Possible Unintended Consequences of Basel III and Solvency II

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Agenda

- Similarities and differences between
  - Banks and insurers
  - Basel III and Solvency II
- Possible unintended consequences of Basel III and Solvency II

Presentation based on Al-Darwish, A., Hafeman, M., Impavido, G., Kemp, M. and O'Malley, P. (2011). *Possible Unintended Consequences of Basel III and Solvency II*. **IMF Working Paper**

- Available at: http://www.imf.org/external/pubs/cat/longres.aspx?sk=25149.0
- Views expressed are those of the authors, not necessarily those of the IMF or IMF policy

Overview of paper

- Basel III (globally active banks) and Solvency II (all EU insurers)
  - Both well advanced and have much in common
  - But different histories, driving forces and business models of industries being regulated lead to substantive differences in detail
  - Substantially independent development but largely coincident implementation timing
- Paper seeks to engage financial and regulatory community to consider possible unintended consequences, including:
  - Cost of capital
  - Funding patterns and interconnectedness
  - Product and/or risk migration
- Paper focuses on Pillar 1 aspects (minimum capital requirements)

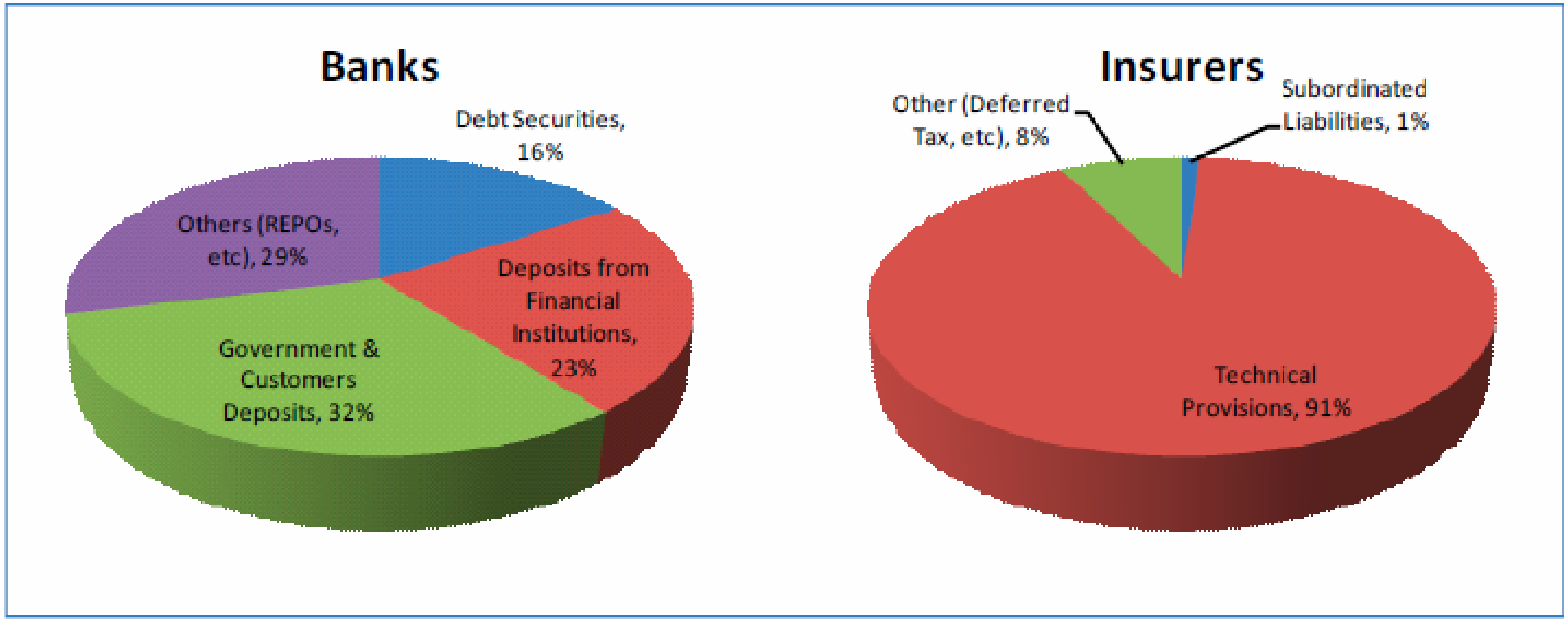
Typical bank and insurer business models differ

	Banks	Insurers
Monetary role industry mainly fulfils	A means of payment in exchange for goods and services	A store of value, permitting deferred consumption and smoothing
Other roles	Financial services	Risk pooling
Comparative advantage	Screen and finance short-term projects	(as investors) invest long-term and gain from illiquidity premium
Core business activities	Largely asset-driven, often supported by leveraged balance sheets	Mainly liability-driven, less leveraged and often less exposed to ‘runs’
Exposure to systemic risk from any one firm?	Higher	Lower
Risk that safety net costs fall on government?	Higher (more ‘essential’ to current economic activity)	Lower

Although noteworthy overlaps (and conglomerates!)

- Investment / savings products, e.g.:
  - Investment bonds
  - Term deposits offered by banks
  - Term-certain annuities offered by insurers
- Protection products
  - Investment guarantees and options written by investment banks versus variable annuities written by insurers
  - CDSs written by both banks and insurers
  - Trade finance offered by banks and surety bonds offered by nonlife insurers
- Differences in tax and capital treatment create product and capital arbitrages

Different funding bases (excluding equity)



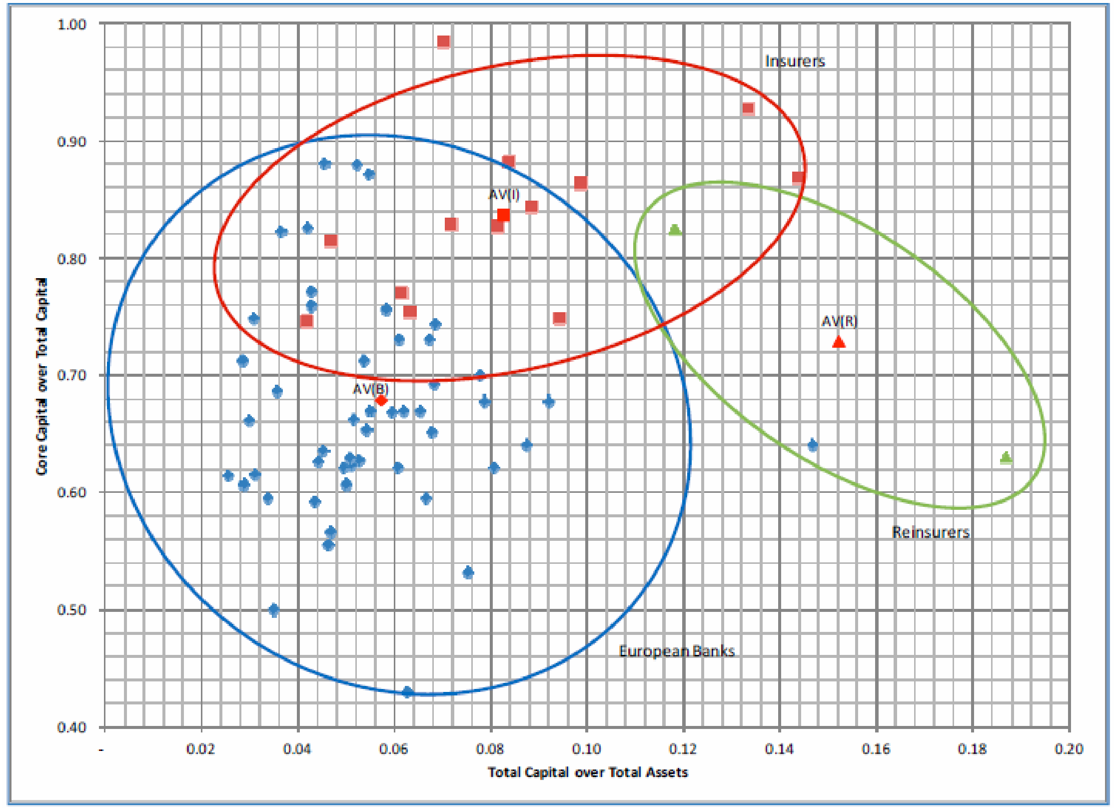
Source: IMF Staff calculations on CEA data
Showing percentages of total liabilities (excluding equity)

- Banks more interconnected (at individual firm level)

Different capital levels

	Average total capital / total assets (%)	% of 'high-quality' core capital
Large European banks	6	67
Large insurers (worldwide)	8	84
Large global reinsurers	15	73

N.B. Ideally comparison should adjust for risk, e.g. by reference to VaR at the same confidence level and time horizon



Source: SNL and IMF Staff estimates

For banks: Total Capital = Regulatory Capital; Core Capital = Core Tier 1 capital

For insurers: Total Capital = Total Equity + Subordinated Debt; Core Capital = Total Equity

Different accounting bases

	Banks	Insurers
Assets	Often IFRS, bank loans deemed financial instruments, IAS 39, loan provisioning generally retrospective, IFRS 9 amortised cost or fair value	Solvency II uses market consistent, i.e. fair, values (and less reliance on general purpose accounting)
Liabilities	Also typically at amortised cost or fair value	Transfer/settle cost, approximated by best estimate + risk margin or MV of replicating portfolio, more prospective
Own credit risk	Basel III will effectively disallow benefit previously available under Basel II	No

- More retrospective (hence stable in the short term) for banks than insurers
- Relevant to design of counter-cyclical elements
- Although counter-cyclical versus what?

Basel III and Solvency II: Different histories and drivers

	Basel III	Solvency II
Underlying source	Regulator(s) (BCBS)	EU Commission
Coverage	Globally active banks	All EU insurers
Legal status	Must be transposed into local legislation	EU Directive
Main drivers	Refines Basel II in reaction to recent financial crisis - Raised capital requirements (and quality of capital) - Harmonised liquidity standards - Capital buffer	- Harmonise across Europe - Create comprehensive principles-based regulatory framework - Make capital requirements more risk-responsive and in line with underlying economic capital
Transition period	Relatively long	Shorter, once in place
Further reforms?	E.g. BCBS reviewing trading book and securitizations	Already broader in scope than Basel III, but still many details outstanding

Basel III and Solvency II Capital Tiering (Pillar 1)

- Overarching concepts are similar:
  - Primary role of capital viewed as absorb unexpected losses
  - Both include concept of capital tiering (although different in structure) reflecting effectiveness of different types of capital in different situations
    - But how reliable is valuation of remainder of balance sheet in stressed circumstances?
- Some differences seem justifiable based on different business models
- Others less easy to justify
  - E.g. Tier 3, treatment of dated instruments, bail-in proposals, coupon cancellation and trigger levels more generally, regulatory capital adjustments (including those at group level)
  - Treatment of expected future profits

Calculation of Required Pillar 1 Capital

- Basel III: same overall methodology as Basel II (i.e. risk-weighted assets)
  - No explicit probabilistic basis to define requirements
  - Standardised approach or internal model
  - New requirements to contain leverage and liquidity, more stringent on extreme events, additional charges for systemically important financial institutions (SIFIs)
- Solvency II: absolute and minimum risk-based capital requirements
  - SCR and MCR, explicit probabilistic basis (for SCR)
  - Standardised approach or internal model, stress tests
  - ORSA: serves several purposes, including model risk
  - Greater public disclosure if SCR not covered, and more explicit deferral of payments on capital instruments qualifying for Tier 2 or better

Risk Aggregation (Pillar 1)

- Basel III
  - Despite modifications versus Basel II arguably still does not fully reflect importance of diversification or adequately penalise portfolio concentrations
  - These features can instead be introduced by the supervisor
  - Some types of risk mitigation contracts recognised
- Solvency II
  - Greater explicit recognition of diversification effects and risk interdependencies via correlation matrices
  - Virtually all types of risk mitigation contracts recognised

Possible unintended consequences

- Largely independent development processes but largely coincident implementation could lead to unintended consequences in the following areas:
  - Cost of capital
  - Funding patterns and interconnectedness
  - Product and/or risk migration
  - Other potential sources of arbitrage
- To identify which of these are of most concern will require empirical investigation beyond scope of paper

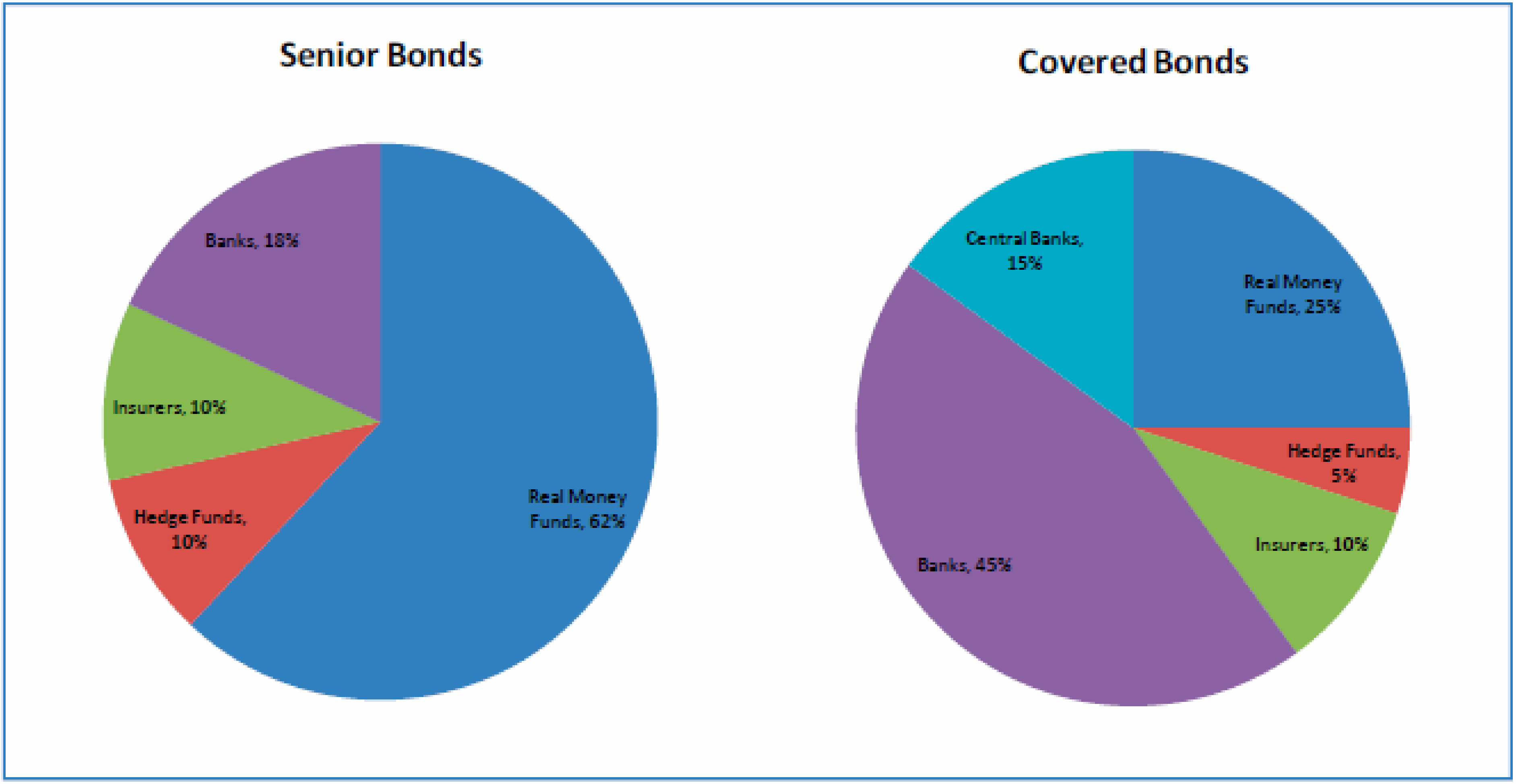
Cost of capital

- Natural framework is Modigliani-Miller, rather how it doesn't apply in practice:
  - Debt interest deductibility
    - Should affect banks more than insurers, as banks rely more on debt financing and Basel III more focused on raising capital and improving its quality
  - Information asymmetry (and moral hazard)
    - Should affect (some) insurers more, as Solvency II a more fundamental change (and greater cost for insurers to unwind undesired positions?)
- Also change in value apportionment
  - Impact of leverage on shareholder value
    - Should affect banks more
  - TBTF/SIFI and implicit deposit protection underpin
    - Should affect (large) banks more, if Basel III successfully reduces funding subsidy

Funding patterns and interconnectedness (1)

- Solvency II could reduce demand for banks' long-term instruments when banks most need to issue them
  - Concern shared by regulators and market participants
  - Solvency II standard formula SCR credit spread risk requirement depends (roughly proportionately) on rating and on duration
    - EEA sovereign bonds (and equivalents) are zero rated irrespective of credit rating
- Interaction with cost of capital
- Although:
  - 'Long-term' for banks may differ from 'long-term' for insurers
  - Insurance demand is liability driven (e.g. unit-linked, participating business)
  - Insurers are not the main buyers of bank senior unsecured and covered bonds

Banks’ debt funding sources by type of investor



Source: Adapted from Bhimalingam and Burns (2011)

Funding patterns and interconnectedness (2)

- Greater concern may be increased interconnectedness via other routes
  - E.g. both industries target the same assets
- Potentially increased demand from both for sovereign debt
  - Because such instruments are viewed favourably by both frameworks
- Might be mitigated by e.g. insurer internal models
  - If they capture heterogeneity in credit risk across (EU) sovereigns better than standard formulae
  - But standards for such models have yet to be fully defined

Risk / Product transference (1)

- Natural to focus on activities where banks and insurers compete directly
- In some jurisdictions, term certain annuities can attract higher capital requirements than, say, term deposits
  - Although Basel III liquidity requirements may reduce these disparities
- In some jurisdictions, equity investments attract higher capital charges if held in banks than in, say, non-life insurers
  - Conglomerates may move such assets between subsidiaries (if group level consolidation does not unwind effect)
  - Exacerbated by increased capital requirements being introduced by Basel III

Risk / Product transference (2)

- Increased cost of capital and greater focus on risk management may also result in increased transfer of risk to customers
  - E.g. increased use of periodical re-pricing of annuities based on mortality experience
  - C.f. shift from DB to DC, possible extension of Solvency II to pension funds and possible further impact on behaviour of ‘long-term’ investors
- Or migration away from both sectors
  - Through use of e.g. securitization, reinsurance, shadow banking
  - Replay of Basel II ‘originate and transfer’ business model?
  - Implications for transparency, oversight and ‘equivalence’ between jurisdictions

Policy considerations

- Need for communication between insurance and banking regulators
  - And potential need to expand regulatory perimeter
- A key challenge for Solvency II is approach to ‘equivalence’ with non-EU regimes
- Bank safety nets may be impact by increased issuance of covered bonds
- Public policy considerations if excessive risk transfer to customers
- Empirical investigation needed into magnitude of impact of unintended consequences

Summary

- Substantially independent development but largely coincident implementation timing does introduce scope for unintended consequences in areas such as:
  - Cost of capital
  - Funding patterns and interconnectedness
    - Including linkages via sovereign debt
  - Product and/or risk migration
    - Between banks and insurers, between both and their customers and to elsewhere
- Policy responses should ideally be informed by further empirical investigation into magnitude of impact of unintended consequences

Important Information