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Trends in life insurance demand and lapse literature

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Motivation, Aim and Contributions

- In the recent years, *many replications* of the macroeconomic studies on life insurance demand in different national or regional contexts
- *Disperse findings* in the microeconomic studies
- Factors which drive demand behavior also drive lapse behavior (taxes, preferences, bequest motives, behavioral biases etc.) (Kochanski and Eling, 2013; Bauer et al., 2017)
- Research on life insurance demand started in the late 1960s while research on lapse during the 2000s
- **Purpose:** to analyze the interrelationship between the more mature field covering the drivers of life insurance demand and newly evolving research field that examines the drivers of lapse behavior in life insurance (including the drivers of policy loans demand)
- **Objectives:** to better understand dynamic policyholder behavior and open novel research perspectives
- **Contributions:** Most comprehensive review (225 papers) and novel approach in reviewing literature using bibliographic data

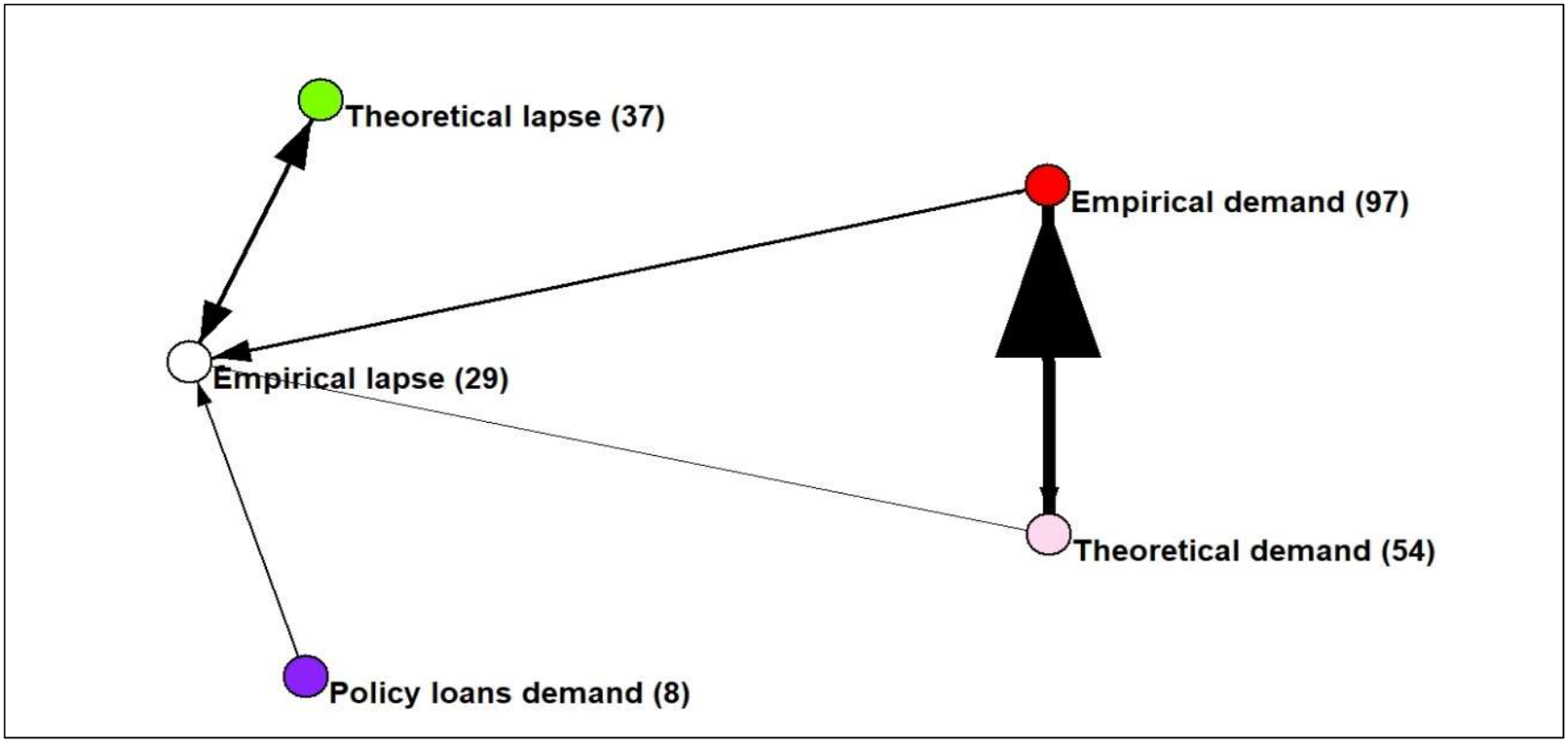
Material and Methodology

- Data base: Scopus (citations)
- Method: Systematic Literature Network Analysis (SLNA) (Colicchia and Strozzi 2012)

Phases:

- Scope: Drivers of life insurance demand, lapse and policy loans demand
- Keywords: 'life insurance' AND ['demand*' OR 'determin*' OR 'consum*' OR 'policyhold*']; 'life insurance' AND ['laps*' OR 'surrend*']; 'life insurance' AND ['policy loan*' OR 'loan*' OR 'borrow*']
- Study selection and evaluation: removing disconnected papers, removing smaller connected components, removing unrelated papers, adding missing papers and removing literature reviews
- Clustering: first level (demand (theoretical and empirical), lapse (theoretical and empirical) and policy loans); second level (macro and micro); third level (contributions and nature of factors)

The Network (First Level)



Key Results (First Level Interconnectedness)

- Inter and intracommunity measures: z-score (within community) and participation coefficient (intercommunity) (Guimerà et al. 2005)
- Threshold: $p > 0.5$
- Only 5.3% of the papers are cited or citing outside their own cluster, while the rest are mainly isolated within their clusters (57.78% with $p - in = 0$ and 72.44% with $p - out = 0$) or interacting with their closest neighbors (36.89% with $0 < p - in \leq 0.5$ and 22.22% with $0 < p - out \leq 0.5$)
- The researchers analyze take-up and lapse behavior to understand the substitutability between surrenders and policy loans (Carson and Hoyt 1992), to highlight the importance of behavioral biases during purchasing which impact lapse behavior later (Gottlieb and Smetters 2016), to provide evidence of dynamic adverse selection (Fang and Kung 2012) and market discipline on life insurance market (Eling and Kiesenbauer 2012)
- **Future research:** Empirically underexamined factors that may influence the demand for life insurance: *income volatility, borrowing constraints, age of dependents, dynamic bequests, contract features and evolvement of new products*; Factors suggested by theory to influence lapse rates: *existence of secondary market and behavioral biases*

Key Results (Third Level)

- The studies' contributions mainly relate to introduction of novel factor, new methodology or examination of the uncovered factors in new national or regional contexts. Part of the contributions are constrained by the data samples which generally encapsulate certain age profile of individuals → Matching (younger vs. older households)
- *Bequest motives* play crucial role for older households encouraging them to hold life insurance and any shocks to the bequest motives stimulate lapses. *Economic status* is relevant for younger households to purchase life insurance and the liquidity shocks are the main drivers of lapsations
- The nature of factors → Matching on Macro and Micro level
- Macro-level: Interest rates, cyclical shocks and price movements significantly affect life insurance funds flows. Future research: culture and institutional development on lapse rates
- Micro-level: capital markets, adverse selection and financial literacy explain the take-up and lapse rates in life insurance. Future research: Tax incentives were overlooked in the lapse literature, although some evidence exists on their influence on take-up rates.

Conclusions and Future Research

- Bird's eye view of the literature on life insurance policyholder behavior (life insurance demand, lapse and policy loans demand)
- The streams of literature are mainly isolated
- Benefits to combine them: substitutability between surrenders and policy loans, behavioral biases during purchasing, dynamic adverse selection and market discipline on life insurance market
- Dynamic policyholder behavior: younger households driven by the economic status (non-linear); older households by bequest motives
- Many open questions remain on macro and micro level (dependent on data availability): impact of culture, institutional development and taxes