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Housing market volatility in the OECD area: Evidence from VAR based return decompositions ☆

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ABSTRACT

Vector-autoregressive models are used to decompose housing returns in 18 OECD countries into cash flow (rent) news and discount rate (return) news over the period 1970–2011. For the majority of countries news about future returns is the main driver, and both real interest rates and risk-premia play an important role in accounting for housing market volatility. Bivariate cross-country correlations and principal components analyses indicate that part of the return movements have a common factor among the majority of countries. We explain the results in terms of global changes in credit constraints and transactions costs as well as changes in monetary policy over this period. Among other things, our results shed new light on whether excessively low interest rates by the monetary authorities was a major cause for the housing boom up to 2006.

1. Introduction

In many countries over the last 15–20 years housing markets have shown a high degree of volatility, with real prices rising over many years up to around 2006 followed by decreasing prices in recent years, see Fig. 1. This pattern has been especially pronounced in countries such as Spain, Ireland, Denmark, Italy, the Netherlands, the UK, and the US. Only a few countries, such as Germany and Japan, have experienced price movements different from this overall pattern. Understanding the underlying causes for these price movements is important, not just for real estate economists and analysts, but for economists in general. Housing wealth constitutes an important part of household's total wealth and has a significant effect on household consumption, cf. Case et al. (2012). In addition, many of the problems causing the financial crisis and global recession since 2008 have their origin in the housing markets, e.g. the US subprime crisis and the overinvestment in housing in many European countries. As a consequence, the European Commission's new early warning system for macroeconomic imbalances (the 'MIP Scoreboard') includes house prices as an indicator, cf. European Commission (2012).

In this paper we undertake a detailed investigation of what moves housing markets in 18 OECD countries over the period 1970–2011. Using the return variance decomposition methodology from Campbell (1991) and Campbell and Ammer (1993)

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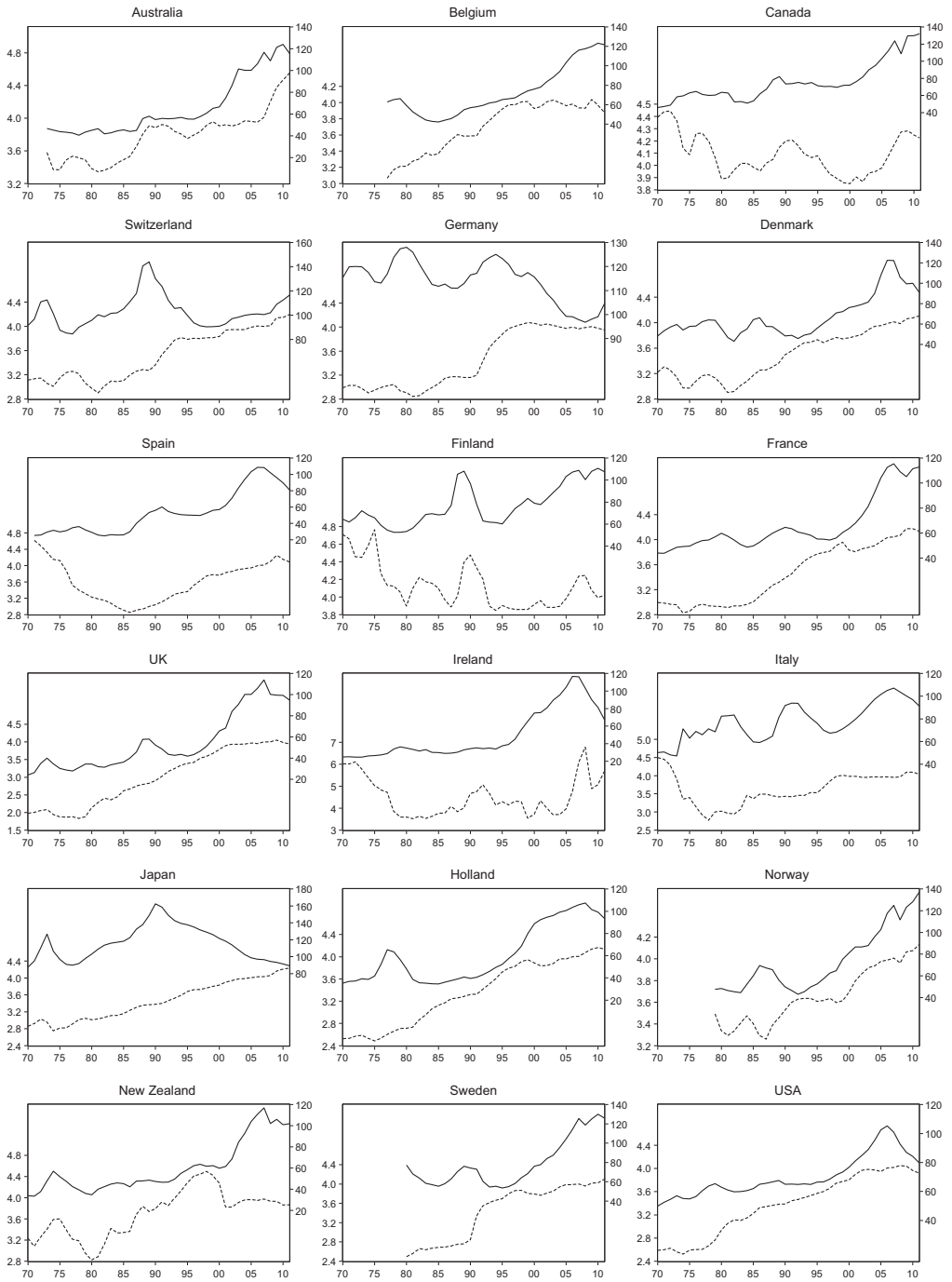

Fig. 1. Real house prices and rents in 18 OECD countries. *Notes:* The solid line (right axis) gives the (indexed) house price and the dotted line (left axis) gives the (indexed) rent.

– which has become a standard methodology for analyzing financial market returns[1] – we decompose housing returns into two factors, one capturing changing expectations ('news') of future rents (proxying for housing service flows), and the other capturing changing expectations of future returns. Since returns can be further decomposed into the risk-free rate and a risk-premium (return in excess of the risk-free rate), housing excess returns can be decomposed into three components:

[1] See e.g. Campbell and Mei (1993), Ammer and Mei (1996), Patelis (1997), Campbell and Vuolteenaho (2004), Engsted and Tanggaard (2004), Bernanke and Kuttner (2005), Larrain and Yogo (2008), Campbell et al. (2010), and Engsted et al. (2012a).