

# Ania

Associazione Nazionale  
fra le Imprese Assicuratrici

## Why insurance regulation is crucial for long-term investment and economic growth

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# Agenda

- Insurance and economic growth
- The magnitude of insurance investment in Europe
- Do insurers' investments stabilize financial markets?
- How does insurance regulation affect investment decisions and the economy? A case study
- Solvency II: Some thoughts for the reviews (2018-20)
- Conclusions

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# Insurance and economic growth

## *Empirical evidence in literature*

- There is a broad consensus in economic literature on the positive correlation between financial development and economic growth:
  - *There is a causal nexus running from financial development to economic growth (Rajan and Zingales, 1998)*
  - *More recently, however, Cecchetti and Kharroubi (2012) have argued that the level of financial development is a positive factor only up to a certain point, beyond which it actually becomes an obstacle to growth*
- The literature on the relationship between insurance development and growth is less extensive:
  - *The ratio of insurance premiums to GDP and per capita premium payments are higher in the affluent countries (Outreville, 2013)*
  - *The insurance sector tends to be larger in mature economies, but there is no clear, unidirectional causation (ESRB, 2015)*

## *Empirical evidence in literature*

- Recent works have made some advances in seeking to establish the causal nexus between insurance and economic growth:
  - *Insurance is a cause (as defined by Granger) of GDP only in some countries (of which Italy is one). (Ward and Zurbruegg, 2000)*
  - *Both life and non-life insurance have a positive causal impact on economic growth. But while for life insurance this result obtains only in the developed countries, for non-life insurance the relationship holds for both high-income and developing countries. (Arena, 2008)*
  - *There is evidence consistent with the hypothesis of co-integration of GDP and life premiums (Lee et al., 2013). They find that a 10-percent increase in life insurance premiums in real terms is correlated with real GDP growth of 0.6 percent*
- In general, there is a broad consensus that insurance contributes significantly to economic growth and development in a variety of ways:
  - *It facilitates economic transactions thanks to risk transfer and indemnification*
  - *It encourages risk management and the promotion of safe practices*
  - *It encourages stable and sustainable saving and pension provisions*
  - *It promotes financial stability through long-term investment* 

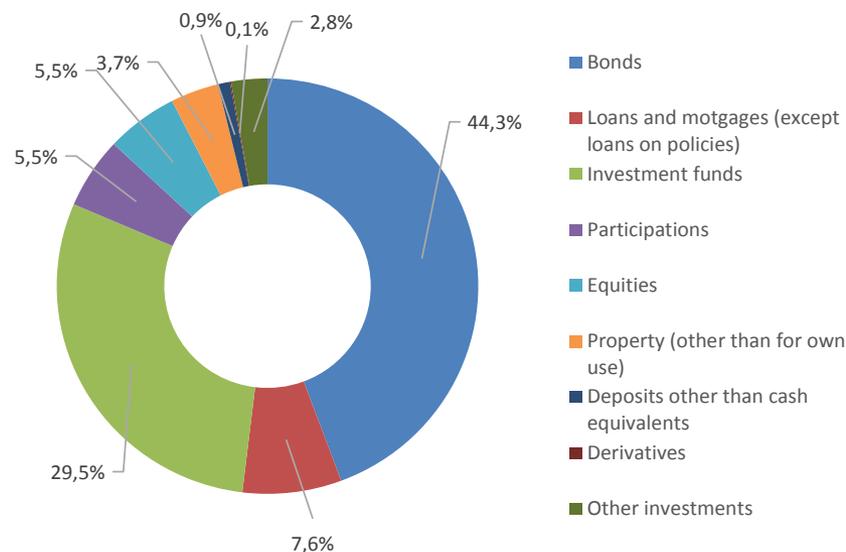
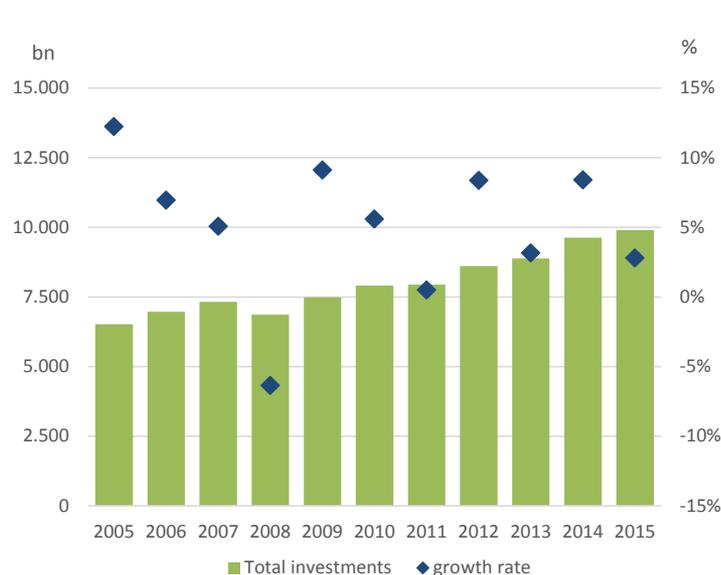
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## **The magnitude of insurance investment in Europe**

# The magnitude of insurance investment in Europe

(1/2)

Insurance companies are the largest institutional investors in the European economy, with €10 trillion worth of assets under management



Source: ANIA elaborations on Insurance Europe data; 2014 figures

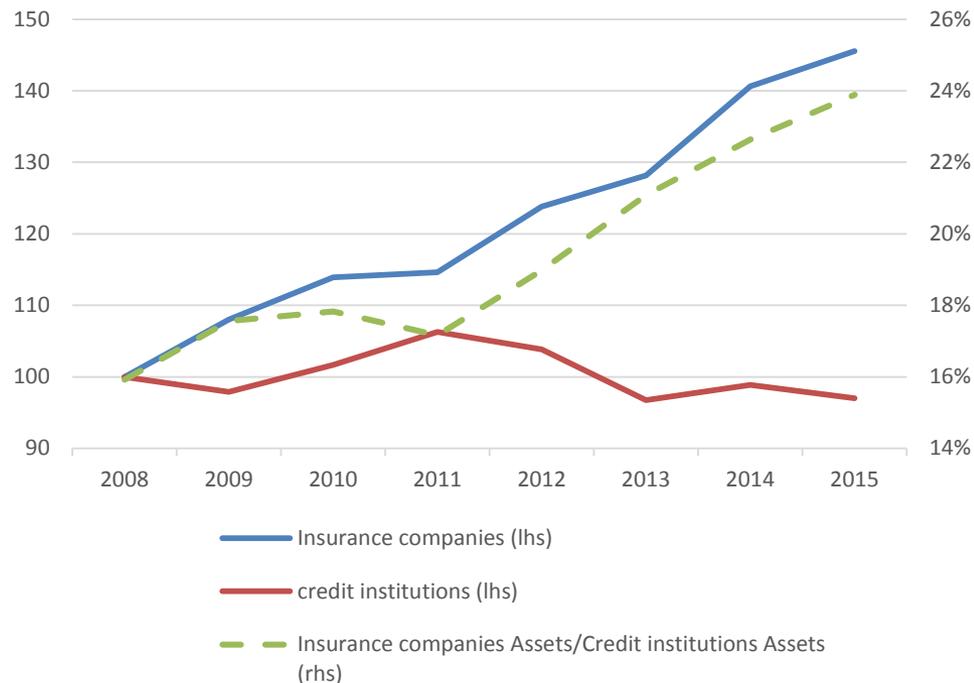
- ✓ **equivalent to around 60% of the Union's GDP**
- ✓ **over half of all institutional investment in Europe**

# The magnitude of insurance investment in Europe

(2/2)

## Insurance vs. banking industry

### Growth of total assets of insurers compared with banks in the euro area



- Over the past ten years, **the volume of insurers' investments has grown by around 50%**, notwithstanding the financial crisis.
- Since the crisis **insurers' assets have grown steadily**, filling some of the vacuum left by deleveraging banks (ESRB, 2015).

Source: European Central Bank, Statistical Data Warehouse; 2008 indexed at 100

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**Do insurers' investments stabilize financial markets?**

# Do insurers' investments stabilize financial markets? (1/4)

- For insurers, investing is an integral part of the business model. It is driven by the nature of insurance liabilities and the need to match them on the asset side
  - *Insurers — life insurers in particular — are a prime source of long-term investment because the amount of payments they will have to make to policyholders over any given period of time can be estimated with reasonable accuracy*

- Hypothesis

Insurers are able to keep investing when others withdraw from the market, so that they may have a counter-cyclical and stabilizing effect on financial markets

- Even during economic downturns most policyholders continue to pay their premiums
- “Insurance Run” are not impossible but very rare

# Do insurers' investments stabilize financial markets? (2/4)

## YES

- Manconi et al. (2016), in an examination of the US corporate bond market, find that at the onset of the financial crisis insurance companies traded relatively little and were modest net purchasers
  - *Also, they acted as strategic liquidity providers, offsetting the bond sales of mutual funds*
- Timmer (2016) finds that from 2005 to 2014 insurance companies and pension funds bought debt securities that were trading at a discount and sold securities that were trading at a premium
  - *Timmer also finds that investment funds and banks accentuated price dynamics. This result confirms previous evidence. For example, using data on cross-border lending both Cetorelli and Goldberg (2011) and De Haas and Van Horen (2013) report a sharp contraction in cross-border lending during the financial crisis, while mutual funds generated large procyclical asset reallocations (Raddatz and Schmukler, 2012) as a result of net redemptions of investors' units*
- Paulson and Rosen (2016), on the basis of US data from the 2008 financial crisis, find evidence that life insurers absorbed liquidity risk by purchasing less liquid bonds
  - *However, this study did not find any increase in bond purchases by insurers during the crisis*

# Do insurers' investments stabilize financial markets? (3/4)

## NO

- ESRB (2015) finds some evidence, admittedly limited to just a couple of studies, of procyclical investment behavior by insurers
  - a) Bank of England (2014) finds some “evidence of procyclical shifts in asset allocation in the UK following the dot.com crash of the early 2000s, and to a lesser extent during the recent financial crisis”
    - *However, the structural shift from UK equities in favour of fixed income instruments (the so called ‘de-risking’ ) has at least in part been a response to a variety of regulatory, valuation and accounting rules*
  - b) Bijlsma and Vermeulen (2015) find that at the height of the European sovereign debt crisis Dutch insurance companies engaged in procyclical investment, disposing of southern and subsequently investing in northern European (not Dutch) assets
    - *However, the authors also note that “the effect disappears after ECB Chairman Draghi's mid-2012 speech,” an observation suggesting that this period was characterized by a very special risk, namely the break-up of the euro area*

# Do insurers' investments stabilize financial markets? (4/4)

## *Tentative conclusions*

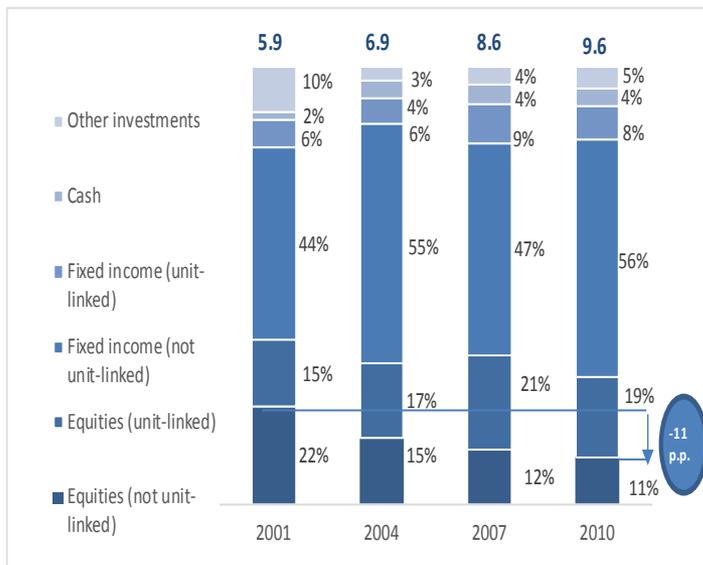
- All in all, the review of the literature reveals basic consensus on insurers' ability to work a stabilizing effect on financial markets and the economy, albeit with two important qualifications
  1. Prolonged period of low interest rates represents a serious challenge to life insurers' business model
    - *Threatening to touch off a "search for yield" as the guaranteed rates of return on insurers' long-term liabilities exceed the yields of the available "safe" assets (IMF, 2016, among others)*
  2. Regulatory framework in conjunction with accounting rules shape the investment behavior of insurance companies
    - *Since both Solvency II and IFRS Phase II are dramatically altering the playing field for European insurers, closer analysis of their indirect effects on financial stability and the economy is vital*

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**How does insurance regulation affect investment decisions and the economy? A case study**

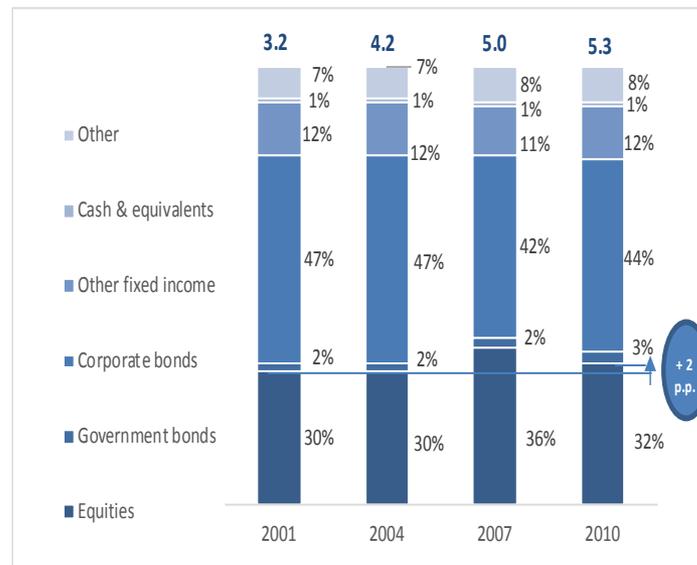
# How does insurance regulation affect investment decisions an the economy? A case study (1/3)

WESTERN EUROPEAN INSURERS' FINANCIAL ASSETS  
%, USD trillion, 2010 exchange rates



Source: author's calculations on Group of Thirty data

US INSURERS' FINANCIAL ASSETS  
%, USD trillion



Source: author's calculations on Group of Thirty data

- Why, between 2001 and 2010, did the portion of equities in US insurance portfolios hold constant while in Europe sharply declined?
  - *Equities (not unit-linked) declined by 11 p.p. equivalent to more than €1 trillion in current value, given that total assets currently amount to almost €10 trillion*

# How does insurance regulation affect investment decisions and the economy? A case study (2/3)

- The “de-risking” in Europe began as an internal risk management approach, encouraged and to some extent forced by regulations
  - *The trend started after the collapse in 2000 of Equitable Life, a UK company that had accumulated a disproportionate amount of equities in respect of guaranteed fixed returns to policyholders and was unable to cope with the bursting of the dot.com bubble*
- The trend culminated with the adoption of both the fair value (market price) accounting approach and a one-year value-at-risk (VAR) horizon for assessing the capital requirements under Solvency II
- In the US, the prevailing accounting standard is still historical cost (book value), while the prudential system remains a lighter risk-based system
- No doubt that the changing regulatory framework impacted on European insurers’ investment strategies
  - *Careful research would be required in order to quantify the actual impact*

# How does insurance regulation affect investment decisions and the economy? A case study (3/3)

- *“It is possible that the combination of factors that drive the asset allocation decisions of ICPFs (Insurance Companies and Pensions Funds) may lead to outcomes that are suboptimal from the perspective of financial stability (through procyclicality) and long-term investment and economic growth (through an unwillingness to bear risk). Ultimately this may lead to worse outcomes for individual policyholders as well” (Bank of England, 2014)*
- The implications are enormously far-reaching
  - *The next section is devoted to one specific point: how we should prepare for the 2018-20 Solvency II reviews, bearing in mind that this complex regulatory system, though it went operational only months ago, has already begun to spur important changes in the market*

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## **Solvency II: Some thoughts for the reviews (2018-2020)**

## Solvency II: Some thoughts for the reviews (2018-2020) (1/4)

- Support for the move to the risk-based framework for solvency capital requirements continues to be strong in Europe, and rightly so
  - *There is broad consensus on its advantages: transparency, the general alignment with internal risk management, and the ability to capture the impact both of embedded options and guarantees and of asset/liability mismatch*
  - *On the other hand, there are concerns that the market-value approach, coupled with the one-year VAR horizon, may result in an overestimation of the market risk that insurers face, especially in relation to long-term business*
- In particular, there is concern over the potentially excessive capital burden on long-term life insurance products with smoothing, yield guarantees and profit sharing
  - *Such products have constituted the largest part of the industry's total balance sheet and have been very popular throughout Europe, providing millions of policyholders with access to balanced funds (often including a mix of government bonds, corporate bonds, shares and property) that can yield more than the inflation rate over the long term while still protecting them from the risks of timing mismatch inherent in the market*

## Solvency II: Some thoughts for the reviews (2018-2020) (2/4)

- From a purely methodological point of view, these concerns dovetail with a point made in discussions in the United States, namely that a risk-based regulatory framework might well induce procyclical behavior
  - *Ellul et al. (2011) find that the insurance companies that are relatively more constrained by regulation are, on average, more likely to sell off downgraded bonds*
  - *Merrill et al. (2014) show that during the crisis the insurance companies that were more capital-constrained owing to operating losses (uncorrelated with the credit quality of their residential mortgage-backed securities) recognized greater fair value losses and sold off comparable RMBS at much lower prices than other insurers*
  - *Koijen and Yogo (2015) find that during the financial crisis life insurers sold long-term policies at deep discounts relative to their actuarial value. This extraordinary pricing behavior was a response to financial and product market frictions, interacting with the statutory reserve regulation permitting them to post far less than one dollar in reserves for each dollar of future insurance liability*
- However, return to the standard of historical cost is no panacea
  - *“insurers using the historical cost accounting disproportionately resort to gains trading, selectively selling their corporate and government bond holdings with the highest unrealized gains. This trading behavior transmits shocks across otherwise unrelated markets” (Ellul et al., 2015)*

## Solvency II: Some thoughts for the reviews (2018-2020) (3/4)

- In finalizing the draft of Solvency II, a number of corrections to a “pure” market consistent approach were made
  - *The design of these corrections was the product of significant political discussion and compromise, and the proposed adjustments are piecemeal in structure and subject to severe uncertainties over calibration. Therefore, the concerns over their effectiveness have hardly been alleviated*
  - *Some observers see the adjustments as aberrations, deviations from the ideal pure market approach (Ayadi et al., 2012)*
- But the “purity” of the market approach is now being seriously questioned, and not only by practitioners
  - *When markets are illiquid and trading friction is substantial, financial assets may temporarily trade well below fundamental values (Duffie, 2010)*
  - *More generally, “Previously, we thought returns were unpredictable... [Now the evidence shows that] high prices, relative to dividends, have reliably preceded many years of poor returns. Low prices have preceded high returns. .... This pattern of predictability is pervasive across markets ... For bonds, much variation in credit spreads over time and across firms or categories signals returns, not default probabilities. ... Incorporating discount-rate variation affects finance applications, including portfolio theory, accounting, cost of capital, capital structure, compensation, and macroeconomics” (Cochrane, 2011)*

## Solvency II: Some thoughts for the reviews (2018-2020) (4/4)

- There are two principal areas for consideration and analysis
- First, the existence of mean reversion in financial variables requires serious reconsideration of the choice of the one-year horizon for VAR calibration
  - *In particular, there is substantial evidence that asset risk for equity and property investments diminishes as the holding period lengthens: “equity returns show more volatility and tail risk at short horizons than at long horizons” (Mladina, 2014)*
  - *The main insight of the asset–liability management (ALM) school is that investment risk in the insurance sector can be managed only when liabilities are factored in*
- Second, and more generally, it is essential to find a way to take proper account of the fact that insurance companies are in a position to tolerate moments of extreme volatility
  - *More substantial intertemporal smoothing of the variables used in calculating the capital requirements would appear to be indispensable, starting with the so-called “equity dampener”, which in the view of many analysts simply does not work*
  - *In any case, it should at least have to be shown, using real-world cases, that the corrections made with a view to improving the regulations are functional*

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## Conclusions

# Conclusions



Financial regulation, and prudential insurance regulation in particular, crucially affects insurers' investment behavior...



... accordingly, careful assessment of the effects of Solvency II on the insurance industry is required, bearing in mind the regulatory reviews planned for 2018 and 2020



Additional academic input is needed to enhance the general awareness of how effective the long-term business model of the insurance industry can be in reducing market risk



Input is also needed on ways to enable the market-consistent framework to better capture and measure true risk exposures and, consequently, the related solvency requirements