THE MACROECONOMIC MODEL DATA BASE-VERSION 2.2[1] [2]

1 The Macro Model Data Base Version 2.2: What is New?

In comparison to version 2.1, MMB version 2.2 includes elven new and distinct models (see Table 2), which comprise more detailed modeling of the financial sector, fiscal policy or labor market frictions. In addition, the MMB 2.2 includes Adaptive Learning (AL) models and several adaptive learning versions of respective rational expectations counterparts. Twelve models concern the US economy, three calibrated and nine estimated, whereas two models are calibrated and estimated for the Euro area. There are eleven models with AL. Additionally, model-specific policy rules are implemented for the following models: NK_AFL15, NK_NS14, US_CFOP14, US_CPS10, US_DNGS15, US_FGKR15, US_FMS134, US_JPT11, NK_BGG99AL, NK_LWW03AL,
NK_CGG99AL, NK_CGG02AL, NK_IR04AL, US_SW07AL, US_MI07AL and US_YR13AL.

2 Installation

The complete Macro Model Data Base is contained in a zip file called *MMB_2_2.zip* which you may save to any place on your computer. In order to use the model data base, you have to extract the zip file to retrieve the folder called MMB. This folder contains the file *MMB.m*, and a set of subfolders relating to the models included in the data base and to MMB options and output. Each model's subfolder contains a single DYNARE mod-file in which the particular model is specified.

3 Software requirements

The program is written in MATLAB, so some version of it must be installed on your computer. MMB 2.2 is compatible with MATLAB versions from 2013a up to 2017a. For model solution the program utilizes DYNARE, which can be downloaded free of charge from the web.[3] Double-clicking on the downloaded DYNARE exe-file opens a set of steps that guide you through the installation. After completion, one has to add the DYNARE path to MATLAB. In order to do so, open MATLAB and choose *Set path* from the *File* menu. Use the option *Add folder* and browse to the directory where you installed DYNARE. The DYNARE subfolder that has to be added is called *MATLAB*. The software is currently compatible with DYNARE 4.3, 4.4 and 4.5.[4]

[1] Please let us know if you have any comments. E-mail: info@macromodelbase.com

[2] As sources please always cite: (i) Wieland, Volker, Tobias Cwik, Gernot J. MÃijller, Sebastian Schmidt and Maik Wolters, (2012). 'A New Comparative Approach to Macroeconomic Modeling and Policy Analysis.' *Journal of Economic Behavior and Organization*. (ii) Wieland, V., Afanasyeva, E., Kuete, M., and Yoo, J., 'New Methods for Macro-Financial Model Comparison and Policy Analysis.' Forthcoming in *Handbook of Macroeconomics, Volume 2, Elsevier.*

[3] The URL of the DYNARE website is *http://www.dynare.org*.

[4] We have tested that the Modelbase software works well with Dynare 4.6 Unstable, the latest version until June 2017.

4 Using the Macro Model Data Base - First Steps

MMB.m represents the main file which has to be run when using the model data base. In order to run *MMB.m*, you can either open the file in MATLAB and click the *Run* button, which automatically adjusts the current directory of MATLAB to the correct path, or you only open MATLAB and adjust the current directory to the path for the MMB folder manually. In the latter case you afterwards type *MMB* into the MATLAB command window and press the *Enter* button. In both cases a Modelbase interface shows up that will guide you through a menu of options from which you can choose. By default the output generated by the program will be stored in an excel sheet called *results.xls* in the subfolder of output. You can also name it in the menu. A list of the models included in the data base and its references is provided in the pdf file of *MMB_model_description.pdf*. A description of model comparison approach implemented in the Macro Model Data Base is given in **?**. A MMB user guide is provided in the *MMB_2_2.zip* package and explains how to use MMB 2.2 in greater detail. Furthermore, Wieland, V., Afanasyeva, E., Kuete, M., and Yoo, J., 'New Methods for Macro-Financial Model Comparison and Policy Analysis,' forthcoming in *Handbook of Macroeconomics, Volume 2, Elsevier,* reports on comparison examples with models featuring nominal and real rigidities, as well as models with more detailed financial sectors.

Table 1: NEW MODELS IN THE MMB 2.2

NK_AFL15	Angeloni et al. (2015)
NK_BGEU10 and NK_BGUS10	Blanchard and Gali (2010)
NK_NS14	Nakamura and Steinsson (2014)
RBC_DTT11	De Fiore et al. (2011)
US_CFOP14	Carlstrom et al. (2014)
US_CPS10	Cogley et al. (2010)
US_DNGS15	Del Negro et al. (2015)
US_FGKR15	Fernández-Villaverde et al. (2015)
US_FMS134	Fève et al. (2013)
US_JPT11	Justiniano et al. (2011)
EA_DKR11	Darracq Paries et al. (2011)
NK_BGG99AL	Adaptive learning version of Bernanke et al. (1999)
NK_CGG99AL	Adaptive learning version of Clarida et al. (1999)
NK_CGG02AL	Adaptive learning version of Clarida et al. (2002)
NK_IR04AL	Adaptive learning version of Ireland (2004)
NK_LWW03AL	Adaptive learning version of Levin et al. (2003)
NK_RW97AL	Adaptive learning version of Rotemberg and Woodford (1997)
NK_RW06AL	Adaptive learning version of Ravenna and Walsh (2006)
US_FM95AL	Adaptive learning version of Fuhrer and Moore (1995)
US_SW07AL	Slobodyan and Wouters (2012)
US_MI07AL	Milani (2007)
US_YR13AL	Rychalovska (2016)

Table 2: A LIST OF MODELS AVAILABLE IN THE MMB 2.2 (93 MODELS*)

1. SMALL CALIBRATED MODELS (21 MODELS)		
1.1.	NK_AFL15	Angeloni et al. (2015)
1.2	NK_BGG99	Bernanke et al. (1999)
1.3	NK_BGEU10	Blanchard and Gali (2010) Calibrated for the European labor market
	NK_BGUS10	Blanchard and Gali (2010) Calibrated for the U.S. labor market
1.4	NK_CGG99	Clarida et al. (1999)
1.5	NK_CGG02	Clarida et al. (2002)
1.6	NK_CK08	Christoffel and Kuester (2008)
1.7	NK_CKL09	Christoffel et al. (2009)
1.8	NK_CW09	Curdia and Woodford (2009)
1.9	NK_ET14	Ellison and Tischbirek (2014)
1.10	NK_GM05	Gali and Monacelli (2005)
1.11	NK_GK11	Gertler and Karadi (2011)
	NK_GK09lin	linear model based on the working paper of Gertler and Karadi (2011)
1.12	NK_GK13	Gertler and Karadi (2013)
1.13	NK_IR04	Ireland (2004)
1.14	NK_KRS12	Kannan et al. (2012)
1.15	NK_LWW03	Levin et al. (2003)
1.16	NK_MCN99cr	McCallum and Nelson (1999), (Calvo-Rotemberg model)
1.17	NK_MM10	Meh and Moran (2010)
1.18	NK_NS14	Nakamura and Steinsson (2014)
1.19	NK_RW06	Ravenna and Walsh (2006)
1.20	NK_RW97	Rotemberg and Woodford (1997)
1.21	RBC_DTT11	De Fiore et al. (2011)
2. ESTIMATED US MODELS (26 MODELS)		
2.1	US_ACELm	Altig et al. (2005), (monetary policy shock)
	US_ACELt	Altig et al. (2005), (technology shocks)
	US_ACELswm	no cost channel as in Taylor and Wieland (2011) (mon. pol. shock)
	US_ACELswt	no cost channel as in Taylor and Wieland (2011) (tech. shocks)
2.2	US_CCTW10	Smets and Wouters (2007) model with rule-of-thumb consumers, estimated by Cogan et al. (2010)
2.3	US_CD08	Christensen and Dib (2008)
2.4	US_CFOP14	Carlstrom et al. (2014)
2.5	US_CMR10	Christiano et al. (2010)
	US_CMR10fa	Christiano et al. (2010) - small version with financial accelerator
2.6	US_CMR14	Christiano et al. (2014)
	US_CMR14noFA	Christiano et al. (2014)-Version without financial frictions
2.7	US_CPS10	Cogley et al. (2010)
2.8	US_DG08	De Graeve (2008)
2.9	US_DNGS15	Del Negro et al. (2015)
2.10	US_FGKR15	Fernández-Villaverde et al. (2015)
2.11	US_FM95	Fuhrer and Moore (1995)
2.12	US_FMS13	Fève et al. (2013)
2.13	US_FRB03	Federal Reserve Board model linearized as in Levin et al. (2003)
2.14	US_FRB08	linearized by Brayton and Laubach (2008)
	US_FRB08mx	linearized by Brayton and Laubach (2008), (mixed expectations)
2.15	US_IAC05	Iacoviello (2005)
2.16	US_IN10	Iacoviello and Neri (2010)

2. ESTIMATED US MODELS (CONTINUED)

2.17	US_IR11	Ireland (2011)
2.18	US_JPT11	Justiniano et al. (2011)
2.19	US_MR07	Mankiw and Reis (2007)
2.20	US_OW98	Orphanides and Wieland (1998) equivalent to MSR model in Levin et al. (2003)
2.21	US_OR03	Orphanides (2003)
2.22	US_PM08	IMF projection model US, Carabenciov et al. (2008)
	US_PM08fl	IMF projection model US (financial linkages),Carabenciov et al. (2008)
2.23	US_RA07	Rabanal (2007)
2.24	US_RS99	Rudebusch and Svensson (1999)
2.25	US_SW07	Smets and Wouters (2007)
2.26	US_VMDno	Verona, Martins and Drumond (Verona et al. (2013)) - Normal times
	US_VMDop	Verona, Martins and Drumond (Verona et al. (2013)) - Optimistic times

3. ESTIMATED EURO AREA MODELS (10 MODELS)

3.1	EA_AWM05	ECB's area-wide model linearized as in Dieppe et al. (2005)
3.2	EA_CKL09	Christoffel et al. (2009)
3.3	EA_CW05ta	Coenen and Wieland (2005), (Taylor-staggered contracts)
	EA_CW05fm	Coenen and Wieland (2005), (Fuhrer-Moore-staggered contracts)
3.4	EA_DKR11	Darracq Paries et al. (2011)
3.5	EA_GE10	Gelain (2010)
3.6	EA_GNSS10	Gerali et al. (2010)
3.7	EA_SR07	Sveriges Riksbank euro area model of Adolfson et al. (2007)
3.8	EA_SW03	Smets and Wouters (2003)
3.9	EA_QR14	Quint and Rabanal (2014)
3.10	EA_QUEST3	QUEST III Euro Area Model of the DG-ECFIN EU, Ratto et al. (2009)

4. ESTIMATED/CALIBRATED MULTI-COUNTRY MODELS (8 MODELS)

4.1	G2_SIGMA08	The Federal Reserve's SIGMA model from Erceg et al. (2008) calibrated to the U.S. economy and a symmetric twin.
4.2	G3_CW03	Coenen and Wieland (2002) model of USA, Euro Area and Japan
4.3	G7_TAY93	Taylor (1993) model of G7 economies
4.4	GPM6_IMF13	IMF global projection model with 6 regions Carabenciov et al. (2013)
4.5	EACZ_GEM03	Laxton and Pesenti (2003) model calibrated to Euro Area and Czech republic
4.6	EAES_RA09	Rabanal (2009)
4.7	EAUS_NAWM08	Coenen et al. (2008), New Area Wide model of Euro Area and USA
4.8	EAUS_NAWMctww	Cogan et al. (2013)

5. ESTIMATED MODELS OF OTHER COUNTRIES (6 MODELS)

5.1	BRA_SAMBA08	Gouvea et al. (2008), model of the Brazilian economy
5.2	CA_BMZ12	Bailliu et al. (2012)
5.3	CA_LS07	Lubik and Schorfheide (2007), small-scale open-economy model of the Canadian economy
5.4	CL_MS07	Medina and Soto (2007), model of the Chilean economy
5.5	HK_FPP11	Funke et al. (2011), open-economy model of the Hong Kong economy
5.6	HK_FP13	Funke and Paetz (2013), open-economy model of the Hong Kong economy

6. ADAPTIVE LEARNING MODELS (11 MODELS)		
6.1	NK_BGG99AL	Adaptive learning version of Bernanke et al. (1999)
6.2	NK_CGG99AL	Adaptive learning version of Clarida et al. (1999)
6.3	NK_CGG02AL	Adaptive learning version of Clarida et al. (2002)
6.4	NK_IR04AL	Adaptive learning version of Ireland (2004)
6.5	NK_LWW03AL	Adaptive learning version of Levin et al. (2003)
6.6	NK_RW97AL	Adaptive learning version of Rotemberg and Woodford (1997)
6.7	NK_RW06AL	Adaptive learning version of Ravenna and Walsh (2006)
6.8	US_FM95AL	Adaptive learning version of Fuhrer and Moore (1995)
6.9	US_MI07AL	Milani (2007)
6.10	US_SW07AL	Slobodyan and Wouters (2012)
6.11	US_YR13AL	Rychalovska (2016)

* In several cases a model is offered in different versions. The Macroeconomic Model Data Base 2.2 features 82 distinct models.

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