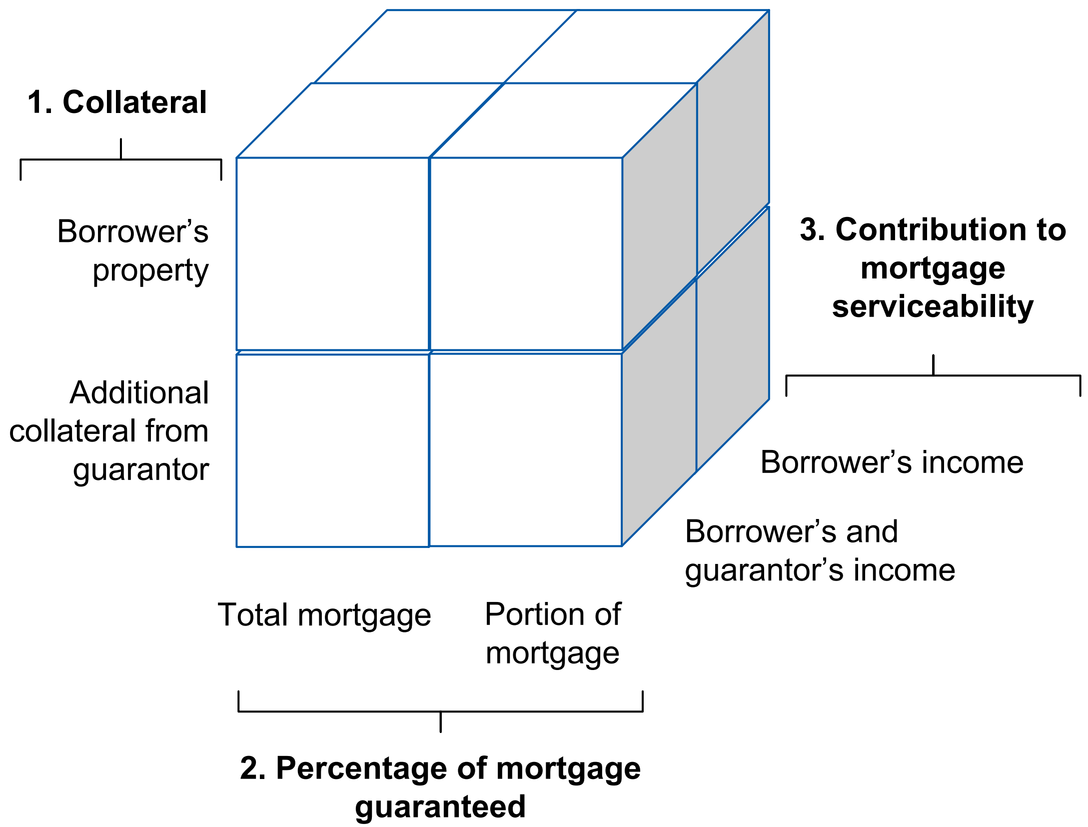

| Saving to buy | First home buyers | Second home buyers | Wealth diversifiers | Preparing for retirement / Retirees |
|---|---|---|---|---|
| Bauspar savings | Shared equity loan | Buy-to-let loan<br>Mortgage equity withdrawal<br>Further advance | Portfolio management services<br>Pension wrapper | Reverse mortgage |

# Globally, we have seen a proliferation of mortgage products and services to meet first home buyers' needs

| Product | Description |
|---|---|
| **Longer term** | ▪ Mortgage terms of 30 years or more with lower monthly repayments |
| **High Loan-to-Value** | ▪ Mortgages up to, and in some cases exceeding, the value of the property |
| **Guarantor mortgages** | ▪ The borrower can offer additional security to the lender by using a relative as guarantor |
| **Shared ownership** | ▪ First home buyers club together to combine their deposits and incomes to purchase a property to cohabit |
| **Room-to-Rent mortgages** | ▪ Lenders may offer increased advances to purchase properties on the basis that the borrower will rent out additional bedrooms in the property |
| **Cash back/reward mortgages** | ▪ Cash back to assist with any renovations and moving-in costs<br>▪ Prizes, cars, TVs or a shopping spree with IKEA |
| **Discount/honeymoon rates** | ▪ Mortgage rates are discounted during the first few years of the mortgage |
| **Fee waivers/discounts** | ▪ Discounts/waivers on some of costs at loan establishment |
| **Family/friends offset** | ▪ Deposits of families and friends can be used to offset the mortgage |
| **Lender paid mortgage insurance** | ▪ Lender pays part of the mortgage insurance premium upfront on behalf of the customer |

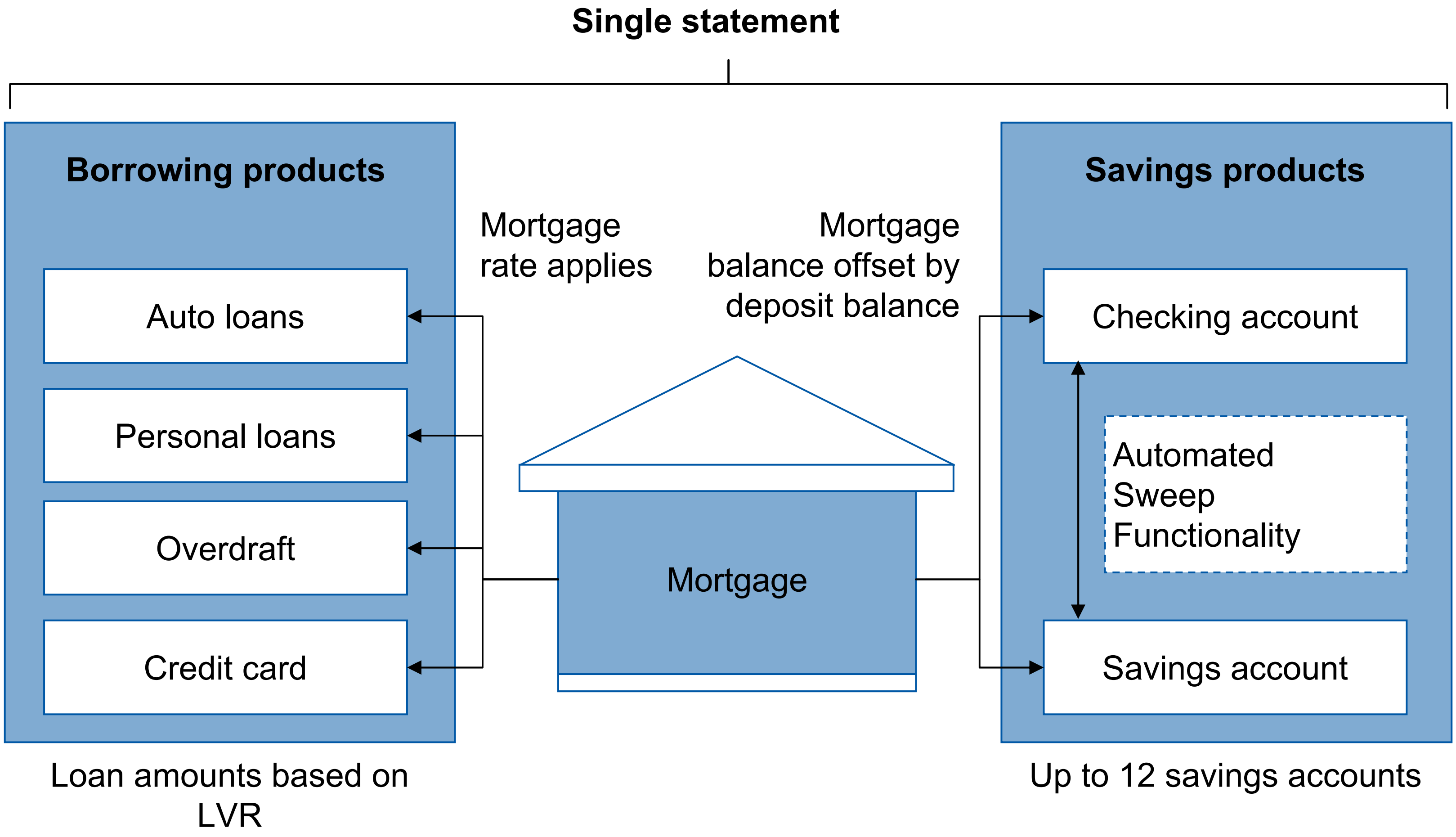
## Family guarantor mortgages are becoming increasingly popular to help borrowers attain the rising first rung on the property ladder

**Key dimensions of a guarantor mortgage**



# Offset mortgages integrate borrowing and savings products around the mortgage

**Example - Woolwich Open Plan**



# Additional lending provide relatively cheap funds for borrowers whilst representing a profitable source of business for the bank

**Additional lending structure**

| | Existing loan | New loan |
|---|---|---|
| Primary charge | Further advance | Second loan (from existing lender) |
| Secondary charge | | Second charge loan e.g. HELOC |

- Secondary claim higher margin but higher losses and higher acquisition cost

- Current or separate loan depends on interest rate level and structure of existing mortgage
- Existing typically loan lower cost but lower margin for provider

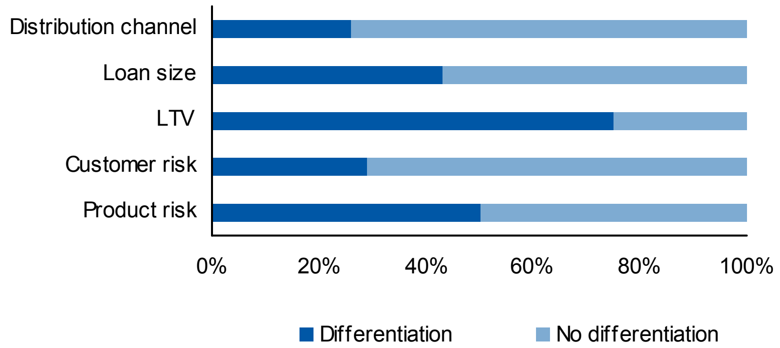
# Pricing

# Best practice mortgage lenders select a pricing strategy and implement effectively

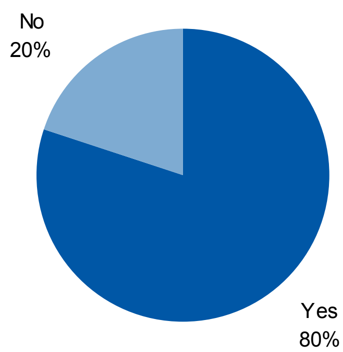
| Position | Enabling strategy | Characteristics | Example |
|---|---|---|---|
| Best pricing | ▪ Active monitoring of competition, top quartile for all products | ▪ Attractive to customers<br>▪ Requires low-costs | ING Direct |
| Promotional pricing | ▪ Create perception of good prices through cycling, promotions or headline rates | ▪ Better economics<br>▪ Requires customer insight | HBOS |
| Fair pricing | ▪ Pricing justifiable with reference to competition or costs. No "hidden" fees | ▪ More satisfied customers<br>▪ Requires clear policy | HSBC |
| Premium pricing | ▪ Higher rates signalling better products/services | ▪ Can achieve higher margins<br>▪ Requires superior proposition | Wells Fargo |
| Personal pricing | ▪ Customers get own prices, based on individual characteristics | ▪ Greater loyalty, share of wallet<br>▪ Requires customer pricing model | BES |
| Discretionary | ▪ Negotiation of pricing at point of sale | ▪ Achieves discrimination<br>▪ Requires incentives & tracking | UBS |
| None | ▪ No clear positioning on price | ▪ Easy to implement<br>▪ Needs product-level pricing | Many |

# Greater price differentiation by value driver allows lenders to react to margin pressure but these practices are not yet widespread

**Existence of differentiated pricing across mortgage lenders**




**Do you allow price negotiation on a customer level?**




Source: Survey results and interviews

**Pricing techniques for margin management**

- Risk premiums
- Offer versioning
- Improved price negotiation at point of sale
  - Link with incentives
  - Measure and monitor
- Customer screening/analytics to evaluate price elasticity
- Customer self-selection
  - e.g. fee vs rate trade-offs

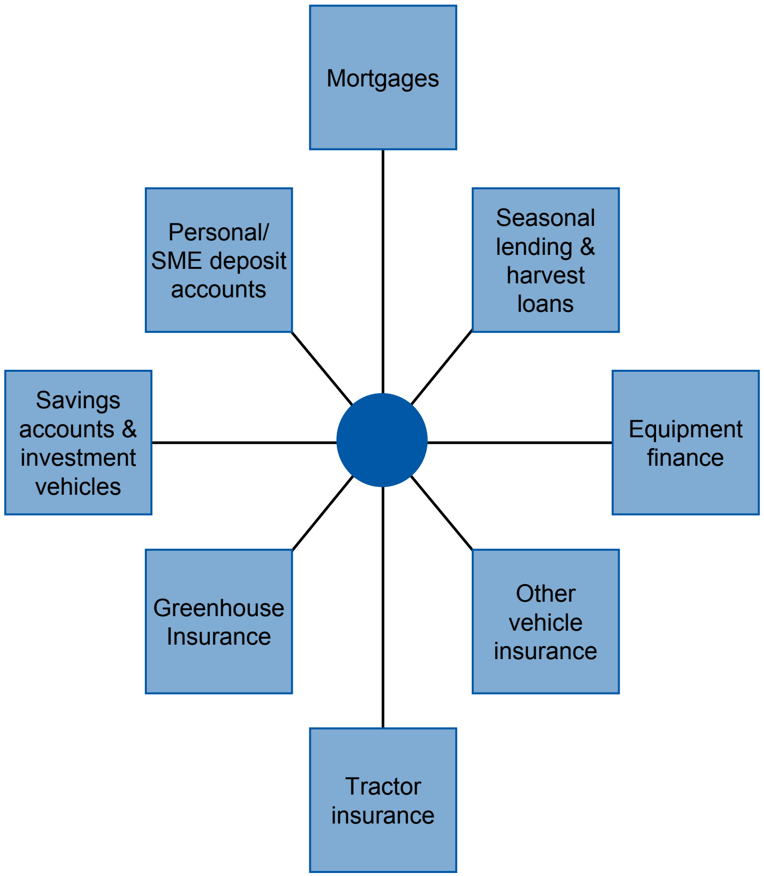
# Demand-based pricing can be extended from risk-based pricing to address a range of further customer segments

| | Risk-based pricing | Demand-based pricing |
|---|---|---|
| **Description** | ▪ Typical mortgage pricing is based on mortgage product features e.g. LTV and term<br>▪ Risk-based pricing allows banks to tier the interest rate to customer credit scores delivering volume and margin<br>– Greater volume traction with low-risk borrowers through lower pricing<br>– Higher margins for high-risk borrowers, allowing the lender to minimise value-destroying loans | ▪ Customer segments have different price elasticities due to need or sophistication<br>▪ Customer segments can be defined along a number of dimensions to reflect tiered pricing (or discounting) e.g. customer life stage, demographics, channel, profession<br>▪ The key components to implementing are:<br>– strong point of sale negotiations skills<br>– incentive alignment<br>– tools and training |
| **Examples** | ▪ LTV and customer risk-based pricing common for specialist lenders<br>▪ Increasing evidence of risk-based discounting | ▪ Increasing piloting in markets with less sophisticated customers (e.g. Spain)<br>▪ Common in bridging finance |

# Relationship pricing is possible to achieve without actual product bundling – Rabobank effectively manages multiple modular sales

- Rabobank has a 85% market share of the Dutch food & agriculture banking sector
- They maintain a strong share through specialised knowledge with local understanding of customer needs
- Tailored product solutions designed specifically for farmers provides a good example
  - In-depth customer relationships and data
  - Unbundled products sold as modules
  - Each marginal module comes with associated price discounts
  - Provides impression of product tailoring and value for money

**Rabobank's Agri client product modules**



# Fees allow mortgage providers to improve product NPV, cash flow and align revenues with costs

| Fees | Examples |
| --- | --- |
| **Establishment fees** | ▪ Arrangement fee<br>▪ Valuation fee |
| **Maintenance fees** | ▪ Servicing fee<br>▪ Statement fee |
| **Value added services** | ▪ Channel access fees (e.g. online/telephone)<br>▪ Portability fee |
| **Penalties** | ▪ Arrears fee<br>▪ Early redemption fee |
| **Fee charging approach** | ▪ Fee waivers for product bundles<br>▪ Application fee rebate on loan closure |

# Distribution management

## We see six models that will be successful in mortgage distribution

A. **Branch-focussed lender:** Leverage advantaged local distribution and customer relationships to get increased cross-sell and improve economics

B. **Scale originator:** Focus on mortgage origination, leveraging intermediary distribution to get scale benefits

C. **Direct lender:** Exclusive use of remote channel distribution to deliver a customer segment specific proposition and achieve aggressive management of the cost base

D. **Giant all-channel lender:** Deliver scale across all channels (technically a combination of A-C above)

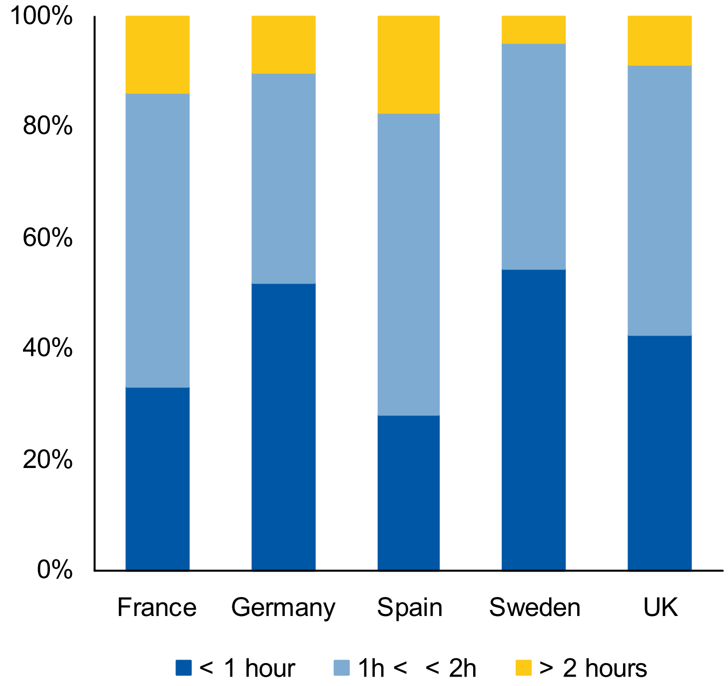
E. **Branded distributor:** Focus on winning customers via advice, best product and price

F. **B2B Platform:** Service providers adding value to the mortgage value chain

# Branch-based lenders are improving sales processes to increase mortgage sales efficiency and cross-sell

There are wide differences in branch process efficiency and effectiveness

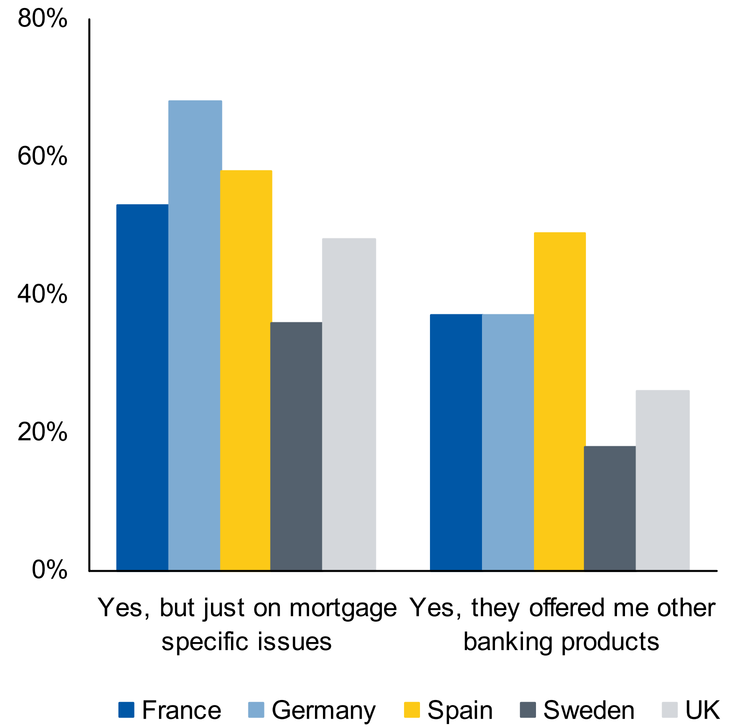
**Time taken for the mortgage application in branch**




Source: Oliver Wyman lender survey

Post-sale follow-up is widely used to increase cross-sell rates

**After you applied for the mortgage did the company/ advisor get in touch with you over the following weeks or months?**




Source: Online customer survey

# Some banks have developed analysis tools that allow them to identify potential clients

**Example – Mature market bank approach**

- Targets current account customers
- Review payments information for payments to major mortgage lending competitors
  - Identified via size of payments and direct debit code
  - Can be supplemented by customer fact find where available
- Identifies 2nd and 3rd anniversaries of the first payment
  - Outbound call made to client 2 months before anniversary date
- Identifies payment shocks i.e. when monthly payment has risen
  - Outbound call made to client with mortgage offer/discussion

**Other approaches**

- Automatic generation of letters/call lists for current account customers with high propensity
  - Mortgage offers
  - Can be pre-approved based on existing customer data
- Data collection initiatives at branch level during interviews/branch contacts
  - Existing mortgage?
  - Provider
  - Amount
  - Anniversary date
- Propensity models to identify high likelihood mortgage customers (see next slide)
  - Age/Lifestage
  - Income
  - Postcode

# Effective collection, storage and usage of customer data is critical for central identification of sales leads and opportunities

**Example data used in CRM models**

- Address/Post Code
- Age
- Income
- Profession
- Existing product holdings (with bank)
  - Renewal dates
- Existing product holdings (elsewhere)
  - Providers
  - Renewal dates
- Family (marital status, dependents)
- Responses to previous sales efforts
  - By product and channel

**Supporting processes**

- Prompts in sales processes and scripts to collect missing customer data
  - Feeds to customer data warehouse
- Mining of product systems to build central customer database/warehouse
- Periodic analysis, calibration and update of central models to maximise value to business

**Business applications**

- Central lead generation for branches/ client advisors
- Targeting branches, regions and client advisors
- Setting of staffing levels and portfolio allocation/coverage levels

# A systematic and structured approach within each phase of the sales process will greatly improve conversion rates and customer satisfaction

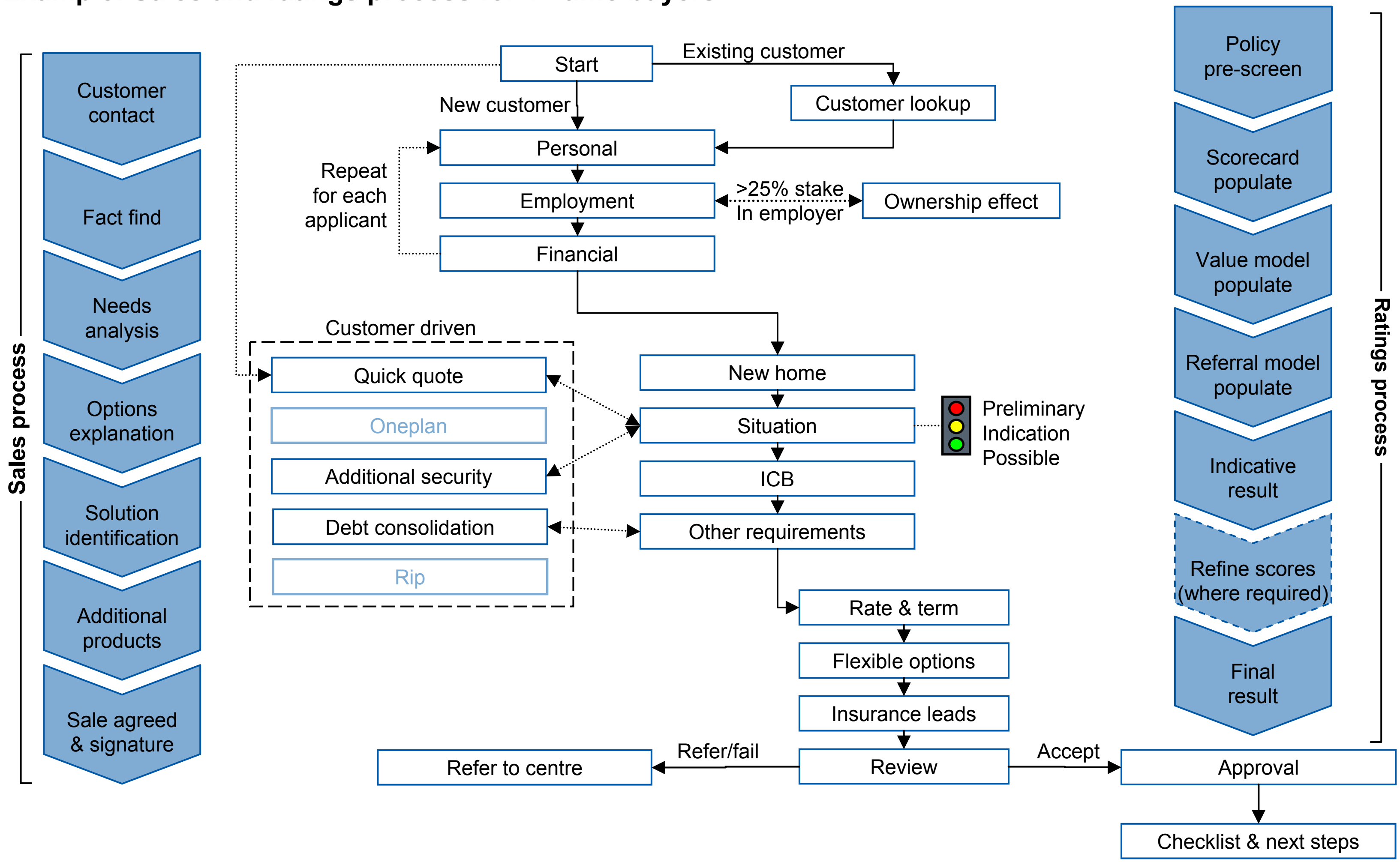
## Example: automation opportunities within the sales process

Customer acquisition → Customer counselling → Product sale → Wrap-up → Customer care

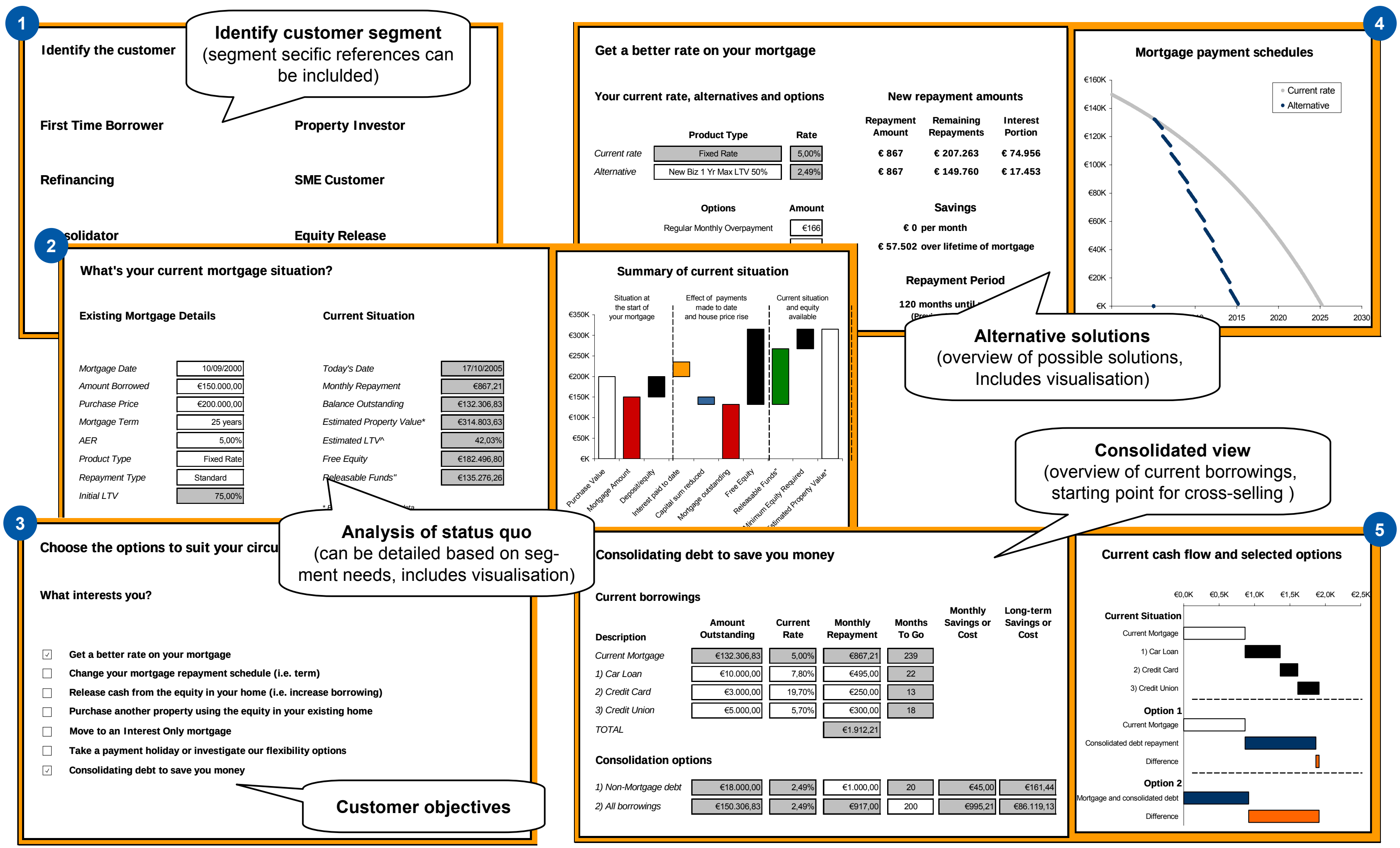
| | Customer acquisition | Customer counselling / Product sale | Wrap-up | Customer care |
|---|---|---|---|---|
| **Objectives of different steps within sales process** | ▪ Generation and capture of contact information<br>▪ Screening of existing customers<br>▪ Appointment setup | ▪ Customer contact<br>▪ Presentation of advantages<br>▪ Evaluation of customer needs<br>▪ Building consensus and convince | ▪ Efficient transaction<br>▪ Document-ation for further sales | ▪ Regular customer contact<br>▪ Anticipation of further needs<br>▪ Further appointments |
| **Automation** | ▪ Propensity models<br>▪ Lead generation | ▪ Sales support<br>▪ Online application | ▪ Electronic customer file<br>▪ Automatic scheduling | ▪ Electronic customer file/transaction history<br>▪ Lead generation |

# A structured sales process allows easier introduction of new products, tools and prompts

**Example: Sales and ratings process for 1st time buyers**



# Software not only facilitates calculations but also supports a clear structure of the sales process



# Fast approval processes improve customer service and increase closure and cross-sell rates

## Rationale

- Speed of application to offer can be a strong driver of value
  - Higher pull-through rates
    - Less desire to shop around once offer is received
    - Very high in broker channel
  - Higher cross-sales
    - Customers more open to discussions around other products once mortgage is assured
    - Lower costs
      - Additional meetings/dealing with enquiries regarding status not required
- Requires aligned systems and processes and so can become a source of competitive advantage
  - Particularly highly valued in the broker channel

## Examples

- **Online decision (HBOS)**
  - Systems and processes aligned to perform credit check and mortgage offer within 15 minutes
  - Stater provide this service for third party lenders in the Netherlands
- **Phone-based application (Standard Life)**
  - Direct phone line from brokers/customers to central call centre
  - Ensures no form passing between broker/customer and processing centre
  - High quality completion ensuring limited chasing
- **Pre-completed application forms**
  - Known customer details pre-completed on application form (including cross-sales) for verification
  - Speeds application processes

# Cross-sell prompts can be introduced at different stages of the sales process

**Mortgage sale** → **Post sale pre-completion** → **After mortgage sale** → **Mortgage Closure**

**Mortgage sale**
- Point of sale
- Face to face
- Highest likelihood
- Supported by process and systems
- Within seller target

**Post sale pre-completion**
- Telephone
- ~10% incremental cross-sales

**After mortgage sale**
- Telephone
- ~10% incremental cross-sales

**Mortgage Closure**
- Automated on closure
- Telephone
- Retention focussed

**Success factors**
- Integration within mortgage sales process and systems
- Automation of prompts at each stage
- Dedicated channel targets and incentives

# Specialist mortgage sales structures have proved successful in high volume and regulated environments

**Example Specialist Structure**
Barclays

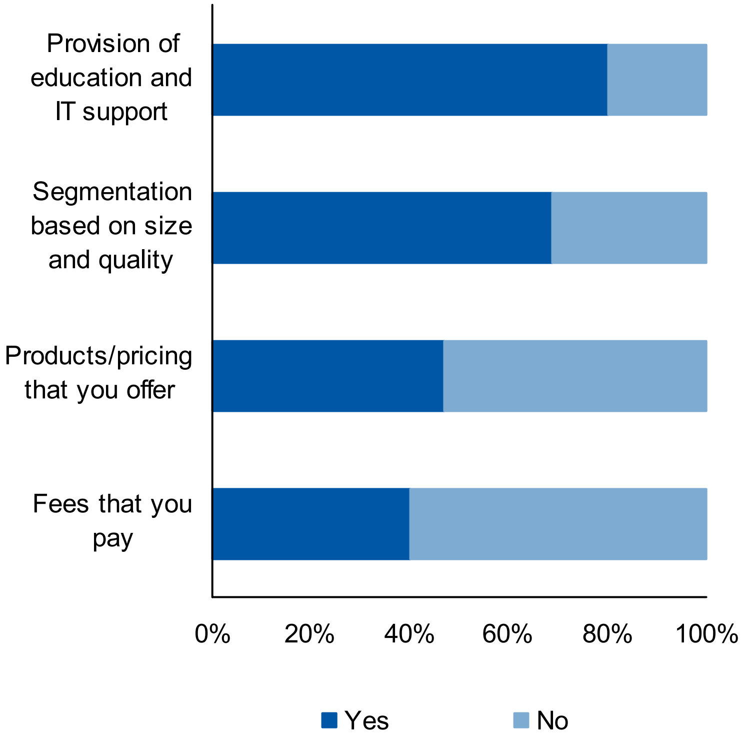
- Specialist mortgage sellers for retail customers
  - Branch-centred covering 1-2 branches
  - Dedicated to mortgage sales and cross-sell
  - Leads from branch traffic
  - Proactive lead generation (e.g. small intermediaries, personal contacts)
  - Managed via head of mortgage sales
  - Separate from intermediary sales force
  - Sales credit accrues to branch network and mortgage advisor (double count)
- Generalist sales force for affluent/HNW individuals
  - Mortgage forms a significant product line
  - All sellers regulated
  - Specialist support for complex cases
- Common reporting line for head of branch network, mortgage sellers and affluent advisers to ensure co-operation

**Other approaches**

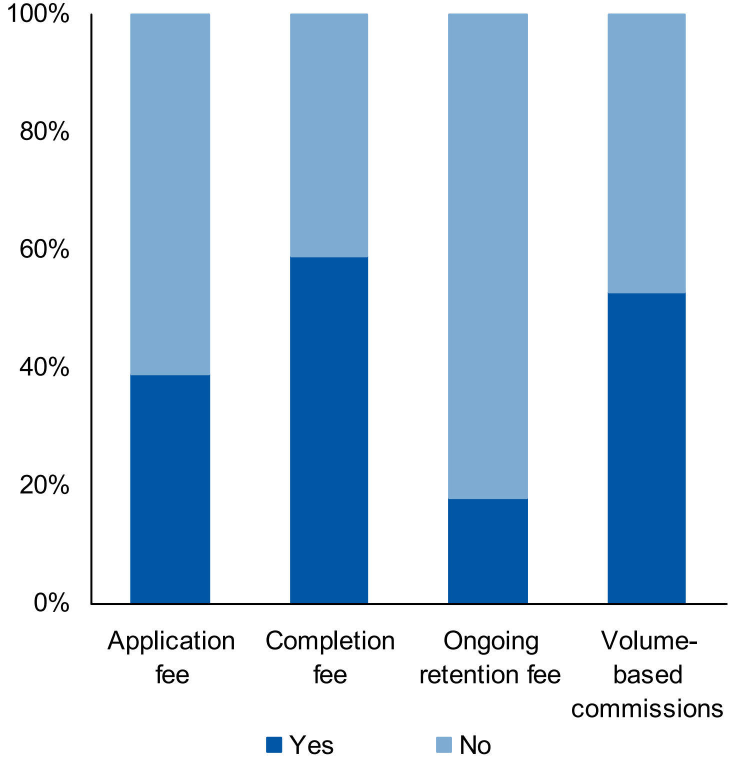
- Area/regional mortgage specialists to support local generalist sellers/RMs
  - Handover model or joint-sale model
  - Typically double counting of sale
- Specialist commercial mortgage advisers for investment mortgages and/or small business mortgages
- Mobile sales forces (non-branch-centred)
  - “Eat what you kill” or postcode defined
  - Typically standalone P&L

# Business models to maximise intermediary share are developing as indirect channel share grows

**Lenders are managing intermediaries via differentiated service…**




**…and using alternative intermediary incentive models to attract volumes**




Source: Oliver Wyman lender survey 2006

# Lenders have adopted vastly differing levels of broker coverage and support to develop business

## Coverage models for lenders in the intermediary market


### Developer model

- Relationship manager for brokers
- Support for intermediaries: Products, marketing material, training etc.
- Size, volume determine intensity of service/visits/contacts
- Gearing on business due to multiplying effects
- No direct control of business

### Combined model

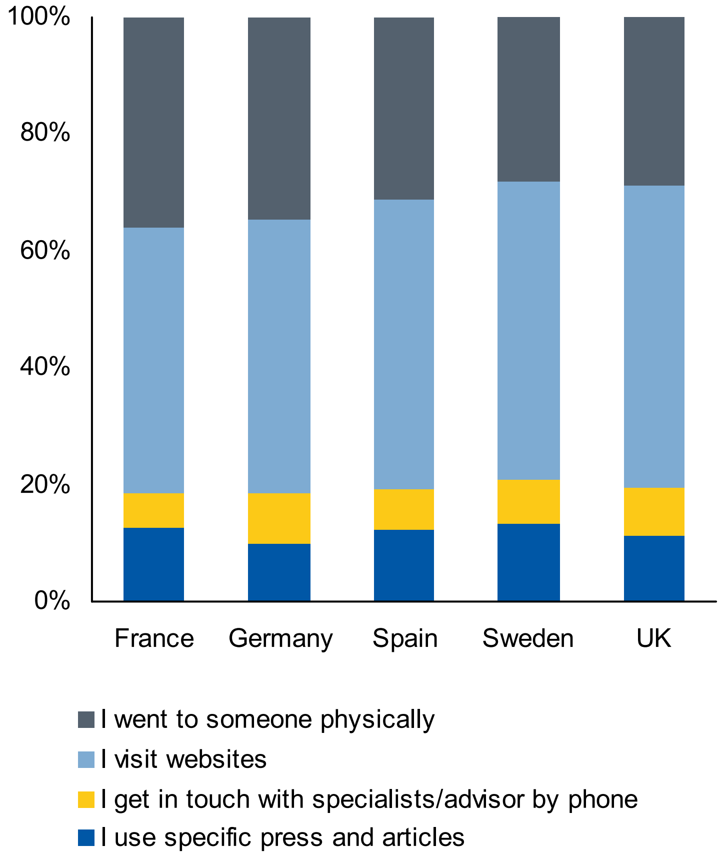
- Flexible role definition based on business needs
- Pragmatic allocation of resources
- Flexibility for business development without losing contact to end customer
- Danger of unclear tasks, difficult leadership functions

### Sales agent model

- Intermediary introduces customers to sales agent
- Responsibility for completion of sales with customers
- Minimum support for intermediary
- Control of quality of business
- Intense resources required

# Remote channels can be used effectively in lead generation and sales funnel management

**Remote channels are now a major part of the mortgage research process**




**Alternative models**

- **Lead generation with face-to-face closure**
  - Combines the strengths of technological advancement and the need for face-to-face mortgage advice
  - Cost management and pipeline management e.g. diary management critical
- **Integrated fulfilment**
  - Lowest cost model
  - Branding and pricing critical
  - Attractiveness and feasibility dependent on regulation and technology access

# Direct channels have gained market share across all country markets

**Key success factors of direct channel models**

- Strong marketing/campaigning capabilities and resources
- Easy-to-understand, “plain-vanilla” products
- Strong, centrally generated lead stream
- Technological capabilities
- High internet/telephone banking penetration

▼

- Opportunities of significant and fast gain of market share even in markets with low acceptance of direct channels
- Increased competition mainly on price/pressure on margins
- Decline in customer loyalty

**ING Direct Italy**

- ING Direct Italy business model and strategy
  - Origination by internet and telephone only
  - Back office activities outsourced to external mortgage service centre
  - Leverage existing client base of ~600,000 current account holders
- Fast growth although very few mortgages are sold via direct channels[1]

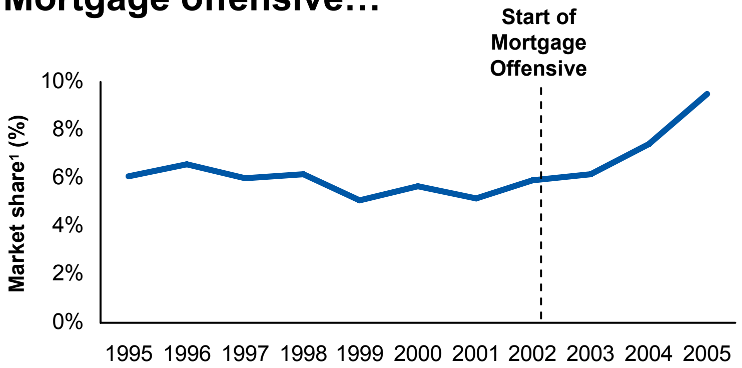
**SBAB (Sweden)**

- Swedish market suits SBAB model
  - Streamlined electronic mortgage via Swedish Land Information System
  - High acceptance of internet banking
- 65% of private SBAB clients apply for residential mortgages online

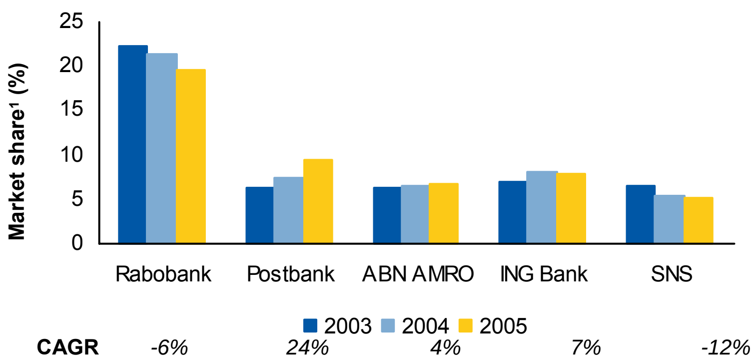
1. Distribution via direct channels has peaked at 12-15% in developed European markets such as UK and Sweden, and is now approximately 5% in total across Europe

# Case study – Postbank Netherlands

### Four years after the launch of the Mortgage offensive…




### …Postbank has become the second largest mortgage provider in the Netherlands




1. Market share based on gross advances

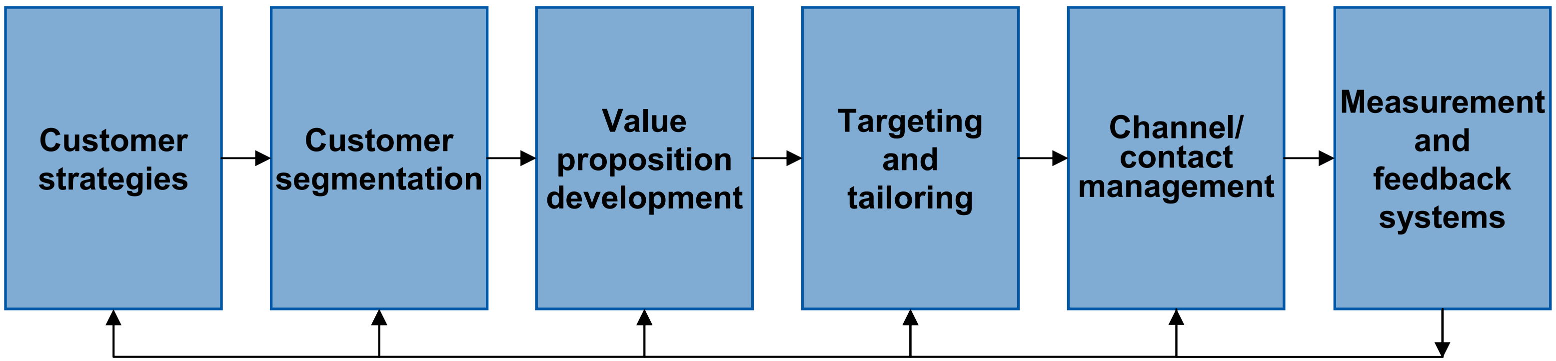
### Summary

- In 2002, Postbank launched the Mortgage Offensive
  – Now Postbank is the second largest mortgage provider in the Netherlands
- Success built on intermediary and remote channels (internet, phone, post) supported by:
  – An agile, low cost, back-office
  – Advanced customer information/contact management
  – Lead generation
  – Focus on conversion via incentivised specialist mortgage advisors

# Customer management

# Best-practice organisations use an integrated and aligned customer management model enabled by class-leading capabilities

## End-to-end customer management model

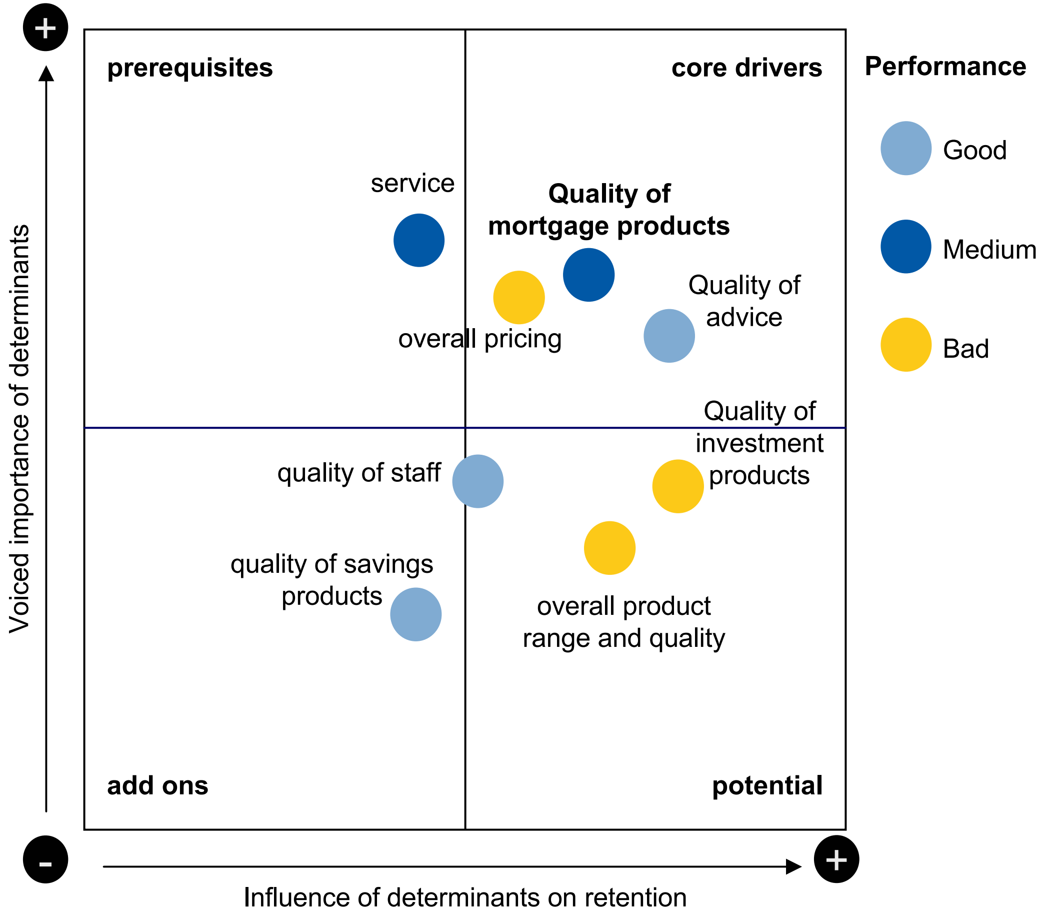



**Components**

| Customer strategies | Customer segmentation | Value proposition development | Targeting and tailoring | Channel/ contact management | Measurement and feedback systems |
|---|---|---|---|---|---|
| ▪ Target market definition<br>▪ Segment strategy prioritization (acquisition, retention, activation, cross-sell) | ▪ In depth understanding of customer's value, needs and behavior<br>▪ Micro-segmentation | ▪ Understanding of value drivers<br>▪ Economic modeling<br>▪ Pricing strategy | ▪ Sub-segment targeting<br>▪ In-market testing<br>▪ Prototyping | ▪ Sales and contact mgt.<br>▪ Advisory model | ▪ Database analysis<br>▪ Program tracking<br>▪ Customer performance<br>▪ Service experience testing |

# Ongoing analysis of customer service and satisfaction is required to optimise delivery

**German example: Drivers of customer satisfaction and retention**




**Tool**

- Quarterly inquiry of customer satisfaction and retention
- Segment-based results to track changes and take appropriate measures

**Application/consequences**

- Detailed analysis if significant changes occur
- Bonus impact
- Included in top-management reporting

# Customer retention is receiving much greater focus among mortgage lenders

**Proportion of customers shopping around and switching mortgage provider**


- Greater tendency for customers to shop around
  - Increased financial sophistication and awareness
  - Growth of intermediary segment
  - Greater price transparency
- Significant investment in customer retention by lenders
  - Better pricing
  - Reactive retention teams
  - Customer tracking and proactive retention offers
  - Prepayment modelling

Source: Online customer survey

# Best practice lenders are using combinations of proactive and reactive retention processes to retain their mortgage customers

## Reactive retention process

### Structured process

- Central retention register triggered by customer behaviour e.g.
  - Branch enquiry/indication of intent
  - Redemption request from customer
  - Redemption request from 3rd party e.g. broker/solicitor
- Lead categorised and actioned by reactive team (typically within 1-2 days)

### Value-based

- Response depends on customer and redemption indicator
  - Contact (yes/no)
  - Channel (phone, face to face)
  - Retention offer (price, terms)
- Call centre incentivised on value of "saves"
  - Ensures motivated team
  - Drives performance

## Proactive retention processes

### Structured process

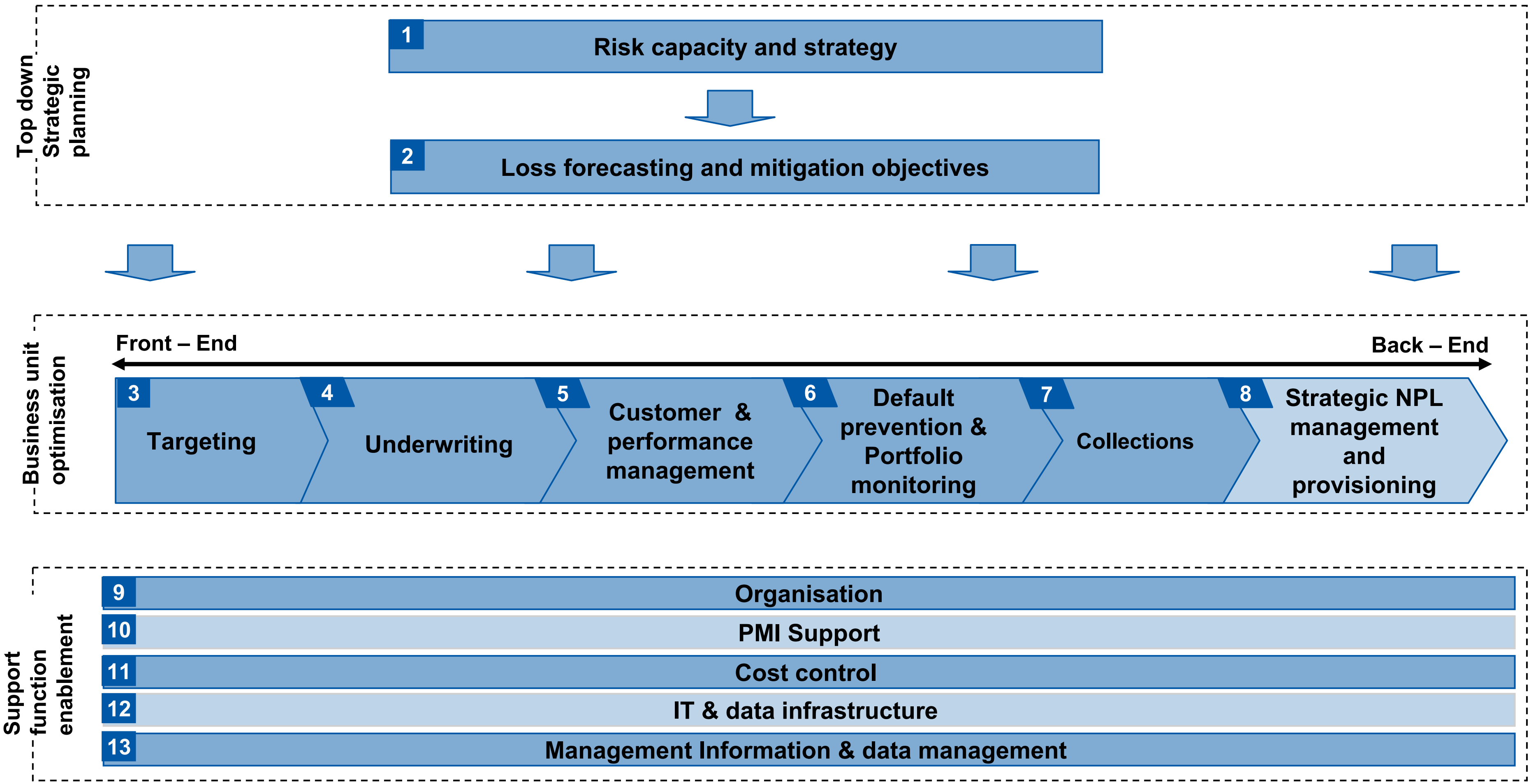
- Central retention team develop and launch retention offers to "at risk customers"
  - Customers identified by tenure
  - Categorisation of customers based on prepayment propensity
  - Monthly mailings and call programmes including customer offer
  - Call centre to follow up on offers

### Value-based

- Retention offer depends on customer and redemption indicator
  - Contact (yes/no)
  - Timing (-6m, -3m,-1m, at rollover, +1m, +3m)
  - Channel (phone, face to face, letter)
  - Retention offer (price, terms)
- Retention team performance measured on retention and value added versus "do nothing"

# Risk Management

# Risk management should play a key role in the whole credit risk value chain, not just in decisioning



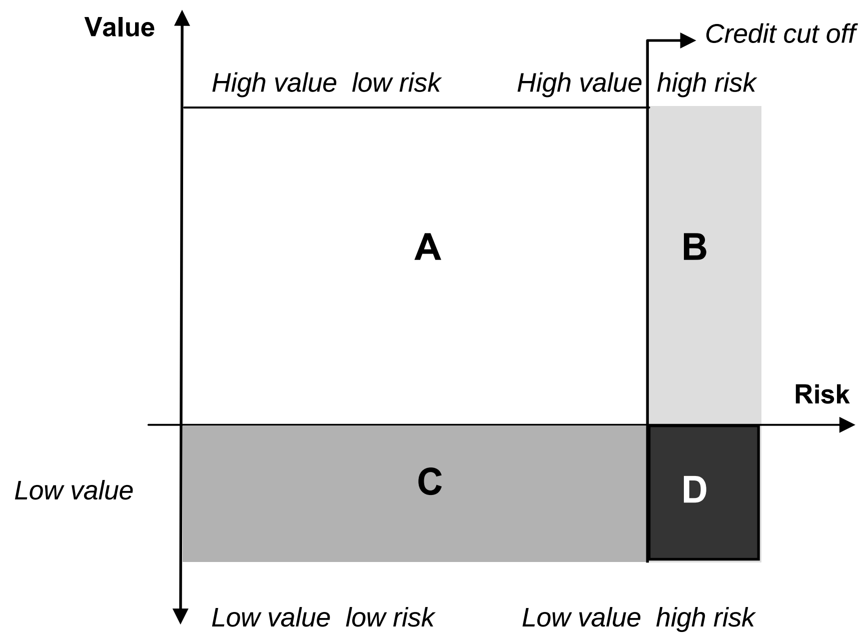
1

# A number of portfolio level objectives may be pursued and should be consistent with the defined strategy

## Portfolio level objectives

| Objective | Description |
|---|---|
| 1. Loss management | ▪ Risk function has target for max. %bad or %loss<br>▪ Potentially involves rejecting higher risk but value creating applications |
| 2. Market share | ▪ Business has target to maintain or grow market share/ volume<br>▪ Potentially involves accepting low or value destroying applications |
| 3. Value optimisation | ▪ Approach is to target value creating segments<br>▪ Should be consistent with portfolio level arrears and market share targets |
| 4. Automation/ process optimisation | ▪ Primary target is to automate current process without fundamentally moving up or down the risk curve<br>▪ Primary driver cost efficiency, decrease in approval times, increased accept rates, potential risk benefit through positive selection |

## Trading off risk, volume and value




**It is crucial to set coherent objectives in the different areas, particularly commercial and risk (e.g. set risk targets according to the growth ambition)**

2

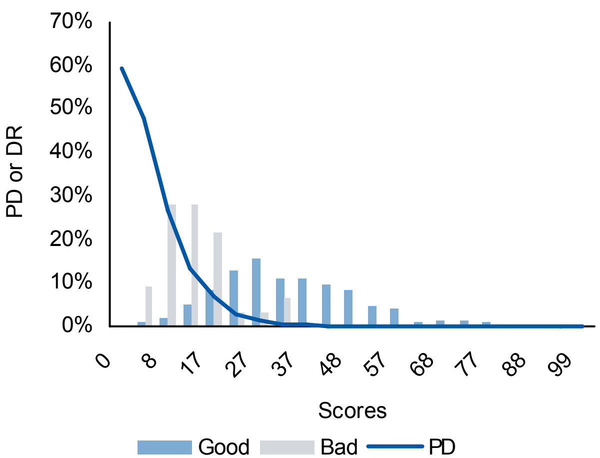
# Current environment reinforces the importance of macroeconomic loss forecasting, implementing actionable mitigation objectives

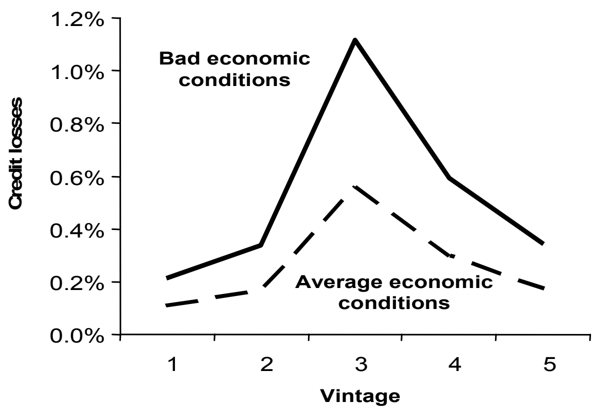
## Typical components of loss forecasting framework

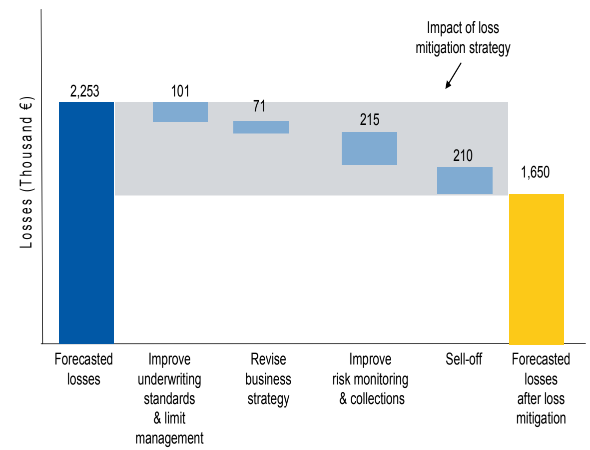
**1 Input risk parameters**
- Application scorecards
- Behavioral scorecards
- LGD models

**2 Quantitative forecasting**
- Macroeconomic forecasting models
- Risk trends associated to each portfolio grade

**3 Management layer**
- Recent trends
- Policies and processes
- Business strategies
- Loan system changes
- Laws and regulations
- Model risk



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# There has been a migration towards value-based decision making, incorporating both risk and commercial parameters in decisioning and pricing

## Outline of value-based analyses

Increase in value

Decrease in value

### Income

NPV of expected income
- Payment patterns
- Cross sell
- Elasticity analyses (e.g. to commissions or re-pricing)
- Incorporation of existing business with the client (if applicable)

### Costs

Present and expected
- Marketing
- Sales
- Admin
- Analysis

### Expected loss

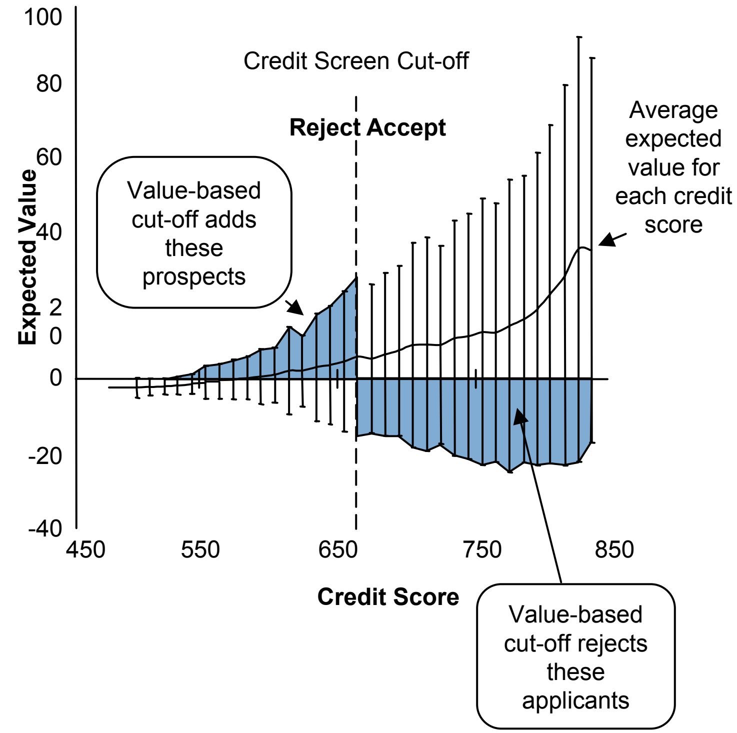
- Based on PD (provided by rating or scoring tools)
- Loss given default, incorporating cost of collections, value of guarantee and expected collection cash flows

### Cost of economic capital

- Based on PD, LGD and (for enterprises) client income
- Incorporates analysis of the institution's WACC

Ilustrative

## Illustration of value-based decisioning

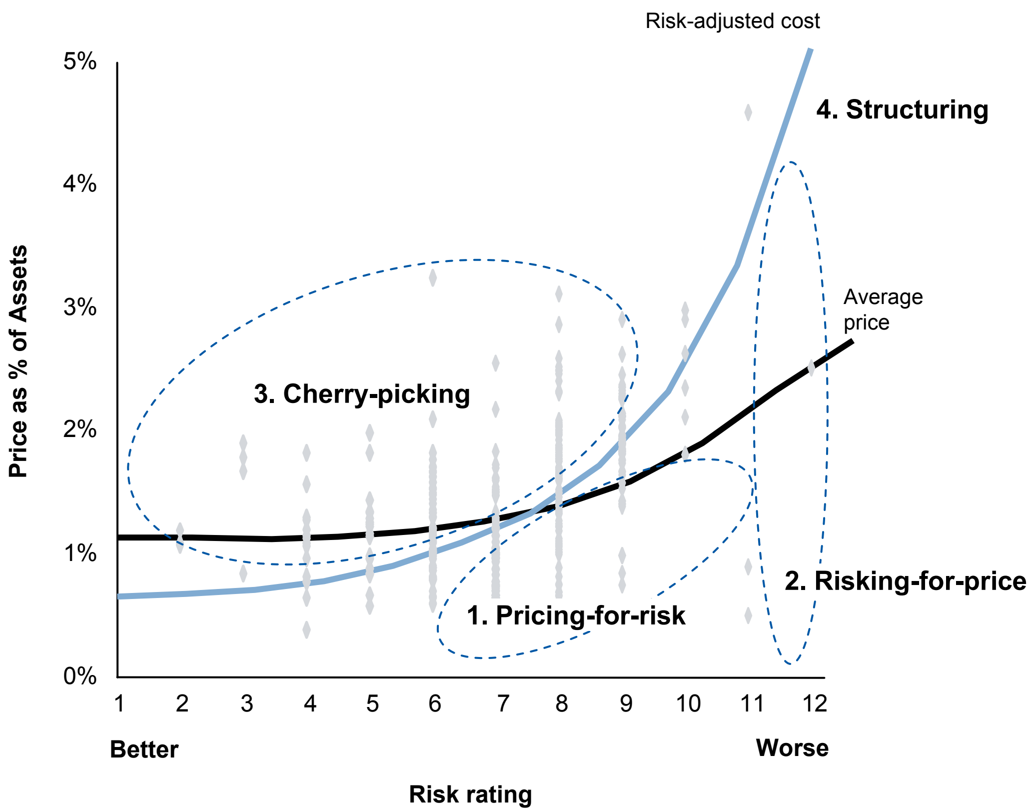



- **Best practice implies client NPV analyses, incorporating risk premium as a key factor**
- **Typical laggard approach is to set fix prices by product and a minimum approval score – with a weak link with actual cost of risk**

4

# Example: Risk based pricing can offer a significant opportunity because many institutions and markets price too flat

## Illustrative loan pricing profile




## Opportunities and threats

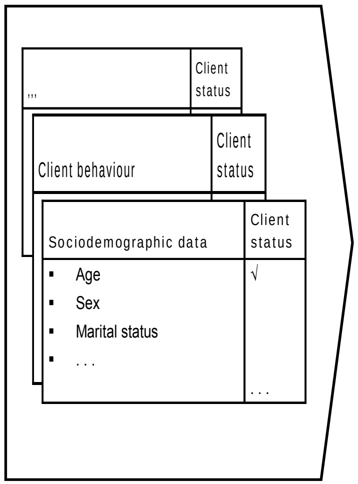
1. "Pricing for risk"
   – Increasing price…
   – …managing attrition
2. "Risking for price"
   – Imposing a risk cut-off…
   – …managing revenue vs. cost
3. "Cherry-picking"
   – Targeting competitors' clients…
   – …avoiding a price-war
4. "Structuring"
   – Improving product economics…
   – …maintaining product appeal

6

# It is key to set clear policies and processes linked to the PD provided by early warning tools

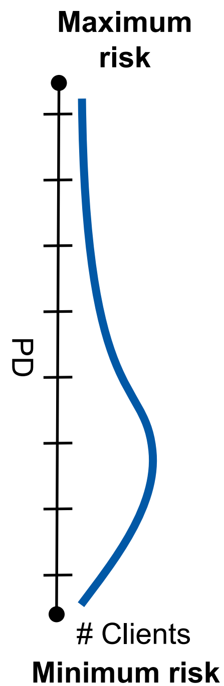
## Sample early warning and prevention system

### 1 Signals definition and identification (behavioural scoring)



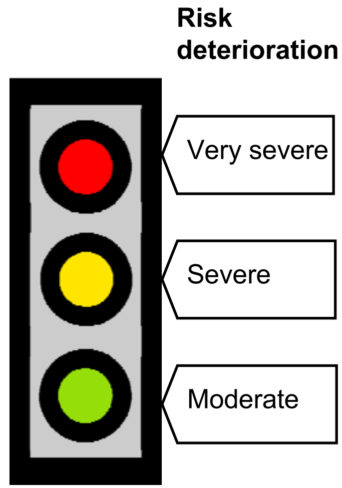

Comprehensive analysis of the impact in clients' risk profile of different events (qualitative and quantitative)

### 2 Risk assessment / scoring system




Definition of the relationship between scoring system and probability of default

### 3 Parameterisation of signal severity




Different severities defined according to the level of risk deterioration

### 4 Implementation in day-to-day business

**Most severe**

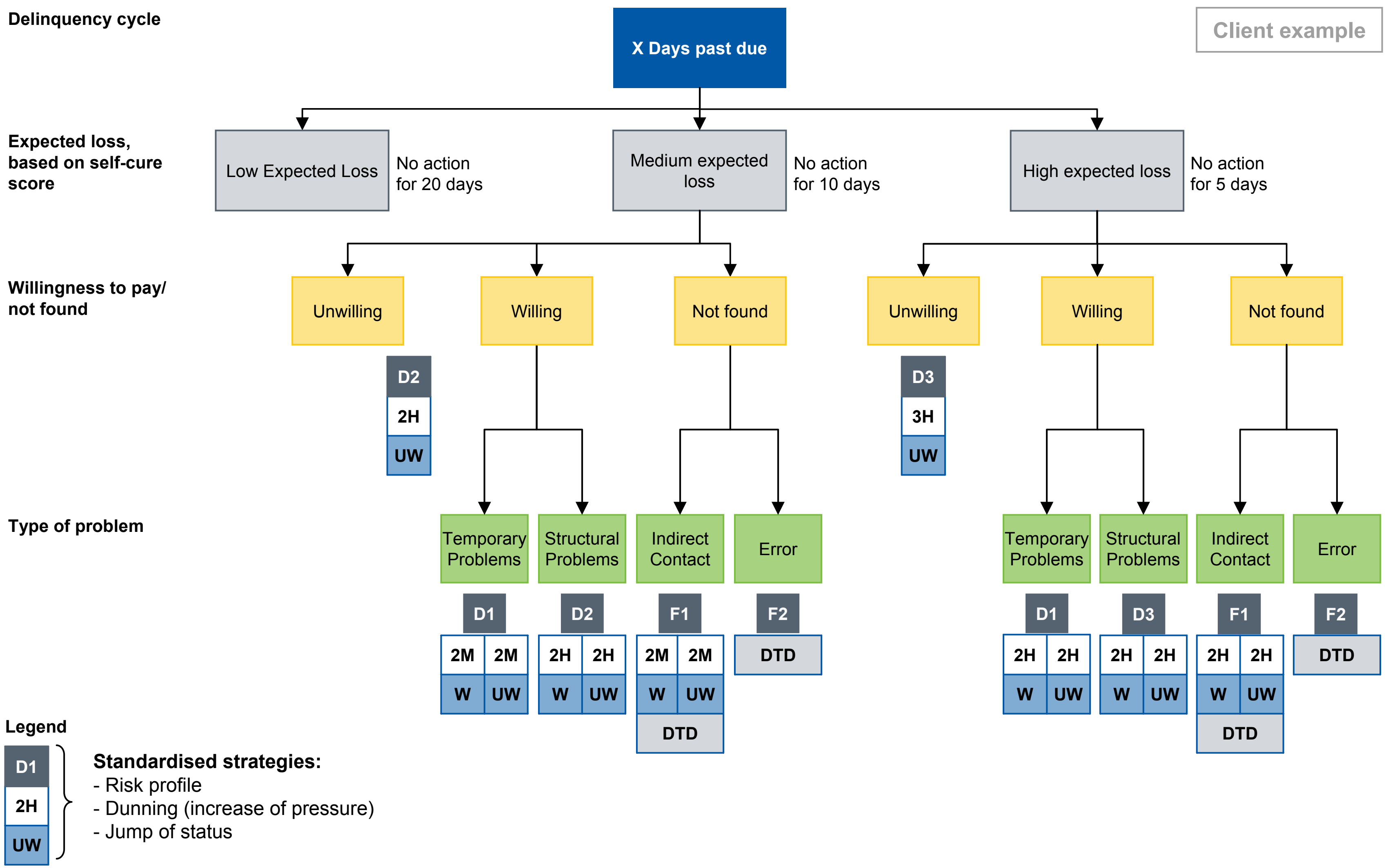
- Undesired client
- Not renewal of credit line
- Client to restructure
- Limit reduction on existing accounts
- Reduction of global client exposure
- Request of further guarantees
- Request additional guarantors (or co-debt holders)
- Increase of risk premium

**Least severe**

- Definition of different levels of analysis (segmented by seniority of analyst involved and depth of analysis)
- Guidelines for recommended actions provided

7

# Best practice players have clearly defined sets of treatments to be applied depending on objective set of risk and value criteria



# Deep dive: credit risk assessment

## Default modeling is typically driven by characterizing the relationships between key risk attributes and transitions to default

"Long list" of key risk attributes

**Asset characteristics**

- Loan age
- Loan-to-value
- Property type
- Loan purpose
- Documentation level
- Loan amount
- Occupancy type
- Vintage
- Lien type
- Product type/term
- Note rate

**Borrower characteristics**

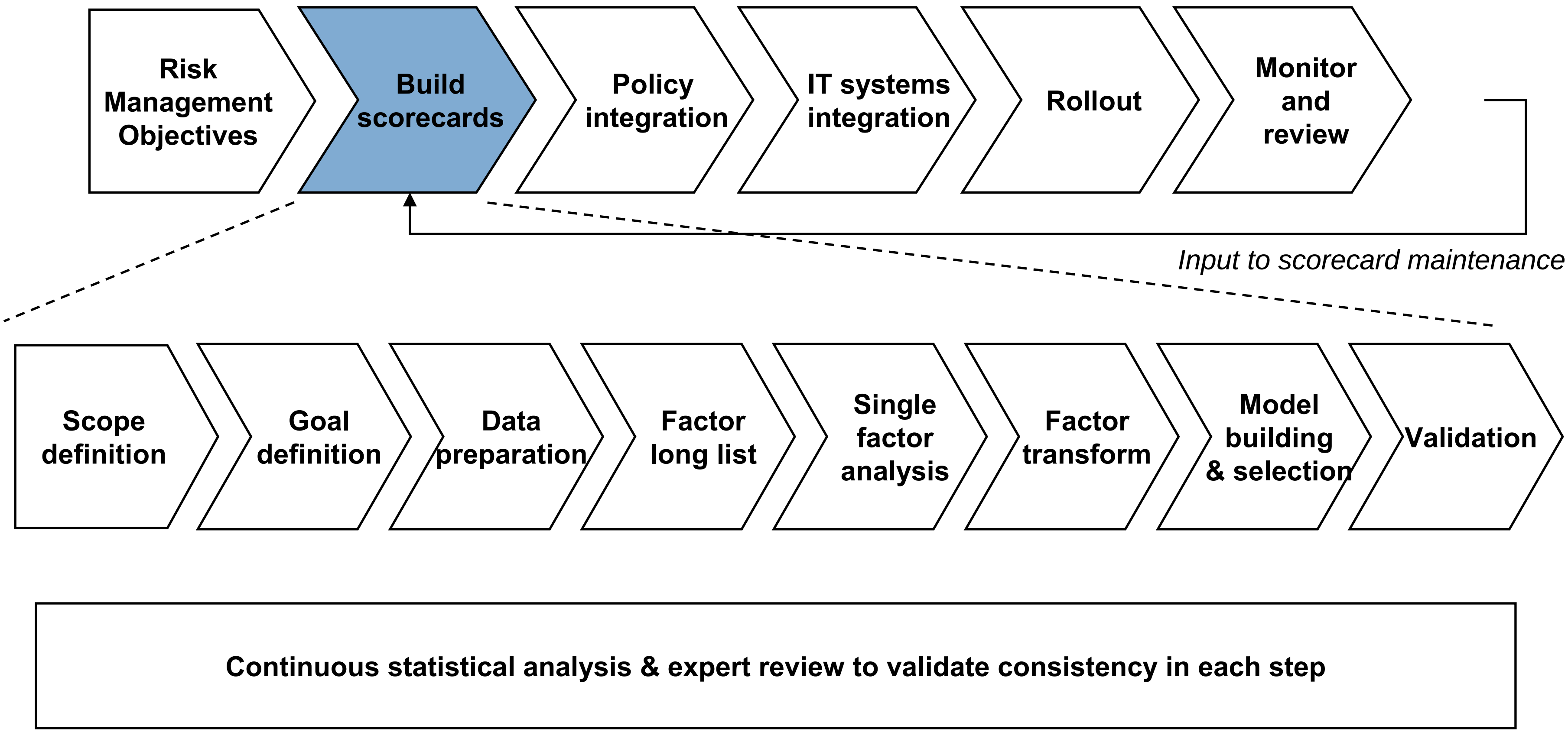
- Credit score
- Debt-to-income ratio
- Credit grade (for subprime)

**Macroeconomic factors**

- Home prices
- Interest rates
- Unemployment
- Real GDP growth
- FX rates (for FX-indexed mortgages)

**Borrower credit score and loan age are usually the most significant risk attributes in modelling default rates**

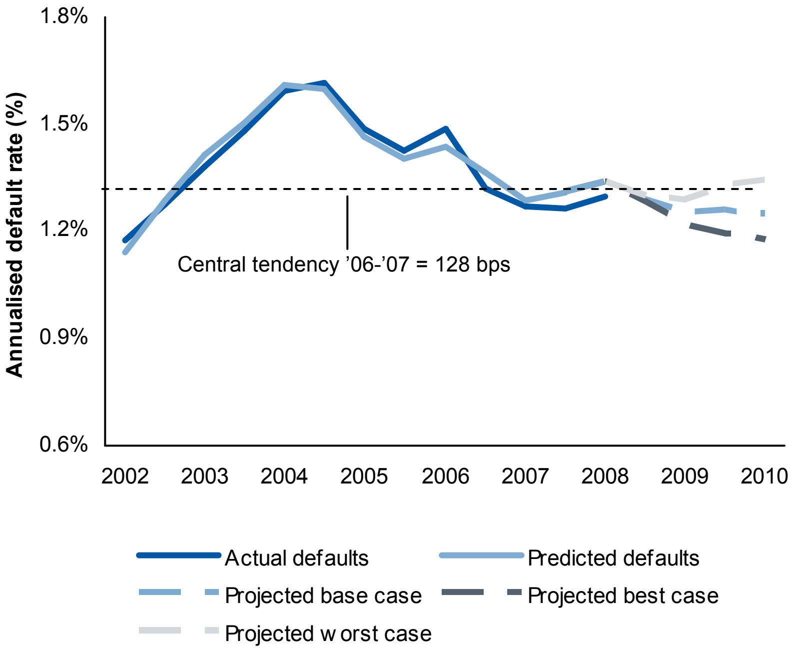
# Best practice modelling needs to follow a careful process



# On a portfolio level, default rates can be modelled fairly accurately as a function of underlying macroeconomic factors

Portuguese client example

**Predicted, actual[1] and projected Portuguese mortgage default rates** (2002 to 2010)




**Scenarios driven by underlying macro economic factors**

| Scenario | Real GDP | Interest rate | Unemploy-ment rate | House price growth |
|---|---|---|---|---|
| **Lag** | 3 quarters | 2 quarters | 3 quarters | 1 quarter |
| **Base case** | Upturn in growth to steady rates | Base rates fall slightly to accommodate Eurozone slowdown | Stable over '08 with slight fall '09 | Moderate growth |
| **Best case** | Upturn to strong growth rates | Improved liquidity and slight fall in base rates | Mild fall | Moderate, but quicker growth |
| **Worst case** | Continuation of mild growth | Continued credit crunch and rising base rates to curb inflation | Moderate rise | Slowdown of price rises to mild rate |

- Correlation equation developed through regression against macro economic factors
- Shocking factor evolution under various macro-economic scenarios results in little change in defaults – reflecting stability of Portuguese economy – and low probability of significant, prolonged default rise

1. Source: Banco de Portugal
Note: Definition of default: non-performing loans

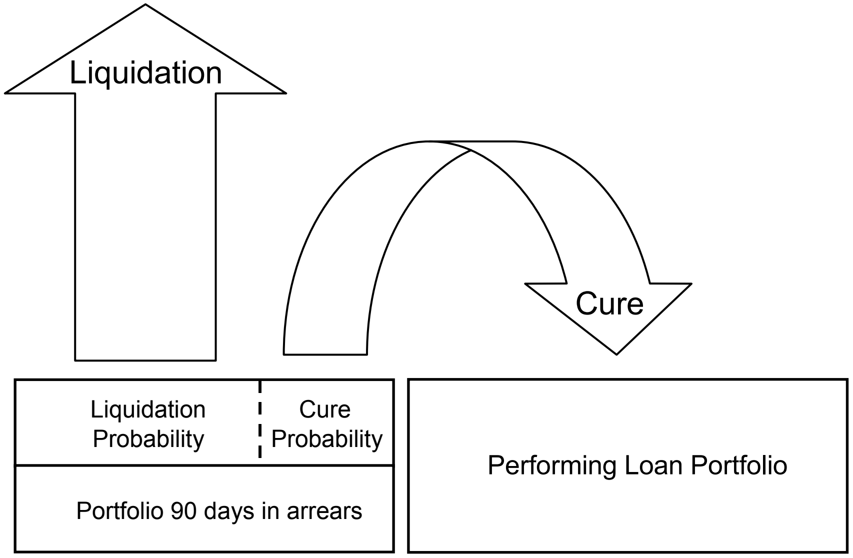
## Modelling loss severity should consider both liquidation and cure events of defaulted mortgages

Components of loss given default (LGD)

***LGD = (1-Cure%)*[Unpaid Balance + Accrued Interest + Costs – Sales Proceeds – Insurance Payment] + (Cure%* Cost of Curing)***

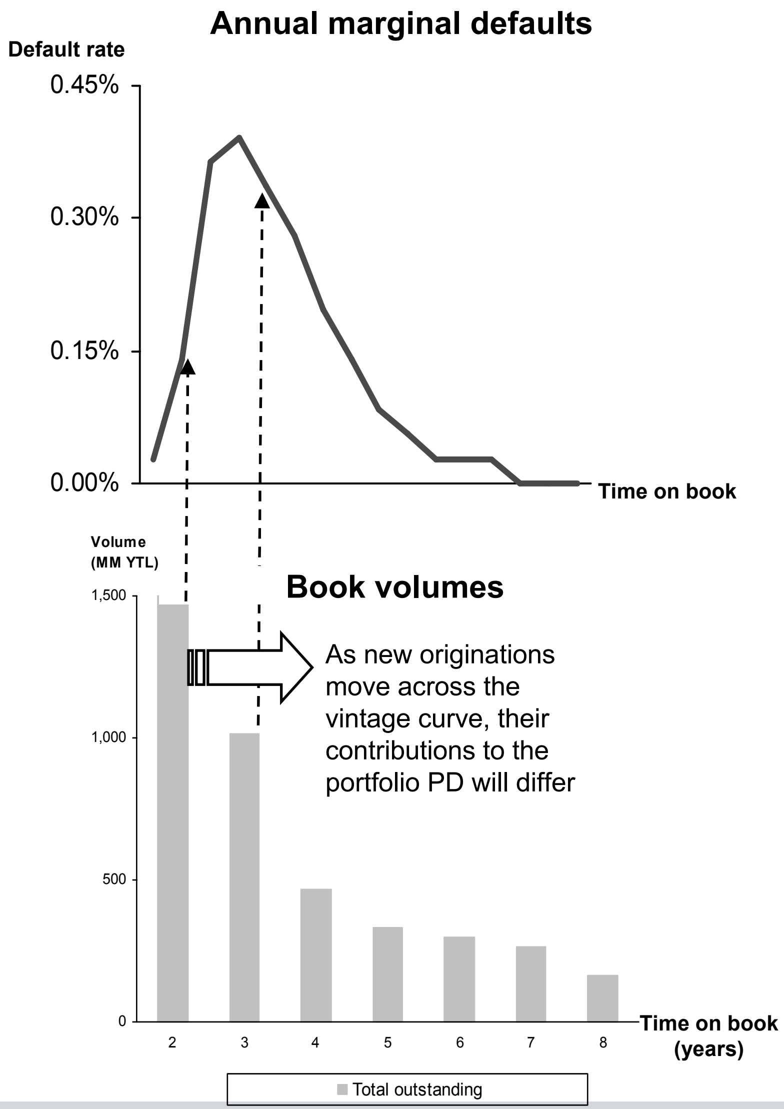
***Liquidation**: Loss driven by home prices, foreclosure/disposition timelines, and associated costs*

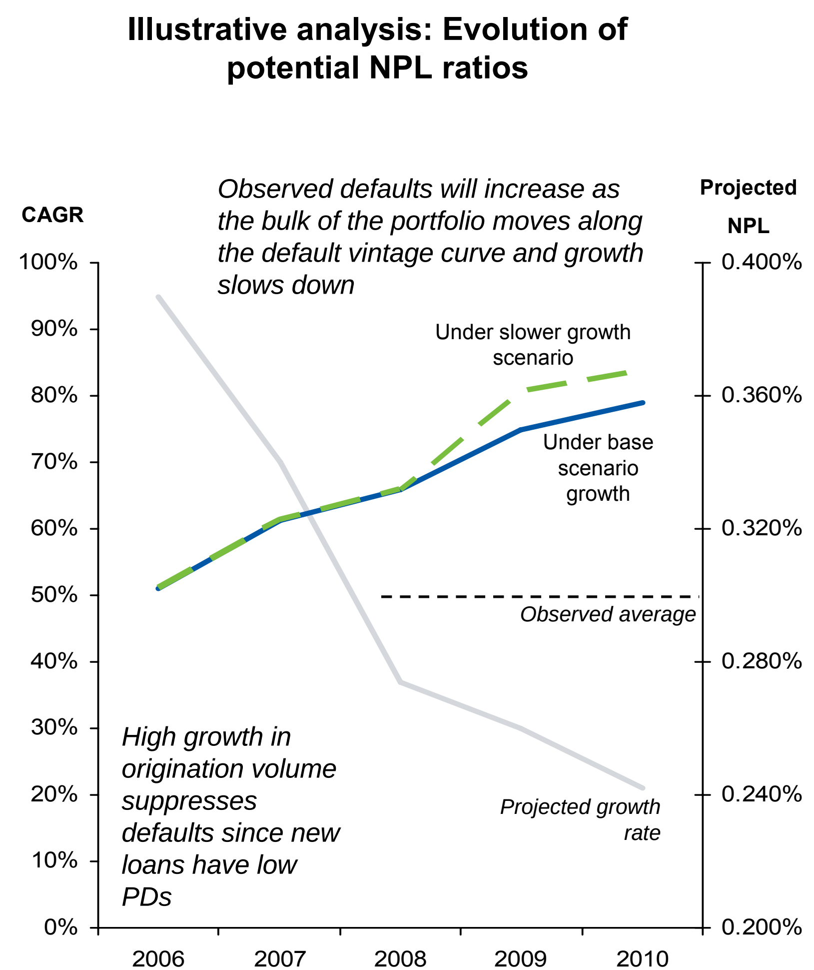
***Cure**: European banks typically have a significant "cured" loan portfolio*



# In rapidly growing portfolios, new originations can hide the credit risk, therefore vintage-based reporting and analyses are required

Illustrative



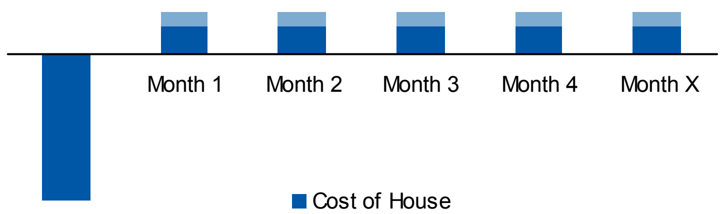

*Assumes 10-year amortization for all outstanding loans.

# There are specific challenges in modelling credit risk in KSA

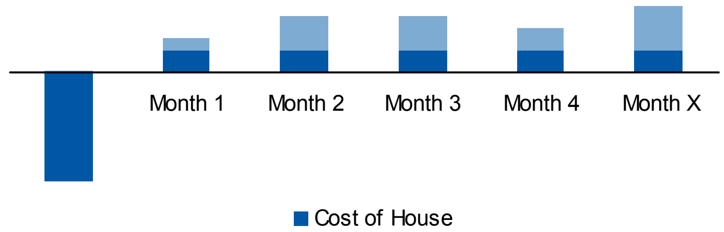
| | Challenges in modelling | Solutions |
|---|---|---|
| **PD modelling** | ▪ Mortgage product is very new in Saudi Arabia<br>▪ Limited historical data, often not representative of current portfolios<br>▪ Credit bureau scores are newly available but not 100% reliable yet<br>▪ Saudi Arabia has not yet experienced a downturn, which is typically when most of the default occur<br>▪ Many banks do not have IT links between credit account and other accounts, which makes behavioural modelling hard | ▪ Make use of all data available but apply adjustments where appropriate (e.g. weighing of factors) to reflect poor data quality<br>▪ Utilise other consumer loan data – some retail products have relatively rich data sets e.g. personal loans – and then over-ride to incorporate mortgage product characteristics<br>▪ Conservative calibration of model central tendency and implied power stat<br>▪ Continue using a combination of existing processes (judgemental) and new metrics (probabilistic) until comfort is obtained in the models<br>▪ Phase in behavioural models with lower weights initially until the links are up and running accurately |
| **LGD modelling** | ▪ Legal framework new<br>▪ Significant differences in customer behaviour e.g. between locals and expats | ▪ Use conservative LGD benchmarks<br>▪ Override based on structural factors, even where data is not yet present<br>– Higher cure rates for locals<br>– Higher collateral recovery for expats |

# Cash flow structure for the Islamic home financing products needs to be explicitly recognized for accurate models

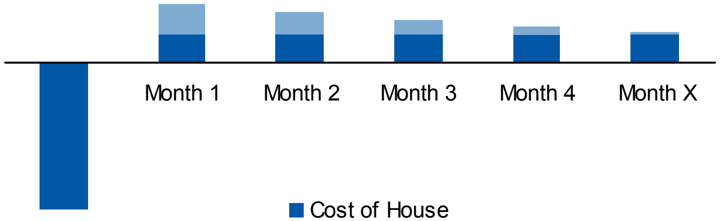
**Murabaha**
Fixed capital, fixed profit



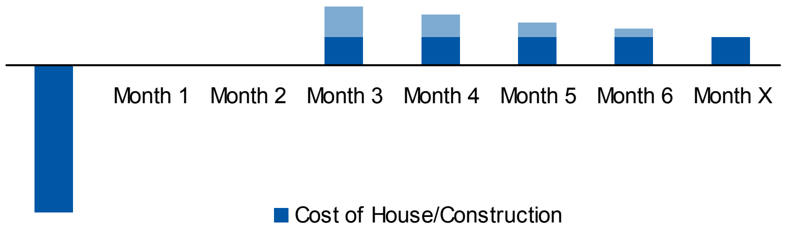

**Ijarah**
Fixed capital, variable or fixed rent




**Diminishing Musharakah**
Fixed capital, diminishing rent




**Istisna'a**
Possibly delayed repayment; fixed capital, variable rent




Source: Oliver Wyman research and analysis
Note: Most common forms are shown, other cash flow patterns are possible for Ijarah and Diminishing Musharakah

## One should also keep in mind other risks such as ALM, value and pre-payment

Example: prepayment risk - three major drivers of (voluntary) prepayment

### Rate incentive

- Borrowers repay their existing mortgage to take out a new mortgage at a lower rate
- Key drivers
  - Coupon rate
  - Available market rate
  - Remaining maturity
  - Loan size
  - Prepayment penalty
  - Refinancing costs

### Cashout and other incentives

- Borrowers refinance their mortgage and extract equity
- Other incentives include those driven by competitive pricing in the market or access to credit (e.g. home equity loans)

### Housing turnover

- Normal home sales that fluctuate seasonally
- This implies there is a "natural" or minimum rate of prepayment due to demographic factors, regardless of incentives in the market

# Deep dive: risk and value based decisioning

# Credit Risk alone is not a good basis for making the lending decision

**CREDIT RISK**

Measures the level of default risk in a loan:

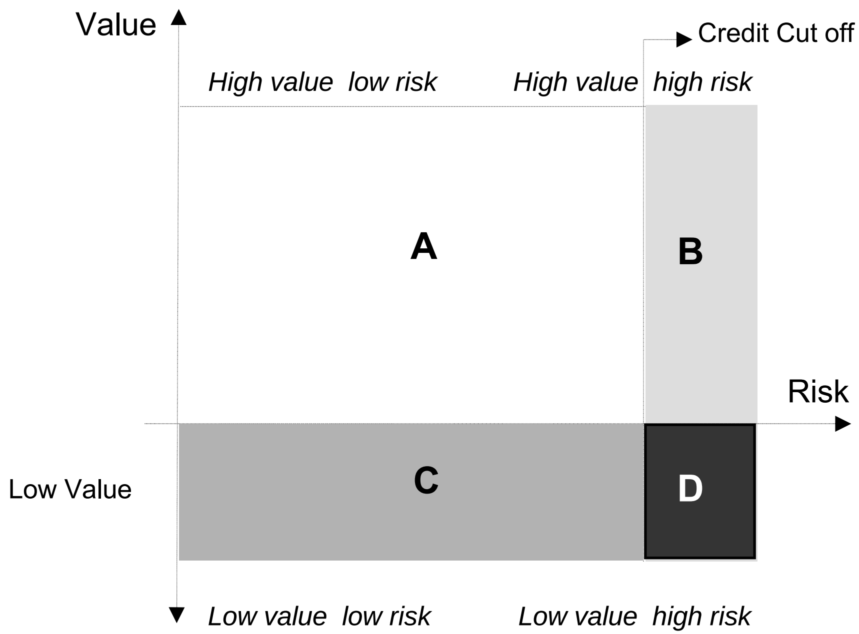
- The probability of the loan going into 90 days arrears (PD) and associated expected loss (EL) given default

**COMMERCIAL VALUE**

Measures the return of the loan over its lifetime:

- Credit Risk
- Rate charged
- Operational costs
- Duration of the loan
- Size of the loan
- Cross sell of other products

Credit vs. Commercial Value




**A clear understanding for commercial value allows better, more consistent and more automated decisioning**

# Basel II risk metrics combined with commercial value metrics should drive the accept/reject decision

| Filtering | Quantitative risk assessment | | Commercial decision | |
|---|---|---|---|---|
| *Set by Policy* | *Phase 1 & Phase 2* | | *Current project* → | |
| Policy rules → | Ratings process → | Expected loss → | Value model → | Accept/reject decision |
| ▪ Nets<br>▪ LTV<br>▪ Etc | ▪ Scorecards, LGD models<br>▪ Risk mitigation<br>▪ Risk adjustments<br>▪ Etc. | ▪ PD x LGD x EAD | ▪ Size of loan, rate, term<br>▪ Pre-payment, default<br>▪ Etc. | |

**Filtering**

- Hard up front filters
- Agree upon real filter vs. info tracking

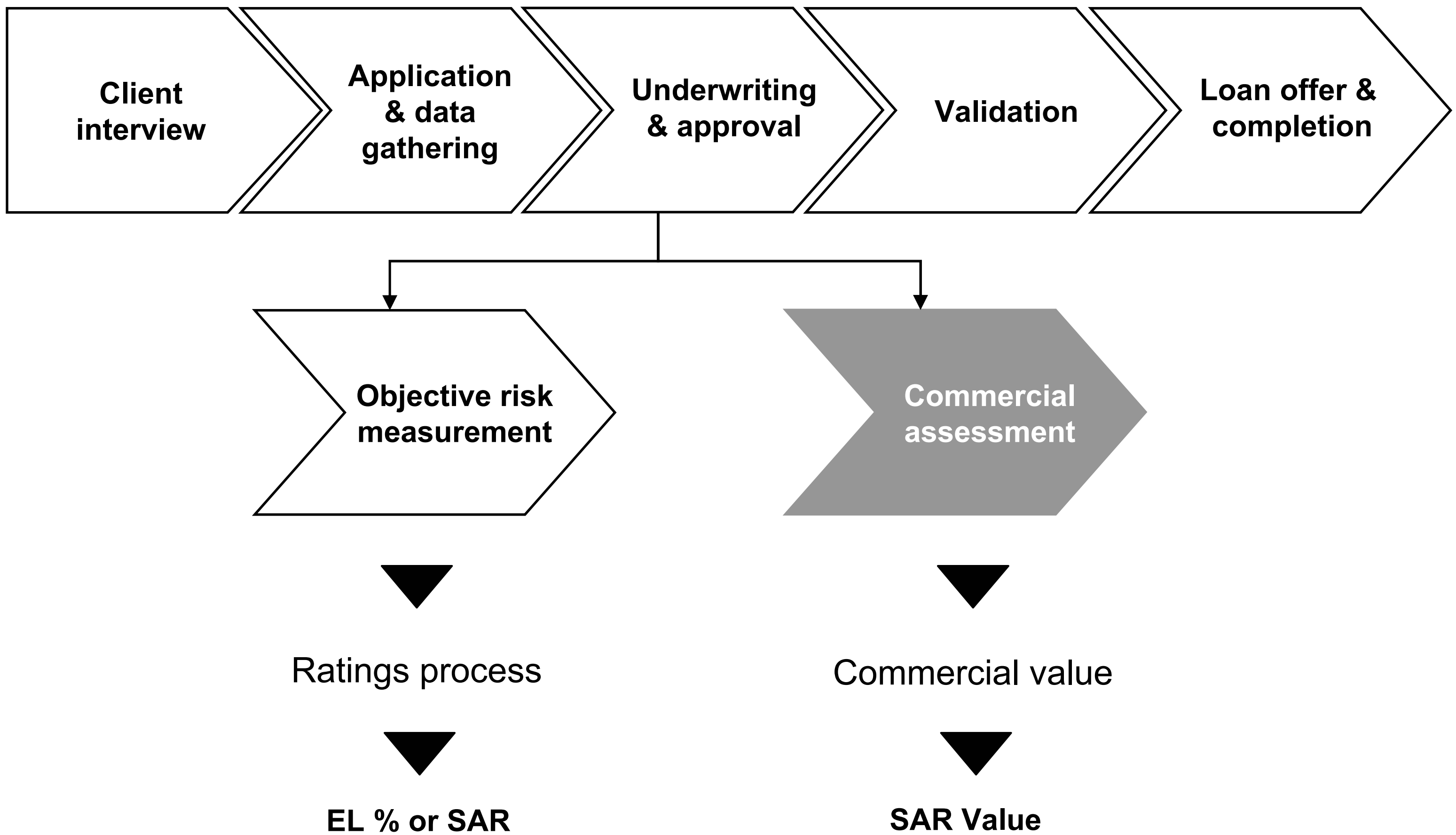
**Quantitative risk assessment**

- Risk assessment provided by ratings process
- **Limited underwriter input using risk adjustments**

**Commercial decision**

- Accept/reject decision based on value given risk and volume tolerances
- **No underwriter input**
- Appeals process installed for limited cases that fall outside process

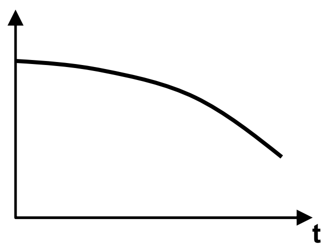
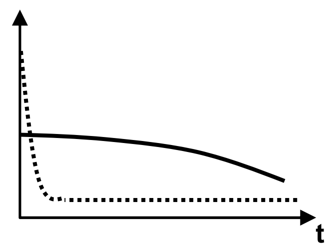
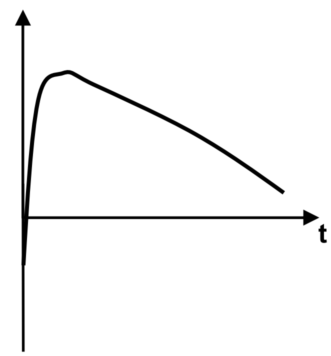
# A commercial value model should be developed to assign an expected SAR value to each mortgage at point of application



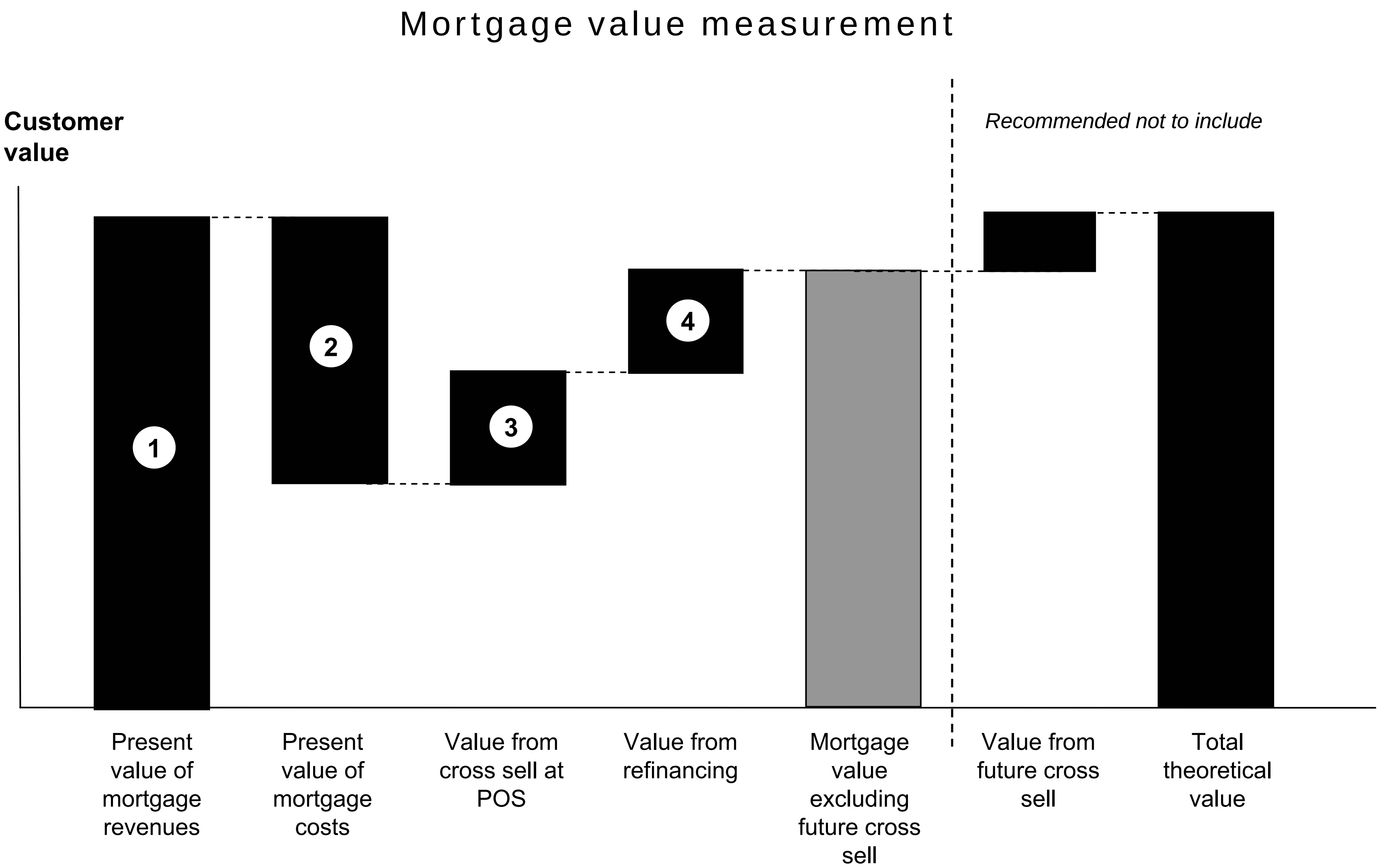
# The value metric considers the expected return from a mortgage over the lifetime of the product

**– Illustrative –**

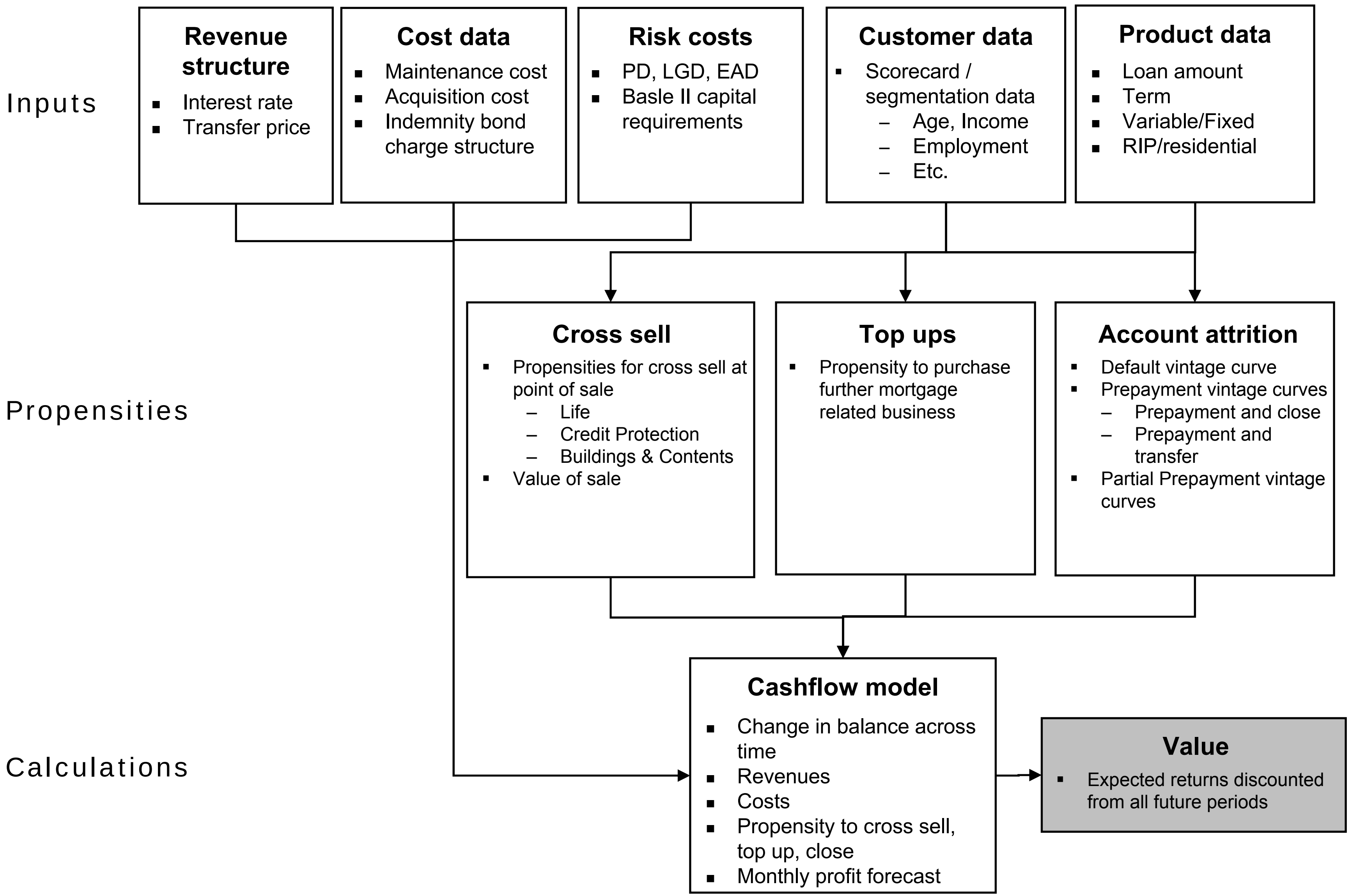
## Product value calculation

| Expected balance | | Expected revenues & costs | | Expected profit | |
|---|---|---|---|---|---|
|  | => |  | = |  | Discount and sum to get Net Present Value (NPV) |
| Based on:<br>▪ Opening Balance<br>▪ Probability account remains open<br>– Prepayment propensity<br>– Default probability<br>▪ Repayment schedule | | Based on:<br>▪ Revenues<br>– Expected balance<br>– NIM<br>▪ Costs<br>– Acquisition<br>– Maintenance<br>▪ Risk<br>– Credit quality<br>– Collateral | | Expected revenues – expected costs | |

# The commercial decision should incorporate a number of different value drivers…



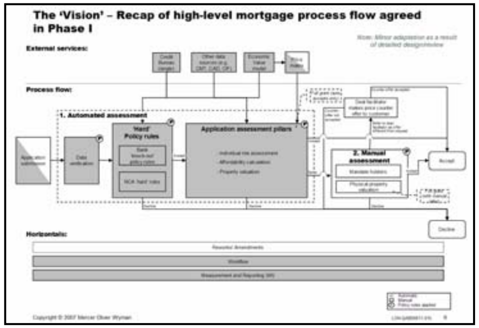
# … that should structure the overall value model



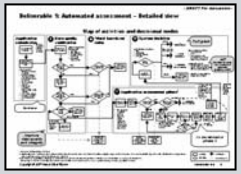
# Operations and IT

# Efficient and streamlined operations and IT architecture are critical for mortgage processing

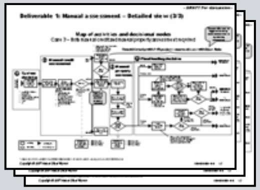
**From high-level design to detailed processes on…**



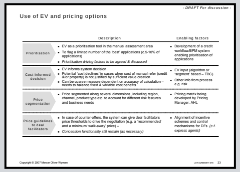

**…auto assessment**



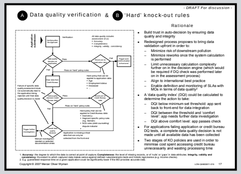
**…manual assessment**



**…data quality functionality**



**…EV/pricing input**



**+ Rationale captured from multiple iterations with key stakeholders and topic experts**

**Delivers the "Vision"**

- **Increased volumes and decisioning** – higher level of straight accepts (full grants/AIP as automated decisions)
- **Economic Value** – leveraged for better decisioning and improved profitability
- **Process** – streamlined, transparent and adaptable (allowing for treatment of different segments)
- **Data** – robust, consistent and reliable

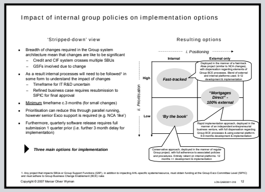
# Launching a scalable and reliable mortgage platform requires a clear roadmap spanning all aspects of IT and operations

**Preliminary business case paper**

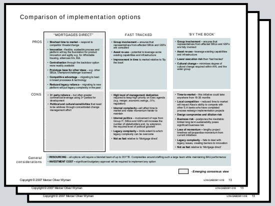
- Comparison of implementation options and approaches
- Economic case for full migration and projection of benefits
- Description of timeframe options and requirements to achieve
- Indicative plan and resourcing requirements
- Key dependences and delivery risk considerations

## Further description and implications

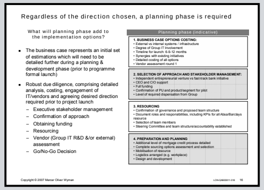
**Implementation options**



**…implications**

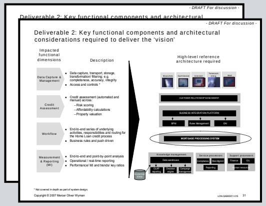


**…planning phase**

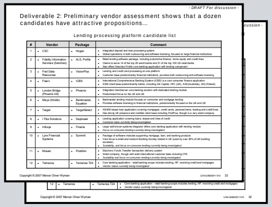


## Implementation design/detail

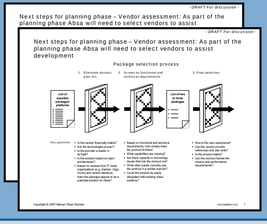
**Envisaged system architecture**



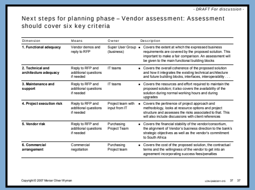
**High level sourcing options and direction on fit**



**Sourcing assessment framework**

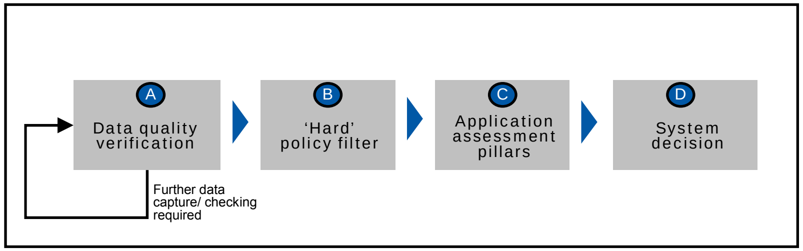


**Key criteria for sourcing components**



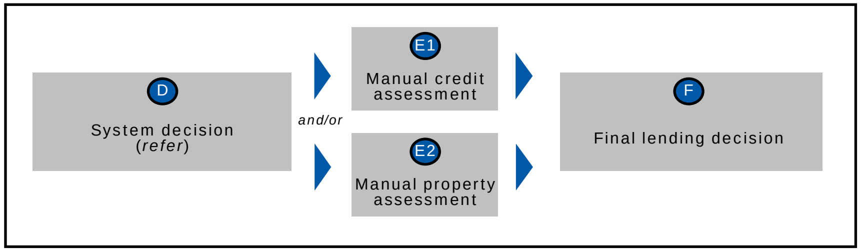
# In particular, the roadmap should effectively address critical challenges in both automated and manual assessment…

## 1. Automated assessment




- Maximisation of auto-decisioning levels
- Three separate calculations brought together at assessment stage (scoring, affordability, prop.val.)
- Flexible and parameterised process
- Regulatory compliance
- Prioritisation of applications
- Info capture strategy and monitoring/ reporting

## 2. Manual assessment

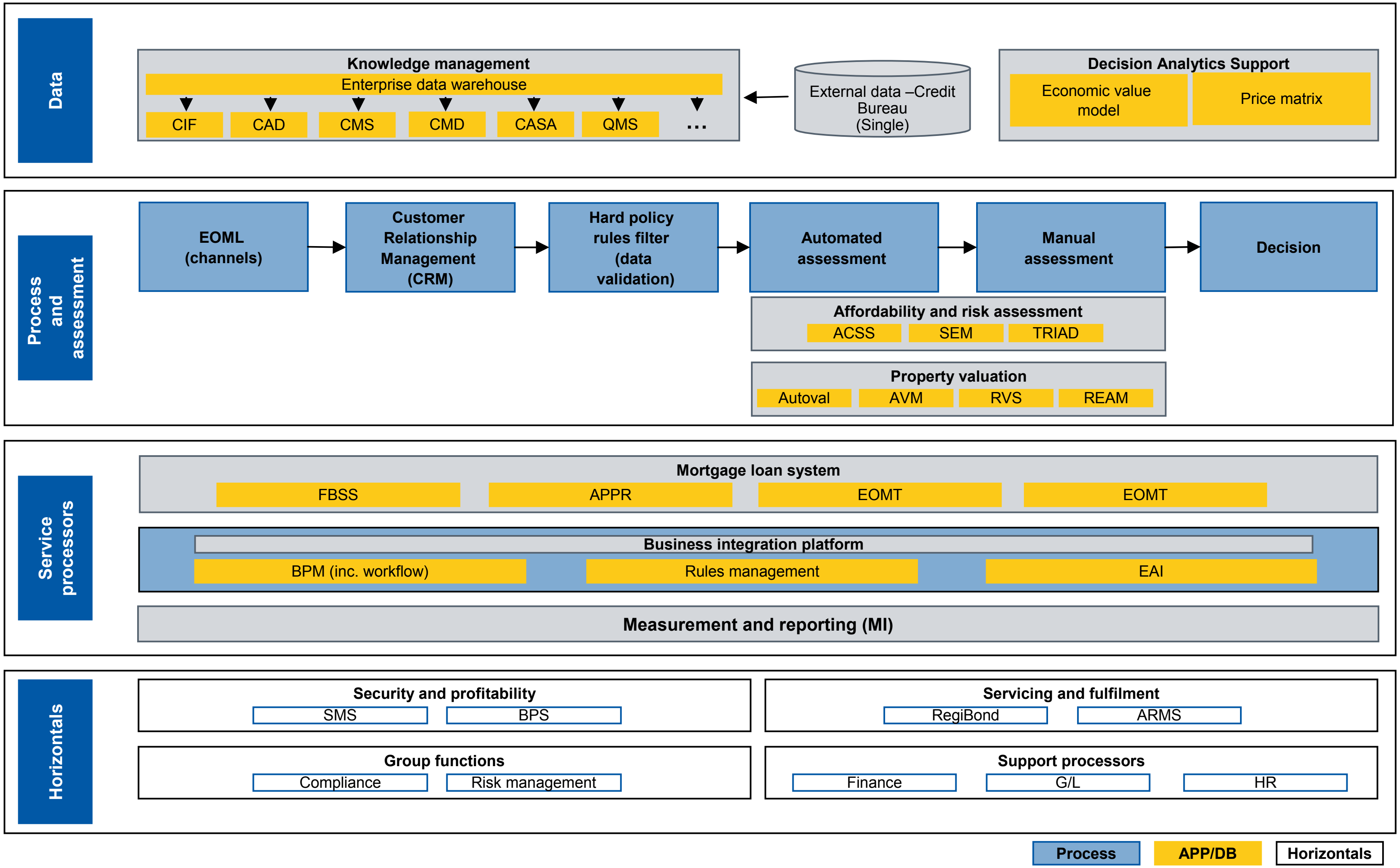



- System triggering manual assessment (credit and/or property)
- Mandates differentiated based on MHs' experience
- No tolerance levels allowed around set policy rules
- Credit assessment separated from property assessment
- Prioritisation of applications
- Info capture strategy and monitoring/ reporting

## Delivers the 'Vision'

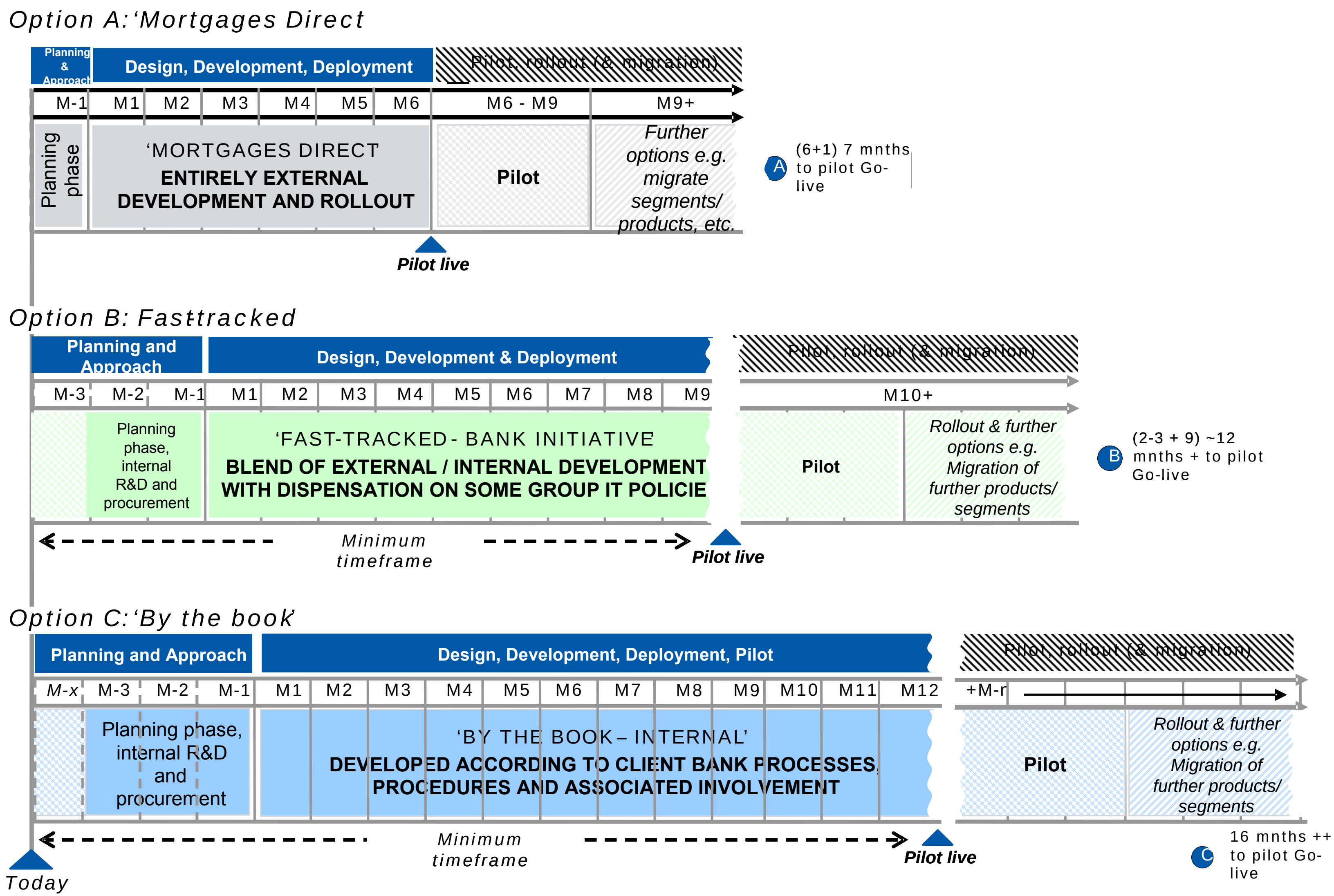
- **Data** – Robust, consistent and reliable
- **Increased volumes and decisioning** – Higher level of straight accepts (full grants/AIPs as automated decisions)
- **Process** – Streamlined, transparent and flexible (allowing for treatment of different segments)
- **Economic Value** – Leveraged for better decisioning and improved profitability

# … and cover operations and IT from an holistic view



# Depending on the ambition and target footprint, building such a platform would require 6 – 18 months effort



# Liquidity management

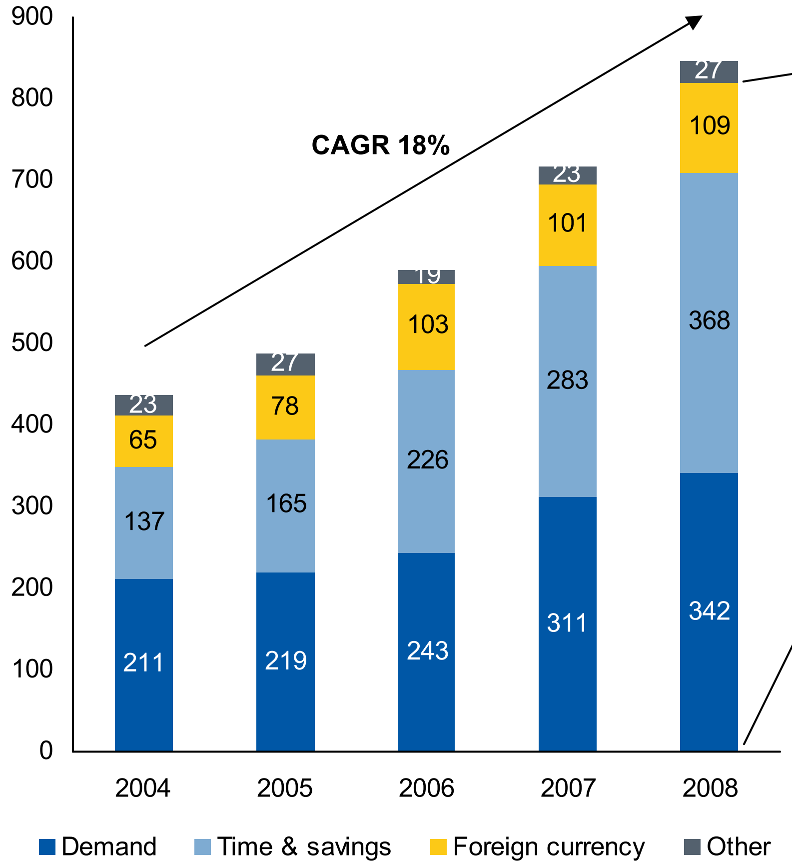
# A growing mortgage finance portfolio will require improved long-term funding to reduce interest rate and liquidity mismatches

**We see 4 main ways to manage long-term funding requirements**

| | | |
|---|---|---|
| 1 | **Deposit gathering** | ▪ Diversity of funding base across individuals, corporates & institutions<br>▪ Innovative deposit gathering products and channels (e.g. electronic) |
| 2 | **Advanced liquidity management** | ▪ Analysis of deposit duration and “stickiness”<br>▪ Liquidity forecasting and pricing mechanisms |
| 3 | **Bond issuance** | ▪ Local and international bond issuance<br>▪ Longer-term government funding |
| 4 | **Securitisation/ sukuk** | ▪ Structuring, rating and pricing mortgage securitisations and sukuk<br>▪ Distribution to local and international investors |

## 1 A well-diversified base of demand, time and savings deposits reduces the reliance on long-term wholesale borrowing to fund long-term mortgage assets

### Growth of KSA deposits (SAR BN)




### 2008 KSA deposit breakdown and suitability for mortgage portfolio funding

| Type | Contractual duration | % | Suitability |
|---|---|---|---|
| **Demand Deposits** | Overnight | 45% | ▪ Requires understanding of effective duration (benchmarked ~3 years)<br>▪ Cheap source though liquidity issues for L/T |
| **Time and savings deposits** | 3 months – 5 years | 39% | ▪ Best option in KSA<br>▪ Stagger maturities to fit products in book |
| **Foreign currency deposits** | Overnight+ | 14% | ▪ Long term deposits (especially in USD) could provide funding options<br>▪ Dynamic hedging of the FX exposure necessary |
| **Foreign L/Cs** | 30-60 days | 2% | ▪ Not appropriate for mortgage funding<br>– Short term<br>– Foreign currency denominated |
| **Repos** | Overnight+ | <1% | ▪ S/T with liquidity issues<br>▪ Government funding could be used to calm housing mkt |
| **Outstanding Remittances** | S/T | 1% | ▪ Not appropriate for mortgage funding<br>– Short term<br>– Foreign currency denominated |

Best suited to mortgage portfolio funding

Source: SAMA, Oliver Wyman analysis

# 2 Advanced liquidity management improves funding efficiency through a) duration analysis (including indeterminate maturity products)…

## Product characterisation

1. Segmentation

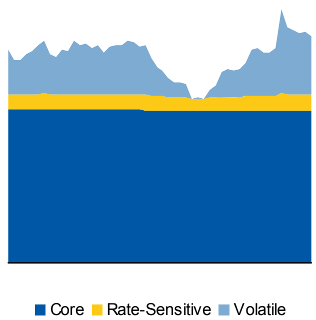
2. Balance volatility and sensitivity

3. Rate sensitivity

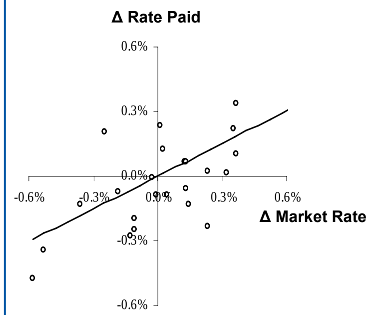
4. Average life analysis

5. Benchmarks forward-looking policies

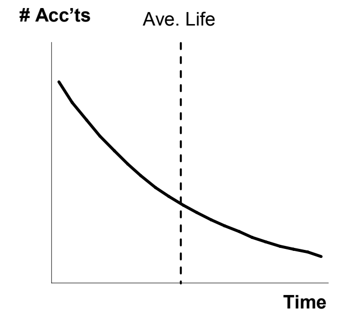
Core/volatile analysis identifies core balances that provide a liquidity or duration benefit



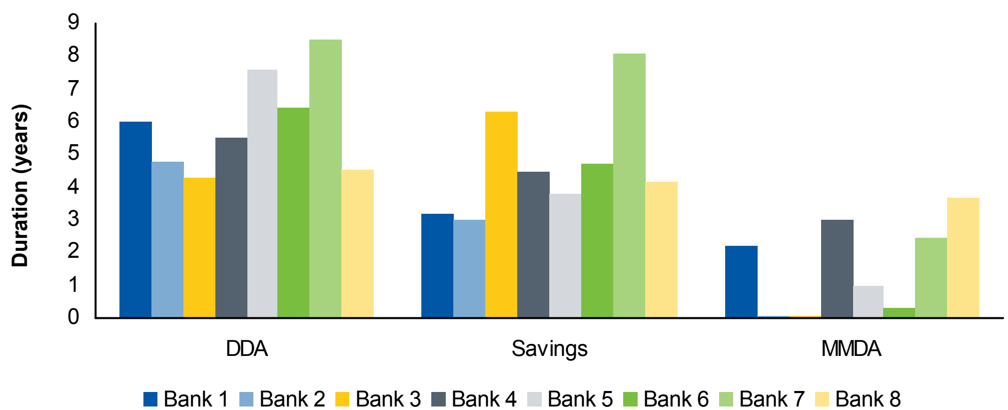

Rate characterisation allows for accurate assessment of deposit product interest rate risk sensitivity




Mortality/decay analysis determines the average life attributed to the core portion of the deposits




**Assumed durations for indeterminate tenor products at US banks**

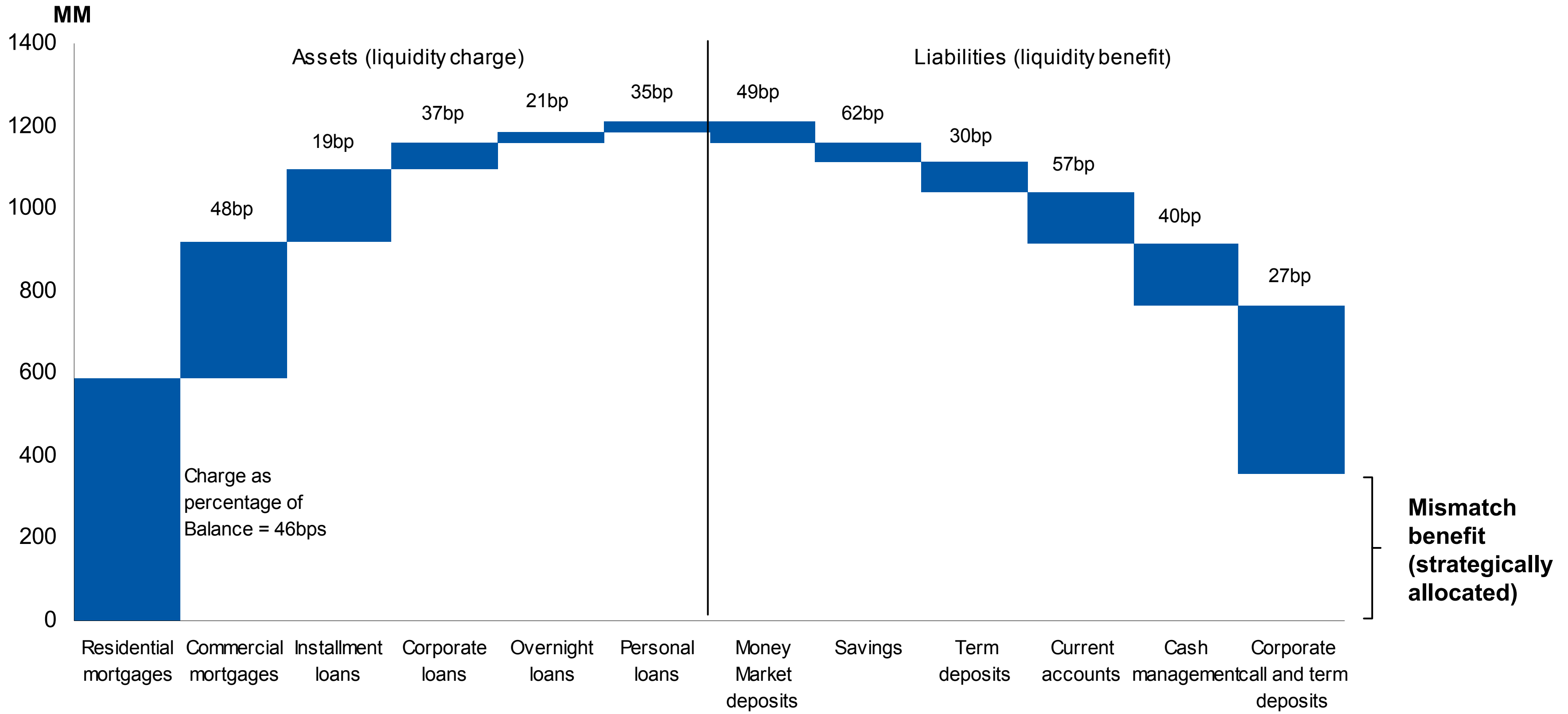



Source: Survey of 6 of top 10 U.S. depository banks conducted by Oliver Wyman, supplemented by two top 25 client examples

# 2 Advanced liquidity management improves funding efficiency through b) including liquidity charges and benefits in transfer pricing…

Client example

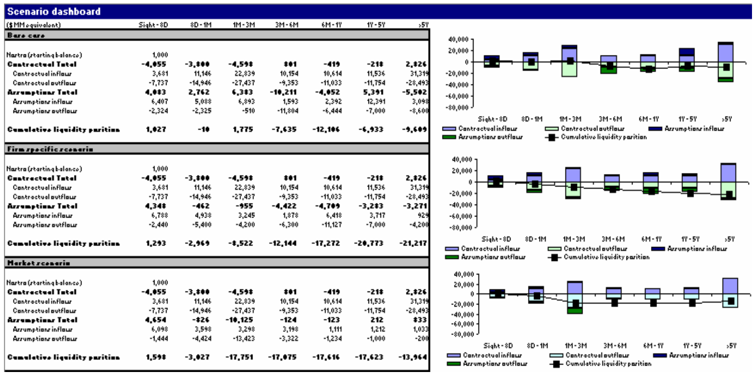
**Impact of introducing liquidity adjustments into funds transfer pricing (emerging markets example)**



# 2 Advanced liquidity management improves funding efficiency through c) accurate and detailed liquidity and balance sheet forecasting

Client example

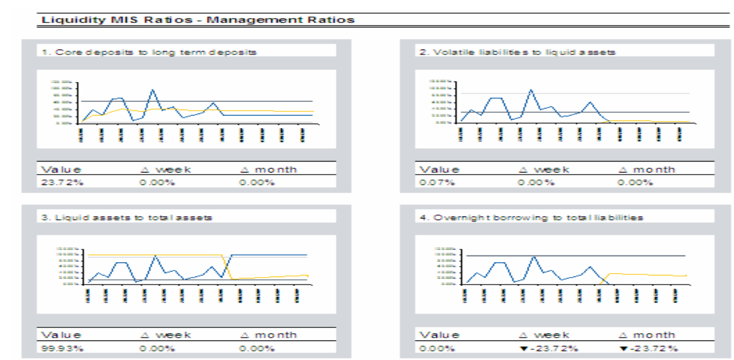
## Liquidity management dashboard



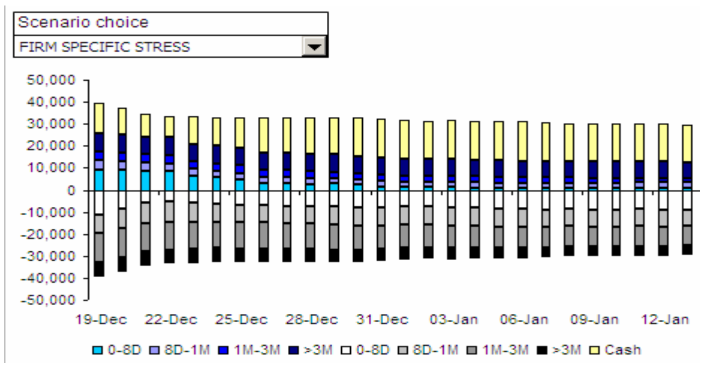
**Scenario dashboard**

| ($MM equivalent) | Sight - 8D | 8D - 1M | 1M - 3M | 3M - 6M | 6M - 1Y | 1Y - 5Y | >5Y |
|---|---|---|---|---|---|---|---|
| **Base case** | | | | | | | |
| Nostro (starting balance) | 1,000 | | | | | | |
| **Contractual Total** | **-4,055** | **-3,800** | **-4,598** | **801** | **-419** | **-218** | **2,826** |
| Contractual inflow | 3,681 | 11,146 | 22,839 | 10,154 | 10,614 | 11,536 | 31,319 |
| Contractual outflow | -7,737 | -14,946 | -27,437 | -9,353 | -11,033 | -11,754 | -28,493 |
| **Assumptions Total** | **4,083** | **2,762** | **6,383** | **-10,211** | **-4,052** | **5,391** | **-5,502** |
| Assumptions inflow | 6,407 | 5,088 | 6,893 | 1,593 | 2,392 | 12,391 | 3,098 |
| Assumptions outflow | -2,324 | -2,325 | -510 | -11,804 | -6,444 | -7,000 | -8,600 |
| **Cumulative liquidity position** | **1,027** | **-10** | **1,775** | **-7,635** | **-12,106** | **-6,933** | **-9,609** |
| **Firm specific scenario** | | | | | | | |
| Nostro (starting balance) | 1,000 | | | | | | |
| **Contractual Total** | **-4,055** | **-3,800** | **-4,598** | **801** | **-419** | **-218** | **2,826** |
| Contractual inflow | 3,681 | 11,146 | 22,839 | 10,154 | 10,614 | 11,536 | 31,319 |
| Contractual outflow | -7,737 | -14,946 | -27,437 | -9,353 | -11,033 | -11,754 | -28,493 |
| **Assumptions Total** | **4,348** | **-462** | **-955** | **-4,422** | **-4,709** | **-3,283** | **-3,271** |
| Assumptions inflow | 6,788 | 4,938 | 3,245 | 1,878 | 6,418 | 3,717 | 929 |
| Assumptions outflow | -2,440 | -5,400 | -4,200 | -6,300 | -11,127 | -7,000 | -4,200 |
| **Cumulative liquidity position** | **1,293** | **-2,969** | **-8,522** | **-12,144** | **-17,272** | **-20,773** | **-21,217** |
| **Market scenario** | | | | | | | |
| Nostro (starting balance) | 1,000 | | | | | | |
| **Contractual Total** | **-4,055** | **-3,800** | **-4,598** | **801** | **-419** | **-218** | **2,826** |
| Contractual inflow | 3,681 | 11,146 | 22,839 | 10,154 | 10,614 | 11,536 | 31,319 |
| Contractual outflow | -7,737 | -14,946 | -27,437 | -9,353 | -11,033 | -11,754 | -28,493 |
| **Assumptions Total** | **4,654** | **-826** | **-10,125** | **-124** | **-123** | **212** | **833** |
| Assumptions inflow | 6,098 | 3,598 | 3,298 | 3,198 | 1,111 | 1,212 | 1,033 |
| Assumptions outflow | -1,444 | -4,424 | -13,423 | -3,322 | -1,234 | -1,000 | -200 |
| **Cumulative liquidity position** | **1,598** | **-3,027** | **-17,751** | **-17,075** | **-17,616** | **-17,623** | **-13,964** |

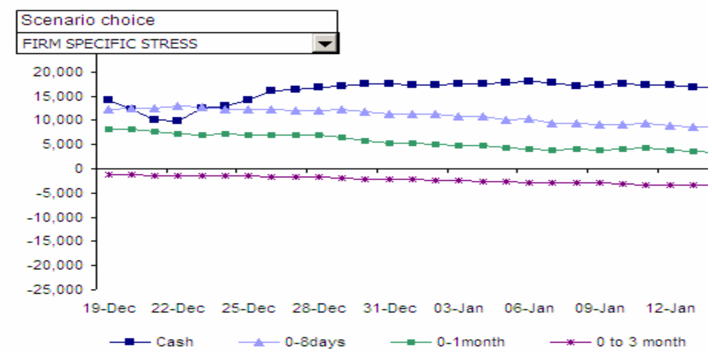
## Key liquidity ratios




## Balance sheet projection

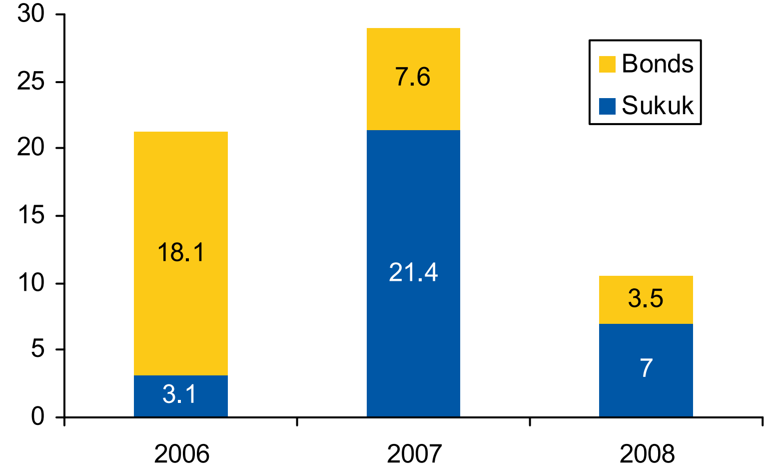



## Maturity mismatch

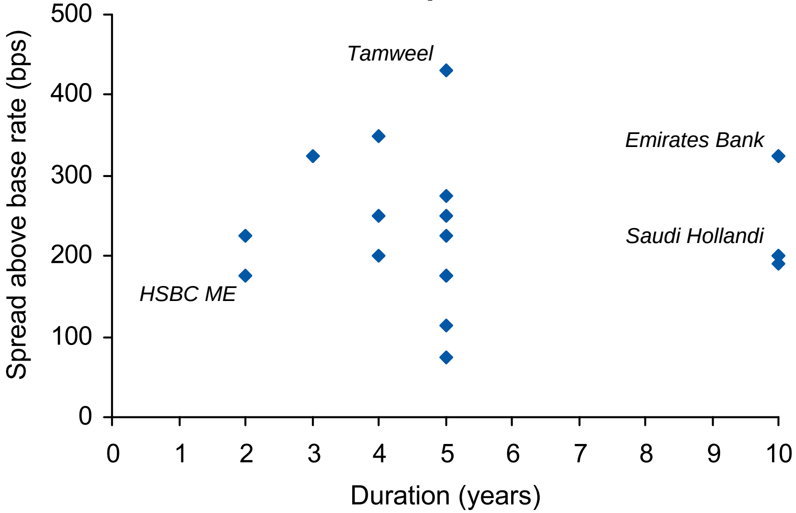


# 3 Long-term funding is scarce and expensive in KSA – government assistance will be necessary until a local secondary market develops

**KSA bond & sukuk issuance 2006-08** (SAR BN)




**GCC FIG bond & sukuk spreads 2008**




Source: public data, Oliver Wyman analysis

**Perspectives**

- Long-term wholesale funding is currently very limited for KSA financial institutions
  - Low levels of domestic bond & sukuk issuance
  - International bond markets are recovering in H1 09 but still challenging for GCC issuers
- Long-term funding is also expensive, most GCC issues in 2008-09 show spreads of 200bp or greater
- GCC secondary market remains shallow and will take time to develop
  - Requires improvements in legal rights post-default, regulatory oversight, issuance and trading procedures, pricing and ratings
  - Movement from buy-and-hold to trading mentality for bond and sukuk issuance
  - Greater standardisation of sukuk contracts
- Long-term funding from government entities required
  - E.g. planned long-term soft loans from PIF to Saudi mortgage lenders