SVAR Report

2021/02/19

Replication 的結果

- IRF, Bootstrap C.I., Variance Decomposition, Historical Decomposition 皆相同
- 上述結果結果依據程式來源分別命名後放在 `comparison.zip` 內

Raw Data

原始資料

- 隔夜拆款利率 $(\%)$
- Sentiment
- 臺閩地區核發建築物建造執照數（件）
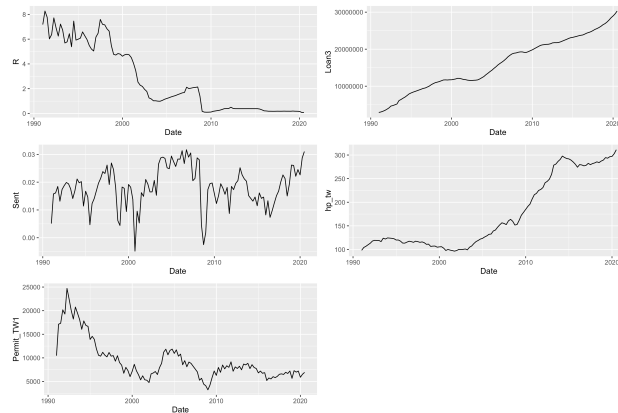- 消費者貸款-購置住宅貸款、房屋修繕貸款、建築貸款（新台幣百萬元）
- 信義房價指數（台灣）

Figure 1: Raw Data: R, Sent, Permit, Loan, HP

經轉換過後的原始資料

- 隔夜拆款利率 $(\%)$
- Sentiment
- 對數臺閩地區核發建築物建造執照數（件）
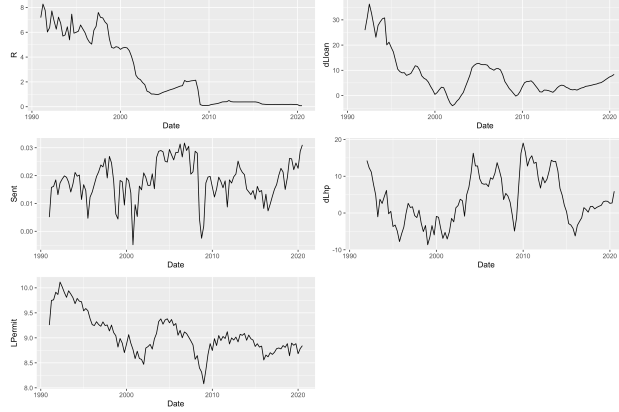- 消費者貸款-購置住宅貸款、房屋修繕貸款、建築貸款（新台幣百萬元）-年增率
- 信義房價指數（台灣）-年增率

Figure 2: Transformed Raw Data: R, Sent, LPermit, dLloan, dLHP

Model Results

認定條件

$$
\begin{bmatrix}
\varepsilon_t^R \\
\varepsilon_t^{Sent} \\
\varepsilon_t^{LPermit} \\
\varepsilon_t^{dLloan} \\
\varepsilon_t^{dLhp}
\end{bmatrix}
=
\begin{bmatrix}
a_{11} & 0 & 0 & 0 & 0 \\
a_{21} & a_{22} & 0 & 0 & 0 \\
a_{31} & a_{32} & a_{33} & 0 & 0 \\
a_{41} & a_{42} & a_{43} & a_{44} & 0 \\
a_{51} & a_{52} & a_{53} & a_{54} & a_{55}
\end{bmatrix}
\begin{bmatrix}
e_t^{mp} \\
e_t^{exp} \\
e_t^{hs} \\
e_t^{hd} \\
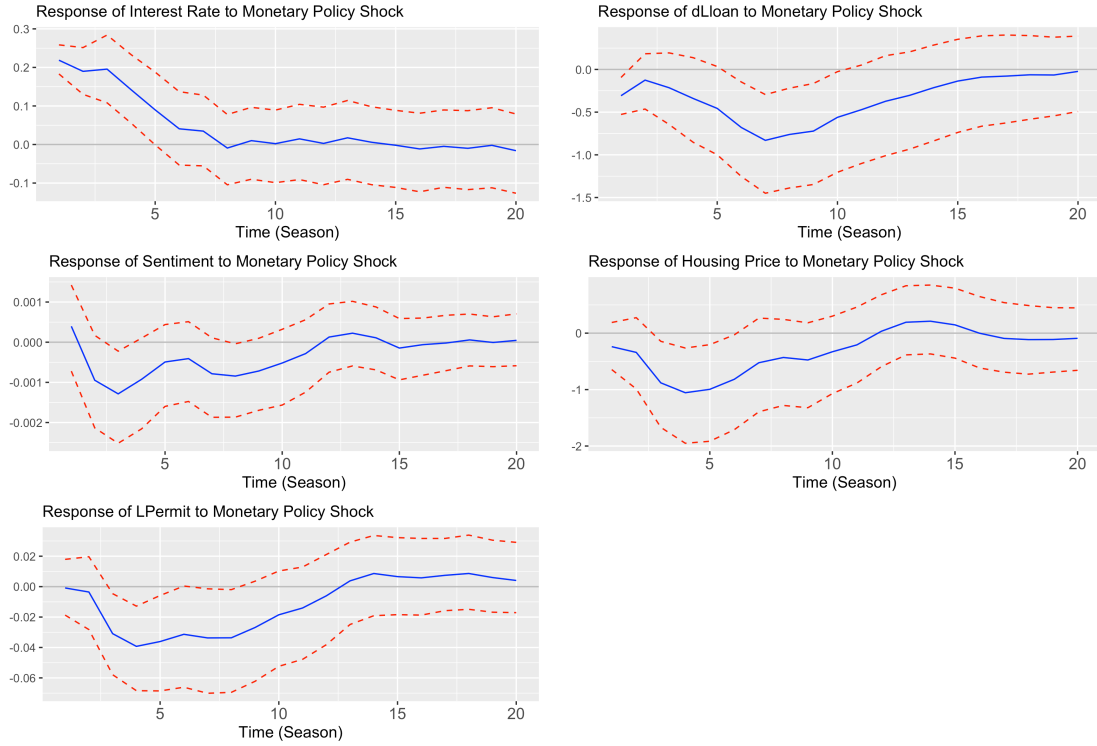e_t^{sp}
\end{bmatrix}
$$
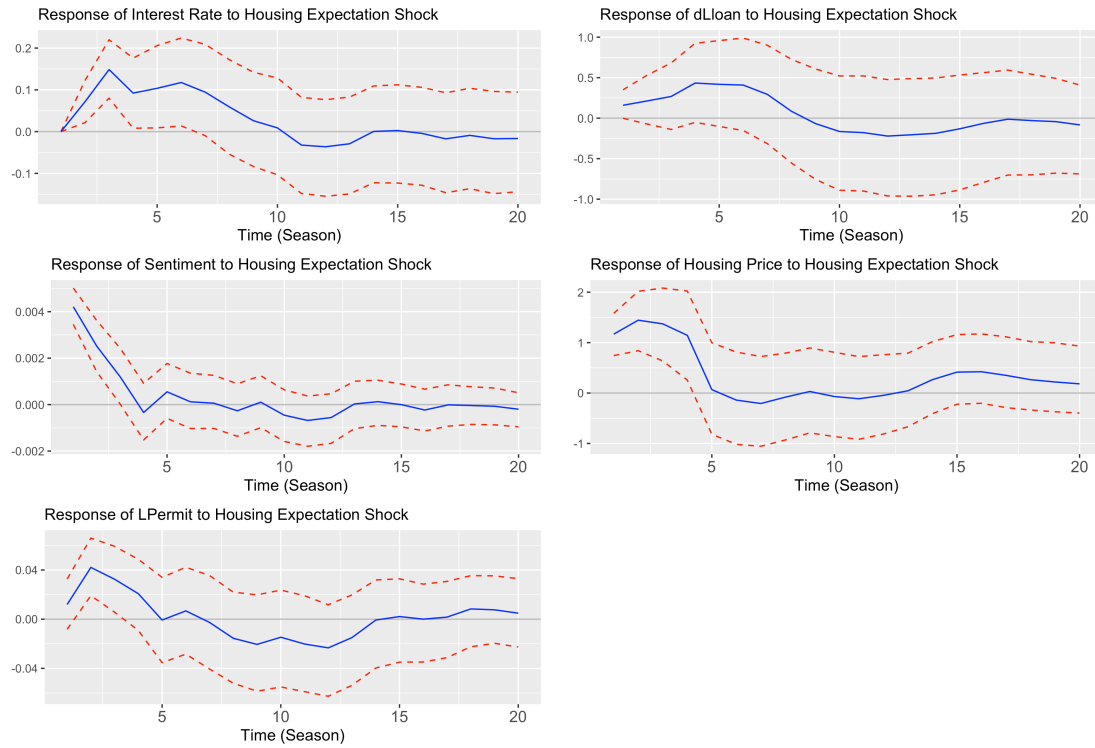
IRF

Figure 3: Monetary Policy Shock

Figure 4: Housing Expectation Shock

Figure 5: Housing Supply Shock

Figure 6: Housing Demand Shock

Figure 7: Housing Speculation Shock

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考量寬鬆貨幣政策 IRF

- 在 negative shock 下看 IRF

Response of Interest Rate to Monetary Policy Shock

Response of dLloan to Monetary Policy Shock

Response of Sentiment to Monetary Policy Shock

Response of Housing Price to Monetary Policy Shock

Response of LPermit to Monetary Policy Shock

Figure 8: Negative Monetary Policy Shock

Variance Decomposition

period	mp	exp	hd	hs	sp
1	1.60	37.19	4.39	0.43	56.39
2	2.32	45.68	5.63	3.03	43.34
4	13.30	45.03	6.77	4.15	30.74
8	24.94	35.61	6.96	3.78	28.71
12	27.28	33.91	7.03	4.72	27.07
16	26.30	33.48	9.42	4.73	26.08
20	23.92	34.77	13.25	4.61	23.45

Historical Decomposition

將歷史分解的中位數標示於下表。而從房價指標的走勢,將樣本期間分為:房價指數持平期 (1991Q1-2002Q4) 及房價指數上升期 (2003Q1-2020Q3)。

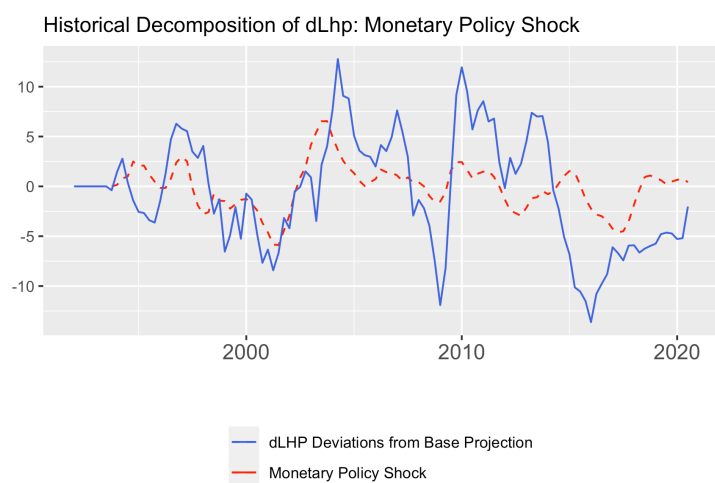| 樣本期間	Montary Policy Shock	Expectation Shock	Demand Shock	Supply Shock	Speculation Shock
全樣本 (1992Q1-2020Q3)	16.61	31.88	14.60	6.64	19.29
房價持平期 (1992Q1-2002Q4)	28.29	32.13	6.85	44.05	-4.68
房價上升期 (2003Q1-2020Q3)	14.14	31.64	19.79	2.08	29.61

Historical Decomposition of dLhp: Monetary Policy Shock

Figure 9: Historical Decomposition of hp: monetary policy shock

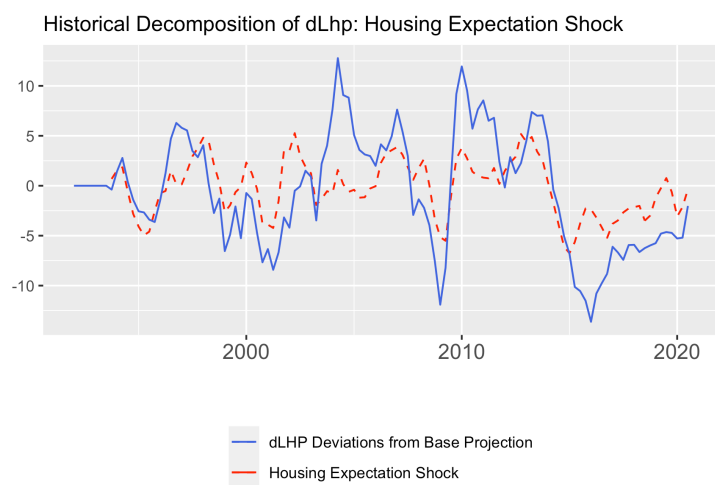Historical Decomposition of dLhp: Housing Expectation Shock

Figure 10: Historical Decomposition of hp: expectation shock

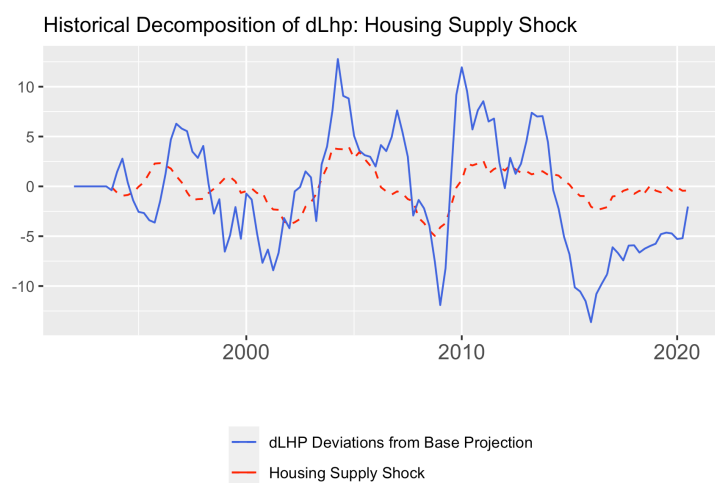Historical Decomposition of dLhp: Housing Supply Shock

Figure 11: Historical Decomposition of hp: supply shock

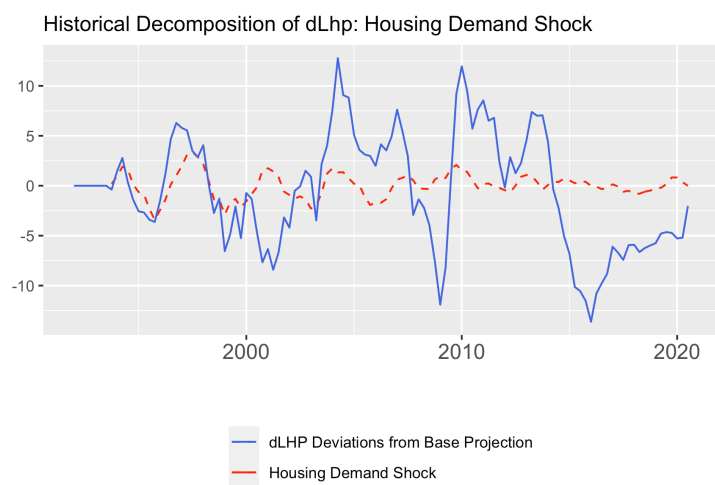Historical Decomposition of dLhp: Housing Demand Shock

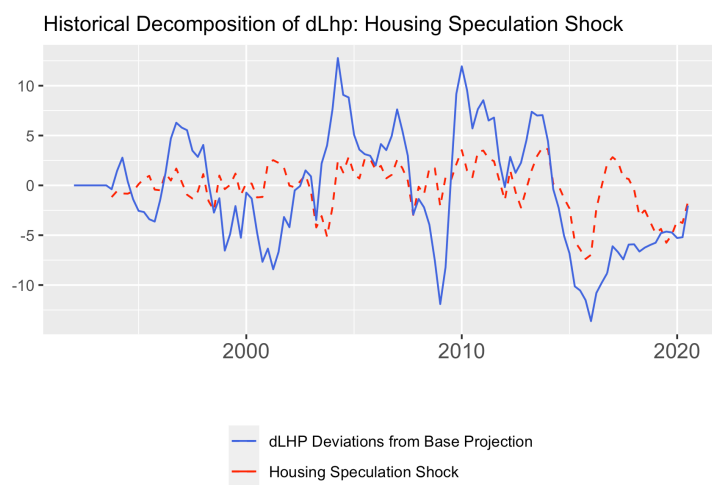

Figure 12: Historical Decomposition of hp: demand shock

Figure 13: Historical Decomposition of hp: speculation shock