

Fiscal Policy, the Trade Balance, and
the Real Exchange
Rate: Implications for International
Risk Sharing

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Outline

- Brief motivation
- Empirical findings
- Results obtained with a baseline model
- Comparing facts and theory: new puzzles
- Proposed extensions and results obtained
- Conclusions

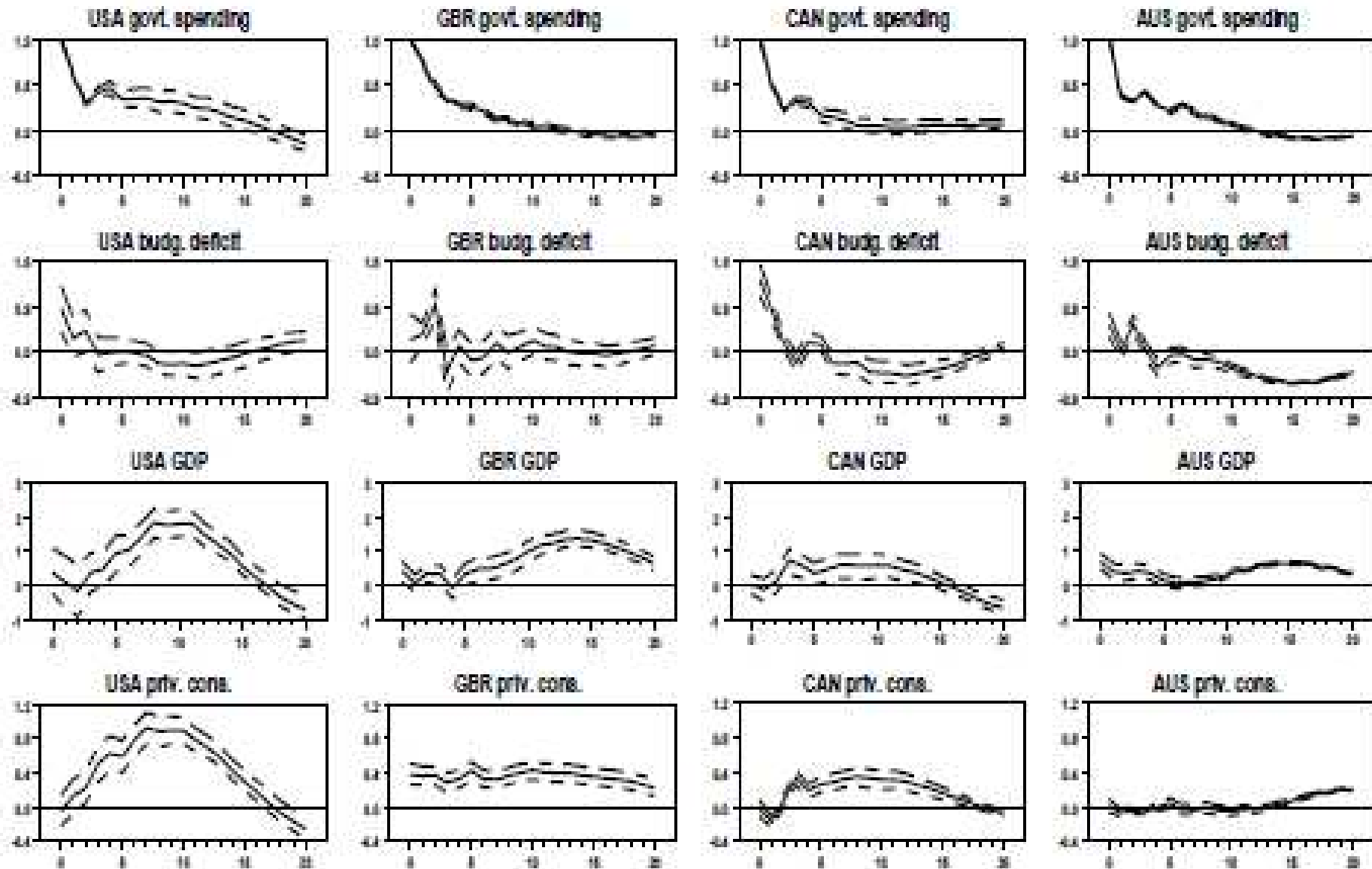
Motivation

- Effect of fiscal policy on an open economy's competitiveness and external balance
- Focus on the expenditures' side, and variables such as real exchange rate and trade balance
- Comovement with macro aggregates

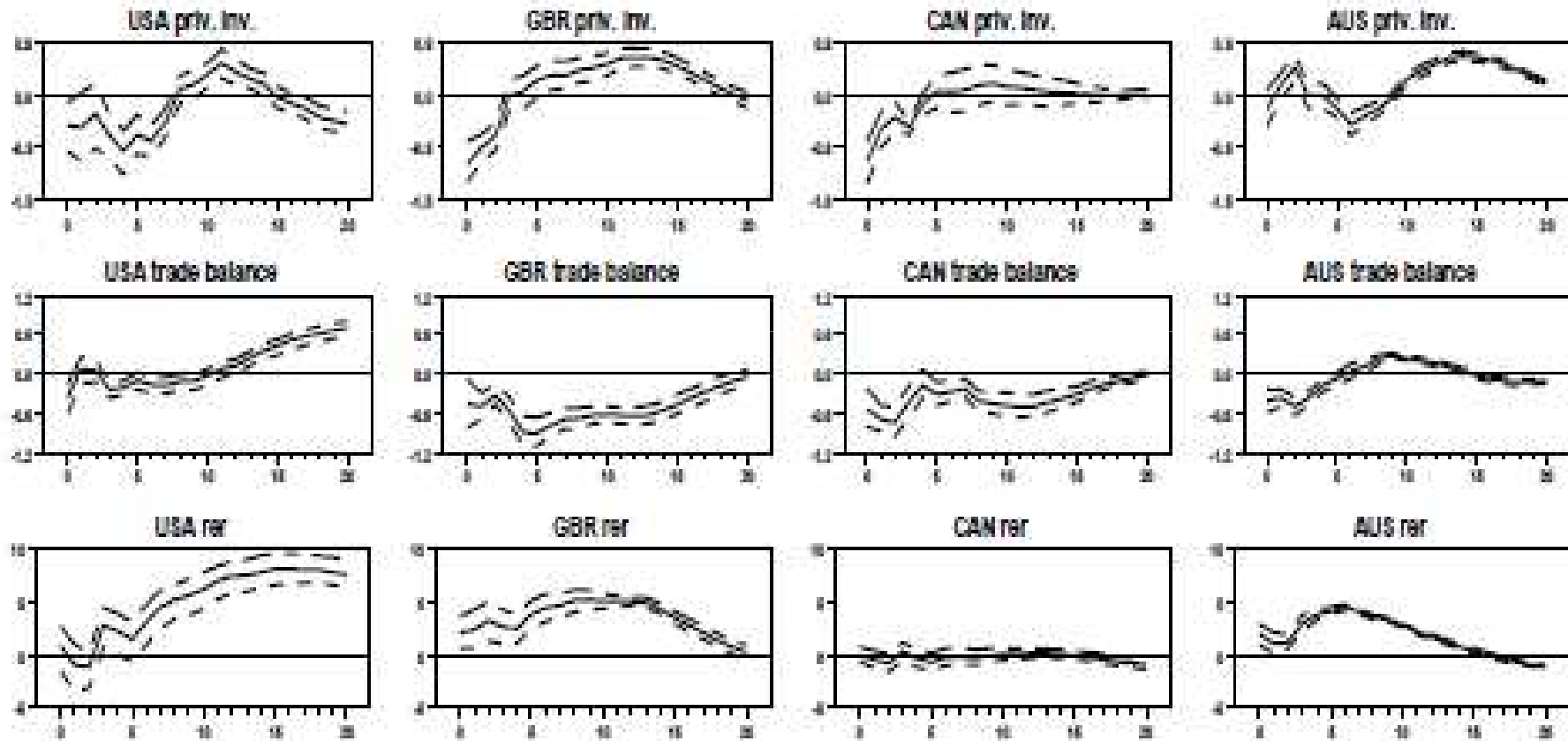
VAR estimations (I)

- Four countries: US, UK, Canada and Australia
- Variables:
 - log of real government spending,
 - log of net taxes (tax revenues less transfers),
 - log of GDP,
 - log of private consumption (non-durables),
 - log of net exports of goods and services (GDP share),
 - log of the CPI-based real effective exchange rate,
 - nominal 3-month interest rate,
 - private investment.

VAR estimations (II)



VAR estimations (III)



Other specifications

- Using gov. expenditures' own deflator:
 - more persistent expenditures,
 - negative response of GDP in the UK,
 - sign reverse in consumption and trade balance.
- Military expenditures dummy for 1980:
 - gov. expenditures below trend in the 80's,
 - basic conclusions are the same, since signs reverse in response to lower expenditures.

Summary of results

- GDP and consumption rise on the short and medium run;
- Trade balance deteriorates (except when using other deflator – GDP response weaker);
- Real exchange rate depreciates (consistent with deterioration of trade balance);
- Investment falls (in some cases the response is quite large on impact).

Baseline Model (I)

- New Keynesian model with endogenous labor supply, nominal price rigidity, monopolistic competition, forward-looking price setting, and complete asset markets.
- Since the shock works as a wealth effect, consumption falls, and international risk sharing predicts that REE appreciates:
 - same sign for consumption and REE responses.

$$c_t = y_t^* + \sigma^{-1} q_t$$

Baseline Model (II)

- Decline in consumption improves the trade balance (output equality), but the REE appreciation dampens this effect;
- the sign of the response will depend on the elasticity of substitution between foreign and domestic goods:
 - If >1 , trade balance worsens, if <1 it improves.
- Degree of openness amplifies the effect.

Adding Investment

- REE appreciation is still a robust feature;
- Investment response is negative;
- Regardless of investment, trade balance still deteriorates (elasticity of substitution > 1);
- Degree of openness amplifies the shock;
- Basic results in line with the baseline model.

Comparing facts and theory

- Three main puzzles arise, mainly due to the fact that the model's driving force is the wealth effect that depresses private consumption, which rises in the data:
 - REE appreciation;
 - Comovement between consumption and REE;
 - Trade balance-REE comovement.

The role of non-separable utility (I)

- Creates a complementarity between consumption and employment;
- “Strong enough” complementarity induces a positive response of consumption!
- Real exchange rate depreciates, for some parameter values: $q_t = \sigma c_t - (1 + \varphi)n_t$
- Trade balance now increases (contrary to data), unless elasticity is now < 1

The role of non-separable utility (II)

- Basically, a model with non-separable utility, featuring a high intertemporal elasticity of substitution in consumption and a low intratemporal elasticity of substitution between domestic and foreign goods delivers consistent results with the empirical findings.
- Rationalization for a low intratemporal elasticity of substitution between foreign and domestic goods is problematic, given the existing literature.

Conclusions

- Standard models fail to deliver the correct responses of consumption, trade balance and REE, as well as its comovements;
- Non-separable utility might “do the trick”;
- Main criticisms:
 - Calibrations: not enough justifications for some of the values chosen (the term “chosen” is not innocent)
 - What about policy implications? Is there a way to make this paper somehow relevant?