INFLATION AND THE JUST TRANSITION IN EMERGING MARKETS

PROJECTIONS FOR TURKEY

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(based on joint work with Remzi Baris Tercioglu)

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Overview

1. OMEGA – Open-Economy Multi-Sector Endogenous-Growth Assessment model
2. Climate policy simulations for Turkey
3. Concluding reflections

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OMEGA – Open-Economy Multi-Sector Endogenous-Growth Assessment model

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What is the academic puzzle to be explained? None. ¯_(ツ)_/¯

All 193 Parties to the Paris Agreement have issued **Nationally Determined Contributions** (NDCs).

What policy mix achieves emission targets at low net costs?

Wide policy domain

-> **Incentives**: taxes, subsidies, ETS, green finance, …

-> **Public investment**: distribution & storage, generation, public transportation, …

-> **regulation**: energy mix mandates, …

How important is **policy credibility**?

OMEGA – Open-Economy Multi-Sector Endogenous-Growth Assessment model

An ***integrated framework*** for policy analysis:

- Climate: carbon pricing instruments, command & control policies, green finance.
- Fiscal: All conventional taxes; tariffs; subsidies; public investment in sector-specific infrastructure and production.
- Monetary: Policy rate.

Orthodox micro-foundations (but not DSGE!)

Endogenous growth through human capital accumulation and learning-by-doing -> *Hysteresis*.

Model fit to data using calibration and **Bayesian inference**.

Small variant of the model is published in Schoder and Tercioglu (2023, World Bank Working Paper)

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Disequilibrium vs. General Equilibrium (Schoder 2017 SCED, 2020 EM)

Post-Keynesian disequilibrium closure

-> Principle of effective demand

-> Demand shocks drive output

-> Productivity shocks drive input demand

-> Taylor principle *not* required

-> r < g

Neo-classical general equilibrium closure

-> Factor-market constrained output

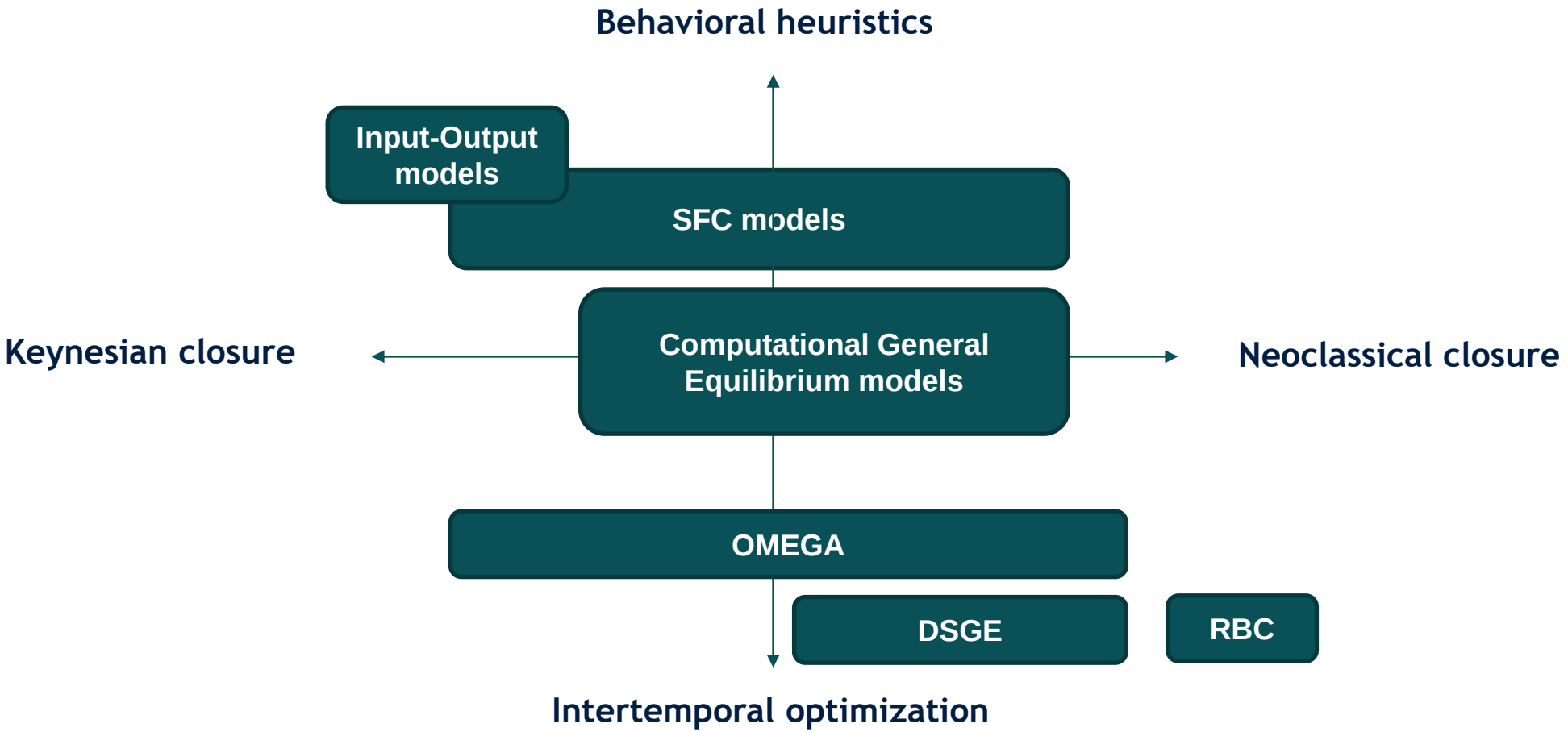
-> Demand shocks drive inflation

-> Productivity shocks drive output

-> Taylor principle required

-> r > g

Where to locate OMEGA?



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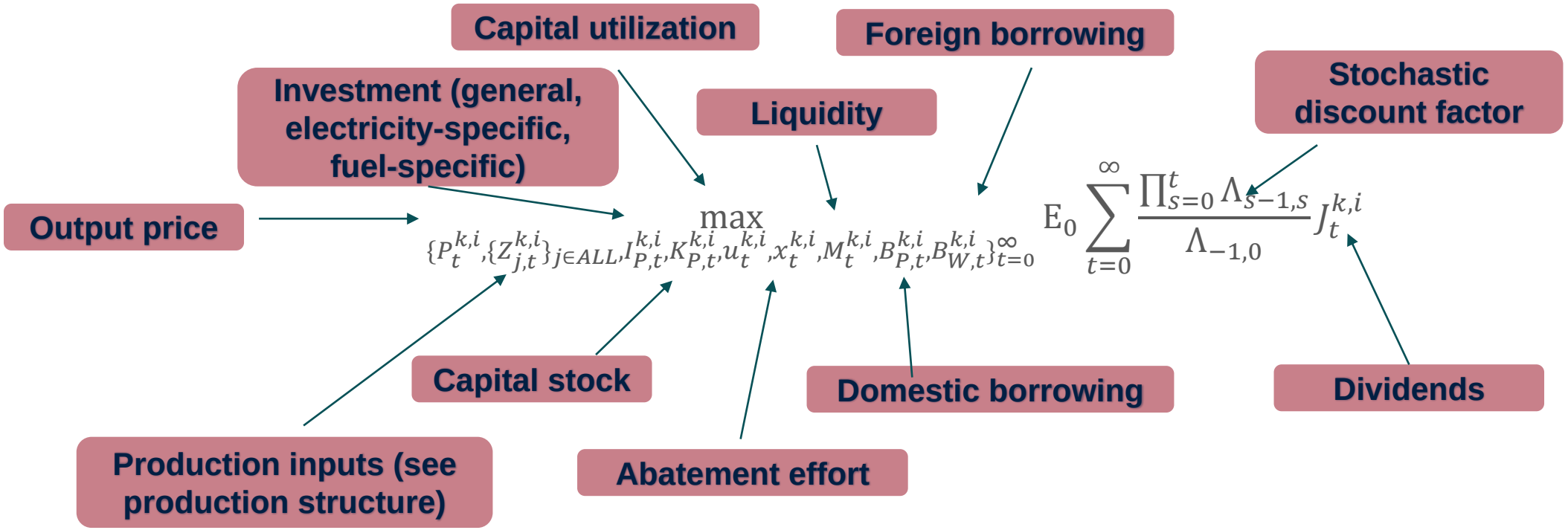
Control variables of the firm *i* in sector *k*



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Price and wage setting

Firms operate under monopolistic competition and set the price over marginal costs

(*orthodox* interpretation/generalization of Kalecki's "*degree of monopoly*" – Schoder 2017 SCED)

-> **Cost-push inflation** if marginal costs increase at given demand.

-> **Demand-pull inflation** if demand increases at given marginal costs.

Flexibility of production structure is critical for **how cost-push shocks propagate** through the system.

The low-skilled rate of wage inflation is **administered** and follows a Phillips-curve relationship.

-> *AD HOC???* -> Equivalent to monetary policy rule.

-> around 50% of Turkish wage earners receive the minimum wage (DISK 2022).

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How to finance investment?

Shareholder value: Shareholders want the firm to exploit all available credit with the bank to increase the cash flow.

The bank will impose a **borrowing constraint** which depends on the market value of the collateral:

$$R_{B,t}\widehat{B_{P,t}^{k}} < \zeta_{P}^{k}\mathrm{E}_{t}\Pi_{Y,t+1}Q_{t+1}^{k}(1-\delta)\widetilde{K_{P,t}^{k}}$$

-> Consistent with **horizontalist view of endogenous money** (Moore 1979, Lavoie 1984).

-> **Financial accelerator** as in Kiyotaki and Moore (1997 JPE).

-> Modigliani-Miller (1948) theorem is violated.

Firms pay an **external finance premium** which is inversely related to their liquidity

(*orthodox* interpretation of Kalecki's 1937 "*principle of increasing risk*")

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Climate policy simulations for Turkey

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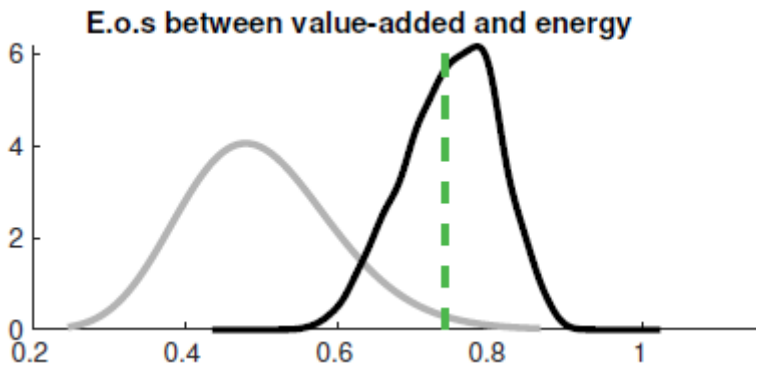
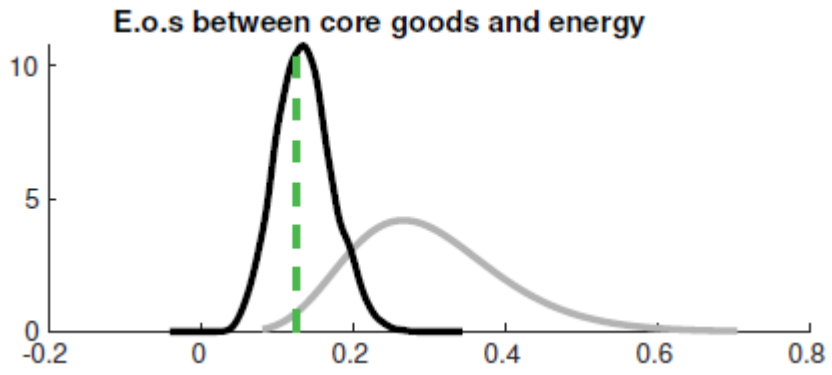
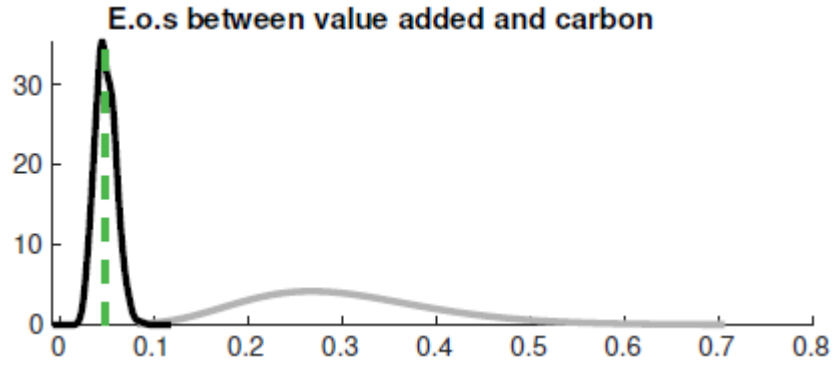
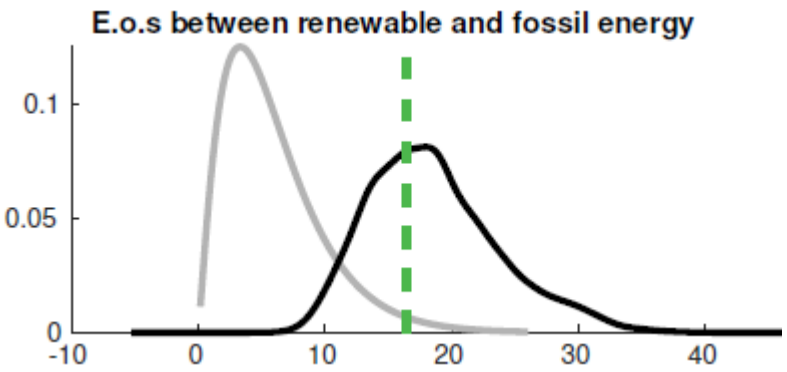
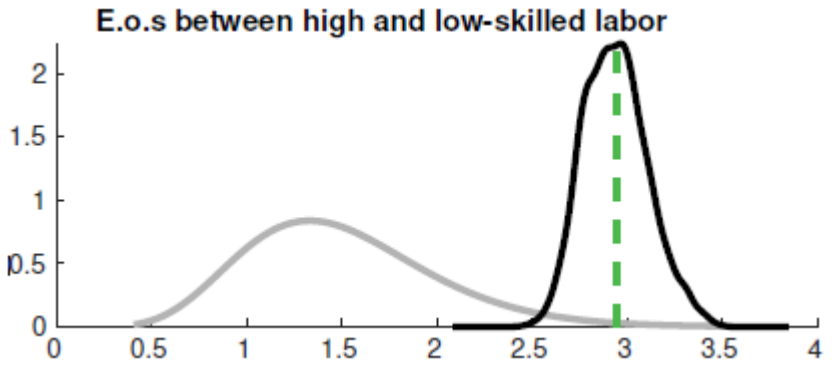
Turkey: Prior and posterior distributions of selected parameters.

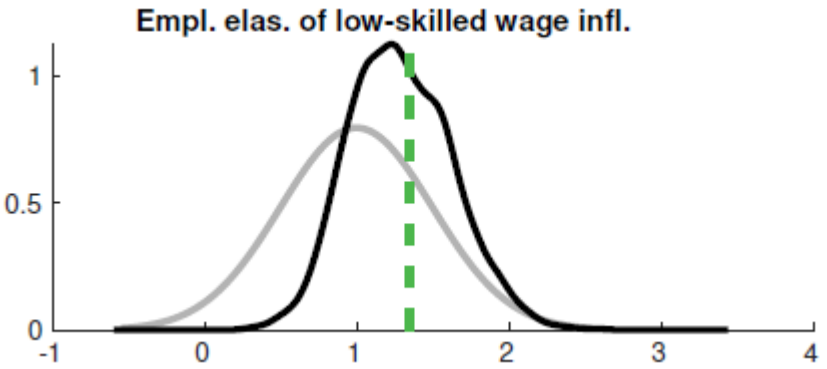












Source: Schoder and Tercioglu (2023 WB Working Paper)

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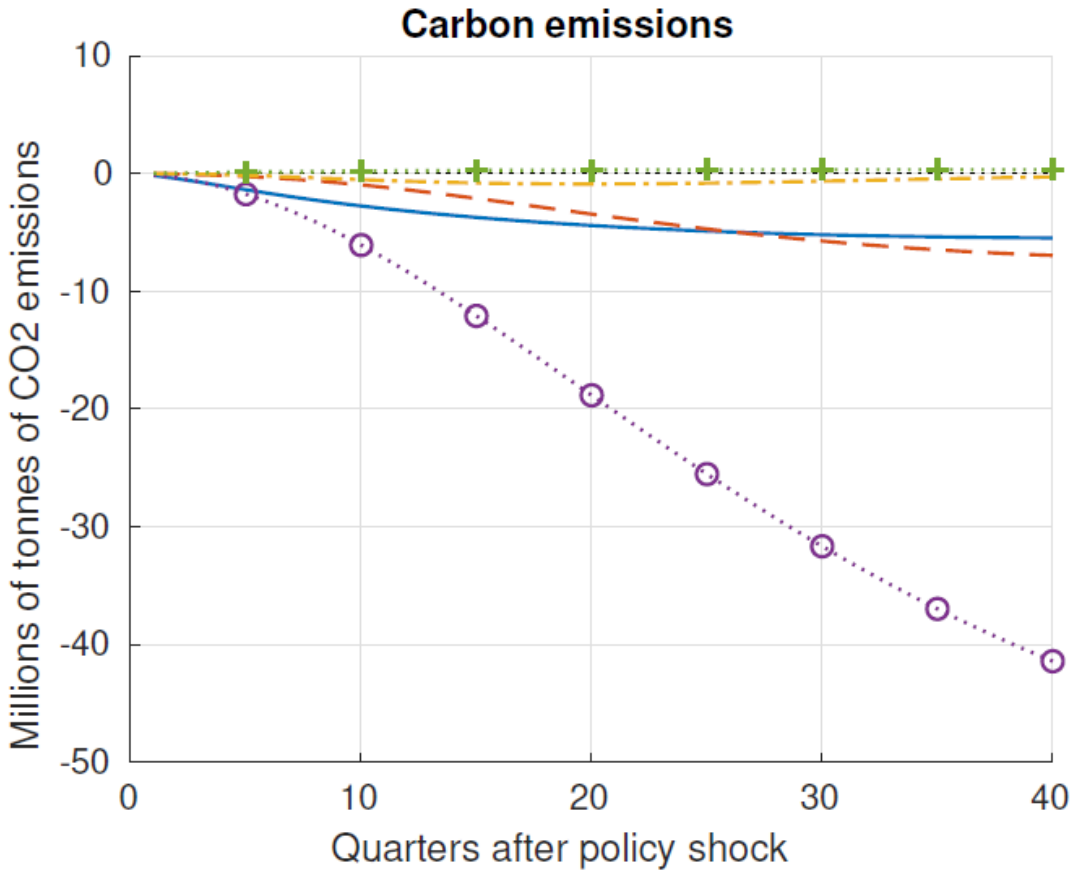
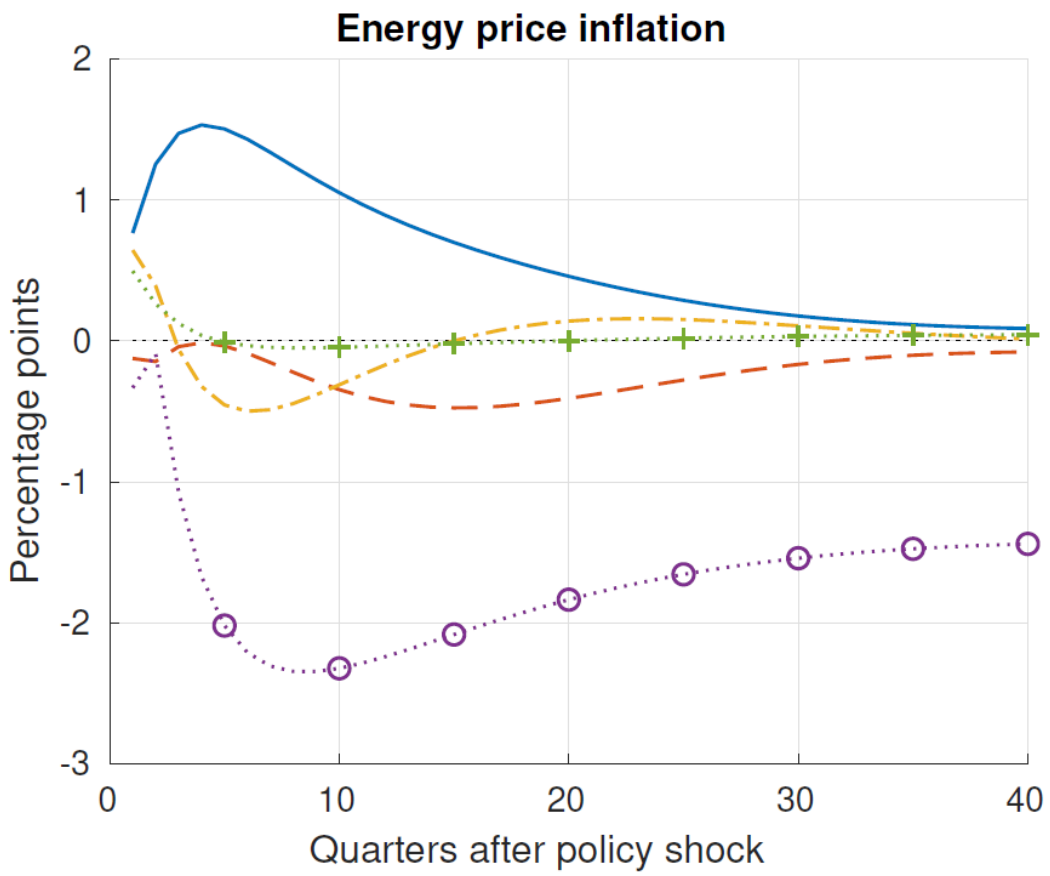
Turkey: Impulse-responses of selected policy interventions (1bn 2005 USD)

-> With an inflation target of 10%, inflation effects of climate policies are small.





Carbon tax — Renewable energy subsidy — Public investment in RE generation — Pub. inv. in RE infrastructure (below saturation) — Pub. inv. in RE infrastructure (above saturation)

Source: Schoder and Tercioglu (2023 WB Working Paper)

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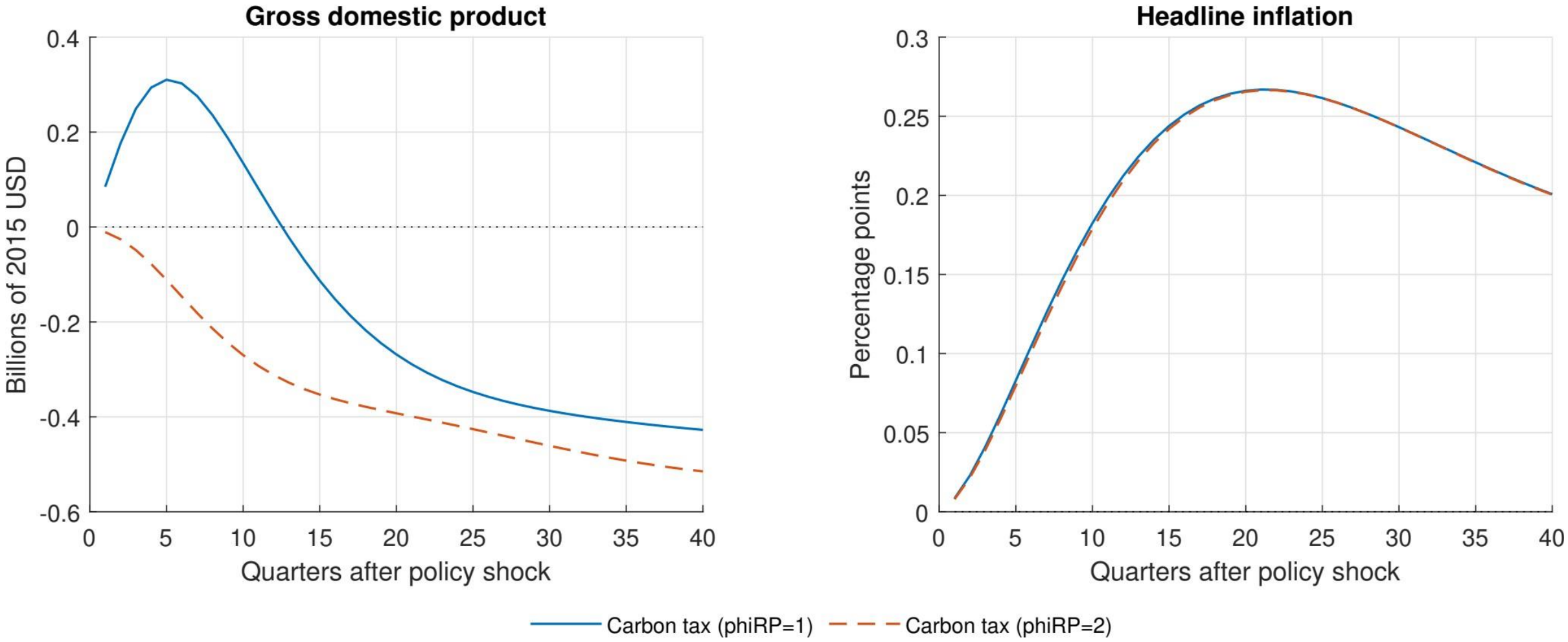
The stronger the monetary policy response to inflation, the stronger the negative GDP effects of a carbon tax.



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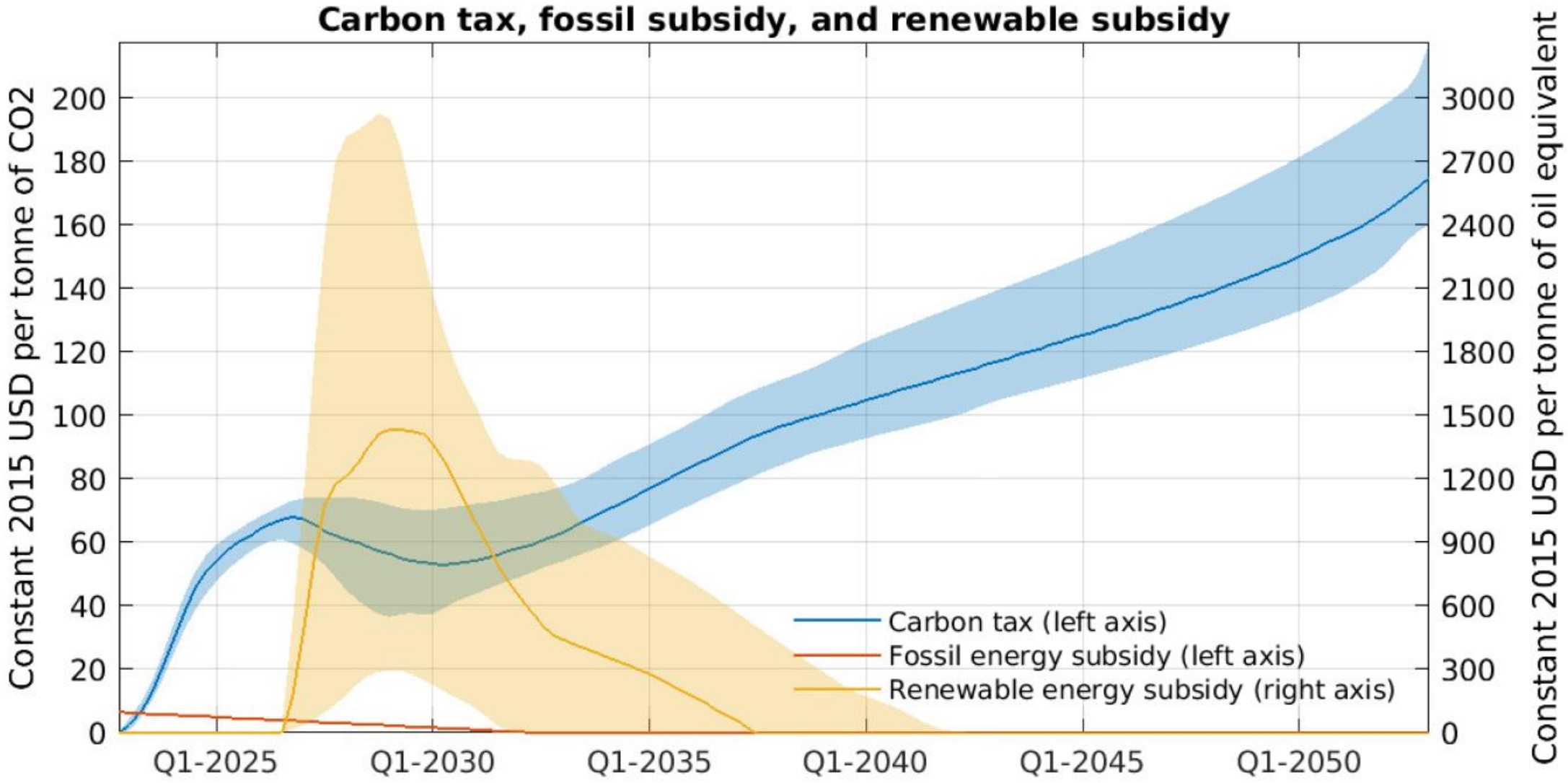
Conditional forecasts: A policy mix for net zero by 2053 in Turkey



Source: Schoder and Tercioglu (2023 WB Working Paper)

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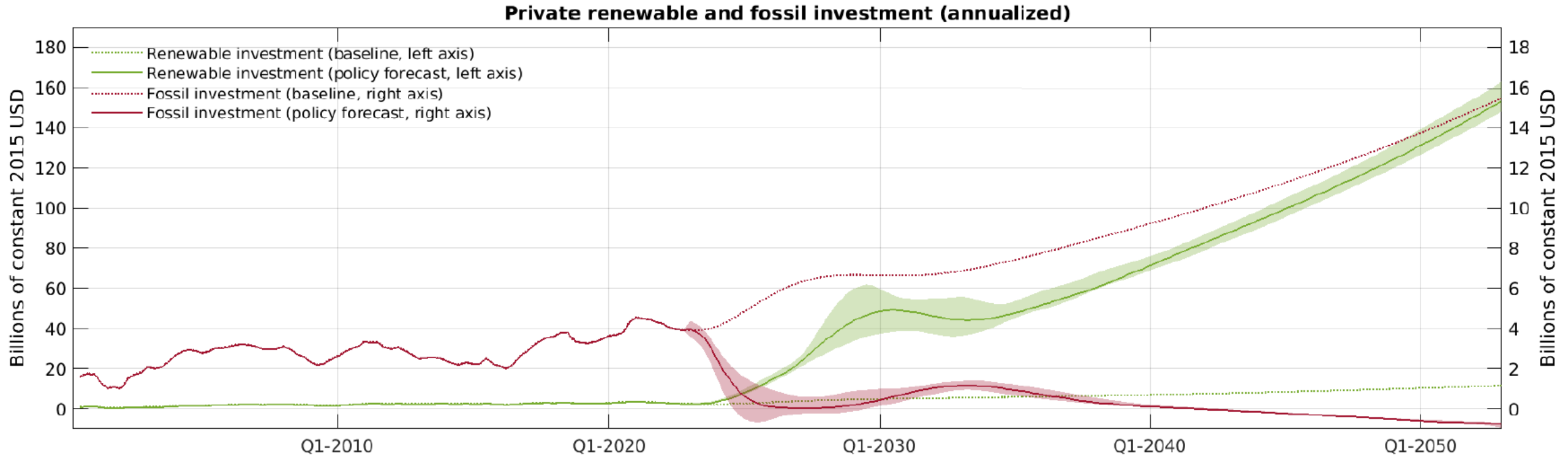
Conditional forecasts: Energy investment in Turkey



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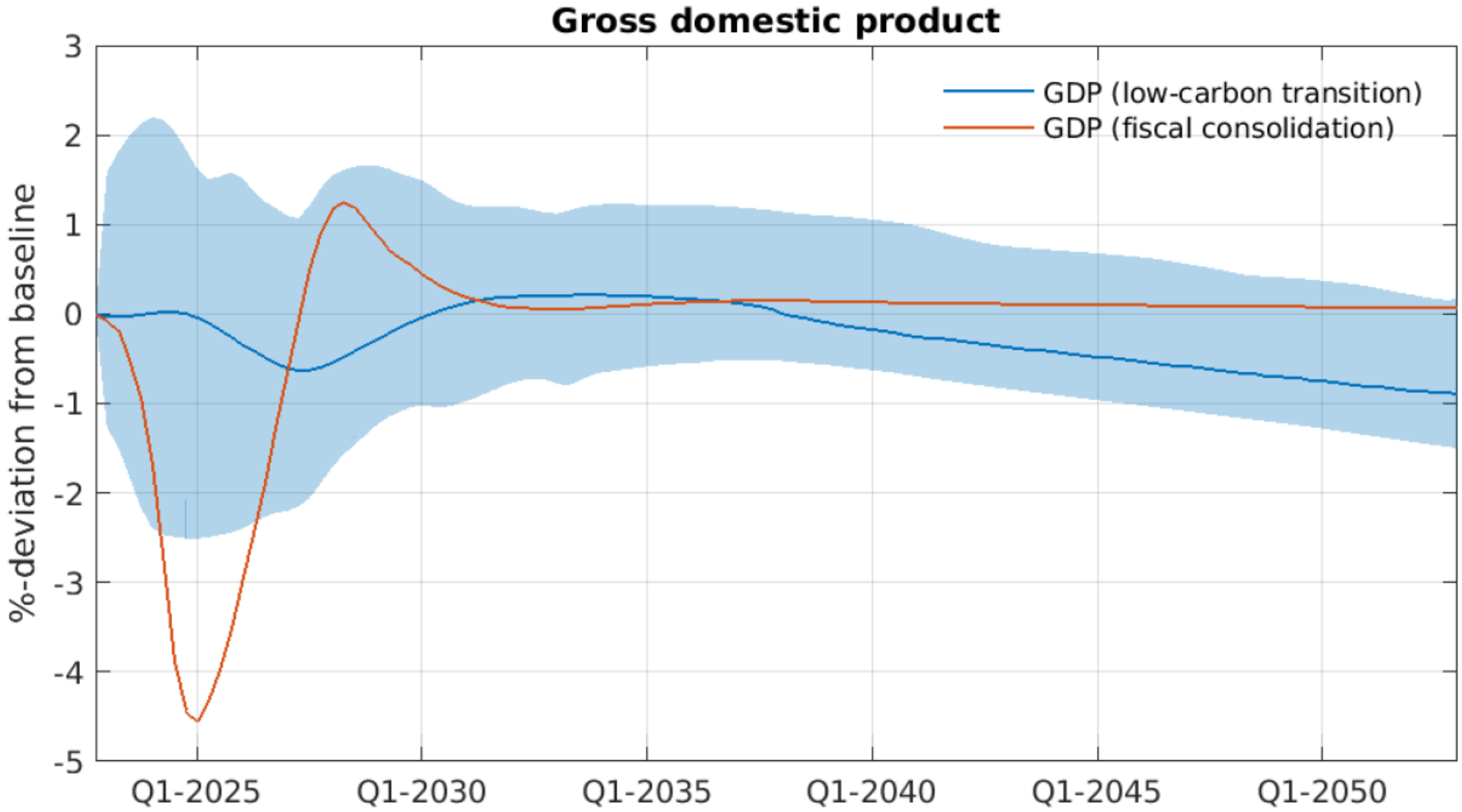
Turkey: GDP effects of the net-zero policy mix



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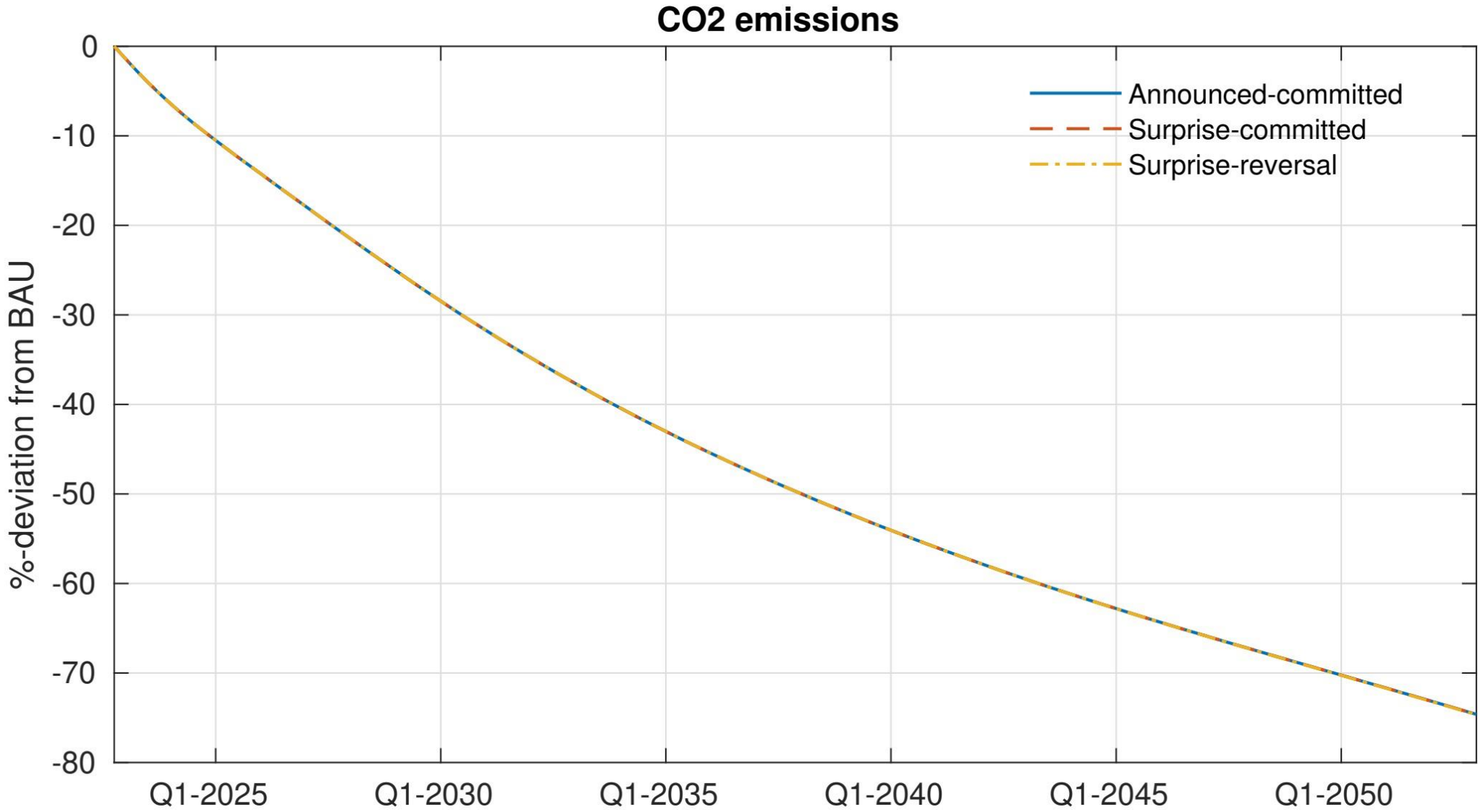
What it takes to achieve an emission target under different degrees of policy credibility



Source: OMEGA Turkey, Schoder and Tercioglu (2023 WB Blog)

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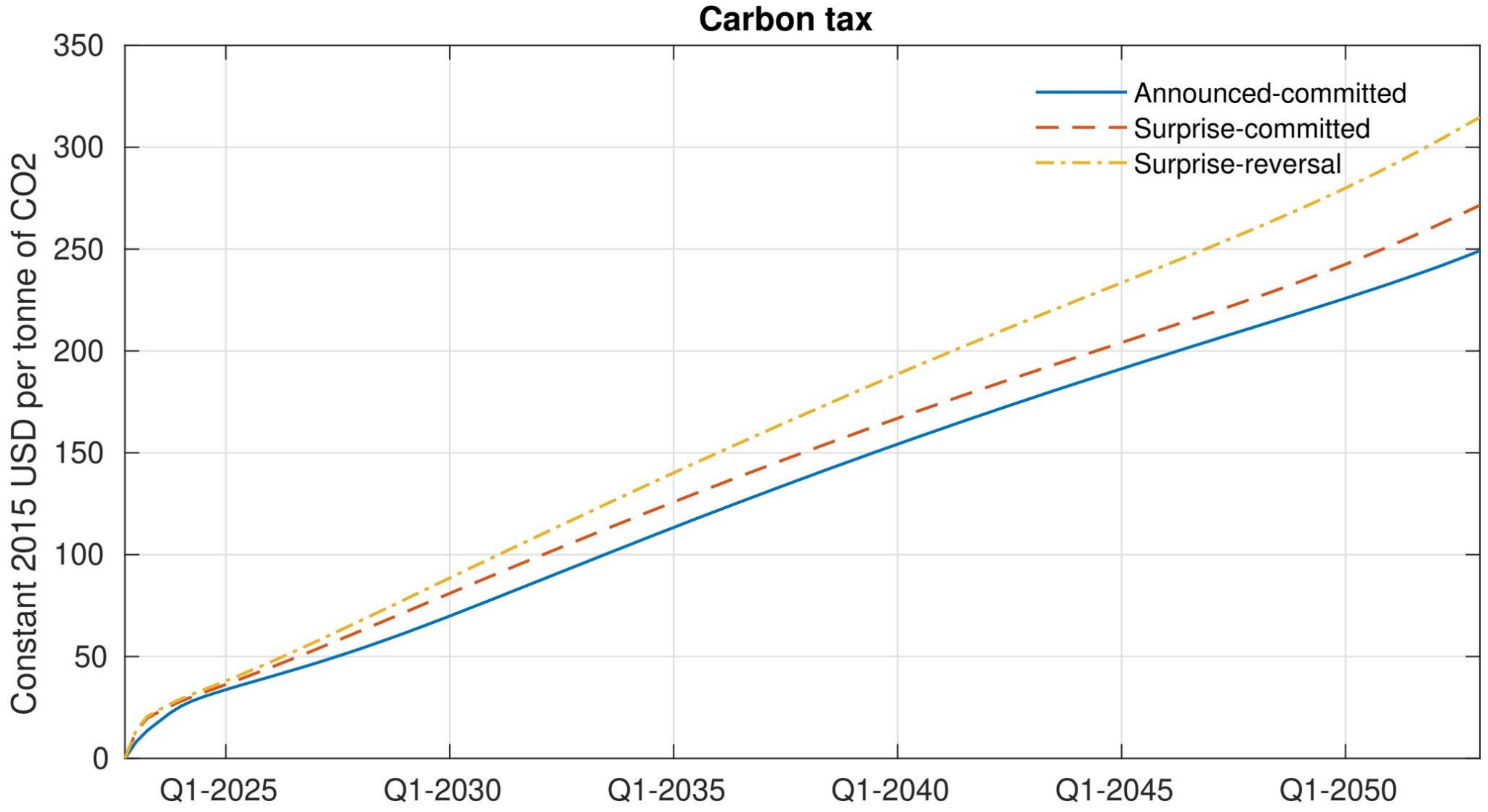

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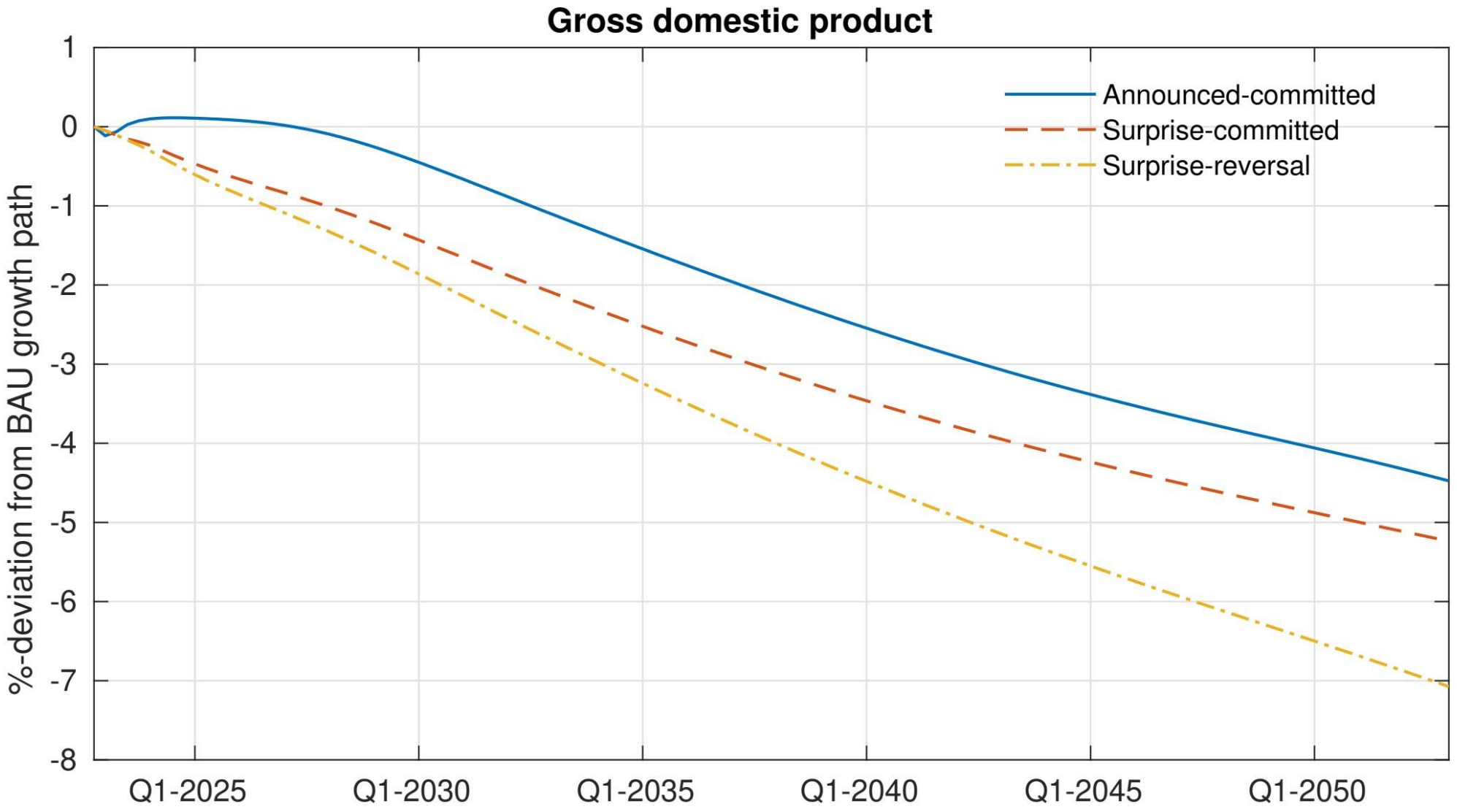

Source: OMEGA Turkey, Schoder and Tercioglu (2023 WB Blog)

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Concluding reflections

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Insights from Turkey simulations

Monetary policy can be an **effective instrument** to contain inflation – especially in emerging markets.

It **reduces aggregate demand** via various channels.

-> Relatively low cost in case of demand-side inflation.

Yet, **brute-force intervention** in case of supply-side inflation (from climate policies).

-> Trade-off between GDP and inflation.

Climate-smart public investment can “reduce bottlenecks” (Eckhard) and alleviate this trade-off.

-> The more flexible the production structure, the more cost-push shocks propagate into input substitution rather than overall inflation

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Expectation management: lessons from inflation targeting

Discourse on inflation targeting all about **expectation management** and **forward guidance**.

Contested also because:

-> duration of price contracts short.

-> cost-push and demand-pull inflation hard to disentangle.

Expectation management and forward guidance could be much more effective in climate policy:

-> expected lifetime of capital assets around 40 years.

-> firms make decisions on type of capital investment based on expected returns (Keynes 1936).

-> How credible are Nationally Determined Contributions (NDCs)? (Campliglio 2023 LSE)

Widen policy domain

-> Commitment to entire policy path including legal underpinning.