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# MACROECONOMIC DRIVERS OF INSURANCE PREMIA IN MALTA

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# Research Motivation and Purpose

- The insurance sector underpins **economic growth and stability** by mobilising savings, transferring risk, and fostering investment.
  - In Malta, **insurance density rose from ~€705 per capita in 2009 to ~€1,290 recently**, driven mainly by non-life growth, while life business has declined sharply in recent years.
  - The study examines **how key macroeconomic variables influence gross written premia (GWP)** in life and non-life segments.
  - Findings aim to **improve understanding** of cyclical behaviour and resilience in the domestic insurance sector.
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# Literature Review



## MACROECONOMIC DRIVERS

### **Christophersen & Jakubik (2014)**

GDP drives non-life insurance growth; unemployment impacts life insurance more strongly



## POLICY UNCERTAINTY

### **Gupta et al. (2019)**

Economic policy uncertainty raises non-life premia but reduces life premia



## BUSINESS CYCLES

### **Hodula et al. (2021)**

Insurance premia move procyclically with business cycles and correlate with savings and financial development

# Methodology



## Focus

Malta-specific assessment of domestically-relevant insurers



## Model

Engle-Granger Error Correction Model (ECM)

- Long-run equilibrium relationships
- Short-run adjustment dynamics
- Separate models for life vs. non-life



## Data

Quarterly data: 2009Q4-2025Q2



## Dependent Variable

Gross written premia (GWP), deflated by the retail price index (RPI)

# Data Limitations

- 1 Data cannot separate local vs. foreign business: Non-life includes international underwriting (~ 24% of GWP as of June 2024, mainly euro area)
- 2 Relatively short time series (2009Q4-2025Q2) limits sample size and precision of estimates
- 3 Firm-level heterogeneity not captured, which may affect short-run dynamics.

# Life Insurance: Model Specification

## Long-Run Relationship

$$\log(GWP_t^{L,real}) = \sigma + \beta_1 \log(GDP_t^{SA,real}) + \beta_2 IR_t + \varepsilon_t$$

**Real GDP:** Proxy for the business cycle and economic activity

**Nominal Interest Rates:** 10-year bond yields (proxy for alternative investments; captures substitution effect and money illusion)

## Short-Run Dynamics (ECM)

$$\begin{aligned} &\Delta \log(GWP_t^{L,real}) \\ &= \alpha + \phi_1 \Delta \log(GWP_{t-1}^{L,real}) + \phi_2 \Delta \log(GDP_t^{SA,real}) + \phi_3 \Delta IR_{t-3} + \phi_4 \Delta \log(Deeds_t^{SA}) + \gamma ECT_{t-1} + \mu_t \end{aligned}$$

**Deeds of Sale:** Captures mortgage-related life insurance demand

**Error Correction Term:** Measures speed of adjustment to equilibrium

# Life Insurance: Long-Run Results

**+0.26%**

## **Real GDP Elasticity**

1% increase in GDP → 0.26%  
increase in life premia

*Procyclical relationship*

**-0.13%**

## **Interest Rate Effect**

1pp increase in rates → 0.13%  
decrease in life premia

*Substitution effect*

*Life insurance demand is procyclical and sensitive to alternative investment returns, with evidence of the money illusion effect.*

# Life Insurance: Short-Run Results

## Persistence

~ 34% of previous quarter's growth carries forward

## Housing Activity

Strong driver via mortgage-related demand

## Interest Rates

Negative effect with ~ 3 quarter lag

## Error Correction Term

**Adjustment speed:** ~12-13% per quarter toward equilibrium

Confirms stable long-run relationship

# Life Insurance: Key Findings

1

## **Procyclical Demand**

Life insurance premia move positively with economic activity (GDP elasticity: 0.26).

2

## **Substitution Effect & Money Illusion**

Higher interest rates reduce life insurance demand as alternative investments become more attractive. Individuals evaluate returns based on nominal rather than real values.

3

## **Housing-Insurance Link**

Property transactions strongly drive short-run demand via mortgage-related life cover.

4

## **Stable Equilibrium**

Error correction term confirms convergence to long-run relationship (12-13% quarterly adjustment).

# Non-Life Insurance: Model Specification

## Long-Run Relationship

$$\log(GWP_t^{NL,real}) = \sigma + \beta_1 \log(GDP_t^{SA,real}) + \varepsilon_t$$

**Real GDP:** Captures business cycle effects

## Short-Run Dynamics (ECM)

$$\Delta \log(GWP_t^{NL,real}) = \alpha + \phi_1 \Delta \log(GWP_{t-1}^{NL,real}) + \phi_2 \Delta \log(GDP_t^{SA,real}) + \phi_3 \Delta \log(Deeds_t^{SA}) + \phi_4 Dummy_{NL} + \gamma ECT_{t-1} + \mu_t$$

**Deeds of Sale:** Property insurance required for mortgage lending

**Dummy:** Controls for firm-specific initiatives (e.g., acquisitions & cross-border expansion)

# Non-Life Insurance: Long-Run Results

**+1.24%**

## **Real GDP Elasticity**

1% increase in GDP → 1.24%  
increase in non-life premia

*Strong Procyclical relationship –  
Higher elasticity than life insurance*

*Non-life insurance is highly responsive to economic activity, underpinned by mandatory business lines.*

# Non-Life Insurance: Short-Run Results

## Persistence

~ 25% of growth from two quarters earlier carries forward

## GDP & Housing Activity

Both positively and significantly affect short-term premia

## Firm Events

Highly significant effect from acquisitions and expansion

## Error Correction Term

**Adjustment speed:** ~ 8% per quarter toward equilibrium

Slower than life insurance (12-13%) – possibly due to rigid demand from mandatory coverage

# Non-Life Insurance: Key Findings

- 1 Highly Procyclical**  
Non-life insurance premia move strongly with economic activity (GDP elasticity: 1.24).
- 2 Housing-Insurance Link**  
Property transactions significantly drive short-run demand via mortgage-related property insurance requirements.
- 3 Firm-Specific Volatility**  
Acquisitions and cross-border expansion materially affect short-term sectoral dynamics.
- 4 Slower Adjustment**  
Error correction term confirms convergence to long-run relationship (8% quarterly vs. 12-13% ).

# Conclusion



## Key Takeaway

Macroeconomic stability and housing market dynamics are essential for insurance sector growth. Continued monitoring of these drivers is critical for assessing resilience and future development.



## Future Research

Extend dataset and refine domestic vs. foreign business distinction

Extract insurance business cycles to identify turning points

Apply panel techniques to capture firm-specific effects

Thank you!

