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Measuring the Credit Gap for Maltese Private Corporations using the Hamilton filter

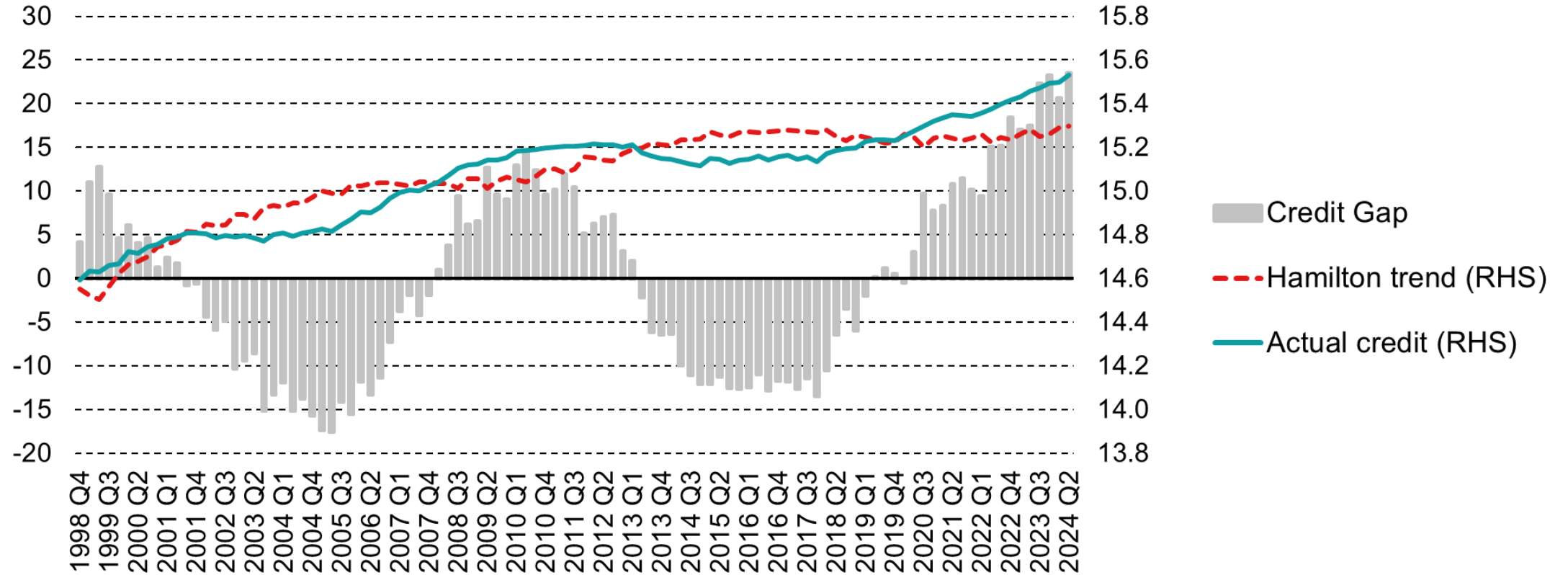
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Financial Stability Surveillance Office

6 September 2024

Credit Gap of Resident Private Firms

(per cent; log)



Source: Author's estimates and Central Bank of Malta.

Outline

OBJECTIVE

METHODOLOGY

KEY FINDINGS

**MAIN ECONOMIC SECTORS DRIVING THE
OVERALL POSITIVE GAP**

CONCLUDING REMARKS



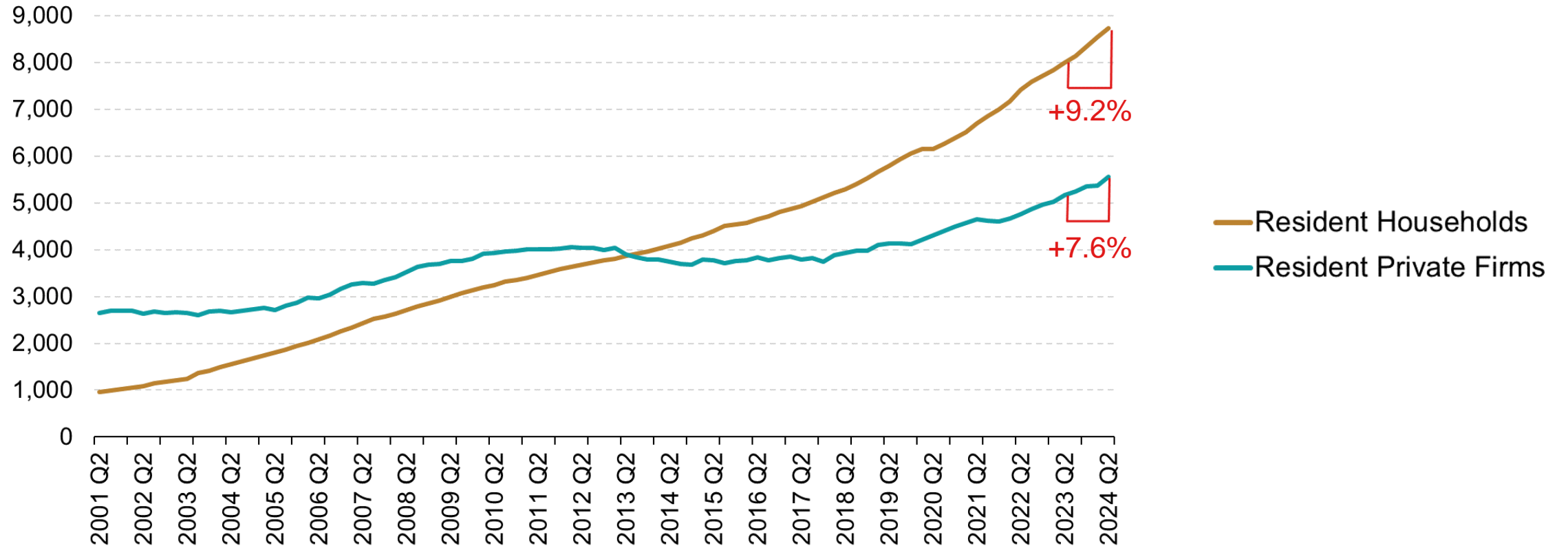
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Objective



Objective (1)

CREDIT TO RESIDENT HOUSEHOLDS AND PRIVATE FIRMS (EUR millions)



Source: Central Bank of Malta

Objective (2)

- Excessive credit growth in an economy can be detrimental to the overall stability of a financial system.
- Assessment of cyclical risk:
 - **Cyclical Systemic Risk Indicator (cSRI)** (*Vella, 2024*)
 - aggregate measure of risk
 - **Semi-Structural credit gap** (*Gatt, 2024*)
 - analyses risk within households and corporates
 - **Hamilton Filter sectoral credit gaps** (*Ciantar, forthcoming*)
 - decomposes risk within corporates by sectors of economic activity



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Methodology



Understanding the Hamilton Filter

- Developed by James D. Hamilton in 2018 “*Why you should never use the Hodrick-Prescott Filter*”;
- Uses a **variable’s own previous values** to construct a measure of the underlying trend, represented by:

$$\underbrace{Y_t}_{\text{Observed variable, i.e. credit}} = \underbrace{\beta_0 + \beta_1 Y_{t-h} + \beta_2 Y_{t-h-1} + \dots + \beta_j Y_{t-h-p}}_{\text{Trend component}} + \underbrace{v_t}_{\text{Cyclical component}}$$

The model is estimated using OLS and the residuals v_t represent the **credit gap**.

Sectors in scope

1993 Q1 until 2024 Q2*

Total Resident
Private Firms

Manufacturing

Wholesale
and
retail trade

Accommodation
and
food service

Transportation
and
Communication

Construction
and
Real Estate

Other
Sectors ^

Transportation

Construction

Communication

Real Estate

* Recent data is provisional and subject to revisions.

^ Includes all remaining sectors, including the financial sector.



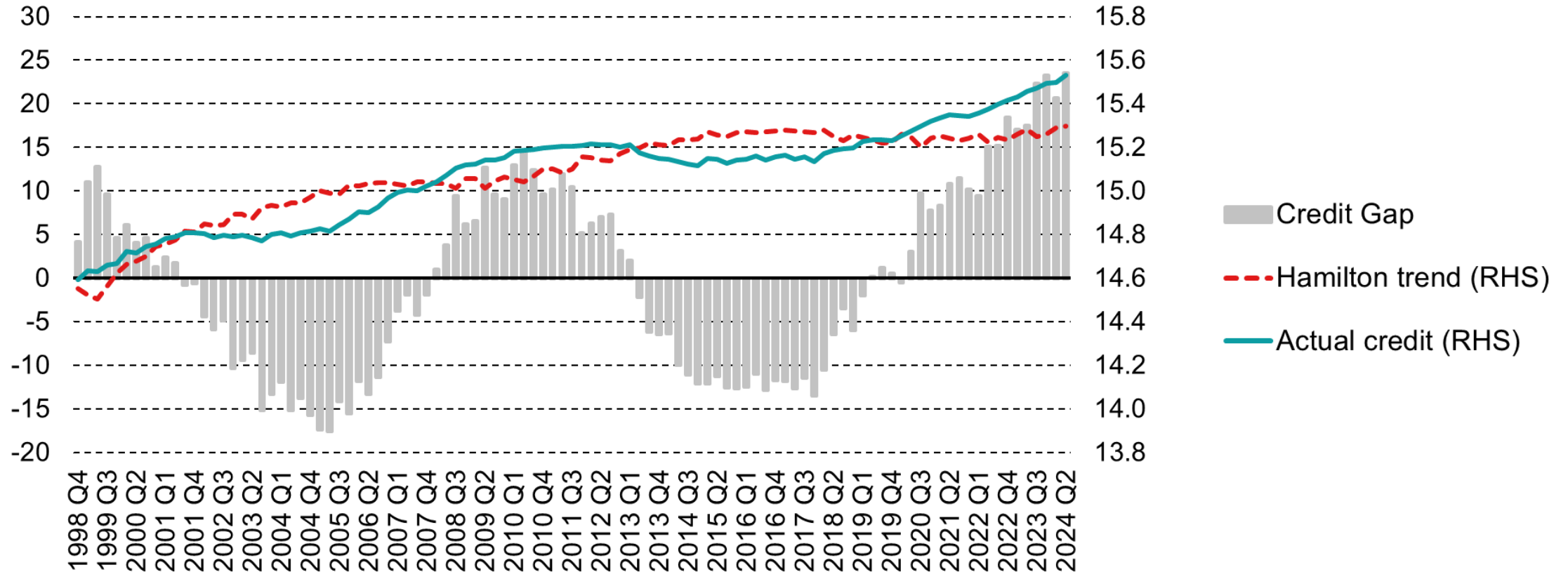
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Key findings



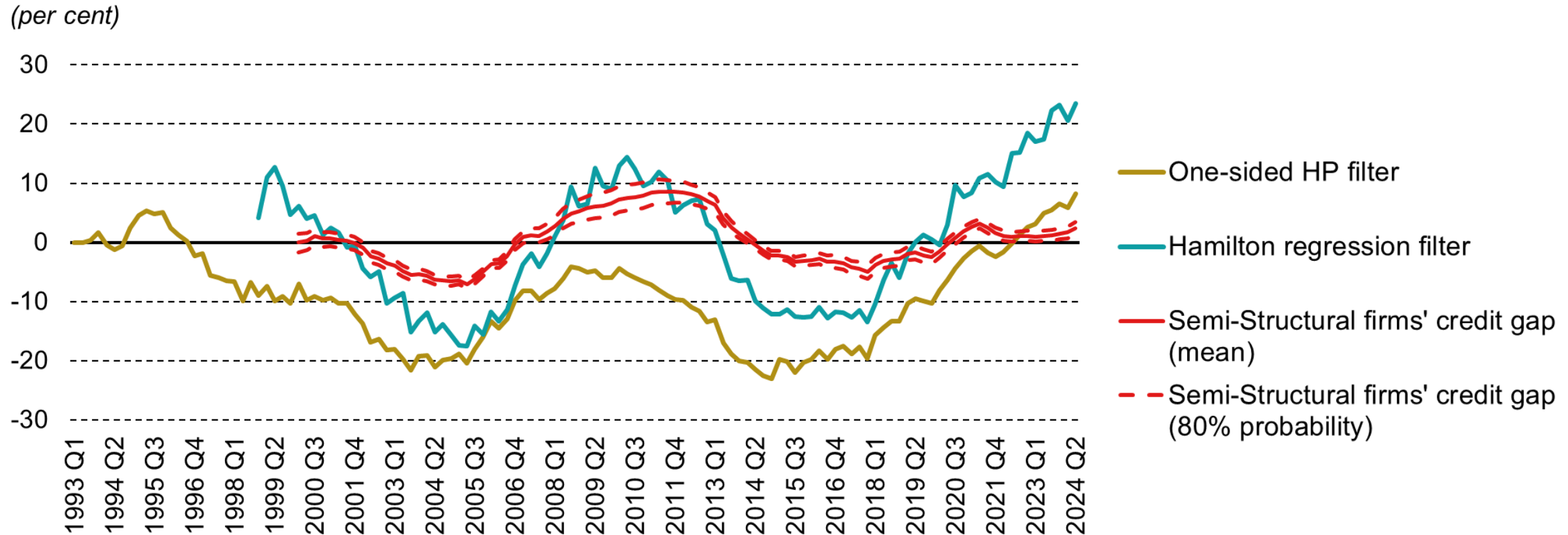
Credit Gap of Resident Private Firms (1993 Q1 – 2024 Q2)

(per cent; log)



Source: Author's estimates and Central Bank of Malta.

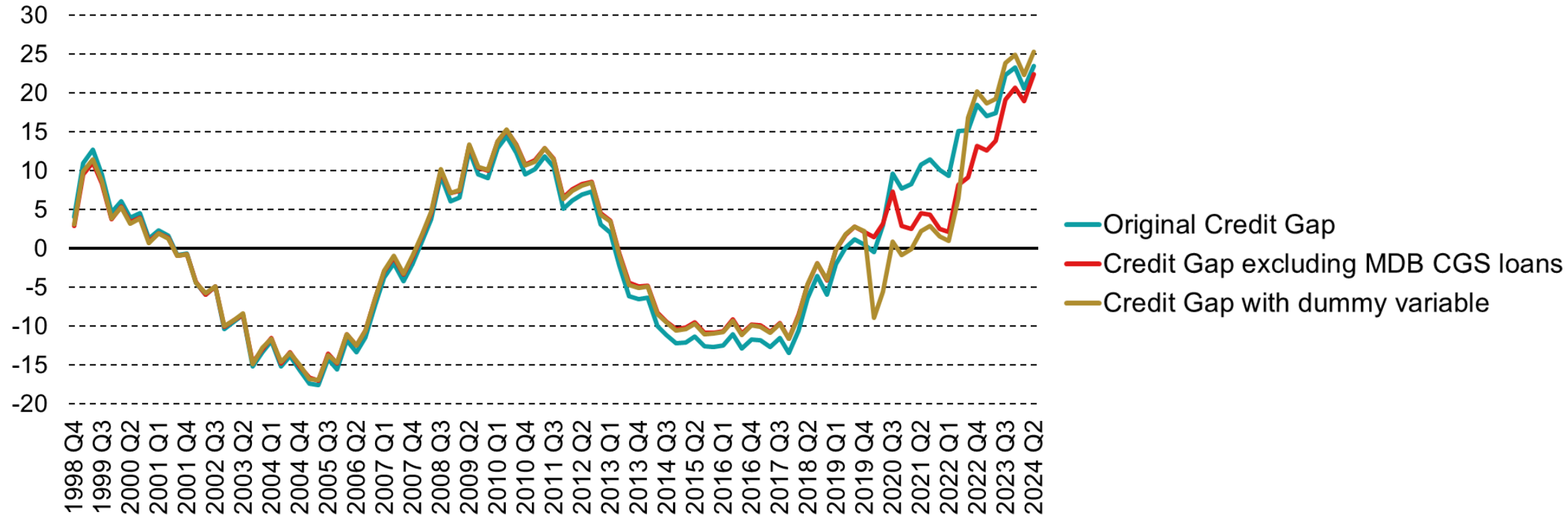
... supported using other methodologies



Source: Author's estimates, Central Bank of Malta and Gatt (2024).
Note: A lambda of 400,000 is applied for the one-sided HP filter.

... correcting for COVID-19

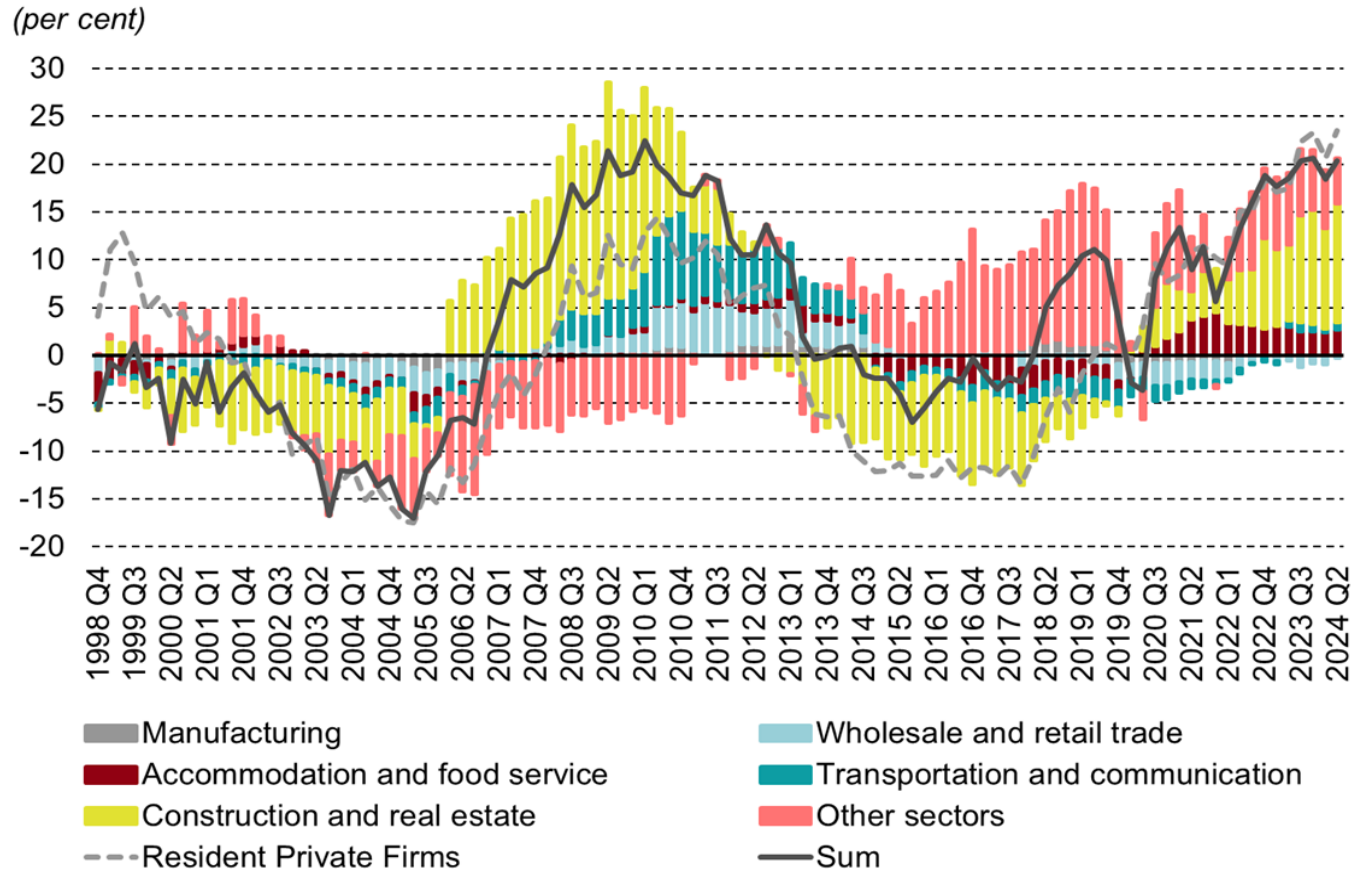
(per cent)



Source: Author's estimates, Malta Development Bank and Central Bank of Malta.

Note: MDB CGS outstanding loans are excluded from 2020 Q2 onwards. The dummy variable takes the value of one between 2020 Q1 and 2022 Q2.

Sectoral Credit Gaps (1993 Q1 – 2024 Q2)

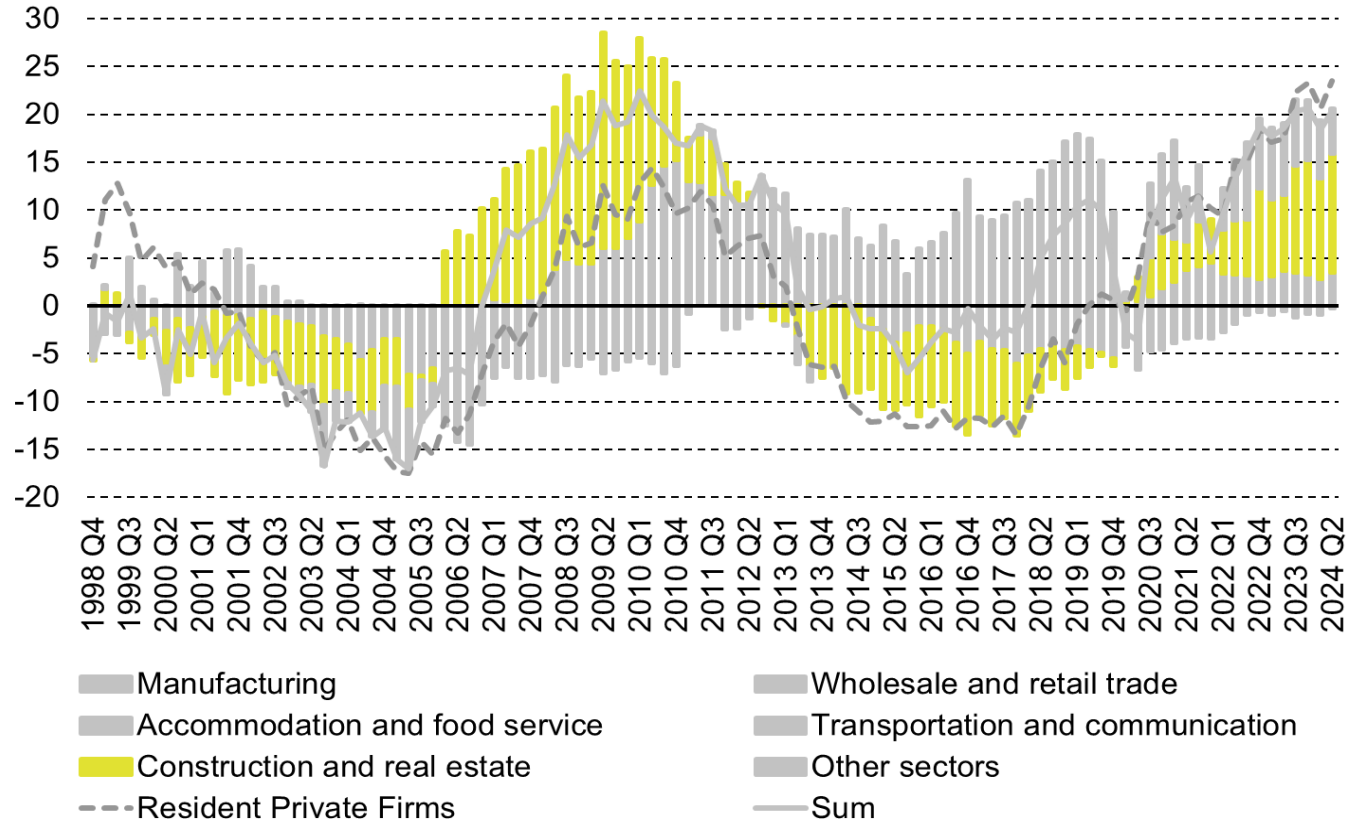


Source: Author's estimates and Central Bank of Malta.

Sectoral credit gaps combined to **identify importance** of each sector in driving credit to private firms in Malta.

Sectoral Credit Gaps (1993 Q1 – 2024 Q2)

(per cent)

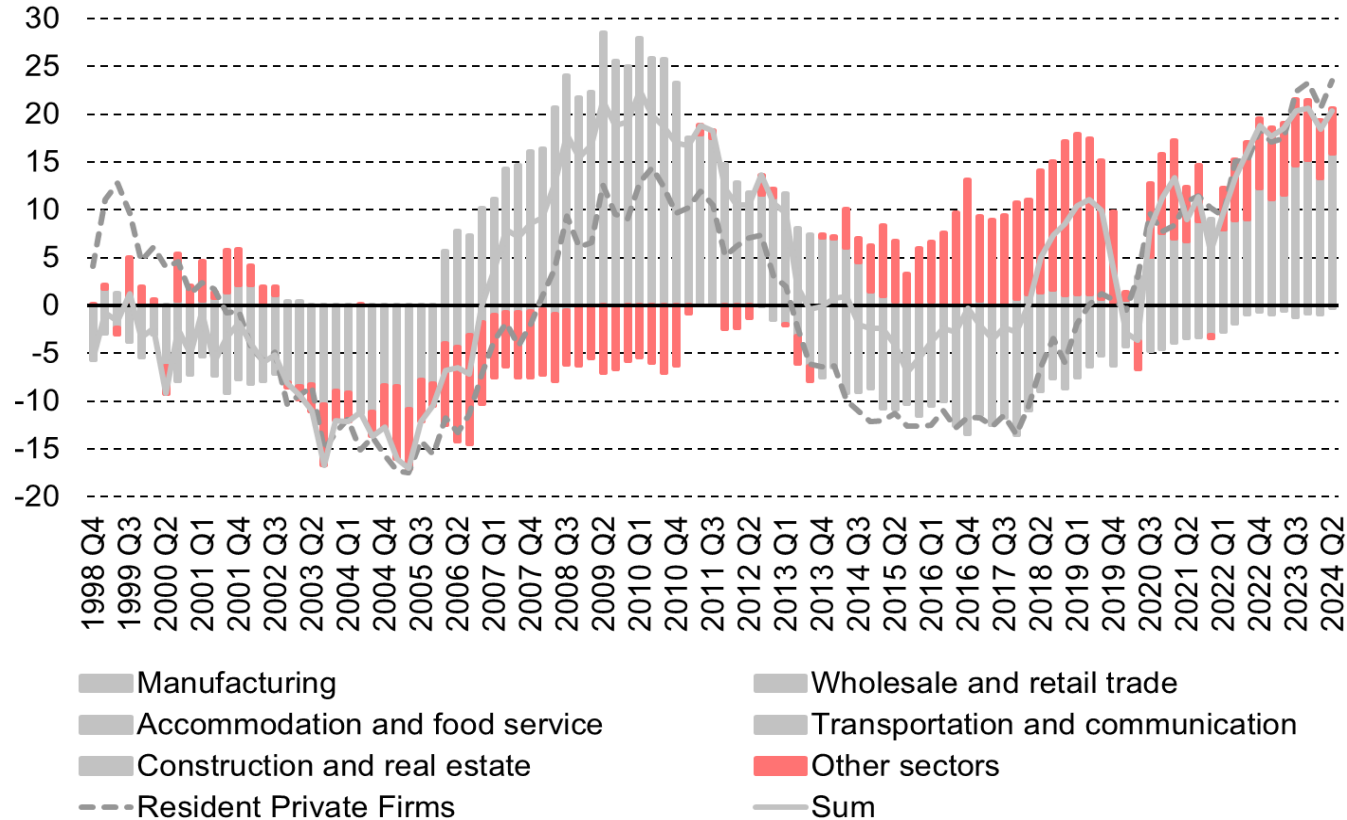


Construction and real estate sectors are the main industries driving credit.

Source: Author's estimates and Central Bank of Malta.

Sectoral Credit Gaps (1993 Q1 – 2024 Q2)

(per cent)

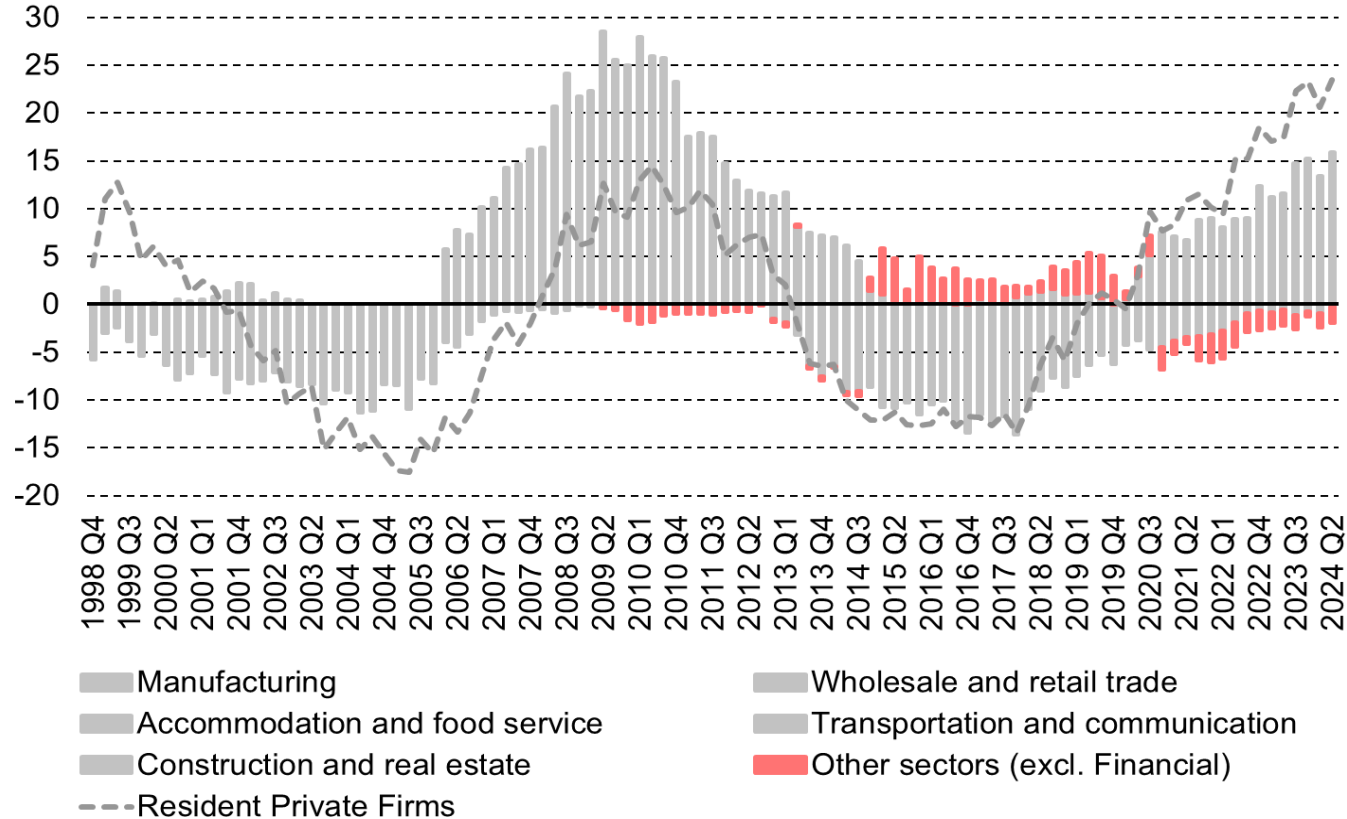


Other Sectors composed of varying industries; Financial sector being the main influence.

Source: Author's estimates and Central Bank of Malta.

Sectoral Credit Gaps (1993 Q1 – 2024 Q2)

(per cent)

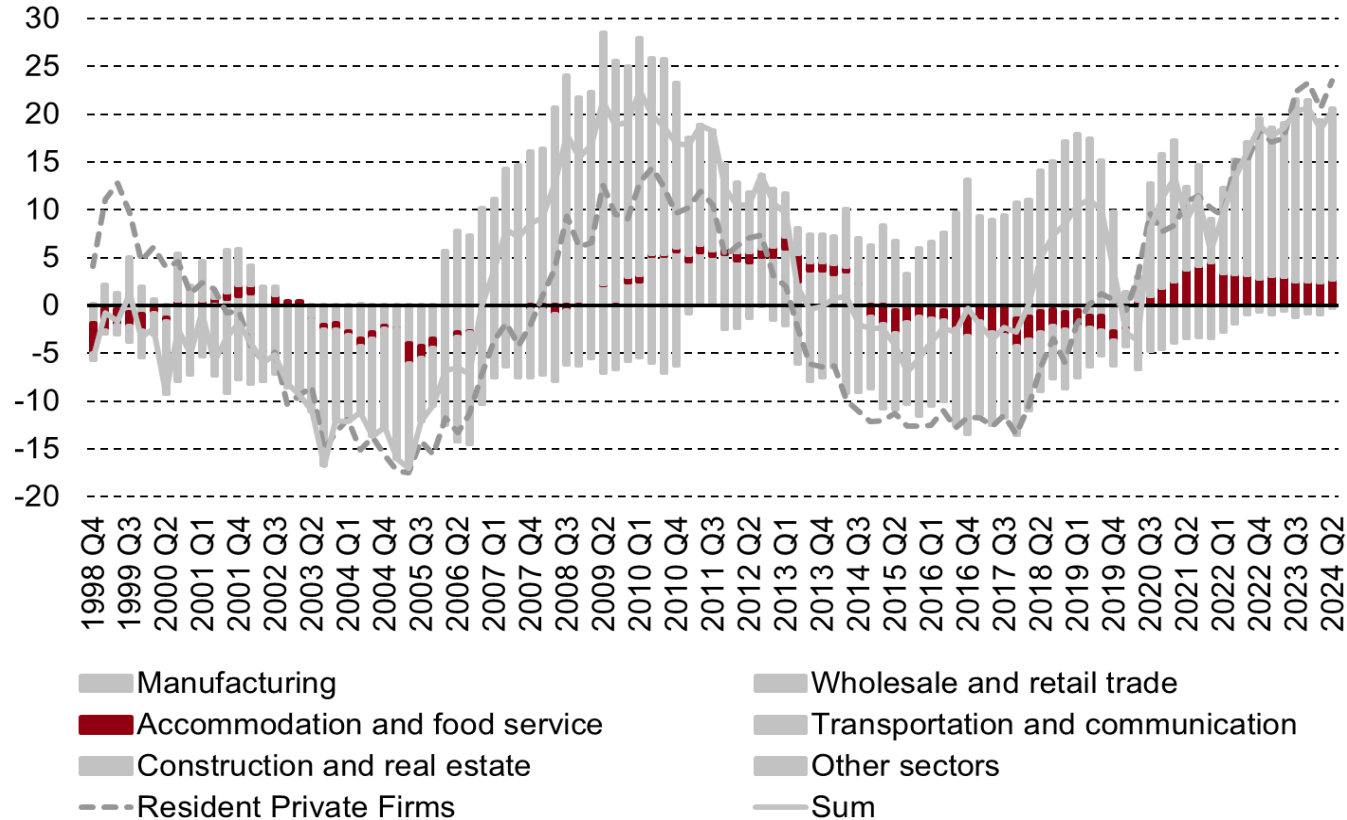


Source: Author's estimates and Central Bank of Malta.

* all other credit gaps maintained unchanged.

Sectoral Credit Gaps (1993 Q1 – 2024 Q2)

(per cent)



An **increase** in lending to the **Accommodation and food service sector** is observed.

Source: Author's estimates and Central Bank of Malta.



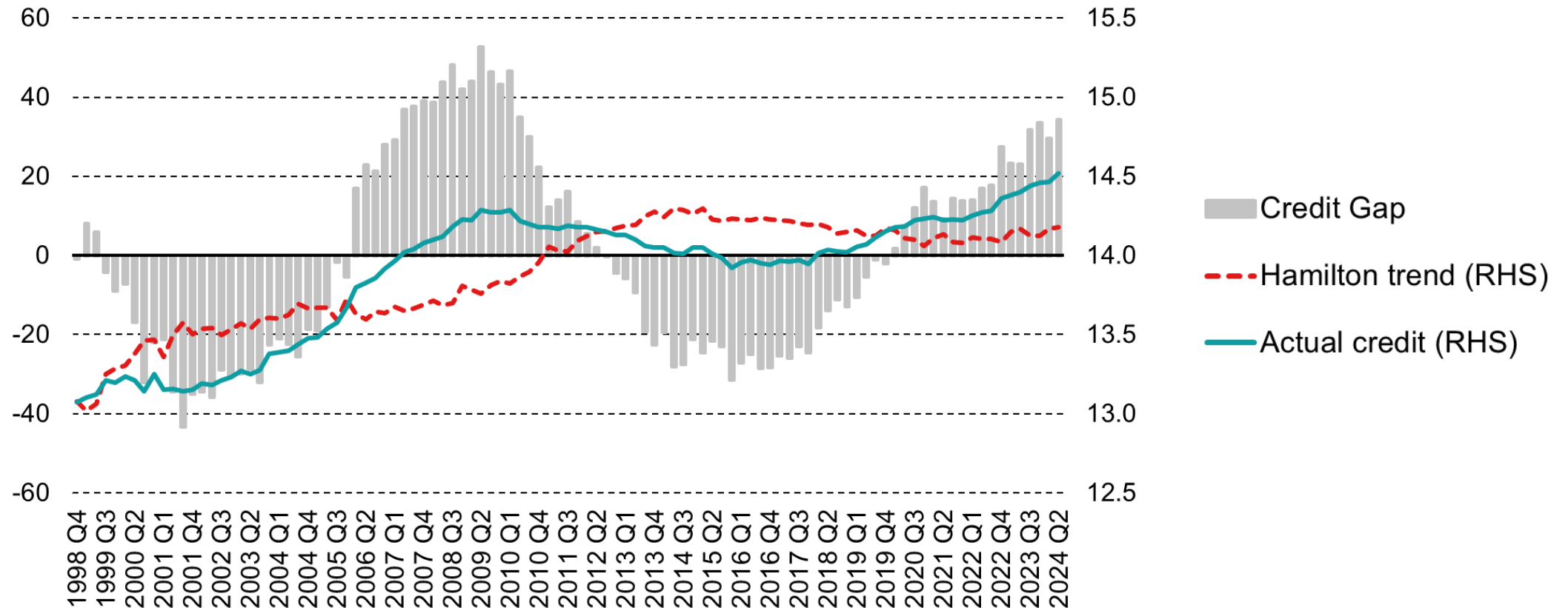
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Main economic sectors driving the overall positive gap



Construction and Real Estate sectors (1993 Q1 – 2024 Q2)

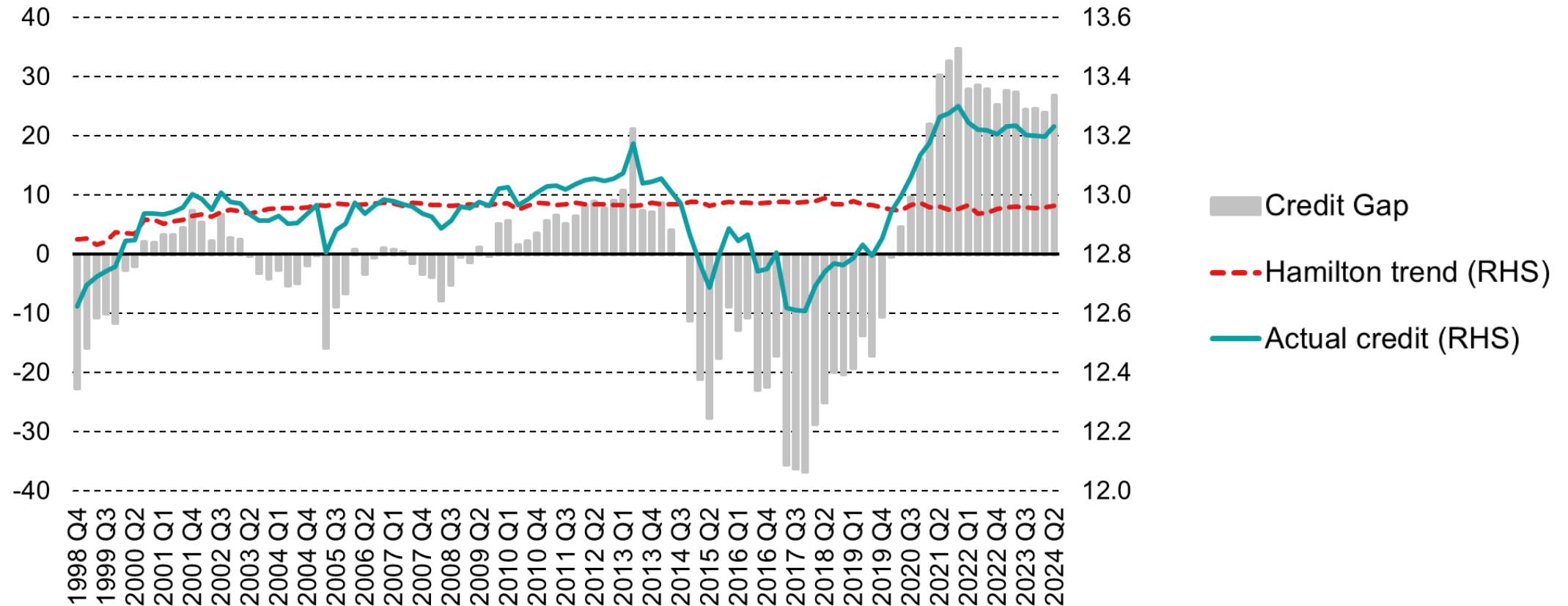
(per cent; log)



Source: Author's estimates and Central Bank of Malta.

Accommodation and food service activities sector (1993 Q1 – 2024 Q2)

(per cent; log)



Source: Author's estimates and Central Bank of Malta.



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Concluding remarks



Concluding remarks

1

Credit gap for resident private firms is positive; signs of possible excessive lending to Maltese corporates.

2

Construction and Real Estate sectors are the **key drivers** in credit to resident private firms.

3

Accommodation sector also driving credit, though to **a lesser extent** when compared to Construction and Real Estate.



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Thank you

