

**FACTOR AUGMENTED AUTOREGRESSIVE DISTRIBUTED LAG MODELS
WITH MACROECONOMIC APPLICATIONS**

SUPPLEMENTARY MATERIAL

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Abstract

This document contains supplementary material for the paper entitled “Factor Augmented Autoregressive Distributed Lag Models with Macroeconomic Applications”. It contains: (i) additional simulations results from the second experiment, (ii) additional results from two empirical applications, and (iii) the data appendix.

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1 Additional simulation results from experiment II

We report additional results from the second simulation experiment. To remind, 156 series have been simulated from a sectoral DSGE model following ?. In this section we present the comparison of accuracy between FAVAR and FADL specifications, in terms of mean and median RMSE and RMAE of impulse responses to monetary policy shocks, for all 150 sectoral series. Tables 1 and 2 lists all FADL models used in the experiment as well as the summary of estimated number of common shocks and lag structure across models. The results are reported in Tables 3 - 12. Figures 1-2 present the impulses responses of aggregates series to a contractionary monetary policy shock obtained by FADL and FAVAR models on simulated data. For example, the Figure 2 shows median IRFs for FAVAR and a FADL model, together with simulation uncertainty bounds (5th and 95th percentiles). The uncertainty is in general much smaller in case of the FADL model.

Table 1: List of FADL models in simulation experiment II

M1:	unrestricted FADL model (estimated number of common shocks <i>and</i> estimated lag order)
M2:	fixed-lag FADL model (estimated q , fixed number of lags: 5 AR lags, 5 lags for each shock)
M3:	$q = 1$ FADL model (1 latent common shock plus money growth <i>and</i> estimated lag order)
M4:	$q = 2$ FADL model (2 latent common shock plus money growth <i>and</i> estimated lag order)
M1-ss:	same as M1 but common shocks estimated using a subset of series (118 instead of 156)
M2-ss:	same as M2 but common shocks estimated using a subset of series (118 instead of 156)
M3-ss:	same as M3 but common shocks estimated using a subset of series (118 instead of 156)
M4-ss:	same as M4 but common shocks estimated using a subset of series (118 instead of 156)

Table 2: Simulation Experiment II: selection of number of shocks and lags

Estimated number of shocks						
	\hat{r}			\hat{q}		
	5th perc.	median	95th perc.	5th perc.	median	95th perc.
156 series	5	7	9	3	5	6
118 series	5	6	8	2	2	3

Estimated number of lags						
Model:	M1		M3		M4	
	AIC	BIC	AIC	BIC	AIC	BIC
consumption	[2,1,2]	[1,1,1]	[2,1,1]	[1,1,1]	[2,1,1]	[1,1,1]
inflation	[3,2,2]	[3,1,1]	[3,1,1]	[3,0,0]	[4,1,1]	[3,1,1]
output	[2,1,2]	[1,1,1]	[2,1,1]	[2,1,1]	[2,1,2]	[1,1,1]
hours	[2,1.5,2]	[1,1,1]	[2,1,1]	[2,1,1]	[2,1,1]	[1,1,1]

Model:	M1-ss		M3-ss		M4-ss	
	AIC	BIC	AIC	BIC	AIC	BIC
consumption	[2,1,2]	[1,1,1]	[2,1,2]	[1.5,1,1]	[2,1,2]	[1,1,2]
inflation	[3,1,1]	[3,1,1]	[3,1,1]	[3,1,0]	[3,1,1]	[3,1,1]
output	[2,2,2]	[2,1,2]	[2,1,2]	[2,1,1]	[2,2,2]	[1,1,2]
hours	[2,2,2]	[1,1,2]	[2,1,2]	[2,1,1]	[2,2,2]	[1,1,2]

The number of static factors, \hat{r} , is estimated by IC_{p2} criterion from Bai and Ng (2002), while the number of dynamic shocks, \hat{q} , is obtained using the same information criterion but in context of Amengual and Watson (2007). These numbers do not include the observed money growth shock. The number of lags represents the following structure: [autoregressive order, number of lags on \hat{q} common latent shocks, number of lags on money growth].

Table 3: Simulation experiment II: results for sectoral consumption series impulse responses comparison, part 1

	RMSE: MEAN										RMSE: MEDIAN									
	M1	M2	M3	M4	M1-ss	M2-ss	M3-ss	M4-ss	M1	M2	M3	M4	M1-ss	M2-ss	M3-ss	M4-ss				
Agriculture*	0,821	1,071	0,401	0,395	2,081	2,915	0,389	0,382	0,300	0,397	0,155	0,153	0,328	0,849	0,152	0,146				
Metal Mining*	4,084	5,511	0,876	0,832	0,845	1,461	0,834	0,833	0,978	1,553	0,445	0,452	0,453	0,833	0,438	0,460				
Coal Mining*	6,175	6,787	0,708	0,667	0,704	1,708	0,684	0,642	0,942	1,545	0,289	0,285	0,282	0,805	0,270	0,283				
Oil and Gas	2,422	2,186	2,268	1,781	2,003	1,587	1,928	1,648	1,018	0,801	0,985	0,805	0,841	0,593	0,810	0,694				
Nonmet. mining	1,110	1,602	0,986	0,968	1,198	1,527	0,934	0,937	0,573	0,845	0,534	0,520	0,577	0,709	0,517	0,538				
Construction	2,100	1,760	2,035	2,098	1,535	1,291	1,482	1,526	1,046	0,863	0,955	1,094	0,715	0,611	0,698	0,721				
Food	1,829	1,473	1,403	1,599	1,191	1,125	1,074	1,178	0,818	0,655	0,573	0,687	0,558	0,540	0,487	0,523				
Tobacco*	1,460	1,106	1,635	1,488	2,730	2,370	1,558	1,532	0,597	0,421	0,741	0,696	0,964	0,804	0,706	0,706				
Textile mill	0,721	1,168	0,552	0,587	0,752	0,977	0,568	0,574	0,310	0,506	0,251	0,267	0,308	0,430	0,263	0,275				
Apparel	0,690	0,618	0,637	0,659	0,518	0,478	0,482	0,502	0,329	0,288	0,295	0,309	0,273	0,255	0,248	0,256				
Lumber & wood	1,181	1,395	0,952	1,064	0,944	1,140	0,761	0,821	0,505	0,608	0,462	0,491	0,417	0,500	0,379	0,402				
Furniture & fix	1,500	1,364	1,492	1,511	1,126	1,038	1,051	1,086	0,693	0,561	0,687	0,712	0,546	0,490	0,512	0,514				
Paper*	0,847	1,422	0,767	0,671	0,942	1,360	0,700	0,726	0,292	0,549	0,274	0,247	0,334	0,488	0,243	0,264				
Printing & publ.	0,697	1,198	0,636	0,630	0,735	0,992	0,690	0,619	0,301	0,555	0,261	0,275	0,301	0,473	0,284	0,277				
Chemicals*	2,101	1,769	1,790	1,500	1,755	1,373	1,608	1,534	0,841	0,608	0,940	0,794	0,857	0,559	0,826	0,804				
Oil refining	2,214	2,127	2,239	1,589	2,218	1,736	1,928	1,603	0,786	0,640	0,938	0,651	0,790	0,545	0,808	0,653				
Rubber & plastic*	1,240	1,446	1,191	0,952	1,203	1,180	1,099	1,006	0,491	0,548	0,539	0,450	0,522	0,451	0,493	0,464				
Leather	1,094	0,917	0,997	1,071	0,830	0,709	0,750	0,793	0,513	0,392	0,493	0,511	0,404	0,358	0,400	0,393				
Stone,clay,glass*	0,718	1,104	0,685	0,609	0,846	1,049	0,743	0,690	0,309	0,464	0,287	0,281	0,320	0,414	0,299	0,311				
Primary Metal	0,681	0,650	0,596	0,633	0,505	0,483	0,462	0,485	0,297	0,270	0,269	0,289	0,251	0,240	0,236	0,240				
Fabricated met*	2,343	2,022	2,108	1,947	2,082	1,432	1,938	1,943	0,942	0,658	1,000	0,894	0,971	0,562	0,887	0,870				
Nonelectr mach*	2,282	1,354	2,657	2,132	1,929	1,012	2,083	1,964	0,918	0,528	1,184	0,946	0,844	0,451	0,977	0,853				
Electr. mach.*	2,532	1,632	2,761	2,389	2,349	1,331	2,361	2,221	1,101	0,618	1,356	1,115	1,135	0,584	1,130	1,081				
Transp. equip	0,876	1,204	0,771	0,827	0,730	0,904	0,672	0,700	0,428	0,567	0,359	0,384	0,344	0,468	0,347	0,338				
Instruments*	2,111	1,475	2,376	2,008	1,973	1,092	2,137	1,960	0,923	0,606	1,084	0,948	0,917	0,525	0,964	0,900				
Misc. Manuf*	0,909	1,267	0,851	0,727	0,902	1,025	0,791	0,759	0,383	0,479	0,352	0,325	0,384	0,414	0,328	0,339				
Transp.&Util	2,515	2,112	2,480	2,493	1,757	1,457	1,718	1,775	1,359	1,126	1,196	1,337	0,875	0,746	0,849	0,885				
Trade	1,165	1,096	1,212	1,115	0,837	0,782	0,861	0,830	0,570	0,526	0,550	0,540	0,454	0,407	0,439	0,428				
FIRE	5,815	4,607	7,009	5,113	4,973	3,726	5,261	4,145	3,342	2,400	3,980	2,968	2,612	1,781	2,913	2,283				
Other Services	3,992	3,439	5,488	3,403	3,429	2,792	4,300	2,879	2,171	1,724	3,008	1,923	1,846	1,354	2,349	1,675				

Numbers are relative to FAVAR: if > 1 , FAVAR produces smaller error than FADL model. Bold characters correspond to the smallest error. Series with * were **not** included in data set during estimation of shocks

Table 4: Simulation experiment II: results for sectoral consumption series impulse responses comparison, part 2

	RMAE: MEAN												RMAE: MEDIAN											
	M1	M2	M3	M4	M1-ss	M2-ss	M3-ss	M4-ss	M1	M2	M3	M4	M1-ss	M2-ss	M3-ss	M4-ss								
Agriculture*	0,793	0,914	0,549	0,543	1,080	1,370	0,540	0,534	0,575	0,667	0,413	0,412	0,599	0,910	0,409	0,406								
Metal Mining*	1,677	1,955	0,893	0,864	0,868	1,090	0,867	0,870	1,071	1,341	0,714	0,707	0,700	0,894	0,705	0,723								
Coal Mining*	1,746	2,038	0,730	0,708	0,721	1,059	0,716	0,704	1,045	1,316	0,559	0,544	0,545	0,856	0,554	0,543								
Oil and Gas	1,408	1,278	1,373	1,230	1,269	1,060	1,237	1,155	1,075	0,900	1,080	0,960	0,972	0,755	0,955	0,891								
Nonmet. mining	0,938	1,136	0,907	0,888	0,965	1,102	0,893	0,882	0,755	0,925	0,723	0,712	0,757	0,863	0,737	0,730								
Construction	1,338	1,194	1,304	1,347	1,093	0,975	1,092	1,102	1,059	0,929	1,023	1,101	0,827	0,740	0,839	0,853								
Food	1,231	1,074	1,040	1,115	0,950	0,932	0,910	0,947	0,988	0,845	0,796	0,859	0,742	0,729	0,728	0,728								
Tobacco*	1,076	0,891	1,186	1,135	1,455	1,298	1,157	1,150	0,815	0,673	0,933	0,901	1,050	0,923	0,900	0,910								
Textile mill	0,757	0,952	0,683	0,686	0,783	0,886	0,697	0,692	0,565	0,751	0,523	0,532	0,567	0,661	0,537	0,537								
Apparel	0,732	0,678	0,694	0,711	0,625	0,598	0,606	0,616	0,558	0,513	0,532	0,552	0,497	0,480	0,487	0,490								
Lumber&wood	0,954	1,043	0,876	0,920	0,848	0,935	0,790	0,812	0,736	0,786	0,692	0,709	0,650	0,728	0,620	0,635								
Furniture&fix	1,110	1,030	1,117	1,129	0,939	0,902	0,924	0,932	0,857	0,773	0,882	0,887	0,740	0,699	0,722	0,739								
Paper*	0,791	1,034	0,769	0,715	0,855	0,987	0,732	0,743	0,549	0,745	0,536	0,512	0,617	0,700	0,505	0,537								
Printing&publ.	0,754	0,994	0,721	0,714	0,777	0,912	0,748	0,719	0,560	0,784	0,543	0,541	0,580	0,713	0,573	0,544								
Chemicals*	1,273	1,102	1,283	1,169	1,260	1,011	1,220	1,178	1,024	0,809	1,086	0,990	1,035	0,761	1,033	0,992								
Oil refining	1,274	1,179	1,339	1,120	1,288	1,070	1,235	1,128	0,919	0,809	1,037	0,842	0,928	0,734	0,936	0,840								
Rubber&plastic*	0,997	1,018	1,039	0,918	1,021	0,947	0,988	0,945	0,737	0,753	0,814	0,720	0,774	0,689	0,773	0,737								
Leather	0,927	0,815	0,883	0,921	0,792	0,721	0,766	0,774	0,725	0,616	0,731	0,725	0,643	0,593	0,641	0,625								
Stone,clay,glass*	0,766	0,922	0,752	0,709	0,829	0,888	0,783	0,761	0,575	0,697	0,569	0,547	0,597	0,665	0,577	0,586								
Primary Metal	0,703	0,674	0,659	0,681	0,605	0,586	0,580	0,594	0,542	0,514	0,500	0,524	0,475	0,471	0,468	0,471								
Fabricated met*	1,397	1,148	1,411	1,342	1,396	1,026	1,336	1,338	1,064	0,858	1,117	1,045	1,098	0,798	1,039	1,027								
Nonelectr mach*	1,406	1,011	1,561	1,390	1,319	0,892	1,386	1,330	1,076	0,754	1,220	1,094	1,021	0,687	1,091	1,037								
Electr. mach.*	1,514	1,101	1,618	1,485	1,474	1,012	1,480	1,440	1,214	0,844	1,331	1,207	1,205	0,798	1,200	1,172								
Transp. equip	0,840	0,990	0,787	0,813	0,768	0,866	0,748	0,754	0,653	0,759	0,610	0,614	0,603	0,692	0,596	0,598								
Instruments*	1,381	1,069	1,497	1,382	1,351	0,941	1,402	1,347	1,067	0,815	1,170	1,078	1,048	0,749	1,092	1,037								
Misc. Manuf*	0,849	0,967	0,843	0,774	0,871	0,883	0,812	0,801	0,638	0,721	0,635	0,594	0,650	0,671	0,614	0,622								
Transp.&Util	1,510	1,360	1,450	1,497	1,209	1,084	1,199	1,223	1,248	1,120	1,162	1,232	0,946	0,858	0,964	0,952								
Trade	0,985	0,938	0,979	0,960	0,807	0,769	0,819	0,806	0,790	0,734	0,767	0,770	0,656	0,620	0,648	0,649								
FIRE	2,452	2,098	2,660	2,291	2,213	1,839	2,282	2,043	2,074	1,734	2,257	1,929	1,819	1,453	1,924	1,705								
Other Services	2,015	1,797	2,353	1,877	1,863	1,608	2,072	1,723	1,686	1,474	1,982	1,567	1,559	1,283	1,742	1,476								

Numbers are relative to FAVAR: if > 1 , FAVAR produces smaller error than FADL model. Bold characters correspond to the smallest error. Series with * were **not** included in data set during estimation of shocks

Table 5: Simulation experiment II: results for sectoral hours series impulse responses comparison, part 1

	RMSE: MEAN												RMSE: MEDIAN											
	M1	M2	M3	M4	M1-ss	M2-ss	M3-ss	M4-ss	M1	M2	M3	M4	M1-ss	M2-ss	M3-ss	M4-ss								
Agriculture	1,915	2,042	2,780	1,754	1,615	1,688	1,347	1,011	1,081	1,352	0,985	0,797	0,834	1,209	0,731									
Metal Mining	1,816	1,871	2,342	1,560	1,358	1,327	1,303	1,006	0,995	1,162	0,875	0,739	0,692	1,057	0,697									
Coal Mining	2,195	2,187	2,794	1,943	1,620	1,532	1,542	1,243	1,189	1,447	1,105	0,883	0,821	1,260	0,823									
Oil and Gas	1,469	1,601	2,319	1,389	1,124	1,270	1,119	0,730	0,758	1,016	0,692	0,542	0,589	0,950	0,530									
Nonmet. mining	1,751	2,151	2,018	1,510	1,418	1,599	1,235	1,049	1,339	1,082	0,909	0,806	0,912	0,920	0,740									
Construction	2,141	1,937	2,177	1,866	1,457	1,328	1,366	1,545	1,334	1,406	1,344	0,972	0,881	1,062	0,922									
Food	1,673	1,886	2,189	1,413	1,484	1,690	1,104	0,907	0,996	1,113	0,776	0,696	0,790	0,928	0,600									
Tobacco	1,377	1,658	2,110	1,233	1,096	1,277	1,060	0,633	0,740	0,887	0,558	0,505	0,564	0,911	0,494									
Textile mill	1,806	1,799	2,205	1,502	1,250	1,244	1,142	0,917	0,914	1,070	0,801	0,609	0,622	0,892	0,585									
Apparel	0,761	1,077	1,064	0,643	0,617	0,783	0,568	0,347	0,454	0,448	0,309	0,291	0,338	0,393	0,283									
Lumber&wood	2,270	2,120	2,367	1,946	1,564	1,467	1,426	1,545	1,418	1,469	1,347	1,036	0,970	1,162	0,950									
Furniture&fix	2,372	2,264	3,046	2,096	1,694	1,591	1,599	1,335	1,219	1,624	1,197	0,947	0,889	1,304	0,901									
Paper	2,101	2,096	2,788	1,903	1,550	1,532	1,434	1,159	1,102	1,406	1,053	0,792	0,771	1,205	0,765									
Printing&publ.	2,244	2,174	2,559	1,899	1,588	1,508	1,441	1,424	1,354	1,490	1,203	0,937	0,887	1,187	0,898									
Chemicals	2,132	2,106	2,800	1,919	1,541	1,510	1,457	1,153	1,110	1,409	1,043	0,798	0,761	1,182	0,758									
Oil refining	2,212	2,190	2,822	1,977	1,580	1,548	1,490	1,227	1,157	1,434	1,071	0,828	0,796	1,250	0,804									
Rubber&plastic	2,218	2,079	2,627	1,968	1,548	1,462	1,458	1,327	1,269	1,469	1,214	0,885	0,839	1,189	0,837									
Leather	1,095	1,507	1,497	0,934	0,820	0,998	0,786	0,519	0,677	0,644	0,456	0,390	0,484	0,551	0,386									
Stone,clay,glass	2,284	2,121	2,571	1,982	1,559	1,476	1,452	1,556	1,417	1,598	1,335	0,948	0,917	1,189	0,910									
Primary Metal	1,261	1,230	1,437	1,091	0,888	0,872	0,830	0,720	0,700	0,737	0,644	0,499	0,492	0,621	0,482									
Fabricated met	2,294	2,107	2,764	2,069	1,637	1,507	1,556	1,394	1,295	1,520	1,299	0,942	0,870	1,220	0,906									
Nonelectr mach	1,989	1,880	2,721	1,841	1,473	1,386	1,434	1,126	1,066	1,449	1,072	0,831	0,749	1,243	0,815									
Electr. mach.	2,280	2,073	2,844	2,070	1,632	1,492	1,583	1,404	1,246	1,560	1,309	0,935	0,836	1,270	0,923									
Transp. equip	2,363	2,110	2,699	2,078	1,634	1,487	1,551	1,570	1,386	1,721	1,424	1,035	0,943	1,343	0,985									
Instruments	2,211	2,013	2,863	2,038	1,605	1,463	1,562	1,321	1,184	1,546	1,248	0,910	0,823	1,279	0,900									
Misc. Manuf	2,263	2,119	2,809	2,033	1,586	1,513	1,535	1,373	1,244	1,540	1,259	0,900	0,844	1,284	0,871									
Transp.&Util	2,246	2,205	2,534	1,884	1,508	1,478	1,396	1,380	1,313	1,411	1,153	0,856	0,828	1,109	0,821									
Trade	1,567	1,710	1,735	1,254	1,069	1,151	0,964	0,862	0,943	0,916	0,692	0,575	0,607	0,708	0,542									
FIRE	2,163	2,078	2,660	1,880	1,527	1,453	1,406	1,238	1,180	1,383	1,110	0,814	0,746	1,124	0,761									
Other Services	2,171	2,048	2,478	1,872	1,509	1,415	1,394	1,317	1,213	1,376	1,150	0,855	0,778	1,068	0,797									

Numbers are relative to FAVAR: if > 1 , FAVAR produces smaller error than FADL model. Bold characters correspond to the smallest error. Series with * were **not** included in data set during estimation of shocks

Table 6: Simulation experiment II: results for sectoral hours series impulse responses comparison, part 2

	RMAE: MEAN												RMAE: MEDIAN											
	M1	M2	M3	M4	M1-ss	M2-ss	M3-ss	M4-ss	M1	M2	M3	M4	M1-ss	M2-ss	M3-ss	M4-ss								
Agriculture	1,318	1,357	1,564	1,265	1,169	1,186	1,439	1,079	1,083	1,108	1,258	1,068	0,918	0,936	1,171	0,876								
Metal Mining	1,260	1,265	1,429	1,193	1,076	1,044	1,343	1,054	1,030	1,017	1,154	0,981	0,869	0,824	1,090	0,848								
Coal Mining	1,435	1,420	1,588	1,356	1,202	1,162	1,487	1,171	1,198	1,168	1,301	1,133	0,989	0,949	1,206	0,964								
Oil and Gas	1,077	1,116	1,362	1,062	0,928	0,971	1,293	0,923	0,851	0,865	1,065	0,857	0,716	0,755	1,019	0,720								
Nonmet. mining	1,227	1,380	1,311	1,133	1,046	1,131	1,193	0,988	1,063	1,187	1,074	0,963	0,864	0,950	0,975	0,824								
Construction	1,560	1,467	1,536	1,449	1,240	1,171	1,316	1,201	1,383	1,293	1,358	1,281	1,077	1,028	1,159	1,055								
Food	1,227	1,305	1,375	1,116	1,088	1,155	1,266	0,956	1,025	1,069	1,128	0,936	0,847	0,904	1,021	0,790								
Tobacco	1,037	1,134	1,268	0,987	0,909	0,979	1,261	0,894	0,818	0,891	0,986	0,769	0,697	0,746	0,995	0,691								
Textile mill	1,269	1,262	1,389	1,154	1,014	1,011	1,240	0,968	1,034	1,021	1,124	0,939	0,788	0,799	0,999	0,773								
Apparel	0,757	0,887	0,893	0,693	0,666	0,742	0,831	0,643	0,586	0,665	0,683	0,539	0,513	0,555	0,630	0,505								
Lumber&wood	1,572	1,508	1,582	1,445	1,257	1,208	1,384	1,202	1,404	1,337	1,379	1,291	1,097	1,051	1,213	1,057								
Furniture&fix	1,521	1,462	1,674	1,426	1,255	1,200	1,504	1,220	1,268	1,212	1,411	1,207	1,039	0,986	1,238	1,006								
Paper	1,404	1,388	1,575	1,337	1,171	1,155	1,439	1,129	1,158	1,141	1,283	1,103	0,948	0,922	1,166	0,911								
Printing&publ.	1,486	1,453	1,571	1,364	1,202	1,169	1,406	1,147	1,278	1,242	1,342	1,169	1,007	0,955	1,191	0,969								
Chemicals	1,404	1,383	1,571	1,333	1,165	1,142	1,417	1,133	1,169	1,129	1,282	1,090	0,941	0,907	1,166	0,918								
Oil refining	1,445	1,423	1,592	1,365	1,189	1,164	1,451	1,155	1,213	1,179	1,302	1,137	0,957	0,935	1,203	0,943								
Rubber&plastic	1,503	1,441	1,596	1,415	1,212	1,168	1,427	1,175	1,289	1,229	1,341	1,212	1,013	0,971	1,214	0,980								
Leather	0,935	1,082	1,082	0,862	0,789	0,868	0,984	0,772	0,735	0,842	0,825	0,683	0,612	0,663	0,763	0,607								
Stone,clay,glass	1,554	1,494	1,620	1,440	1,240	1,203	1,427	1,195	1,366	1,297	1,380	1,271	1,038	1,024	1,203	1,011								
Primary Metal	1,063	1,033	1,111	0,978	0,848	0,827	0,971	0,818	0,878	0,857	0,928	0,818	0,680	0,674	0,820	0,659								
Fabricated met	1,533	1,453	1,628	1,453	1,257	1,192	1,430	1,225	1,314	1,233	1,364	1,272	1,040	0,985	1,207	1,027								
Nonelectr mach	1,383	1,321	1,579	1,326	1,163	1,103	1,433	1,145	1,170	1,104	1,325	1,137	0,957	0,895	1,225	0,950								
Electr. mach.	1,511	1,425	1,630	1,438	1,247	1,178	1,447	1,228	1,305	1,211	1,368	1,226	1,038	0,983	1,222	1,030								
Transp. equip	1,587	1,491	1,662	1,485	1,281	1,214	1,484	1,248	1,373	1,285	1,445	1,316	1,109	1,044	1,287	1,075								
Instruments	1,477	1,391	1,624	1,415	1,230	1,157	1,453	1,213	1,255	1,166	1,360	1,210	1,007	0,955	1,237	1,008								
Misc. Manuf	1,492	1,429	1,608	1,416	1,221	1,178	1,459	1,197	1,277	1,187	1,366	1,200	1,016	0,981	1,221	0,985								
Transp.&Util	1,508	1,488	1,571	1,376	1,188	1,173	1,377	1,145	1,305	1,264	1,337	1,191	0,970	0,978	1,151	0,949								
Trade	1,204	1,261	1,241	1,070	0,946	0,989	1,082	0,896	0,985	1,037	1,025	0,885	0,749	0,788	0,869	0,729								
FIRE	1,464	1,422	1,575	1,359	1,186	1,148	1,391	1,139	1,247	1,171	1,290	1,153	0,956	0,935	1,152	0,929								
Other Services	1,491	1,437	1,548	1,380	1,198	1,150	1,359	1,151	1,266	1,215	1,294	1,188	0,983	0,946	1,142	0,943								

Numbers are relative to FAVAR: if > 1 , FAVAR produces smaller error than FADL model. Bold characters correspond to the smallest error. Series with * were not included in data set during estimation of shocks

Table 7: Simulation experiment II: results for sectoral output series impulse responses comparison, part 1

	RMSE: MEAN										RMSE: MEDIAN									
	M1	M2	M3	M4	M1-ss	M2-ss	M3-ss	M4-ss	M1	M2	M3	M4	M1-ss	M2-ss	M3-ss	M4-ss				
Agriculture	1,399	1,297	0,499	0,511	1,374	2,058	0,473	0,476	0,526	0,471	0,225	0,220	0,413	0,725	0,213	0,207				
Metal Mining*	3,410	4,520	0,936	0,888	0,873	1,300	0,849	0,854	0,940	1,264	0,465	0,454	0,447	0,699	0,429	0,437				
Coal Mining*	3,841	4,597	0,983	0,990	0,920	1,444	0,821	0,888	1,148	1,534	0,444	0,456	0,447	0,742	0,442	0,437				
Oil and Gas*	1,603	3,096	0,582	0,553	0,745	2,045	0,569	0,534	0,419	1,153	0,263	0,249	0,300	0,870	0,258	0,249				
Nonmet. mining	1,546	1,747	1,433	1,531	1,247	1,375	1,099	1,163	0,907	0,973	0,776	0,898	0,701	0,785	0,640	0,672				
Construction	1,752	1,551	1,635	1,638	1,223	1,099	1,208	1,177	1,209	1,079	1,003	1,141	0,828	0,738	0,795	0,798				
Food	1,790	1,502	1,556	1,774	1,172	0,968	1,137	1,238	0,832	0,729	0,715	0,849	0,574	0,512	0,563	0,587				
Tobacco*	1,460	1,106	1,635	1,488	2,730	2,370	1,558	1,532	0,596	0,421	0,741	0,696	0,964	0,804	0,706	0,706				
Textile mill	1,656	1,388	1,403	1,498	1,075	0,940	1,099	1,091	0,891	0,691	0,740	0,809	0,576	0,513	0,596	0,570				
Apparel	0,710	0,638	0,648	0,685	0,528	0,483	0,488	0,511	0,341	0,304	0,305	0,321	0,278	0,262	0,258	0,263				
Lumber&wood	2,207	1,772	1,774	1,987	1,375	1,156	1,299	1,332	1,410	1,124	1,138	1,304	0,864	0,744	0,822	0,874				
Furniture&fix	1,797	1,396	1,804	1,885	1,314	1,022	1,233	1,310	1,042	0,776	1,045	1,109	0,762	0,590	0,708	0,744				
Paper	1,567	1,651	1,446	1,552	1,221	1,351	1,170	1,175	0,854	0,830	0,700	0,759	0,618	0,631	0,589	0,601				
Printing&publ.	1,516	1,703	1,229	1,434	1,111	1,215	0,997	1,084	0,783	0,806	0,608	0,745	0,563	0,630	0,509	0,553				
Chemicals	1,495	1,668	1,516	1,482	1,213	1,285	1,324	1,215	0,742	0,745	0,753	0,728	0,607	0,595	0,685	0,583				
Oil refining	3,079	2,705	2,787	3,034	2,197	1,942	2,118	2,177	1,816	1,531	1,582	1,853	1,360	1,111	1,244	1,372				
Rubber&plastic	1,734	1,667	1,544	1,702	1,321	1,271	1,261	1,264	1,044	0,910	0,861	0,986	0,729	0,678	0,708	0,692				
Leather	1,065	0,845	0,877	0,951	0,719	0,608	0,670	0,690	0,581	0,419	0,471	0,543	0,410	0,340	0,378	0,383				
Stone,clay,glass	1,811	1,631	1,683	1,844	1,289	1,136	1,243	1,241	1,176	1,008	1,035	1,179	0,793	0,668	0,764	0,761				
Primary Metal	0,898	0,888	0,755	0,784	0,626	0,637	0,582	0,597	0,508	0,506	0,396	0,425	0,361	0,370	0,348	0,352				
Fabricated met	1,975	1,792	1,888	1,831	1,462	1,295	1,496	1,423	1,158	0,983	1,087	1,097	0,831	0,720	0,877	0,822				
Nonelectr mach	1,601	1,826	1,685	1,433	1,286	1,326	1,515	1,249	0,924	0,988	0,912	0,803	0,717	0,682	0,782	0,668				
Electr. mach.	2,352	2,347	2,273	2,168	1,800	1,681	1,890	1,741	1,244	1,068	1,229	1,149	0,959	0,760	1,002	0,902				
Transp. equip	1,896	1,689	1,866	1,969	1,379	1,200	1,353	1,360	1,173	0,996	1,068	1,270	0,838	0,726	0,792	0,842				
Instruments	1,942	2,037	1,875	1,712	1,482	1,386	1,628	1,421	1,077	0,959	1,046	0,961	0,849	0,693	0,905	0,804				
Misc. Manuf	1,434	1,569	1,307	1,353	1,046	1,156	1,103	1,038	0,775	0,818	0,658	0,731	0,566	0,585	0,568	0,572				
Transp.&Util	2,158	1,992	1,833	1,926	1,413	1,314	1,304	1,323	1,303	1,215	1,069	1,155	0,861	0,788	0,765	0,825				
Trade	1,273	1,194	1,206	1,179	0,885	0,842	0,860	0,849	0,710	0,664	0,591	0,641	0,509	0,492	0,507	0,494				
FIRE	0,727	1,067	0,837	0,688	0,633	0,762	0,675	0,605	0,373	0,494	0,395	0,353	0,331	0,393	0,352	0,322				
Other Services	1,264	1,605	1,357	1,152	0,966	1,169	1,054	0,938	0,684	0,843	0,696	0,630	0,539	0,633	0,571	0,519				

Numbers are relative to FAVAR: if > 1 , FAVAR produces smaller error than FADL model. Bold characters correspond to the smallest error. Series with * were not included in data set during estimation of shocks

Table 8: Simulation experiment II: results for sectoral output series impulse responses comparison, part 2

	RMAE: MEAN												RMAE: MEDIAN											
	M1	M2	M3	M4	M1-ss	M2-ss	M3-ss	M4-ss	M1	M2	M3	M4	M1-ss	M2-ss	M3-ss	M4-ss								
Agriculture	1,065	1,009	0,603	0,611	0,917	1,168	0,587	0,587	0,755	0,713	0,450	0,454	0,613	0,853	0,442	0,433								
Metal Mining*	1,518	1,753	0,874	0,855	0,857	1,009	0,852	0,852	0,991	1,150	0,698	0,688	0,699	0,828	0,699	0,696								
Coal Mining*	1,642	1,814	0,784	0,781	0,769	0,989	0,747	0,754	1,116	1,266	0,617	0,627	0,626	0,815	0,611	0,612								
Oil and Gas*	0,928	1,364	0,617	0,603	0,677	1,137	0,610	0,592	0,641	0,983	0,470	0,466	0,499	0,851	0,465	0,456								
Nonmet. mining	1,162	1,233	1,112	1,167	1,015	1,079	0,962	0,986	0,956	1,011	0,902	0,978	0,825	0,896	0,794	0,791								
Construction	1,375	1,260	1,300	1,324	1,093	1,006	1,088	1,073	1,221	1,116	1,105	1,166	0,939	0,861	0,939	0,938								
Food	1,237	1,117	1,124	1,219	0,964	0,870	0,951	0,994	0,989	0,901	0,895	0,985	0,763	0,713	0,751	0,783								
Tobacco*	1,076	0,891	1,186	1,135	1,455	1,298	1,157	1,150	0,815	0,673	0,933	0,901	1,050	0,923	0,900	0,910								
Textile mill	1,203	1,075	1,087	1,143	0,943	0,879	0,967	0,950	0,978	0,847	0,888	0,925	0,753	0,729	0,775	0,746								
Apparel	0,744	0,690	0,700	0,729	0,630	0,601	0,607	0,620	0,584	0,527	0,537	0,570	0,501	0,476	0,495	0,497								
Lumber&wood	1,554	1,354	1,358	1,465	1,161	1,031	1,133	1,152	1,357	1,175	1,174	1,295	0,976	0,858	0,969	0,974								
Furniture&fx	1,313	1,109	1,297	1,360	1,089	0,928	1,049	1,090	1,117	0,905	1,118	1,152	0,933	0,758	0,886	0,921								
Paper	1,170	1,168	1,104	1,156	1,005	1,016	0,989	0,987	0,952	0,920	0,884	0,930	0,805	0,807	0,780	0,784								
Printing&publ.	1,163	1,213	1,048	1,145	0,975	1,027	0,931	0,962	0,952	0,924	0,827	0,950	0,759	0,824	0,734	0,756								
Chemicals	1,118	1,138	1,129	1,113	0,986	0,985	1,041	0,989	0,873	0,884	0,884	0,878	0,778	0,756	0,829	0,771								
Oil refining	1,781	1,619	1,675	1,780	1,478	1,350	1,452	1,475	1,510	1,357	1,429	1,535	1,288	1,121	1,240	1,276								
Rubber&plastic	1,292	1,214	1,204	1,285	1,084	1,040	1,071	1,070	1,105	1,016	0,993	1,083	0,895	0,819	0,885	0,880								
Leather	0,958	0,822	0,854	0,907	0,769	0,690	0,736	0,754	0,805	0,652	0,709	0,764	0,635	0,577	0,618	0,623								
Stone,clay,glass	1,368	1,249	1,302	1,386	1,106	1,006	1,092	1,091	1,194	1,056	1,136	1,214	0,922	0,825	0,927	0,914								
Primary Metal	0,854	0,844	0,758	0,782	0,666	0,671	0,643	0,648	0,690	0,688	0,609	0,643	0,544	0,550	0,539	0,535								
Fabricated met	1,376	1,251	1,334	1,326	1,154	1,038	1,172	1,137	1,152	1,022	1,138	1,135	0,961	0,841	0,985	0,951								
Nonelectr mach	1,219	1,243	1,236	1,144	1,068	1,032	1,157	1,049	1,014	1,018	1,020	0,961	0,907	0,837	0,929	0,874								
Electr. mach.	1,484	1,367	1,453	1,413	1,267	1,136	1,315	1,245	1,219	1,072	1,209	1,180	1,029	0,879	1,099	1,017								
Transp. equip	1,384	1,252	1,343	1,425	1,138	1,028	1,120	1,138	1,186	1,054	1,145	1,244	0,965	0,859	0,930	0,960								
Instruments	1,353	1,286	1,327	1,274	1,163	1,046	1,224	1,140	1,128	1,012	1,135	1,075	0,964	0,831	1,016	0,950								
Misc. Manuf	1,134	1,149	1,069	1,108	0,938	0,964	0,960	0,943	0,945	0,921	0,857	0,935	0,754	0,753	0,755	0,765								
Transp.&Util	1,477	1,418	1,320	1,378	1,131	1,087	1,087	1,096	1,272	1,215	1,105	1,176	0,949	0,908	0,915	0,941								
Trade	1,077	1,032	1,012	1,023	0,848	0,820	0,837	0,831	0,896	0,844	0,810	0,839	0,698	0,674	0,702	0,688								
FIRE	0,732	0,893	0,783	0,708	0,678	0,746	0,709	0,666	0,571	0,668	0,610	0,552	0,534	0,578	0,564	0,524								
Other Services	1,005	1,150	1,044	0,952	0,855	0,956	0,908	0,841	0,793	0,899	0,835	0,774	0,674	0,752	0,727	0,660								

Numbers are relative to FAVAR: if > 1 , FAVAR produces smaller error than FADL model. Bold characters correspond to the smallest error. Series with * were **not** included in data set during estimation of shocks

Table 9: Simulation experiment II: results for sectoral inflation series impulse responses comparison, part 1

	RMSE: MEAN												RMSE: MEDIAN											
	M1	M2	M3	M4	M1-ss	M2-ss	M3-ss	M4-ss	M1	M2	M3	M4	M1-ss	M2-ss	M3-ss	M4-ss								
Agriculture*	1,077	1,544	0,924	0,952	5,661	8,557	0,951	0,988	0,640	1,024	0,343	0,366	0,915	3,839	0,353	0,369								
Metal Mining*	2,675	3,692	0,861	0,878	0,917	2,680	0,851	0,853	1,122	2,070	0,498	0,517	0,524	1,888	0,496	0,508								
Coal Mining*	3,162	4,301	0,960	0,913	0,953	3,284	0,893	0,896	1,306	2,259	0,502	0,516	0,515	2,198	0,505	0,514								
Oil and Gas*	0,676	0,787	0,511	0,509	0,624	0,733	0,535	0,530	0,479	0,592	0,399	0,399	0,442	0,536	0,436	0,421								
Nonmet. mining	1,179	1,690	1,169	1,223	1,244	1,691	1,222	1,224	0,903	1,199	0,895	0,957	0,924	1,225	0,948	0,964								
Construction	1,131	1,185	1,080	1,188	1,221	1,307	1,219	1,271	0,893	0,937	0,868	0,945	0,971	1,028	0,986	1,021								
Food	1,347	1,277	1,145	1,339	1,229	1,316	1,271	1,351	0,892	0,826	0,820	0,926	0,761	0,811	0,913	0,948								
Tobacco*	0,549	0,665	0,532	0,521	0,800	1,060	0,558	0,572	0,416	0,516	0,394	0,402	0,519	0,735	0,424	0,425								
Textile mill*	0,602	1,019	0,608	0,632	0,624	1,016	0,655	0,654	0,468	0,808	0,480	0,514	0,469	0,806	0,513	0,509								
Apparel	1,115	1,071	1,002	1,272	1,222	1,199	1,097	1,317	0,747	0,672	0,685	0,851	0,825	0,773	0,758	0,903								
Lumber&wood	0,954	1,218	0,926	0,969	0,863	1,143	0,994	0,987	0,755	0,945	0,741	0,769	0,671	0,881	0,797	0,793								
Furniture&fix	1,246	1,405	1,241	1,401	1,332	1,527	1,361	1,438	0,874	0,990	0,883	0,991	0,939	1,097	0,977	1,029								
Paper	0,693	1,342	0,582	0,587	0,680	1,255	0,622	0,635	0,461	0,997	0,387	0,414	0,442	0,940	0,438	0,436								
Printing&publ.	0,666	1,193	0,658	0,667	0,704	1,169	0,690	0,669	0,521	0,894	0,510	0,534	0,511	0,893	0,557	0,530								
Chemicals	0,634	1,010	0,538	0,537	0,631	0,969	0,585	0,591	0,459	0,769	0,406	0,421	0,477	0,718	0,462	0,461								
Oil refining*	0,738	0,838	0,599	0,596	0,705	0,806	0,634	0,625	0,553	0,639	0,489	0,480	0,526	0,603	0,525	0,508								
Rubber&plastic*	0,726	1,184	0,633	0,632	0,684	1,067	0,672	0,654	0,549	0,868	0,518	0,512	0,509	0,822	0,539	0,510								
Leather*	1,252	1,312	1,238	1,474	1,477	1,517	1,356	1,521	0,826	0,853	0,853	0,979	0,956	0,989	0,925	0,996								
Stone,clay,glass	0,680	1,069	0,681	0,686	0,651	1,033	0,700	0,669	0,532	0,859	0,551	0,560	0,521	0,830	0,575	0,543								
Primary Metal	1,091	1,139	0,996	1,184	1,178	1,232	1,094	1,246	0,734	0,746	0,650	0,791	0,787	0,817	0,709	0,828								
Fabricated met	0,676	1,123	0,596	0,588	0,649	1,020	0,626	0,616	0,467	0,849	0,446	0,444	0,489	0,797	0,483	0,476								
Nonelectr mach	0,722	0,893	0,624	0,614	0,707	0,869	0,641	0,607	0,512	0,656	0,463	0,460	0,503	0,622	0,488	0,477								
Electr. mach.	0,734	1,064	0,622	0,618	0,731	0,976	0,653	0,652	0,542	0,801	0,489	0,482	0,534	0,726	0,522	0,517								
Transp. equip	0,878	1,146	0,862	0,890	0,898	1,197	0,942	0,929	0,711	0,917	0,697	0,726	0,733	0,953	0,780	0,768								
Instruments	0,845	1,181	0,678	0,672	0,777	1,043	0,713	0,685	0,587	0,850	0,514	0,509	0,540	0,761	0,564	0,527								
Misc. Manuf	0,663	1,338	0,628	0,627	0,654	1,209	0,652	0,643	0,484	1,015	0,467	0,468	0,499	0,936	0,500	0,490								
Transp.&Util	1,165	1,179	1,089	1,235	1,277	1,311	1,254	1,342	0,919	0,916	0,846	0,963	0,994	1,018	0,983	1,042								
Trade	1,323	1,257	1,165	1,447	1,452	1,417	1,344	1,569	0,893	0,833	0,803	0,973	0,975	0,934	0,895	1,043								
FIRE*	0,727	0,730	0,675	0,654	0,718	0,701	0,691	0,668	0,596	0,596	0,553	0,546	0,586	0,581	0,575	0,552								
Other Services*	0,768	0,903	0,708	0,683	0,797	0,891	0,736	0,720	0,619	0,722	0,585	0,546	0,624	0,689	0,616	0,588								

Numbers are relative to FAVAR: if > 1 , FAVAR produces smaller error than FADL model. Bold characters correspond to the smallest error. Series with * were **not** included in data set during estimation of shocks

Table 10: Simulation experiment II: results for sectoral inflation series impulse responses comparison, part 2

	RMAE: MEAN												RMAE: MEDIAN											
	M1	M2	M3	M4	M1-ss	M2-ss	M3-ss	M4-ss	M1	M2	M3	M4	M1-ss	M2-ss	M3-ss	M4-ss								
Agriculture*	0,501	0,786	0,437	0,448	0,879	1,664	0,439	0,451	0,440	0,713	0,336	0,348	0,512	1,415	0,335	0,347								
Metal Mining*	0,734	1,152	0,503	0,510	0,526	1,161	0,512	0,516	0,622	0,997	0,422	0,430	0,445	1,042	0,434	0,438								
Coal Mining*	0,805	1,219	0,545	0,547	0,555	1,276	0,541	0,546	0,656	1,057	0,465	0,468	0,470	1,148	0,465	0,466								
Oil and Gas*	0,528	0,599	0,487	0,486	0,514	0,583	0,504	0,499	0,492	0,569	0,459	0,462	0,481	0,544	0,479	0,473								
Nonmet. mining	0,857	1,001	0,858	0,883	0,888	1,014	0,886	0,897	0,806	0,904	0,802	0,824	0,829	0,925	0,824	0,843								
Construction	0,840	0,875	0,779	0,869	0,915	0,961	0,865	0,935	0,770	0,799	0,719	0,796	0,848	0,890	0,804	0,864								
Food	1,030	0,960	0,972	1,085	1,003	1,002	1,035	1,097	0,909	0,847	0,878	0,977	0,882	0,881	0,936	0,982								
Tobacco*	0,407	0,512	0,403	0,400	0,478	0,657	0,421	0,426	0,376	0,482	0,368	0,372	0,431	0,611	0,393	0,392								
Textile mill*	0,525	0,764	0,529	0,541	0,538	0,755	0,551	0,555	0,490	0,711	0,501	0,503	0,499	0,707	0,511	0,520								
Apparel	1,028	0,976	0,946	1,108	1,087	1,056	0,997	1,137	0,902	0,851	0,841	0,970	0,954	0,922	0,887	0,988								
Lumber&wood	0,673	0,842	0,666	0,689	0,671	0,833	0,705	0,720	0,638	0,775	0,624	0,650	0,637	0,768	0,664	0,688								
Furniture&fix	1,003	1,023	0,965	1,064	1,052	1,099	1,024	1,094	0,906	0,916	0,863	0,959	0,948	0,988	0,920	0,979								
Paper	0,406	0,778	0,375	0,379	0,412	0,755	0,394	0,402	0,362	0,710	0,339	0,342	0,358	0,688	0,353	0,354								
Printing&publ.	0,528	0,807	0,526	0,534	0,539	0,792	0,541	0,538	0,498	0,751	0,491	0,509	0,502	0,737	0,519	0,507								
Chemicals	0,467	0,682	0,443	0,443	0,470	0,667	0,465	0,466	0,431	0,632	0,413	0,414	0,436	0,613	0,438	0,437								
Oil refining*	0,509	0,580	0,474	0,471	0,502	0,574	0,497	0,492	0,476	0,546	0,446	0,447	0,463	0,535	0,463	0,458								
Rubber&plastic*	0,529	0,763	0,516	0,509	0,523	0,739	0,527	0,519	0,496	0,705	0,493	0,482	0,488	0,692	0,491	0,485								
Leather*	1,087	1,066	1,051	1,180	1,190	1,171	1,111	1,211	0,964	0,929	0,941	1,028	1,037	1,029	0,980	1,058								
Stone,clay,glass	0,544	0,768	0,551	0,549	0,540	0,756	0,560	0,547	0,517	0,727	0,523	0,518	0,517	0,716	0,535	0,521								
Primary Metal	1,000	0,999	0,915	1,043	1,052	1,056	0,973	1,085	0,882	0,878	0,812	0,912	0,917	0,925	0,848	0,935								
Fabricated met	0,488	0,734	0,473	0,471	0,490	0,703	0,492	0,486	0,453	0,682	0,442	0,441	0,465	0,656	0,463	0,465								
Nonelectr mach	0,538	0,639	0,517	0,512	0,534	0,622	0,527	0,516	0,500	0,598	0,479	0,477	0,501	0,572	0,494	0,488								
Electr. mach.	0,546	0,706	0,522	0,520	0,545	0,673	0,537	0,535	0,516	0,644	0,496	0,496	0,512	0,628	0,507	0,511								
Transp. equip	0,628	0,805	0,620	0,635	0,656	0,831	0,666	0,669	0,592	0,745	0,575	0,593	0,615	0,775	0,619	0,624								
Instruments	0,582	0,745	0,548	0,545	0,572	0,704	0,564	0,555	0,543	0,685	0,515	0,517	0,538	0,652	0,532	0,525								
Misc. Manuf	0,447	0,809	0,435	0,437	0,451	0,766	0,447	0,448	0,409	0,746	0,400	0,405	0,422	0,715	0,416	0,419								
Transp.&Util	0,863	0,864	0,788	0,905	0,952	0,970	0,885	0,978	0,804	0,802	0,737	0,844	0,890	0,899	0,827	0,912								
Trade	1,088	1,018	0,948	1,146	1,168	1,121	1,044	1,216	0,961	0,895	0,846	1,010	1,045	0,988	0,918	1,077								
FIRE*	0,653	0,626	0,640	0,627	0,643	0,604	0,645	0,627	0,619	0,590	0,615	0,597	0,609	0,575	0,609	0,597								
Other Services*	0,655	0,707	0,645	0,628	0,660	0,694	0,653	0,638	0,620	0,660	0,616	0,598	0,612	0,644	0,629	0,602								

Numbers are relative to FAVAR: if > 1 , FAVAR produces smaller error than FADL model. Bold characters correspond to the smallest error. Series with * were **not** included in data set during estimation of shocks

Table 11: Simulation experiment II: results for sectoral wages series impulse responses comparison, part 1

	RMSE: MEAN												RMSE: MEDIAN											
	M1	M2	M3	M4	M1-ss	M2-ss	M3-ss	M4-ss	M1	M2	M3	M4	M1-ss	M2-ss	M3-ss	M4-ss								
Agriculture	1,025	1,031	1,069	1,031	1,031	1,034	1,051	1,026	1,026	1,031	1,065	1,030	1,033	1,035	1,049	1,028								
Metal Mining	1,066	1,074	1,101	1,059	1,036	1,041	1,085	1,048	1,066	1,073	1,096	1,057	1,036	1,043	1,081	1,048								
Coal Mining	1,081	1,085	1,123	1,076	1,053	1,055	1,101	1,063	1,079	1,084	1,120	1,077	1,055	1,057	1,097	1,064								
Oil and Gas	1,011	1,013	1,025	1,016	1,003	1,004	1,020	1,013	1,012	1,015	1,026	1,016	1,006	1,006	1,020	1,013								
Nonmet. mining	1,042	1,564	1,580	0,989	0,978	1,229	1,379	0,882	0,756	1,108	1,057	0,719	0,689	0,881	0,956	0,657								
Construction	0,864	0,885	0,963	0,876	0,724	0,738	0,825	0,738	0,805	0,823	0,882	0,818	0,673	0,689	0,760	0,695								
Food	0,775	1,205	2,578	0,713	0,796	0,987	1,972	0,557	0,448	0,661	1,325	0,384	0,406	0,529	0,886	0,300								
Tobacco	0,995	0,996	1,003	0,997	0,989	0,990	0,999	0,997	0,996	0,998	1,004	0,998	0,992	0,994	1,000	0,999								
Textile mill	1,241	1,305	1,529	1,217	1,120	1,149	1,389	1,124	1,220	1,280	1,442	1,205	1,114	1,143	1,316	1,119								
Apparel	0,679	1,029	1,516	0,659	0,532	0,728	1,218	0,534	0,498	0,767	0,983	0,486	0,391	0,527	0,793	0,412								
Lumber&wood	1,026	1,128	1,641	1,025	0,722	0,760	1,216	0,710	0,835	0,889	1,240	0,824	0,589	0,625	0,893	0,582								
Furniture&fix	0,636	0,867	1,582	0,680	0,430	0,538	1,149	0,436	0,405	0,562	0,944	0,431	0,290	0,363	0,654	0,296								
Paper	1,068	1,072	1,130	1,069	1,046	1,047	1,099	1,053	1,070	1,072	1,123	1,070	1,049	1,049	1,095	1,053								
Printing&publ.	1,306	1,361	1,625	1,287	1,178	1,202	1,463	1,184	1,271	1,322	1,498	1,245	1,155	1,181	1,380	1,157								
Chemicals	1,040	1,041	1,070	1,040	1,025	1,026	1,054	1,033	1,040	1,041	1,068	1,040	1,027	1,027	1,052	1,033								
Oil refining	1,066	1,068	1,115	1,067	1,043	1,043	1,088	1,052	1,066	1,068	1,111	1,067	1,043	1,043	1,085	1,052								
Rubber&plastic	1,173	1,178	1,264	1,166	1,111	1,112	1,198	1,121	1,171	1,177	1,246	1,166	1,115	1,114	1,184	1,122								
Leather	0,564	0,992	1,311	0,490	0,396	0,631	1,028	0,401	0,315	0,586	0,729	0,292	0,235	0,393	0,549	0,247								
Stone,clay,glass	1,598	1,676	1,999	1,568	1,321	1,353	1,704	1,342	1,498	1,564	1,810	1,476	1,257	1,289	1,524	1,266								
Primary Metal	0,952	0,975	1,163	0,967	0,831	0,840	1,012	0,843	0,891	0,899	1,048	0,914	0,785	0,791	0,908	0,798								
Fabricated met*	1,083	1,085	1,113	1,083	1,055	1,055	1,087	1,065	1,084	1,085	1,107	1,083	1,057	1,057	1,082	1,066								
Nonelectr mach*	1,058	1,058	1,061	1,057	1,033	1,031	1,047	1,045	1,057	1,058	1,061	1,057	1,035	1,033	1,046	1,044								
Electr. mach.*	1,061	1,061	1,075	1,061	1,039	1,038	1,060	1,050	1,062	1,062	1,074	1,061	1,040	1,041	1,059	1,051								
Transp. Equip*	1,918	2,144	2,794	1,920	1,237	1,338	2,042	1,291	1,405	1,570	1,904	1,395	0,899	0,996	1,394	0,938								
Instruments*	1,057	1,057	1,065	1,058	1,036	1,035	1,053	1,048	1,058	1,058	1,065	1,057	1,037	1,038	1,052	1,048								
Misc. Manuf*	1,113	1,116	1,184	1,113	1,072	1,071	1,140	1,087	1,112	1,114	1,174	1,111	1,075	1,074	1,133	1,087								
Transp.&Util*	1,184	1,324	2,683	1,196	0,720	0,758	1,910	0,741	0,891	1,012	1,825	0,902	0,495	0,531	1,193	0,510								
Trade*	0,925	1,013	1,454	0,919	0,754	0,785	1,175	0,753	0,823	0,907	1,196	0,823	0,680	0,700	0,959	0,683								
FIRE*	1,043	1,045	1,061	1,041	1,030	1,030	1,047	1,033	1,043	1,045	1,060	1,041	1,030	1,031	1,046	1,033								
Other Services*	1,067	1,069	1,090	1,062	1,046	1,046	1,069	1,049	1,067	1,069	1,086	1,064	1,047	1,048	1,066	1,050								

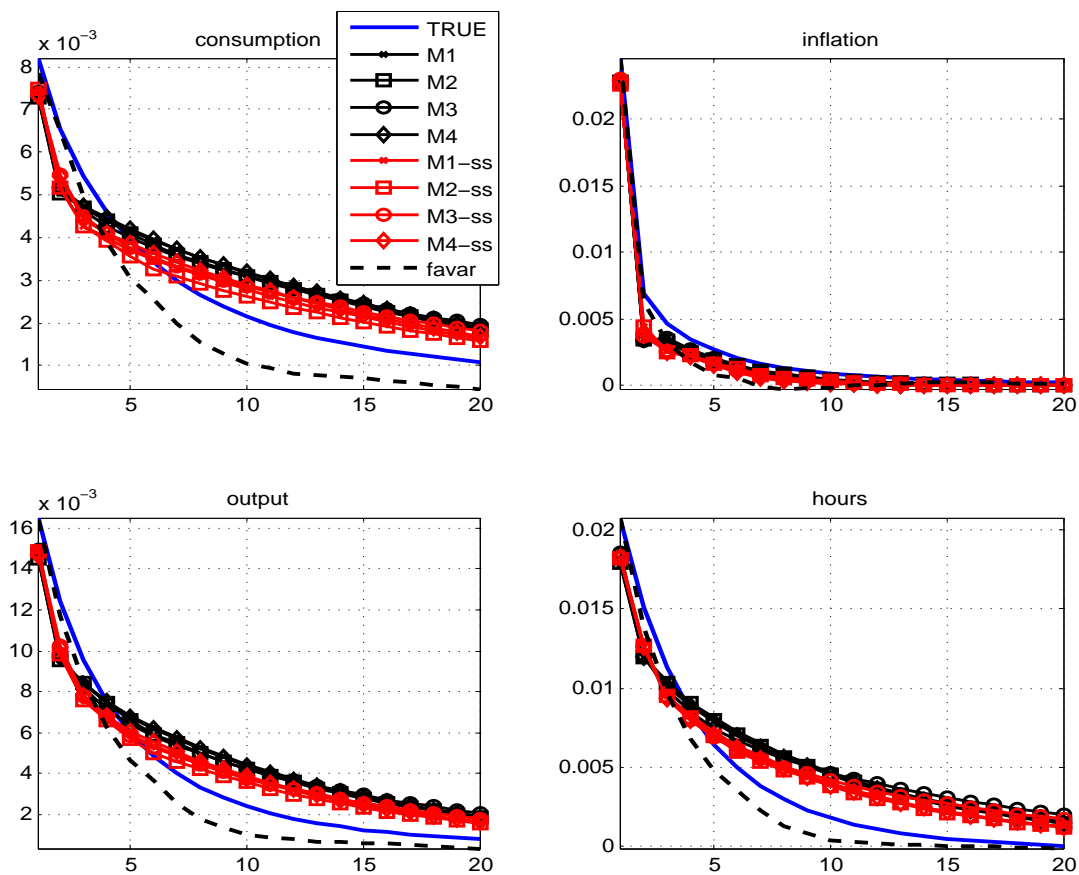
Numbers are relative to FAVAR: if > 1 , FAVAR produces smaller error than FADL model. Bold characters correspond to the smallest error. Series with * were **not** included in data set during estimation of shocks

Table 12: Simulation experiment II: results for sectoral wages series impulse responses comparison, part 2

	RMAE: MEAN												RMAE: MEDIAN											
	M1	M2	M3	M4	M1-ss	M2-ss	M3-ss	M4-ss	M1	M2	M3	M4	M1-ss	M2-ss	M3-ss	M4-ss								
Agriculture*	1,054	1,079	1,242	1,068	1,031	1,040	1,184	1,022	1,052	1,080	1,223	1,064	1,026	1,033	1,158	1,016								
Metal Mining*	1,079	1,105	1,257	1,081	0,994	1,002	1,207	1,015	1,077	1,099	1,231	1,066	0,991	0,990	1,179	1,003								
Coal Mining*	1,120	1,138	1,299	1,114	1,026	1,030	1,234	1,043	1,113	1,136	1,277	1,101	1,024	1,027	1,209	1,036								
Oil and Gas*	1,011	1,025	1,108	1,037	0,982	0,987	1,082	1,004	1,013	1,023	1,100	1,033	0,978	0,983	1,073	1,001								
Nonmet. mining	0,790	1,038	1,126	0,774	0,702	0,848	1,016	0,679	0,692	0,896	0,928	0,682	0,604	0,737	0,840	0,592								
Construction	1,104	1,129	1,183	1,096	0,888	0,913	1,018	0,906	1,061	1,081	1,124	1,045	0,856	0,867	0,963	0,869								
Food	0,811	1,023	1,540	0,760	0,770	0,871	1,305	0,645	0,652	0,848	1,280	0,598	0,612	0,689	1,029	0,513								
Tobacco*	0,935	0,956	1,039	0,953	0,905	0,916	1,020	0,933	0,938	0,957	1,036	0,952	0,908	0,916	1,013	0,932								
Textile mill*	1,219	1,293	1,559	1,216	1,075	1,117	1,422	1,082	1,182	1,256	1,497	1,176	1,041	1,092	1,357	1,052								
Apparel	0,818	1,023	1,346	0,813	0,681	0,816	1,188	0,691	0,738	0,913	1,206	0,736	0,604	0,716	1,042	0,621								
Lumber&wood	1,109	1,181	1,454	1,102	0,868	0,904	1,207	0,858	1,011	1,081	1,323	1,031	0,788	0,825	1,077	0,781								
Furniture&fix	0,778	0,915	1,302	0,808	0,587	0,675	1,070	0,601	0,673	0,785	1,126	0,700	0,482	0,571	0,888	0,502								
Paper	1,125	1,145	1,379	1,146	1,039	1,046	1,286	1,055	1,118	1,144	1,354	1,137	1,043	1,046	1,266	1,053								
Printing&publ.	1,172	1,245	1,527	1,175	1,022	1,060	1,381	1,032	1,137	1,199	1,446	1,139	0,989	1,015	1,301	0,991								
Chemicals	1,069	1,081	1,237	1,086	1,009	1,014	1,176	1,026	1,069	1,081	1,225	1,083	1,011	1,013	1,160	1,025								
Oil refining*	1,119	1,129	1,335	1,135	1,035	1,036	1,250	1,053	1,114	1,126	1,313	1,124	1,036	1,033	1,233	1,047								
Rubber&plastic*	1,219	1,242	1,441	1,227	1,089	1,101	1,317	1,102	1,203	1,221	1,407	1,205	1,079	1,097	1,283	1,086								
Leather*	0,683	0,929	1,159	0,650	0,552	0,717	1,008	0,560	0,560	0,755	0,982	0,540	0,457	0,609	0,811	0,462								
Stone,clay,glass	1,305	1,384	1,606	1,300	1,087	1,132	1,412	1,099	1,225	1,309	1,490	1,228	1,030	1,077	1,297	1,037								
Primary Metal	1,147	1,169	1,362	1,148	0,958	0,977	1,196	0,972	1,088	1,119	1,269	1,095	0,895	0,920	1,117	0,909								
Fabricated met	1,116	1,128	1,231	1,127	1,032	1,040	1,159	1,047	1,109	1,122	1,204	1,117	1,026	1,031	1,138	1,042								
Nonelectr mach	1,143	1,137	1,169	1,149	1,074	1,066	1,122	1,090	1,134	1,131	1,156	1,140	1,069	1,060	1,111	1,085								
Electr. mach.	1,099	1,105	1,176	1,108	1,028	1,032	1,122	1,046	1,096	1,099	1,162	1,100	1,025	1,028	1,106	1,046								
Transp. equip	1,346	1,463	1,697	1,351	1,005	1,075	1,407	1,040	1,201	1,305	1,472	1,199	0,880	0,953	1,230	0,914								
Instruments	1,106	1,109	1,153	1,115	1,039	1,040	1,107	1,058	1,102	1,101	1,140	1,108	1,032	1,032	1,093	1,054								
Misc. Manuf	1,136	1,150	1,374	1,154	1,019	1,024	1,263	1,043	1,130	1,140	1,339	1,131	1,009	1,013	1,233	1,030								
Transp.&Util	1,155	1,230	1,779	1,159	0,837	0,863	1,456	0,855	1,079	1,128	1,586	1,052	0,722	0,758	1,265	0,748								
Trade	1,085	1,153	1,495	1,070	0,875	0,906	1,280	0,874	1,019	1,093	1,367	1,013	0,804	0,846	1,166	0,809								
FIRE*	1,084	1,092	1,181	1,087	1,036	1,038	1,134	1,041	1,083	1,089	1,169	1,086	1,034	1,040	1,117	1,039								
Other Services*	1,117	1,125	1,217	1,117	1,051	1,055	1,159	1,057	1,114	1,121	1,201	1,113	1,051	1,054	1,139	1,054								

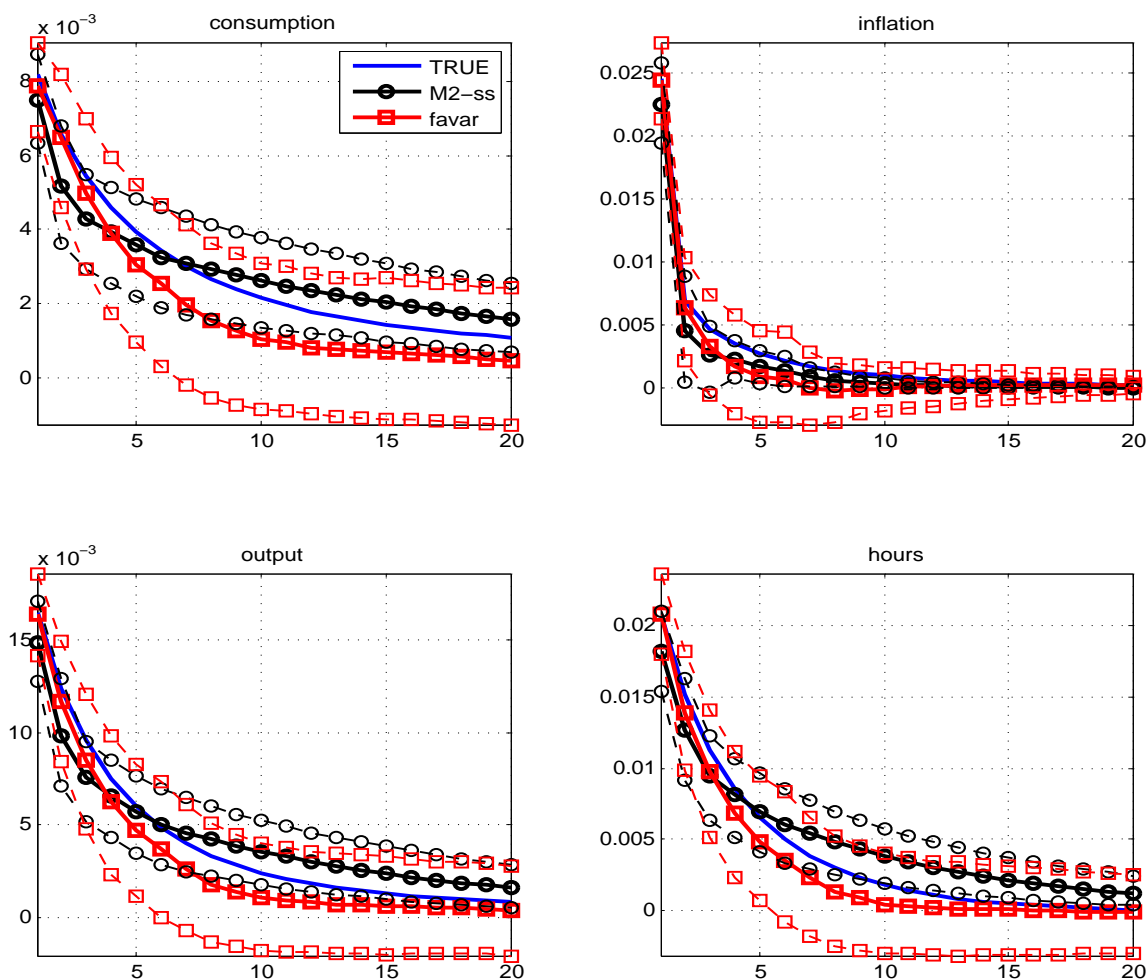
Numbers are relative to FAVAR: if > 1 , FAVAR produces smaller error than FADL model. Bold characters correspond to the smallest error. Series with * were **not** included in data set during estimation of shocks

Figure 1: Simulation Experiment II, comparison of impulse responses for aggregate series



This Figure shows true and median IRFs for all FADL and FAVAR models, together with simulation uncertainty bounds (5th and 95th percentiles), to a monetary policy shock in simulation experiment II. .

Figure 2: Simulation Experiment II, comparison of impulse responses for aggregate series.

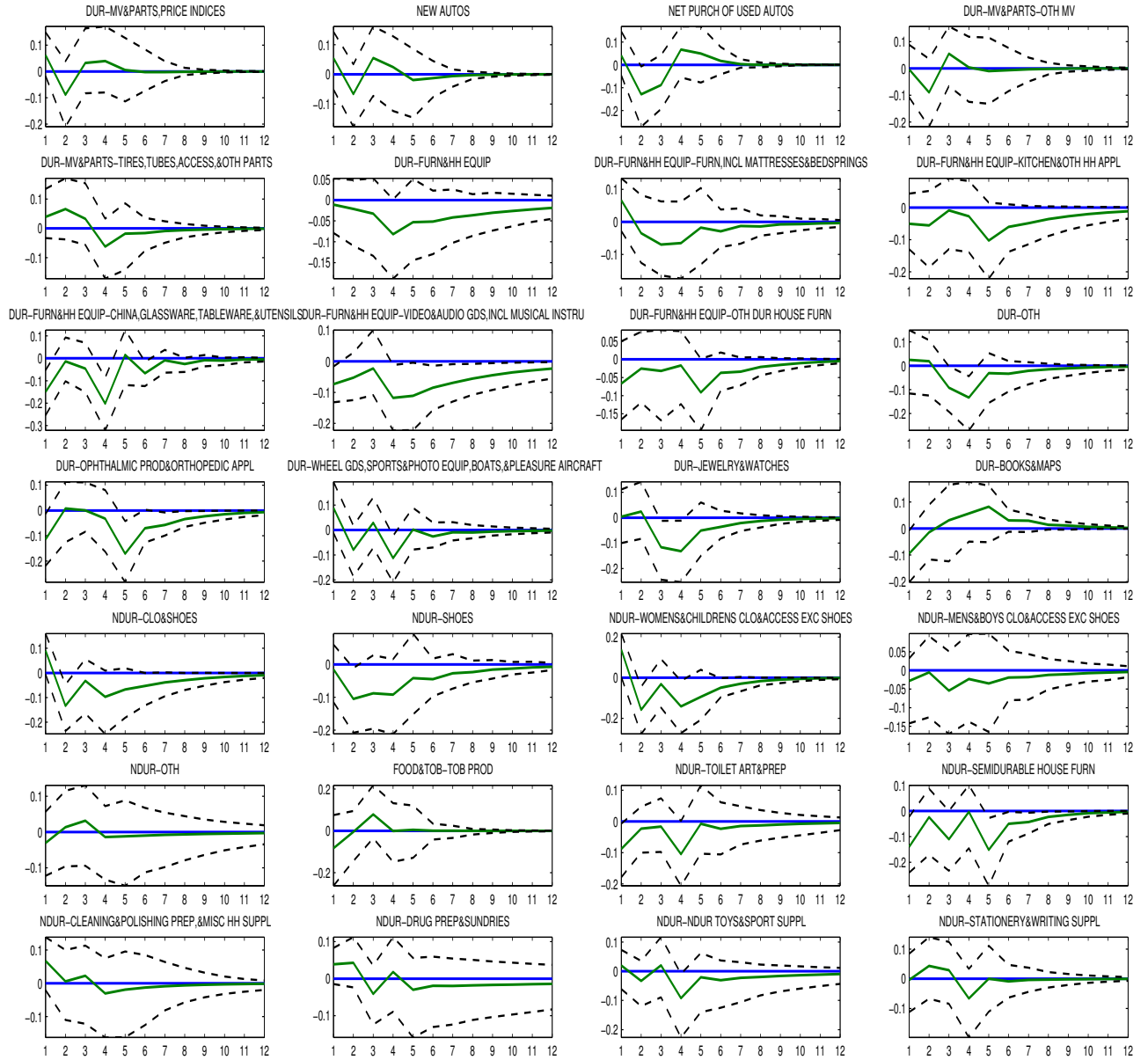


This Figure shows true and median IRFs for a FADL and FAVAR models, together with simulation uncertainty bounds (5th and 95th percentiles), to a monetary policy shock in simulation experiment II.

2 Estimating Dynamic Effects of Monetary Policy Shocks: Additional Results

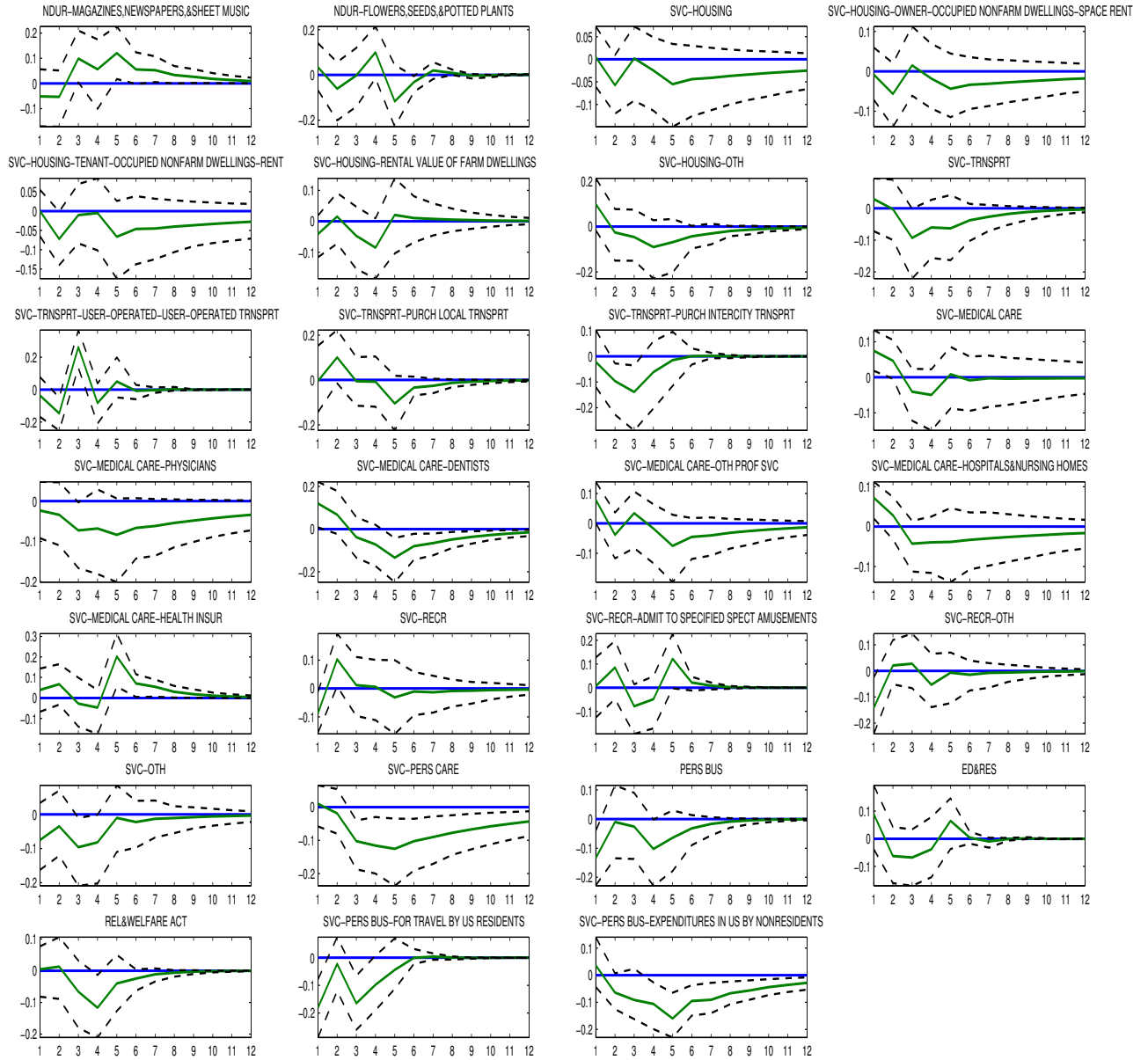
In this section we report additional impulse responses to monetary policy shocks. Figures 3 to 12 show the estimated dynamic effects of a large number of disaggregated (sectoral) inflation, employment, investment, consumption and industrial production series. Note that no additional restrictions have been imposed, in particular, every series can react on impact to the monetary policy shock. Figures 13 and 14 present the impulse responses of main aggregate series in X_t to contractionary and expansionary asymmetric monetary policy shocks estimated with FADL models.

Figure 3: Dynamic responses of sectoral PCE series, part 1



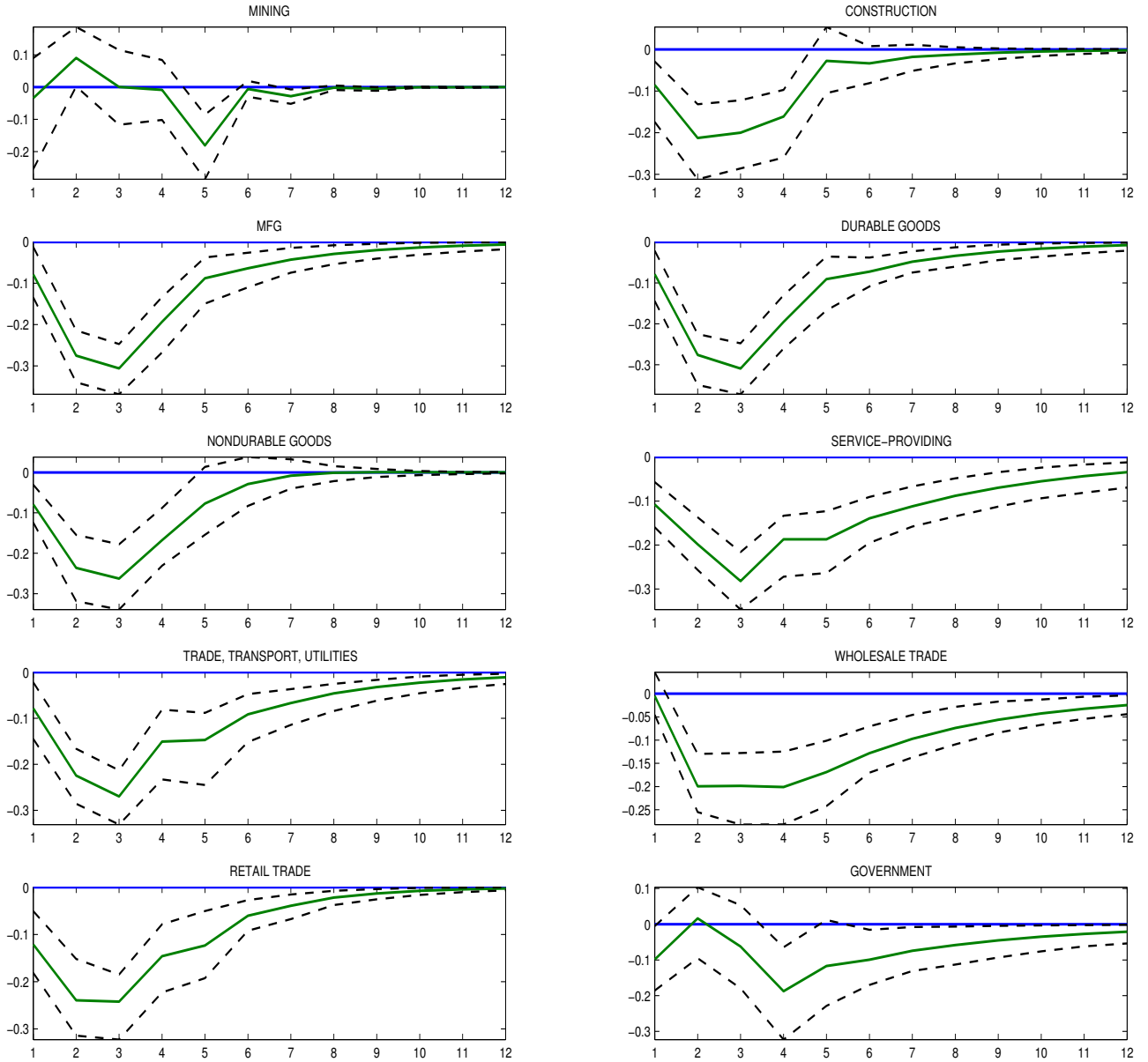
This Figure presents the FADL estimated impulse responses of many disaggregated PCE inflation series from X_t^{OTH} to a contractionary monetary policy shock as identified by recursive ordering assumption (RO).

Figure 4: Dynamic responses of sectoral PCE series, part 2



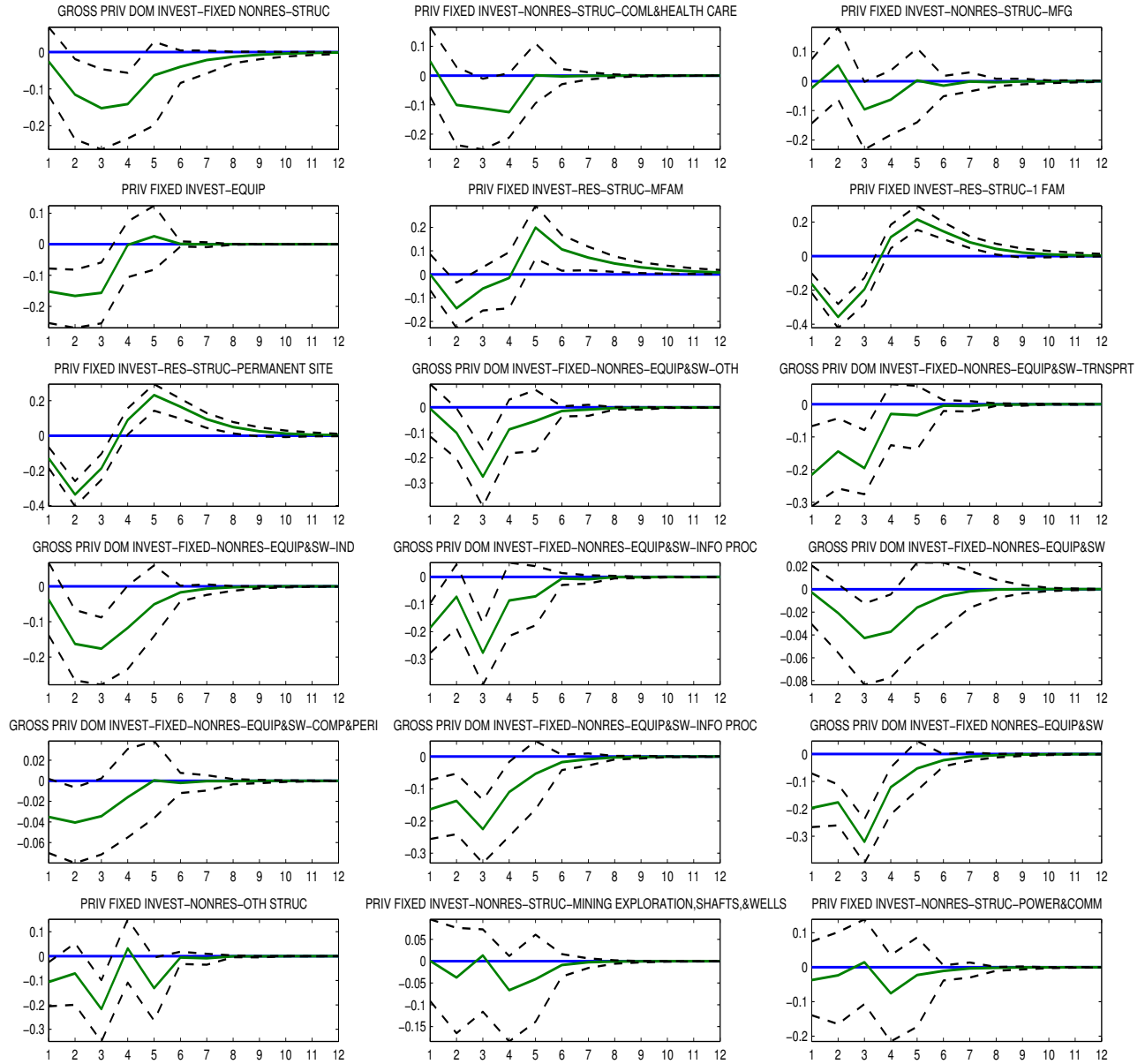
This Figure presents the FADL estimated impulse responses of many disaggregated PCE inflation series from X_t^{OTH} to a contractionary monetary policy shock as identified by recursive ordering assumption (RO).

Figure 5: Dynamic responses of sectoral employment series



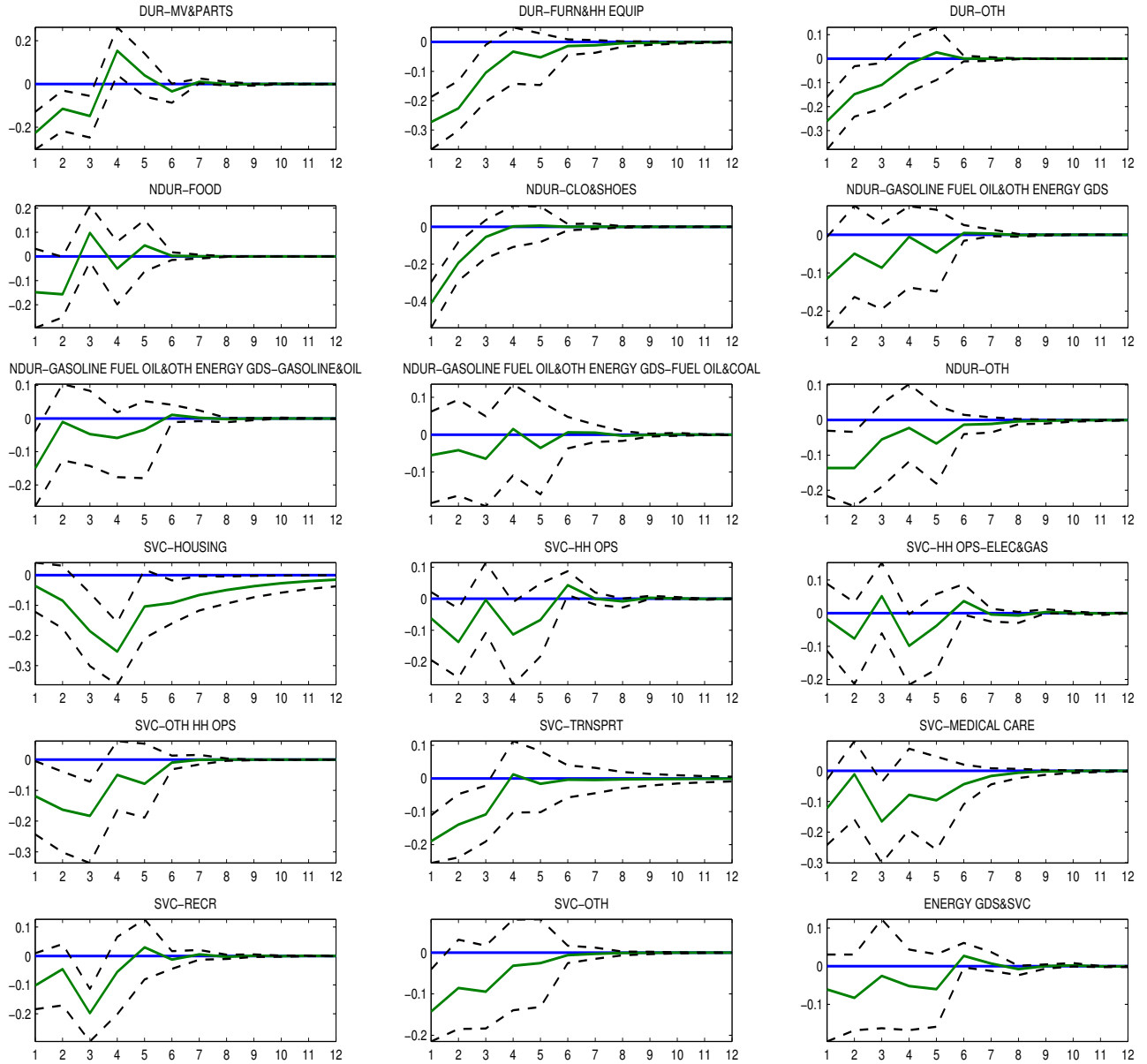
This Figure presents the FADL estimated impulse responses of many disaggregated employment (nonfarm) growth series from X_t^{OTH} to a contractionary monetary policy shock as identified by recursive ordering assumption (RO).

Figure 6: Dynamic responses of sectoral investment series



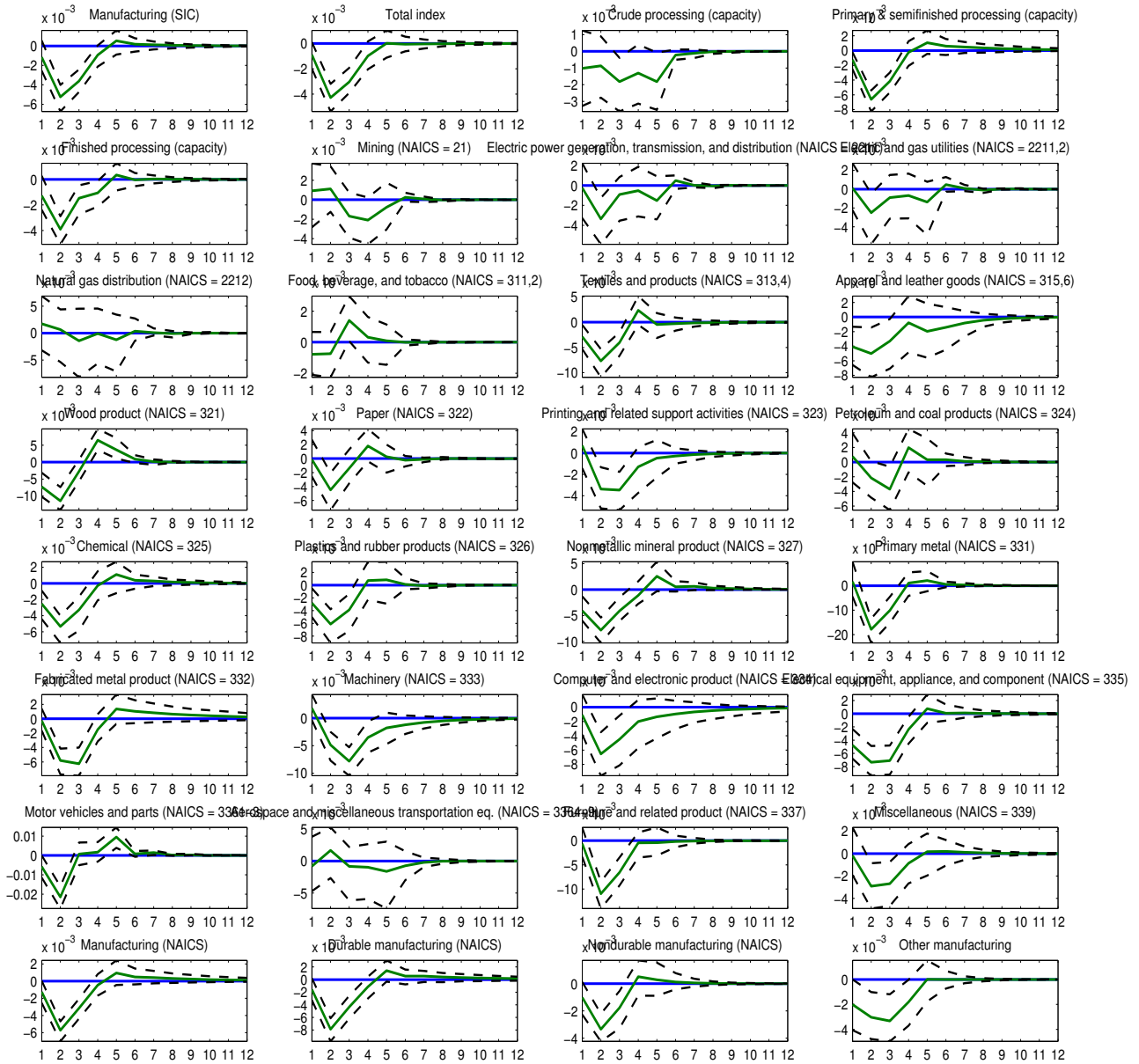
This Figure presents the FADL estimated impulse responses of many disaggregated investment growth series from X_t^{OTH} to a contractionary monetary policy shock as identified by recursive ordering assumption (RO).

Figure 7: Dynamic responses of sectoral consumption series



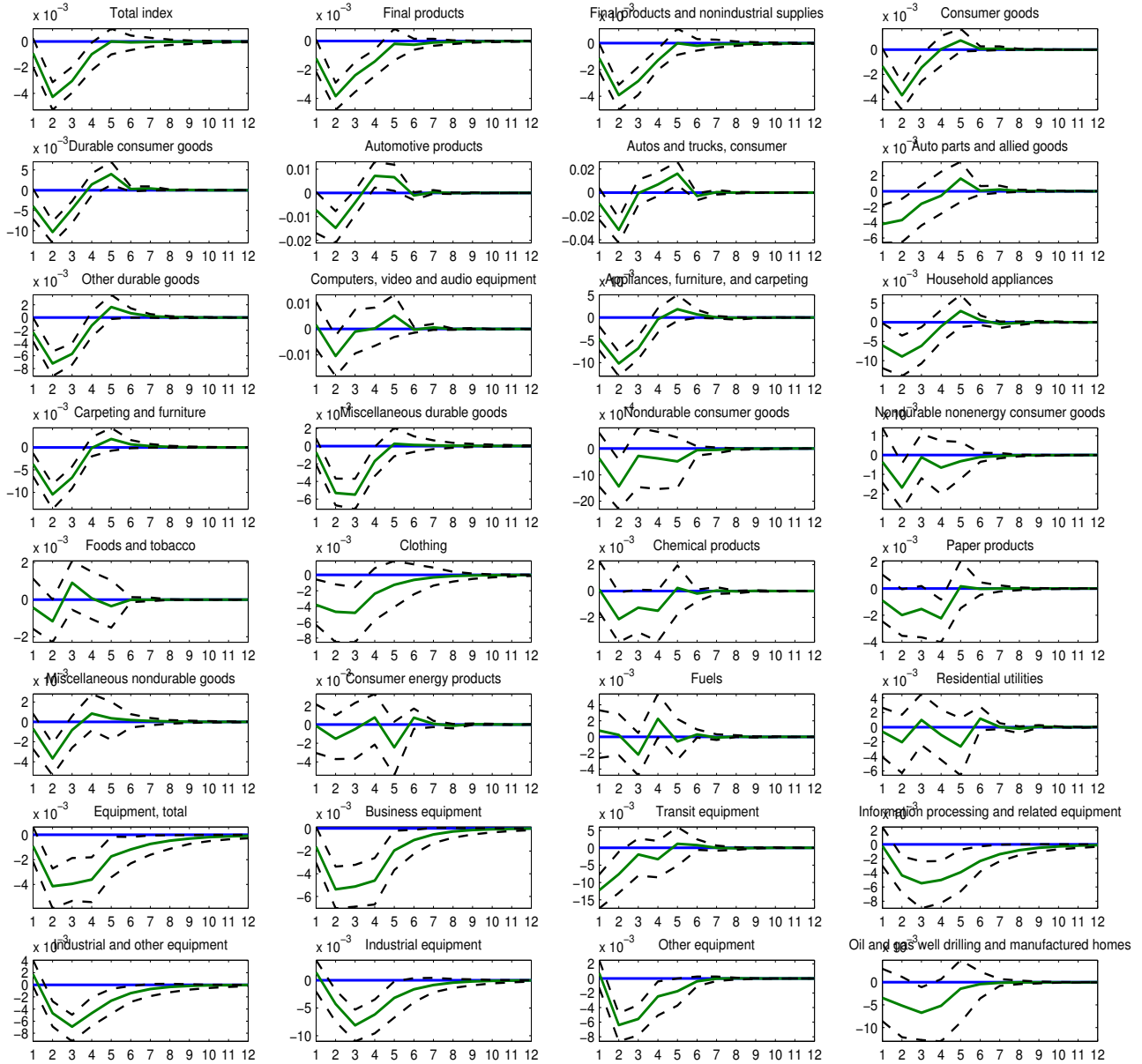
This Figure presents the FADL estimated impulse responses of many disaggregated real consumption growth series from X_t^{OTH} to a contractionary monetary policy shock as identified by recursive ordering assumption (RO).

Figure 8: Dynamic responses of industrial production: major industry groups



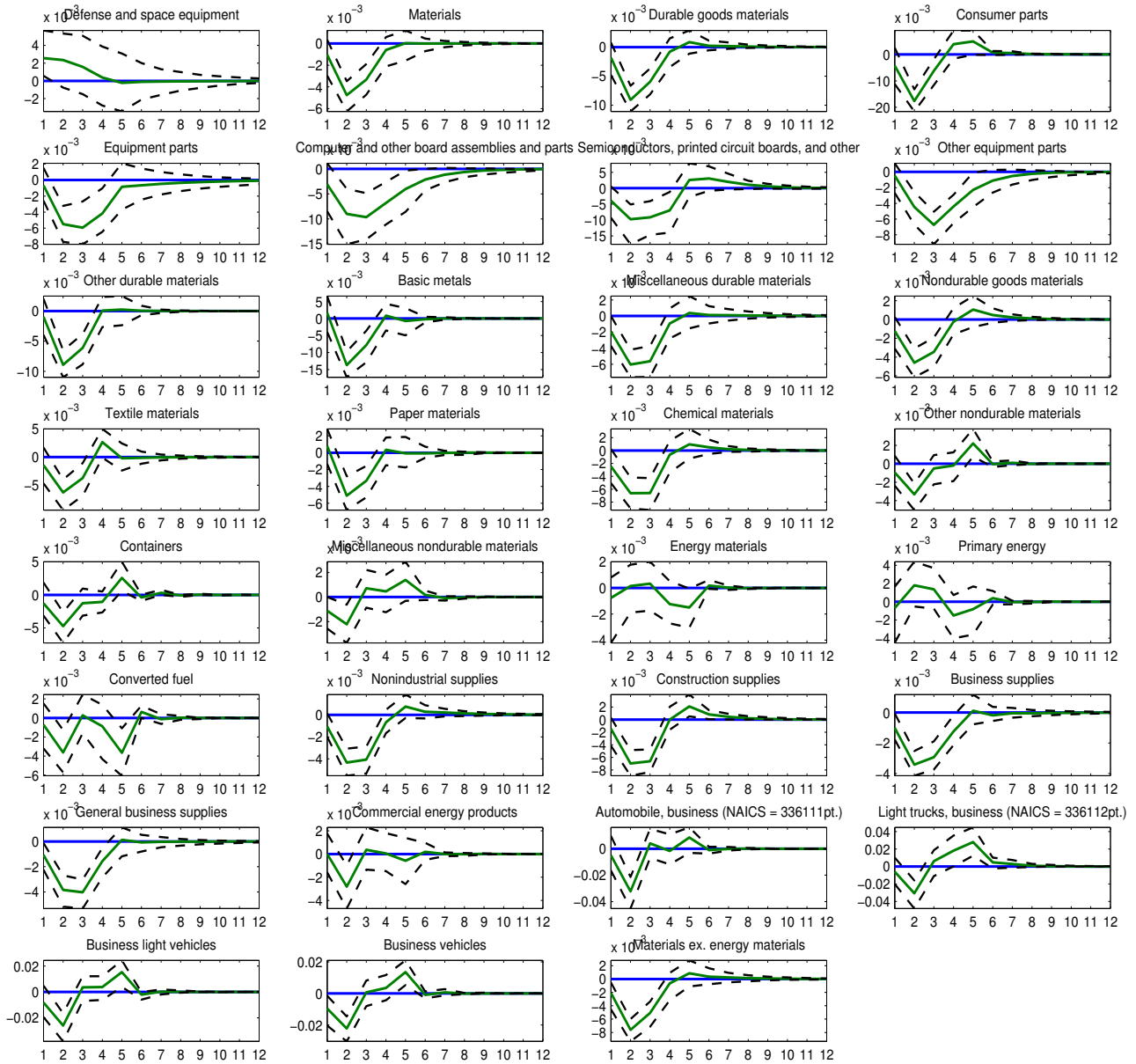
This Figure presents the FADL estimated impulse responses of Industrial Production Disaggregated Data (Federal Reserve G17): Major Industry Groups to a contractionary monetary policy shock as identified by recursive ordering assumption (RO).

Figure 9: Dynamic responses of industrial production: market groups, part 1



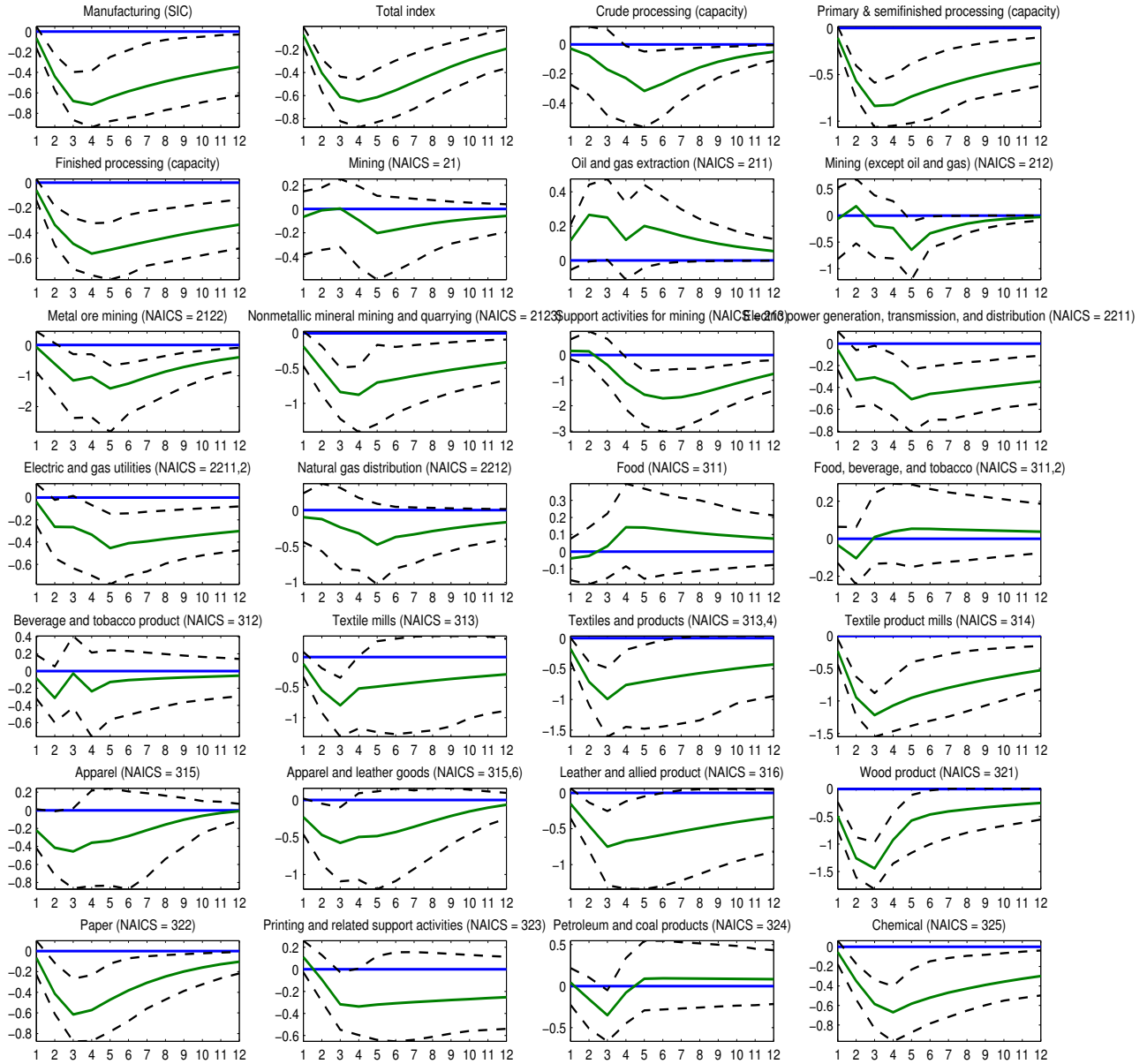
This Figure presents the FADL estimated impulse responses of Industrial Production Disaggregated Data (Federal Reserve G17): Market Groups to a contractionary monetary policy shock as identified by recursive ordering assumption (RO).

Figure 10: Dynamic responses of industrial production: market groups, part 2



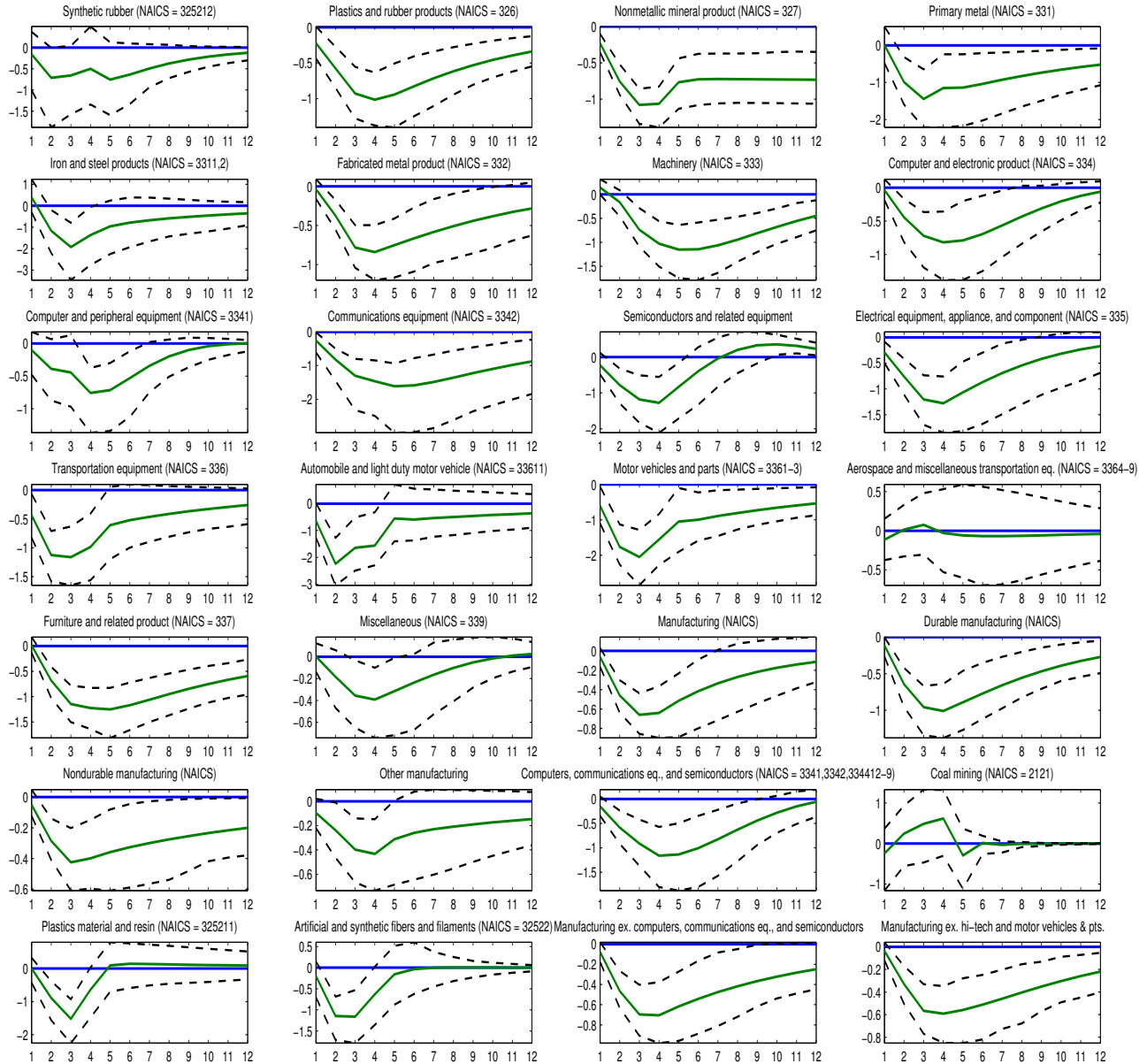
This Figure presents the FADL estimated impulse responses of Industrial Production Disaggregated Data (Federal Reserve G17): Market Groups to a contractionary monetary policy shock as identified by recursive ordering assumption (RO).

Figure 11: Dynamic responses of industrial production: capacity utilization, part 1



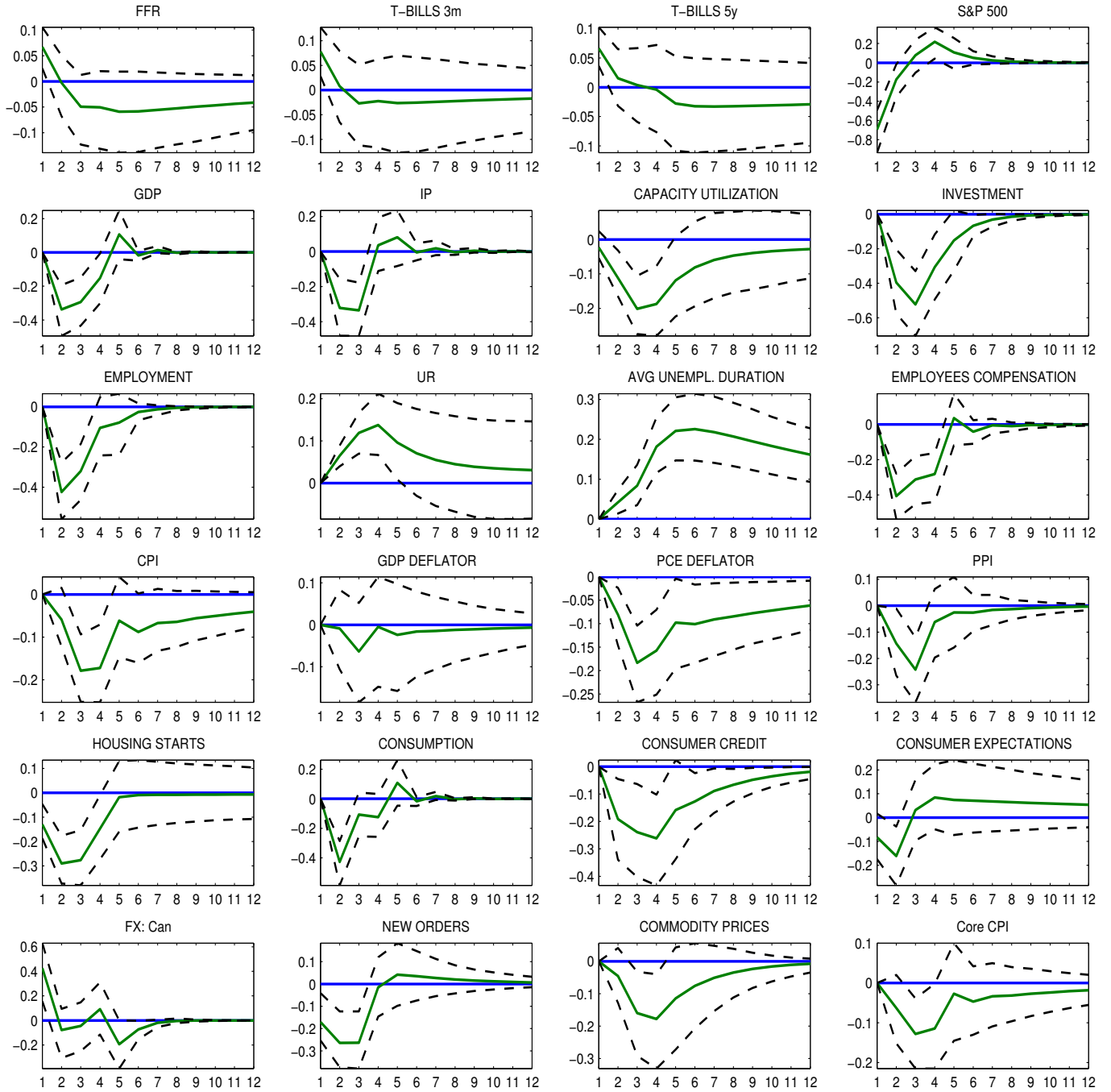
This Figure presents the FADL estimated impulse responses of Industrial Production Disaggregated Data (Federal Reserve G17): Capacity Utilization to a contractionary monetary policy shock as identified by recursive ordering assumption (RO).

Figure 12: Dynamic responses of industrial production: capacity utilization, part 2



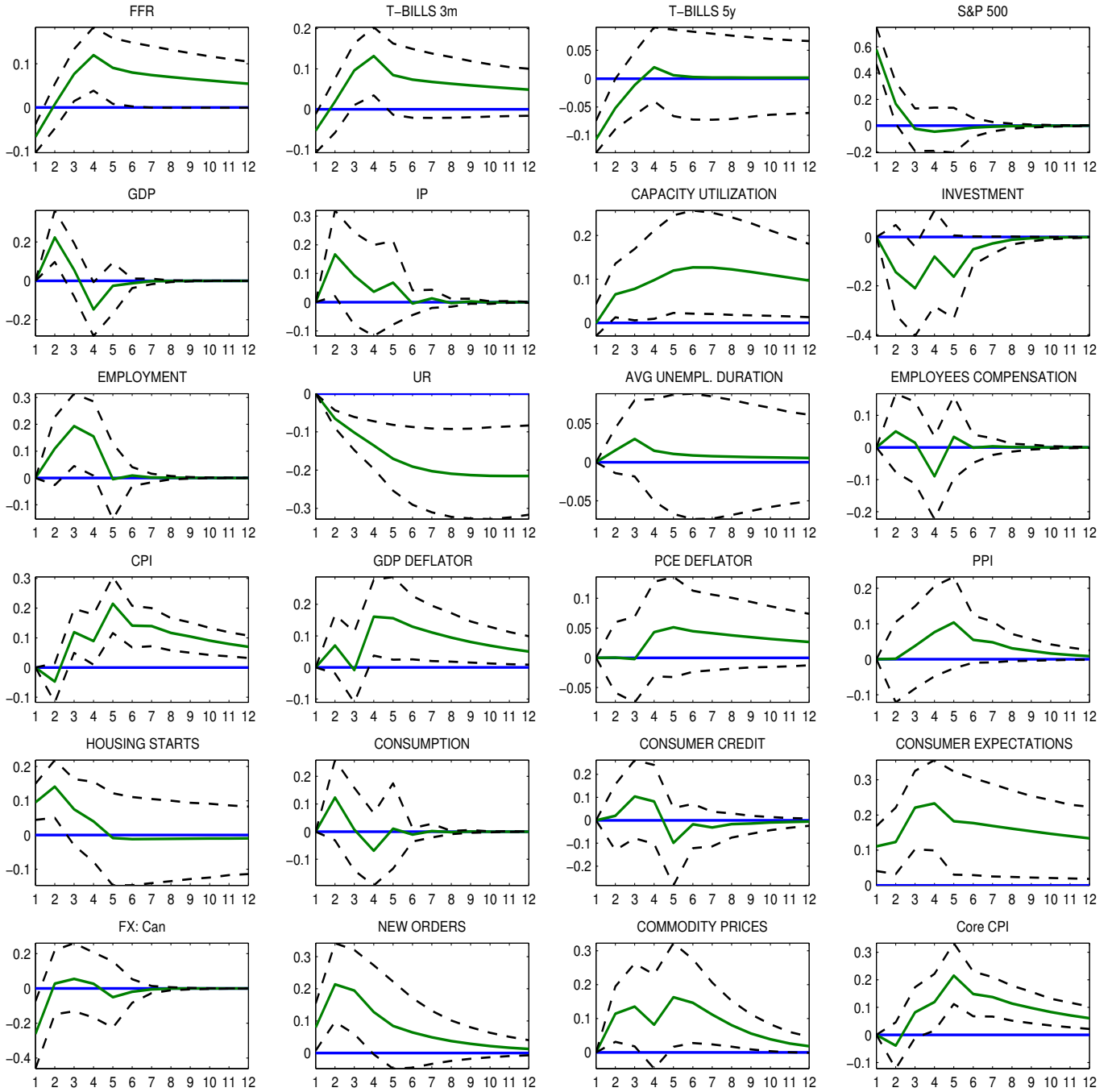
This Figure presents the FADL estimated impulse responses of Industrial Production Disaggregated Data (Federal Reserve G17): Capacity Utilization to a contractionary monetary policy shock as identified by recursive ordering assumption (RO).

Figure 13: Dynamic responses to a *contractionary asymmetric* monetary policy shock



This Figure presents the FADL estimated impulse responses, with 90% bootstrap confidence bands, of selected variables from X_t to a contractionary asymmetric monetary policy shock as identified by recursive ordering.

Figure 14: Dynamic responses to an *expansionary asymmetric* monetary policy shock



This Figure presents the FADL estimated impulse responses, with 90% bootstrap confidence bands, of selected variables from X_t to an expansionary asymmetric monetary policy shock as identified by recursive ordering.

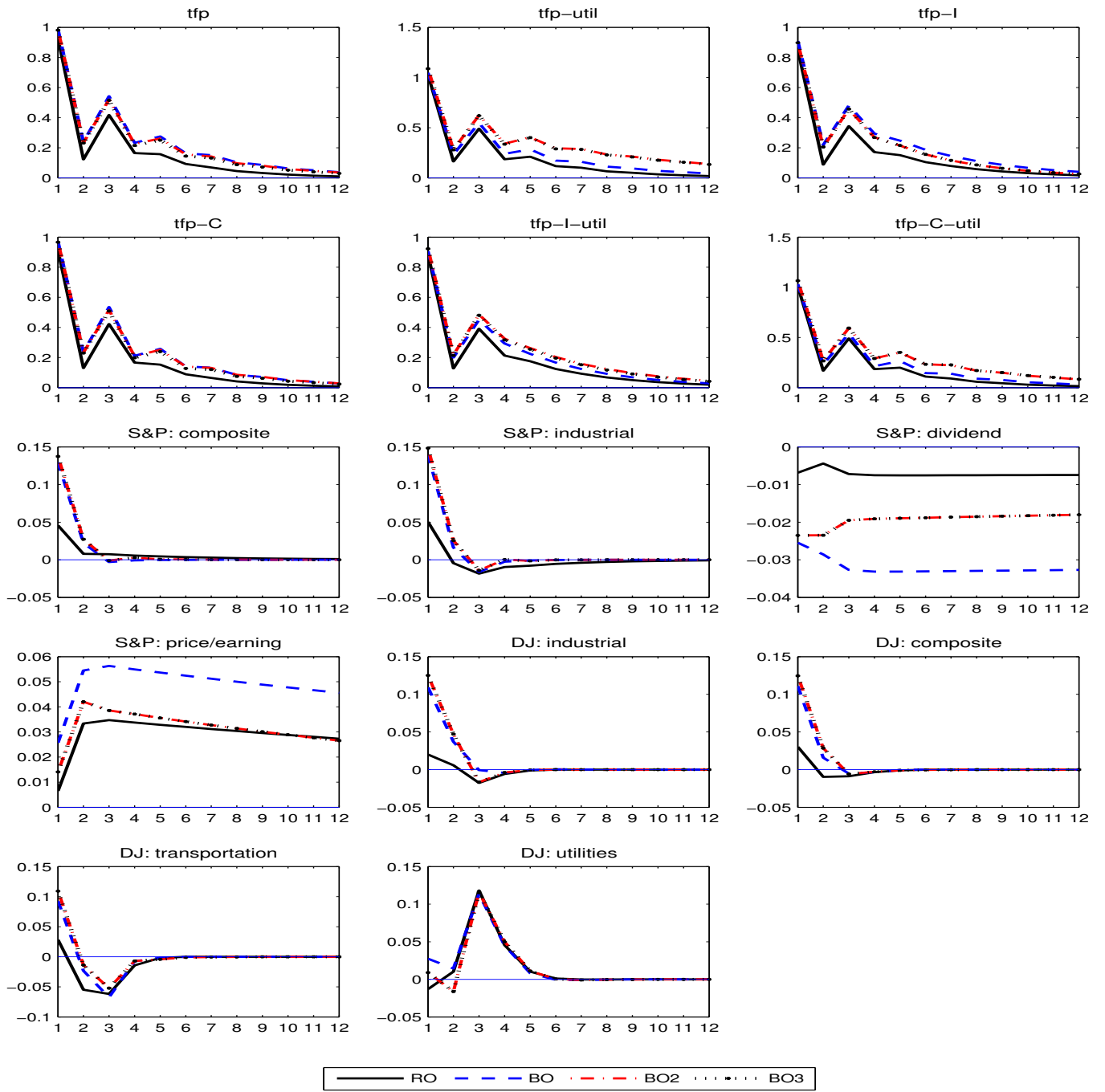
3 Estimating Dynamic Effects of News Shocks: Additional Results

In this section we start by presenting the impulse responses to a positive technology shock, Figures 15 - 16. Then, we present additional impulse response results to technology and news shocks identified using block recursive ordering 3 (BO3):

$$\begin{pmatrix} \varepsilon_t^{TFP} \\ \varepsilon_t^{OTH} \\ \varepsilon_t^{SP} \end{pmatrix} = \begin{pmatrix} a_{11} & 0 & 0 \\ a_{21} & a_{22} & 0 \\ a_{31} & a_{32} & a_{33} \end{pmatrix} \begin{pmatrix} v_t^{TFP} \\ v_t^{OTH} \\ v_t^{NS} \end{pmatrix}.$$

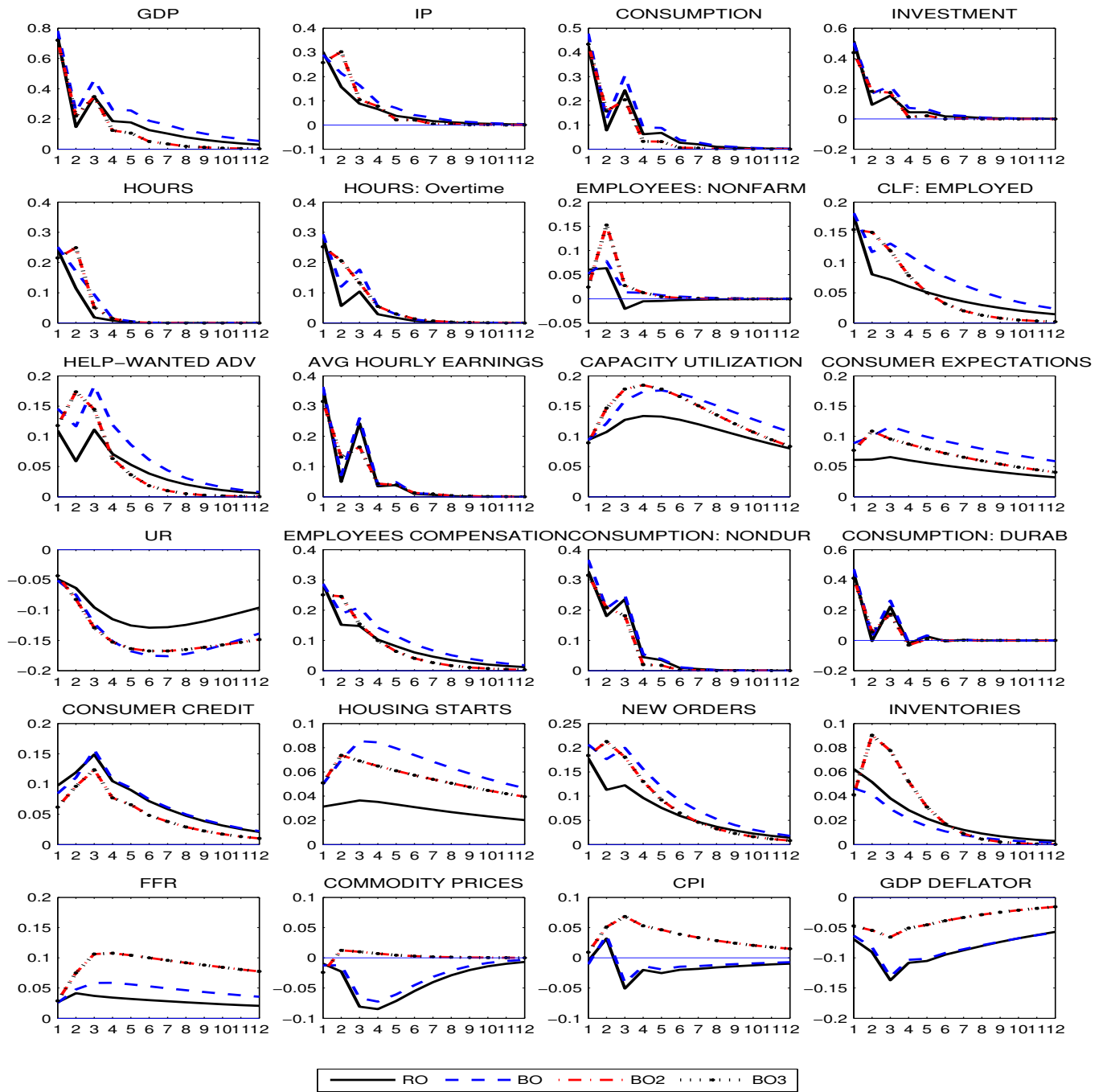
This is the least favorable structure for the news shocks since all other macro disturbances, summarized in v_t^{OTH} are placed before in the recursion. This structure reflects the forward looking nature of the stock prices. The results are presented in Figures 17 - 23.

Figure 15: Dynamic responses of X_t^{TFP} and X_t^{SP} to a positive technology shock



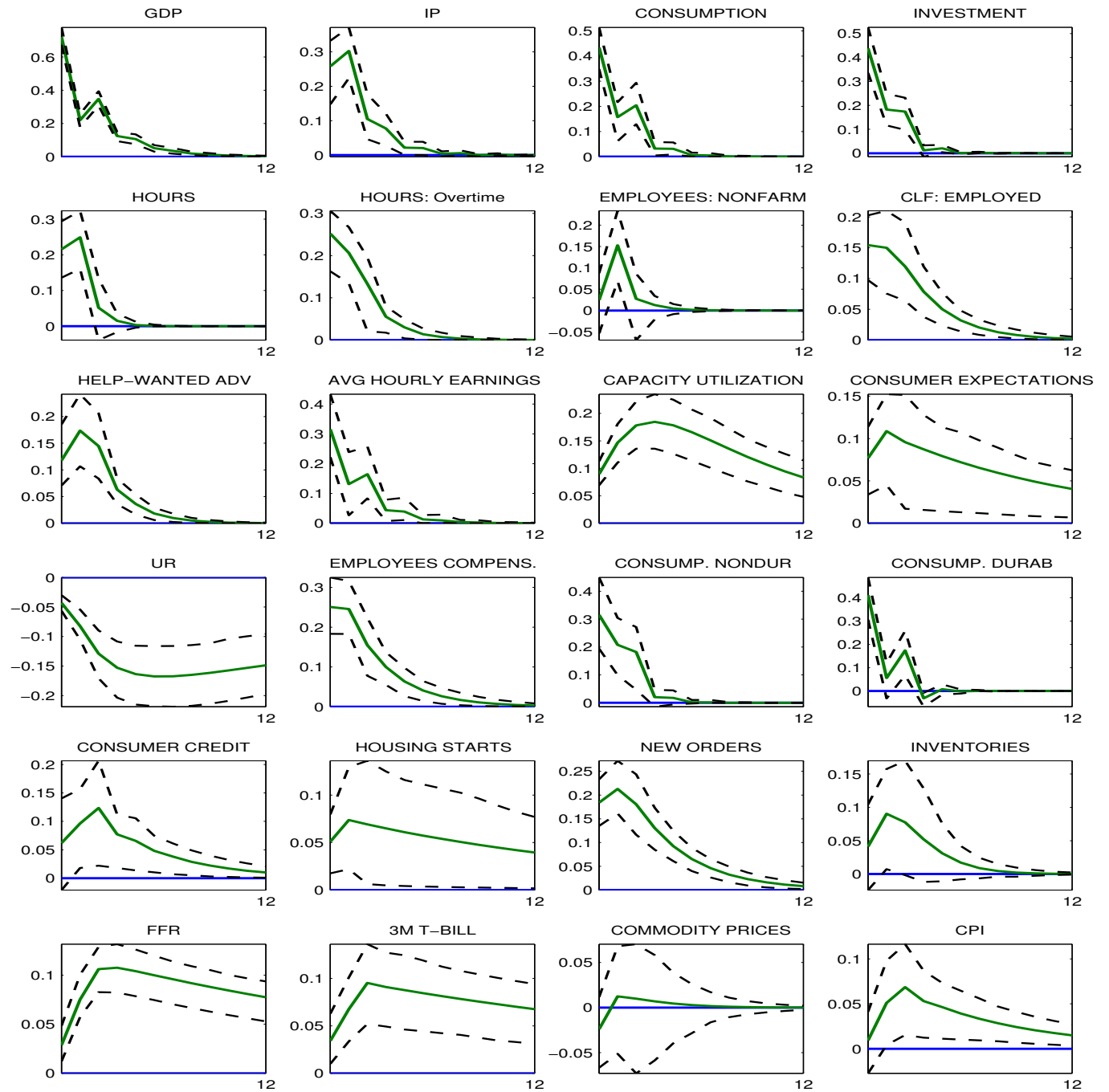
This Figure presents the FADL estimated impulse responses of all variables in X_t^{TFP} and X_t^{SP} to a positive technology shock as identified by recursive ordering assumption (RO) and block ordering assumptions (BO, BO2, BO3) in Example 2.

Figure 16: Dynamic responses of selected series in X_t^{OTH} to a positive technology shock



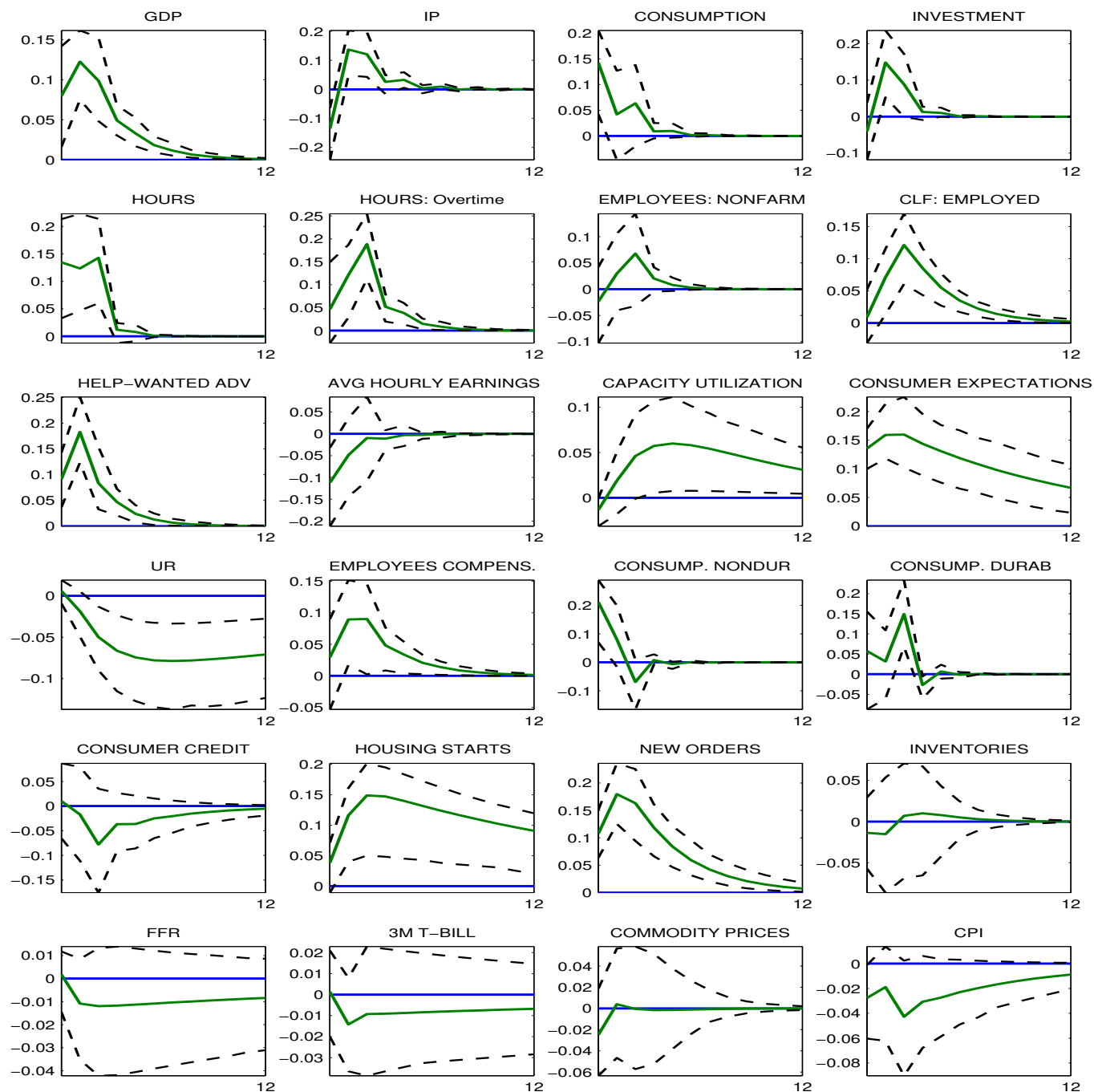
This Figure presents the FADL estimated impulse responses of selected variables in X_t^{OTH} to a positive technology shock as identified by recursive ordering assumption (RO) and block ordering assumptions (BO, BO2, BO3) in Example 2.

Figure 17: Dynamic responses of some series in X_t^{OTH} to a positive technology shock identified through BO3 ordering



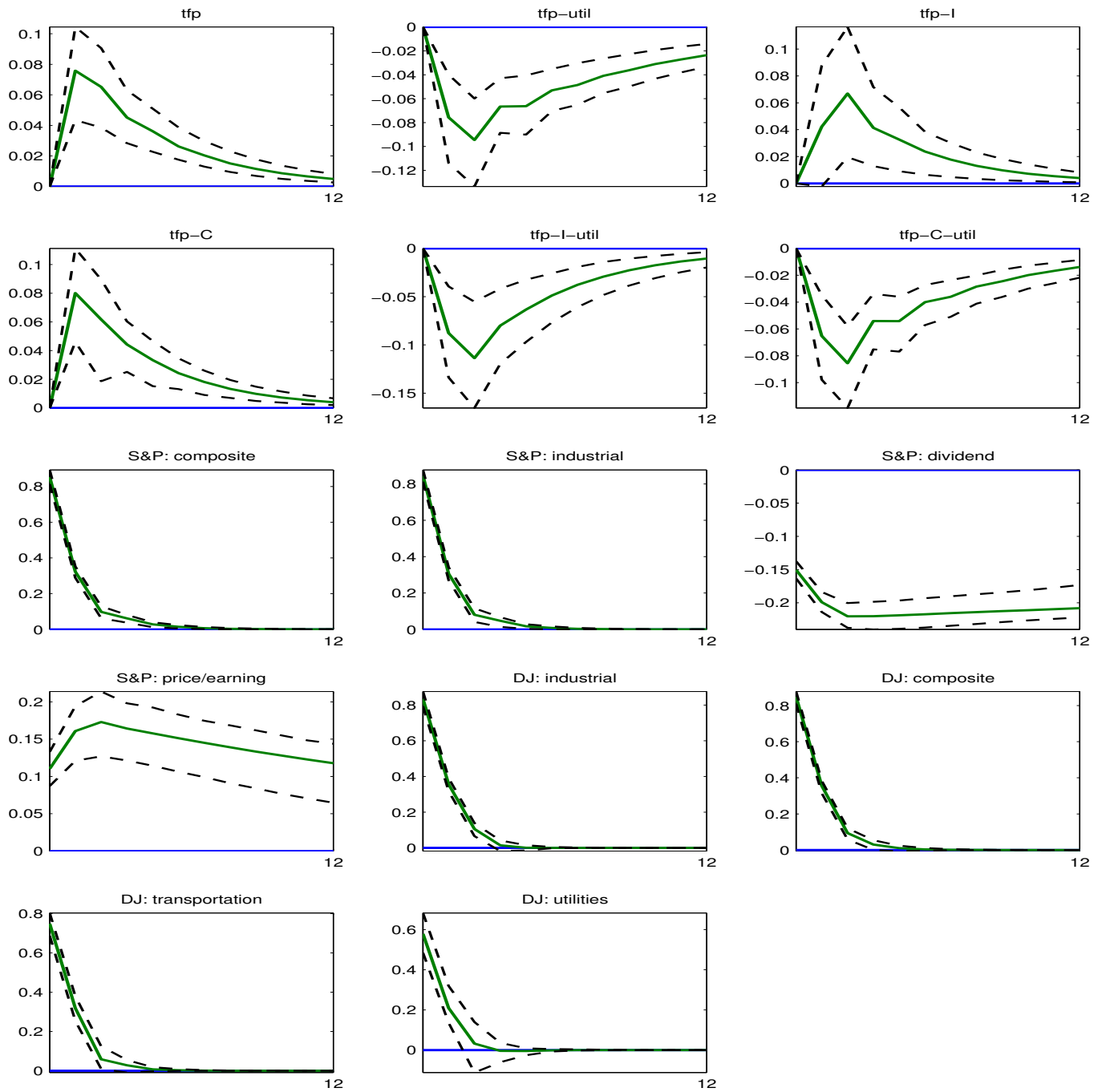
This Figure presents the FADL estimated impulse responses, with 90% bootstrap confidence intervals, of selected variables in X_t^{OTH} to a positive technology shock as identified by block ordering assumptions BO3 in Example 2. These are responses for stationary series: e.g. GDP is the response of the GDP quarterly growth rate.

Figure 18: Dynamic responses of some series in X_t^{OTH} to a positive news shock identified through BO3 ordering



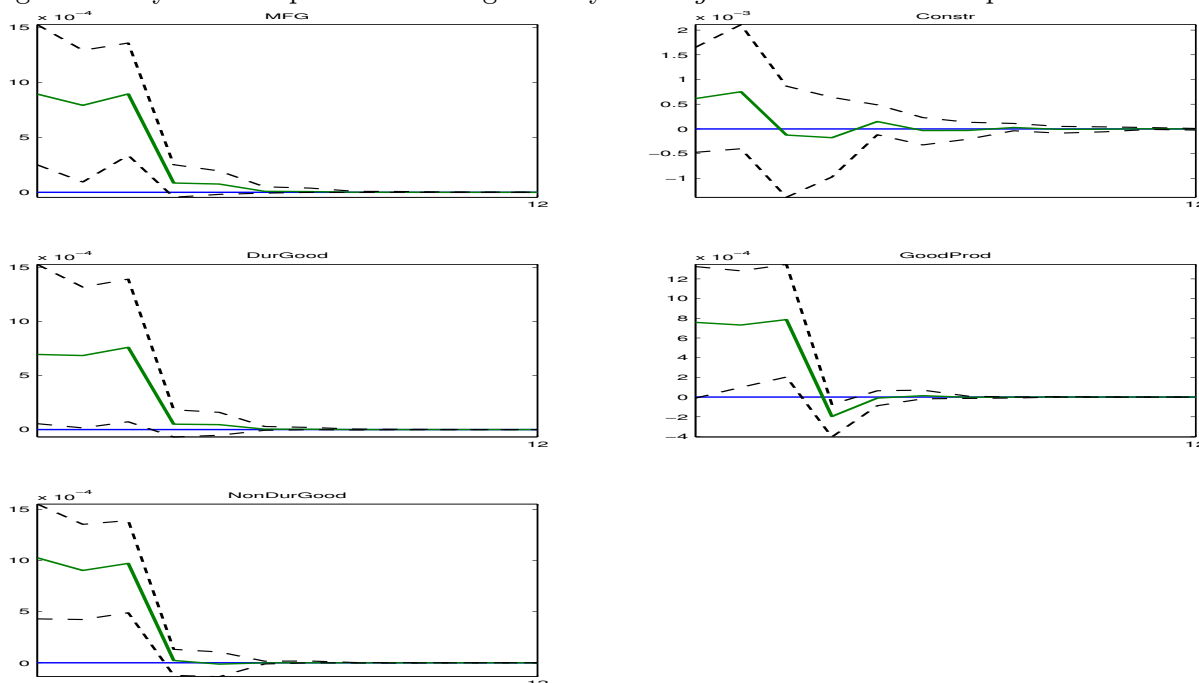
This Figure presents the FADL estimated impulse responses, with 90% bootstrap confidence intervals, of selected variables in X_t^{OTH} to a positive news shock as identified by block ordering assumptions BO3 in Example 2. These are responses for stationary series: e.g. GDP is the response of the GDP quarterly growth rate.

Figure 19: Dynamic responses of X_t^{TFP} and X_t^{SP} to a positive news shock



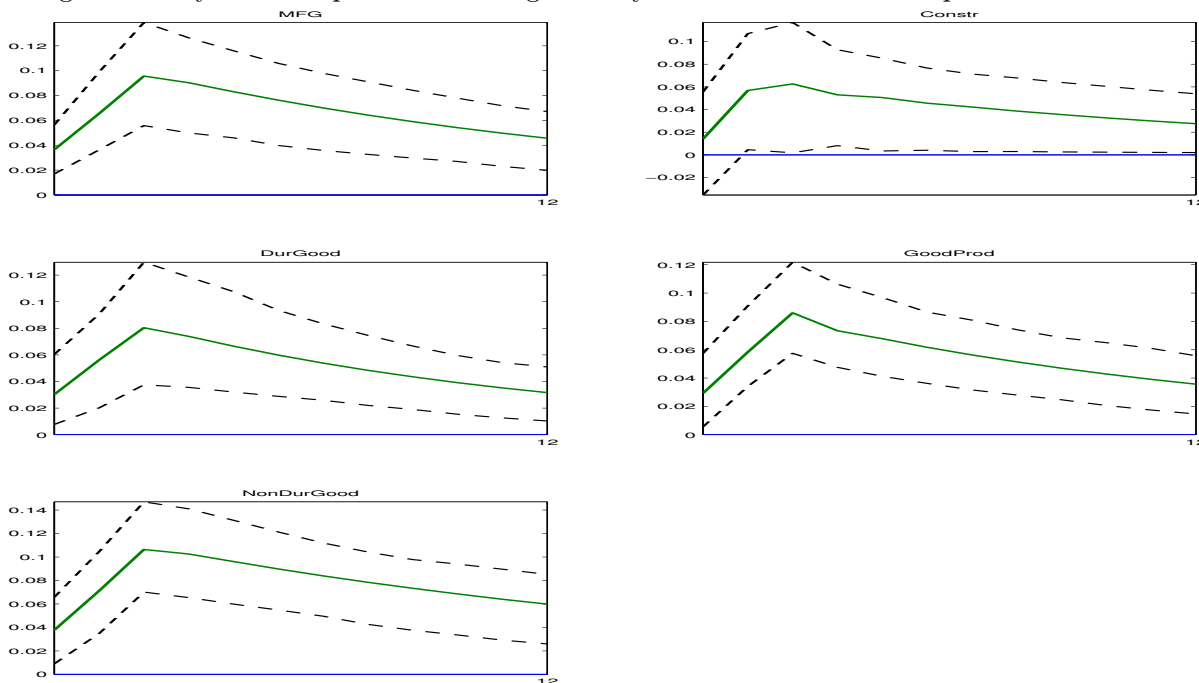
This Figure presents the FADL estimated impulse responses, with 90% bootstrap confidence intervals, of TFP and stock prices variables in X_t^{TFP} and X_t^{SP} to a positive news shock as identified by block ordering assumptions BO3 in Example 2. These are responses for stationary series: e.g. S&P: composite is the log return.

Figure 20: Dynamic responses of average weekly hours *growth rate* series to a positive news shock



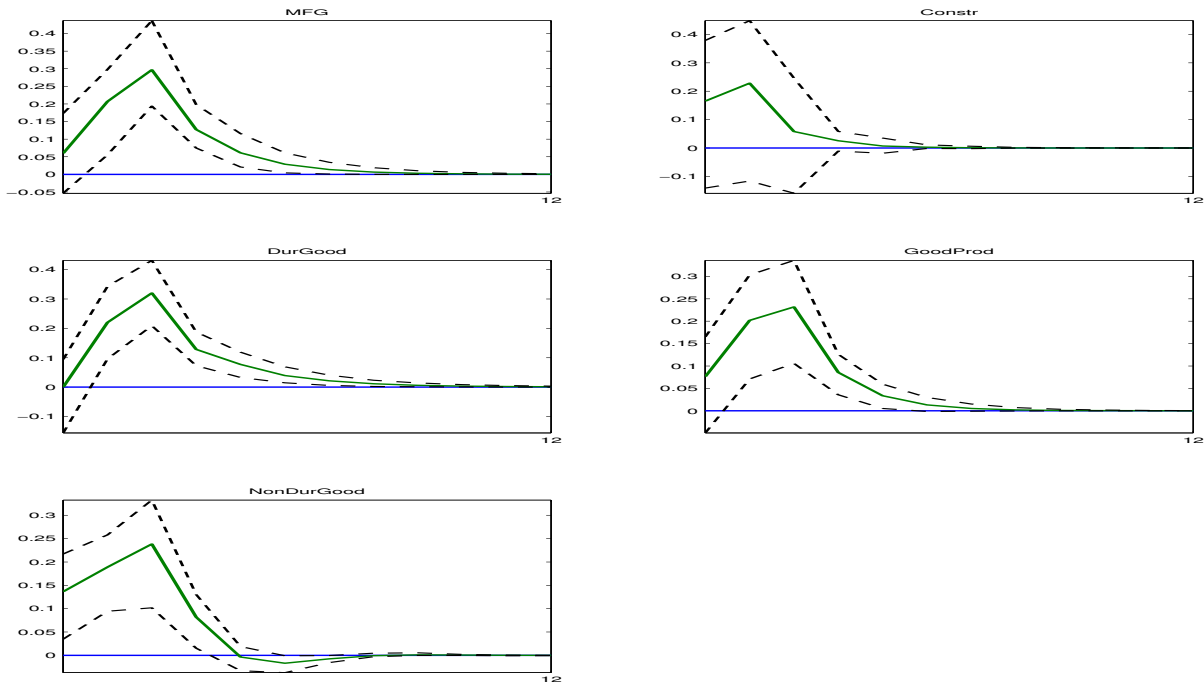
This Figure presents the FADL estimated impulse responses, with 90% bootstrap confidence intervals, of sectoral average weekly hours growth rate series to a positive news shock as identified by block ordering assumptions BO3.

Figure 21: Dynamic responses of average weekly hours *level* series to a positive news shock



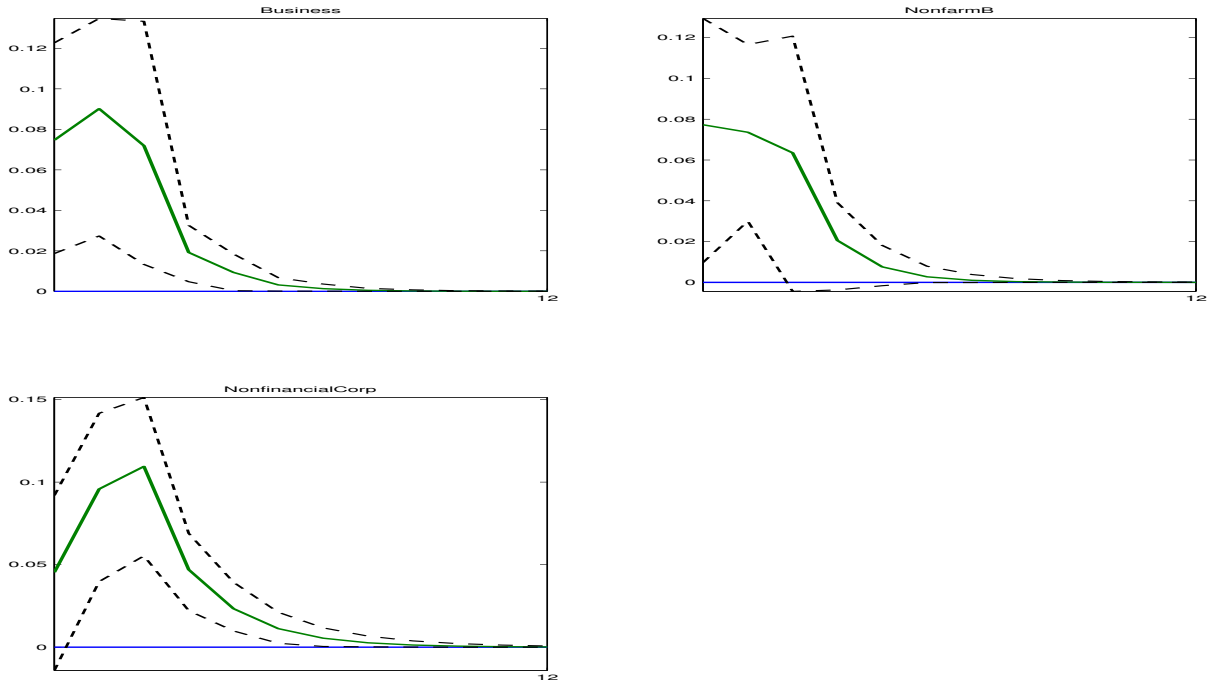
This Figure presents the FADL estimated impulse responses, with 90% bootstrap confidence intervals, of sectoral average weekly hours level series to a positive news shock as identified by block ordering assumptions BO3.

Figure 22: Dynamic responses of average weekly hours *indices* to a positive news shock



This Figure presents the FADL estimated impulse responses, with 90% bootstrap confidence intervals, of sectoral average weekly hours indices to a positive news shock as identified by block ordering assumptions BO3 in Example 2.

Figure 23: Dynamic responses of total hours *indices* to a positive news shock



This Figure presents the FADL estimated impulse responses, with 90% bootstrap confidence intervals, of sectoral total hours indices to a positive news shock as identified by block ordering assumptions BO3 in Example 2.

Data Sets

The transformation codes are: 1 no transformation; 2 first difference; 4 logarithm; 5 first difference of logarithm; 0 variable not used in the estimation (only used for transforming other variables). A * indicates a series that is deflated with the GDP deflator (series #89).

Data used in monetary policy shock example

No.	Series Code	T-Code	Series Description
1	DRIINTL:GDPRC@US.Q	5	NIA REAL GROSS DOMESTIC PRODUCT (CHAINED-2000), SA - U.S.
2	USCEN:GDPGDR.Q	5	REAL GDP-GDS,BILLIONS OF CH (2000) \$,SAAR-US
3	USCEN:GDPSVR.Q	5	REAL GDP-SVC,BILLIONS OF CH (2000) \$,SAAR-US
4	USCEN:GDPSR.Q	5	REAL GDP-STRUC,BILLIONS OF CH (2000) \$,SAAR-US
5	BASIC:IPN11.M	5	INDUSTRIAL PRODUCTION INDEX - PRODUCTS, TOTAL
6	BASIC:IPN300.M	5	INDUSTRIAL PRODUCTION INDEX - FINAL PRODUCTS
7	BASIC:IPN12.M	5	INDUSTRIAL PRODUCTION INDEX - CONSUMER GOODS
8	BASIC:IPN13.M	5	INDUSTRIAL PRODUCTION INDEX - DURABLE CONSUMER GOODS
9	BASIC:IPN18.M	5	INDUSTRIAL PRODUCTION INDEX - NONDURABLE CONSUMER GOODS
10	BASIC:IPN25.M	5	INDUSTRIAL PRODUCTION INDEX - BUSINESS EQUIPMENT
11	BASIC:IPN32.M	5	INDUSTRIAL PRODUCTION INDEX - MATERIALS
12	BASIC:IPN34.M	5	INDUSTRIAL PRODUCTION INDEX - DURABLE GOODS MATERIALS
13	BASIC:IPN38.M	5	INDUSTRIAL PRODUCTION INDEX - NONDURABLE GOODS MATERIALS
14	BASIC:IPN10.M	5	INDUSTRIAL PRODUCTION INDEX - TOTAL INDEX
15	USCEN:UTLB00004.M	1	CAPACITY UTILIZ-MFG,SA-US
16	BASIC:PMI.M	1	PURCHASING MANAGERS' INDEX (SA)
17	BASIC:PMP.M	1	NAPM PRODUCTION INDEX (PERCENT)
18	DRIINTL:WS@US.Q	5*	NIA NOMINAL TOTAL COMPENSATION OF EMPLOYEES, SA - U.S.
19	USCEN:YPR.M	5	PERS INCOME CH 2000 \$,SA-US
20	USCEN:YP@V00C.M	5	PERS INCOME LESS TRSF PMT CH 2000 \$,SA-US
21	USCEN:AHPMF.M	5*	AHE,PROD WORKERS: MFG,SA-US
22	USCEN:AHPCON.M	5*	AHE,PROD WORKERS: CONSTR,SA-US
23	USCEN:HPMF.M	5	AWH,PROD WORKERS: MFG,SA-US
24	USCEN:HOPMD.M	5	AVG WEEKLY OT,PROD WORKERS: DUR,SA-US
25	BASIC:LHEL.M	5	INDEX OF HELP-WANTED ADVERTISING IN NEWSPAPERS (1967=100;SA)
26	BASIC:LHELX.M	1	EMPLOYMENT: RATIO; HELP-WANTED ADS:NO. UNEMPLOYED CLF
27	BASIC:LHEM.M	5	CIVILIAN LABOR FORCE: EMPLOYED, TOTAL (THOUS.,SA)
28	BASIC:LHNAG.M	5	CIVILIAN LABOR FORCE: EMPLOYED, NONAGRIC.INDUSTRIES (THOUS.,SA)
29	BASIC:LHUR.M	1	UNEMPLOYMENT RATE: ALL WORKERS, 16 YEARS & OVER (%;SA)
30	BASIC:LHU680.M	1	UNEMPLOY.BY DURATION: AVERAGE(MEAN)DURATION IN WEEKS (SA)
31	BASIC:LHU5.M	5	UNEMPLOY.BY DURATION: PERSONS UNEMPL.LESS THAN 5 WKS (THOUS.,SA)
32	BASIC:LHU14.M	5	UNEMPLOY.BY DURATION: PERSONS UNEMPL.5 TO 14 WKS (THOUS.,SA)
33	BASIC:LHU15.M	5	UNEMPLOY.BY DURATION: PERSONS UNEMPL.15 WKS + (THOUS.,SA)
34	BASIC:LHU26.M	5	UNEMPLOY.BY DURATION: PERSONS UNEMPL.15 TO 26 WKS (THOUS.,SA)
35	BASIC:CES001.M	5	EMPLOYEES, NONFARM - TOTAL NONFARM
36	BASIC:CES002.M	5	EMPLOYEES, NONFARM - TOTAL PRIVATE
37	BASIC:CES003.M	5	EMPLOYEES, NONFARM - GOODS-PRODUCING
38	USCEN:CR.Q	5	REAL PCE,BILLIONS OF CH (2000) \$,SAAR-US
39	USCEN:JQCDR.Q	5	REAL PCE-DUR,QTY INDEX (2000=100),SA,SA-US
40	USCEN:JQCNR.Q	5	REAL PCE-NDUR,QTY INDEX (2000=100),SA,SA-US
41	USCEN:JQCSVR.Q	5	REAL PCE-SVC,QTY INDEX (2000=100),SA,SA-US
42	USCEN:JQCXFAER.Q	5	REAL PCE EX FOOD&ENERGY,QTY INDEX (2000=100),SAAR-US
43	DRIINTL:CGRCUS.Q	5	REAL GOVERNMENT CONS. EXPEND.& GROSS INVESTMENT (CHAINED-2000), SA - U.S.
44	USCEN:I.Q	5*	GROSS PRIV DOM INVEST,BILLIONS OF \$,SAAR-US
45	USCEN:IF.Q	5*	GROSS PRIV DOM INVEST-FIXED,BILLIONS OF \$,SAAR-US
46	USCEN:IFNRE.Q	5*	GROSS PRIV DOM INVEST-FIXED NONRES,BILLIONS OF \$,SAAR-US
47	USCEN:IFRES.Q	5*	PRIV FIXED INVEST-RES-STRUC,BILLIONS OF \$,SAAR-US
48	USCEN:IFRE.Q	5*	GROSS PRIV DOM INVEST-FIXED RES,BILLIONS OF \$,SAAR-US
49	USCEN:II.Q	1	GROSS PRIV DOM INVEST-CH IN PRIV INVENT,BILLIONS OF \$,SAAR-US
50	USCEN:IIF.Q	1	GROSS PRIV DOM INVEST-CH IN PRIV INVENT-FARM,BILLIONS OF \$,SAAR-US
51	BASIC:HSPR.M	4	HOUSING STARTS:NONFARM(1947-58);TOTAL FARM&NONFARM(1959-)(THOUS.,SA)
52	BASIC:HMOB.M	4	MOBILE HOMES: MANUFACTURERS' SHIPMENTS (THOUS.OF UNITS,SAAR)
53	BASIC:PMNV.M	1	NAPM INVENTORIES INDEX (PERCENT)
54	BASIC:PMNO.M	1	NAPM NEW ORDERS INDEX (PERCENT)
55	BASIC:PMDEL.M	1	NAPM VENDOR DELIVERIES INDEX (PERCENT)
56	BASIC:MOCMQ.M	5	NEW ORDERS (NET) - CONSUMER GOODS & MATERIALS, 1996 DOLLARS (BCI)
57	BASIC:MSONDQ.M	5	NEW ORDERS, NONDEFENSE CAPITAL GOODS, IN 1996 DOLLARS (BCI)
58	USCEN:M.Q	5	IMPORTS OF GDS&SVC,BILLIONS OF \$,SAAR-US
59	USCEN:X.Q	5	EXPORTS OF GDS&SVC,BILLIONS OF \$,SAAR-US
60	BASIC:FSPCOM.M	5	S&P'S COMMON STOCK PRICE INDEX: COMPOSITE (1941-43=10)
61	BASIC:FSPIN.M	5	S&P'S COMMON STOCK PRICE INDEX: INDUSTRIALS (1941-43=10)
62	BASIC:FSDXP.M	1	S&P'S COMPOSITE COMMON STOCK: DIVIDEND YIELD (% PER ANNUM)
63	BASIC:FSPXE.M	1	S&P'S COMPOSITE COMMON STOCK: PRICE-EARNINGS RATIO (%;NSA)
64	BASIC:EXRUK.M	5	FOREIGN EXCHANGE RATE: UNITED KINGDOM (CENTS PER POUND)
65	BASIC:EXRCAN.M	5	FOREIGN EXCHANGE RATE: CANADA (CANADIAN \$ PER U.S.\$)
66	BASIC:FYGM3.M	1	INTEREST RATE: U.S.TREASURY BILLS,SEC MKT,3-MO.(% PER ANN,NSA)
67	BASIC:FYGM6.M	1	INTEREST RATE: U.S.TREASURY BILLS,SEC MKT,6-MO.(% PER ANN,NSA)
68	BASIC:FYGT1.M	1	INTEREST RATE: U.S.TREASURY CONST MATURITIES,1-YR.(% PER ANN,NSA)
69	BASIC:FYGT5.M	1	INTEREST RATE: U.S.TREASURY CONST MATURITIES,5-YR.(% PER ANN,NSA)
70	BASIC:FYGT10.M	1	INTEREST RATE: U.S.TREASURY CONST MATURITIES,10-YR.(% PER ANN,NSA)
71	BASIC:FYAAAC.M	1	BOND YIELD: MOODY'S AAA CORPORATE (% PER ANNUM)

72	BASIC:FYBAAC.M	1	BOND YIELD: MOODY'S BAA CORPORATE (% PER ANNUM)
73	FYGM6-FYFF	1	
74	FYGM3-FYFF	1	
75	FYGT1-FYFF	1	
76	FYGT5-FYFF	1	
77	FYGT10-FYFF	1	
78	FYAAAC-FYFF	1	
79	FYBAAC-FYFF	1	
80	BASIC:FM1.M	5	MONEY STOCK: M1(CURR,TRAV.CKS,DEM DEP,OTHER CK'ABLE DEP)(BIL\$,SA)
81	BASIC:FM2.M	5	MONEY STOCK:M2(M1+O'NITE RPS,EURO\$,G/P&B/D MMMFS&SAV&SM TIME DEP)(BIL\$)
82	USCEN:MNY2@00.M	5	MONEY SUPPL-M2 IN 2000 \$,SA-US
83	BASIC:FMFBA.M	5	MONETARY BASE, ADJ FOR RESERVE REQUIREMENT CHANGES(MIL\$,SA)
84	BASIC:FMRRR.M	5	DEPOSITORY INST RESERVES:TOTAL,ADJ FOR RESERVE REQ CHGS(MIL\$,SA)
85	BASIC:FMRNBA.M	2	DEPOSITORY INST RESERVES:NONBORROWED,ADJ RES REQ CHGS(MIL\$,SA)
86	USCEN:ALCIBL00Z.M	5	COML&IND LOANS OUTST,SA-US
87	BASIC:FCLBMC.M	1	WKLY RP LG COM'L BANKS:NET CHANGE COM'L & INDUS LOANS(BIL\$,SAAR)
88	BASIC:CCINRV.M	5	CONSUMER CREDIT OUTSTANDING - NONREVOLVING(G19)
89	DRIINTL:PGDP@US.Q	5	NIA PRICE DEFLATOR - GROSS DOMESTIC PRODUCT, SA - U.S.
90	DRIINTL:PCP@US.Q	5	NIA PRICE DEFLATOR - PRIVATE CONSUMPTION EXPENDITURE, SA - U.S.
91	USCEN:PDIL.Q	5	GROSS PRIV DOM INVEST,PRICE DEFLATORS (2000=100),SA,SA-US
92	USCEN:JPCD.Q	5	PCE-DUR,PRICE INDEX (2000=100),SA,SA-US
93	USCEN:JPCN.Q	5	PCE-NDUR,PRICE INDEX (2000=100),SA,SA-US
94	USCEN:JPCSV.Q	5	PCE-SVC,PRICE INDEX (2000=100),SA,SA-US
95	BASIC:PUXM.M	5	CPI-U: ALL ITEMS LESS MEDICAL CARE (82-84=100,SA)
96	BASIC:PUXHS.M	5	CPI-U: ALL ITEMS LESS SHELTER (82-84=100,SA)
97	BASIC:PUXF.M	5	CPI-U: ALL ITEMS LESS FOOD (82-84=100,SA)
98	BASIC:PUS.M	5	CPI-U: SERVICES (82-84=100,SA)
99	BASIC:PUCD.M	5	CPI-U: DURABLES (82-84=100,SA)
100	BASIC:PUC.M	5	CPI-U: COMMODITIES (82-84=100,SA)
101	BASIC:PUNEW.M	5	CPI-U: ALL ITEMS (82-84=100,SA)
102	BASIC:PWFS.M	5	PRODUCER PRICE INDEX: FINISHED GOODS (82=100,SA)
103	BASIC:PMCP.M	1	NAPM COMMODITY PRICES INDEX (PERCENT)
104	UOMO83	1	COMPONENT INDEX OF CONSUMER EXPECTATIONS, NSA, CONFBOARD AND U.MICH.
105	DRIINTL:JLEAD@US.Q	5	COMPOSITE CYCLICAL INDICATOR (1996) - LEADING, SA - U.S.
106	DRIINTL:JLAG@US.Q	5	COMPOSITE CYCLICAL INDICATOR (1996) - LAGGING, SA - U.S.
107	DRIINTL:JCOIN@US.Q	5	COMPOSITE CYCLICAL INDICATOR (1996) - COINCIDENT, SA - U.S.
108	USCEN:NC16&Z.M	0	CIVILIAN NONINSTITUTIONAL POP: 16 YEARS&OVER,SA-US
109	BASIC:FYFF.M	1	INTEREST RATE: FEDERAL FUNDS (EFFECTIVE) (% PER ANNUM,NSA)

Additional series used in news shock example

No.	Series Code	T-Code	Series Description
			TFP measures
1		1	FERNALDS'S BUSINESS SECTOR TFP
2		1	FERNALDS'S BUSINESS SECTOR UTILIZATION-ADJUSTED TFP
3		1	FERNALDS'S INVESTMENT SECTOR TFP
4		1	FERNALDS'S INVESTMENT SECTOR UTILIZATION-ADJUSTED TFP
5		1	FERNALDS'S CONSUMPTION SECTOR TFP
6		1	FERNALDS'S CONSUMPTION SECTOR UTILIZATION-ADJUSTED TFP
			SP measures
7	BASIC:FSPCOM.M	5	S&P'S COMMON STOCK PRICE INDEX: COMPOSITE (1941-43=10)
8	BASIC:FSPIN.M	5	S&P'S COMMON STOCK PRICE INDEX: INDUSTRIALS (1941-43=10)
9	BASIC:FSDXP.M	1	S&P'S COMPOSITE COMMON STOCK: DIVIDEND YIELD (% PER ANNUM)
10	BASIC:FSPXE.M	1	S&P'S COMPOSITE COMMON STOCK: PRICE-EARNINGS RATIO (% ,NSA)
11		5	DOW JONES INDEX: INDUSTRIALS
12		5	DOW JONES INDEX: COMPOSITE
13		5	DOW JONES INDEX: TRANSPORTATION
14		5	DOW JONES INDEX: UTILITIES
			OTHER measures of hours worked
15			AVG WEEKLY HOURS: MANUFACTURING
16			AVG WEEKLY HOURS: CONSTRUCTION
17			AVG WEEKLY HOURS: DURABLE GOODS
18			AVG WEEKLY HOURS: GOODS PRODUCING
19			AVG WEEKLY HOURS: NONDURABLE GOODS
20			AWH INDEX: MANUFACTURING
21			AWH INDEX: CONSTRUCTION
22			AWH INDEX: DURABLE GOODS
23			AWH INDEX: GOODS PRODUCING
24			AWH INDEX: NONDURABLE GOODS
25			TOTAL HOURS INDEX: BUSINESS SECTOR
26			TOTAL HOURS INDEX: NONFARM BUSINESS SECTOR
27			TOTAL HOURS INDEX: NONFINANCIAL CORPORATION SECTOR