PROGRAM NOTE:
DEVELOPMENT STRATEGY ANALYSIS WITH MAMS

The World Bank Development Economics Department (DEC) is engaged in a work program aimed at enhancing the analysis of strategies for achieving the Millennium Development Goals (MDGs) and, more broadly, policies for medium- and long-run growth and poverty reduction in developing countries. The program targets analytical practice both inside the World Bank and within the broader development community. At the core of the program is the development and application of a tool for economywide strategy analysis named MAMS (Maquette for MDG Simulations).

MAMS is a dynamic, country-level Computable General Equilibrium (CGE) model. It is designed to address, within a consistent and comprehensive framework, questions about the effects over time of different government and foreign aid policies on social and economic performance. The government policies that typically are considered include recurrent and investment spending in different areas (including education, health, and infrastructure) and policies for taxation and subsidies (including those related to foreign trade). Standard model-generated indicators of economic performance cover poverty and other MDG targets; growth in macro aggregates (private and government consumption and investment; exports; imports); macro balances (government budget, balance of payments); and the sectoral structure of production, employment, factor incomes, and trade.

Compared to other models of this type, MAMS is significantly extended to cover the processes that determine the MDGs and educational outcomes and their feedbacks to the rest of the economy. MAMS may also be run without the MDG module. The benefit of this is reduced and more flexible data requirements – the database for a macro-oriented version can quickly be put together from readily available data sources. This benefit comes at the cost of excluding analysis of most MDG issues.

The rest of this webpage provides an overview of the work program – background, summary of activities undertaken, and appendices that credit the contributors to the program and list project outputs and activities in chronological order.

BACKGROUND

We gratefully acknowledge support for this work from the Knowledge for Change Program (KCP) Trust Fund through the projects "Poverty reduction and human development: Analysis of alternative strategies within an economywide framework" (completed in December, 2008) and “Micro simulations of poverty reduction and service delivery in a user-friendly, economy-wide framework” (ongoing).
At the UN Millennium summit of September 2000, the leaders of the world committed themselves to the achievement of the Millennium Development Goals (MDGs), a set of time-bound targets related to poverty, gender, education, health, and access to water and sanitation. Since 2000, the MDGs have remained at the top of the world development agenda.

As part of its ongoing support of the achievement of the MDGs, the World Bank in 2004 initiated a work program aimed at developing and applying a tool for economywide analysis of country-level MDG strategies. This focus on an economywide approach reflected the realization that, especially in low-income countries,

(a) the implementation of MDG strategies typically have strong economywide effects, significantly affecting GDP growth, the government budget, the balance of payments, production and trade in different sectors, and the markets for labor and others factors; and

(b) existing economywide models were not fit for the analysis of MDG strategies, especially given the fact that they did not explicitly consider the “production” of MDGs (with human development services and other determinants as inputs) or their influence on growth and other aspects of economic development.

The new model was named MAMS (Maquette for MDG Simulations).

With the aim of enhancing the practice of economywide development strategy analysis, the program has followed a multi-pronged approach, combining tool development, country applications with presentations and training activities, striving to serve as a catalyst for activities that use the MAMS framework, both inside and outside the World Bank.

ACTIVITIES TO DATE

The achievements of this work program may be divided into three parts: (1) tool development; (2) country applications; and (3) presentations and workshops.

Tool development

MAMS, which was developed under this work program, is a multi-purpose, dynamic CGE model. Its originality is to fully integrate social services and their impact on the economy, including MDG indicators, within an otherwise standard economy-wide dynamic framework. The model is flexible in terms of structural features, disaggregation (and related data requirements), and the number of time periods for which it is solved; so far, it has been used for simulation periods ranging from 5 to 45 years. It may also be used for comparative-static analysis.

MAMS is rooted in the tradition of open-economy CGE modeling that was developed at the World Bank in the late 1970s and early 1980s. Its more specific starting point is the

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standard CGE model developed by Lofgren and coauthors. The fact that it draws on a literature that already is familiar to a large number of analysts facilitates use and understanding of the model. As opposed to other models, it incorporates a module with a relatively detailed representation of “social sectors,” linking MDG achievements (in health, education, and water-sanitation) to the provision of services and other determinants. These services may be provided by the government and the private sectors. The performance of the educational system influences the size and composition (in terms of educational achievement) of the labor force, thereby providing a feedback from MDG achievements to the rest of the economy. Growth is endogenous, determined by growth in factor employment and total factor productivity (TFP). TFP is influenced by the composition of the labor force (across labor types that differ in educational achievement), growth in government capital stocks (especially in public infrastructure), and changes in economic openness. User-selected elasticity values determine the importance of changes in government capital stocks and economic openness. MAMS tracks foreign and domestic debt stocks and related interest payments.

The multi-purpose capabilities of MAMS are demonstrated by the fact that it is or has been used to analyze topics in a wide range of areas: strategies for MDGs and poverty reduction, fiscal policy (including trade-offs between different allocations of government spending), foreign aid, debt sustainability, labor markets, demographics, gender, natural disasters, and long-run growth.

The user controls the treatment of structural features, most importantly the rules for clearing the different macro balances (for the government, savings-investment, and foreign exchange) and the markets for labor and other factors, including the treatment of un-/under-employment.

If the analysis is not focused on issues related to non-poverty MDGs and education, MAMS may be run in a non-MDG version with reduced data requirements. If so, the growth of the labor force (which still may be split into multiple categories) has to be exogenous.

In the computer files underlying MAMS (written in GAMS and Excel), the database (which determines model disaggregation and selected model features), and the simulations are specified in Excel files that are clearly separated from the rest of the code. A wide range of reports are also generated in Excel. The separation of the database from the rest of the code greatly facilitates the application of MAMS to new country databases.

The disaggregation of households, private production sectors, and non-labor factors is invariably flexible. For the non-MDG version, the disaggregation of labor and government sectors is also flexible; the minimum required disaggregation is three factors (labor, private capital, and government capital), two sectors (government and non-government), and three institutions (government, household, and rest of world).

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Such a database can be constructed from readily available World Bank datasets.

Irrespective of mode (MDG or non-MDG) and disaggregation, the user can choose between three built-in, top-down approaches to the generation of poverty indicators by simulation, year, and representative household (RH; the model household categories). The approaches and their key assumptions are as follows: (i) elasticity approach: a fixed elasticity of headcount poverty with respect to welfare for each RH; (ii) survey approach: fixed distribution of welfare for each RH given by recent household survey; (iii) lognormal approach: fixed, log-normal distribution of welfare for each RH. With respect to the welfare measure, the user can choose between real per-capita household consumption or income. These approaches are all more powerful if the model has multiple representative households, classified on the basis of their income sources; among these approaches, the second may be the preferred one. As a fourth alternative, like other CGE models, MAMS may be linked to a microsimulation module (for which alternative specifications are possible), an approach followed in a large number of applications in joint work with the UN. This may be the preferred approach, especially if the microsimulation module is well integrated with MAMS. With the exception of the first (elasticity) approach (which is limited to headcount poverty), these approaches all generate standard poverty and inequality indicators.

Applications

MAMS applications have been completed or are underway in at least 35 countries. The work has been carried out in two major contexts: World Bank analytical work (primarily direct inputs into economic and sector work in sub-Saharan Africa and Latin America and the Caribbean) and projects carried out by UN-DESA (Department of Economic and Social Affairs, the UNDP and national teams, jointly with the World Bank in two regions (Latin America and Caribbean; Middle East and North Africa) and without World Bank participation in one region (Asia).

In the first context, World Bank analytical work, MAMS has developed into a multi-purpose tool, responding to the demands in each specific context; the UN-related activities have been focused on assessing national MDG strategies. Table 1 shows the countries and the issues that are covered in completed and on-going work. The MAMS website (www.worldbank.org/mams) includes additional information on these applications. Appendices B and C provide a complete list of MAMS-related outputs and activities in chronological order.

In the second, UN context, MAMS is the core model for case studies of a total of 27 countries (5 in the Arab region; 4 in Asia, and 18 in the completed project on Latin
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<th>Country</th>
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<td>2007</td>
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<td>WB Report: Kenya -- Accelerating and Sustaining Inclusive Growth; also 2007 background paper</td>
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*For additional details, see www.worldbank.org/mams
**CEM = Country Economic Memorandum
***PER = Public Expenciture Review
****CAS = Country Assistance Strategy
America and the Caribbean. Typically, each case study addresses the consequences of raising the supply of different types of government services sufficiently to achieve MDGs 2 (universal completion of primary school), 4 (reduced under-five mortality rates), 5 (reduced maternal mortality rates), and 7 (increased access to improved water and sanitation services). These targets are simulated under alternative assumptions about the source of the additional financing required (direct taxes, domestic borrowing, foreign borrowing, or foreign grants). The vast majority of these studies are done by teams made up of analysts in academia and government in the different countries. World Bank and/or UN staff or consultants have carried out a few of these studies.

Presentations, Courses, and Workshops

Since its inception, the MAMS work program has emphasized outreach activities that disseminate research findings, raise the level of awareness of MAMS (both inside and outside the World Bank), and provide training that paves the way for model applications involving a larger group of analysts. These activities have reached a diverse audience, including staff and consultants at the World Bank and other international organizations, and government officials and policy analysts in developing countries. As of the end of March 2009, presentations and training related to MAMS have been given on close to 60 occasions, including numerous presentations at conferences, seminars organized by the World Bank or the UN, and 16 courses or workshops ranging between one and five days. Many of these activities have taken place in developing countries. One result of these activities is that a relatively large number of analysts have developed skills that they subsequently have used in different MAMS applications, expanding the initial core group of analysts working with MAMS.

Appendix A. Contributors to Work Program

The key author of the model and the computer code is Hans Lofgren, with major contributions from Carolina Diaz-Bonilla and Martin Cicowiez (CEDLAS-UNLP and CEI). The coding and the general development of the model has benefited greatly from inputs and discussions with Francois Bourguignon, Maurizio Bussolo, Sébastien Dessus, Jouko Kinnunen (Åland Statistics and Research Bureau and Government Institute for Economic Research [VATT], Finland), Jeffrey Lewis, Denis Medvedev, Sherman Robinson (IDS, University of Sussex), Marco Sanchez (UN-DESA), Hans Timmer, Dominique van der Mensbrugghe, and Rob Vos (UN-DESA).

In addition to the above-mentioned, the following World Bank staff members, consultants, and colleagues from other institutions have contributed to this work program (unless otherwise noted associated with the World Bank at the time of their involvement): Rahimaisa Abdula, Hashim Ahmed (Ethiopian Development Research Institute), Luc Christiaensen, Bernard Decaluwé (Laval University), Ishac Diwan, Doerte Doemeland, Boniface Essama-Nssah, Kene Ezemenari, Shahrokh Fardoust, Enrique Ganuza (UNDP), Jan Gottschalk (IMF), Cornelia Kaldewei (UN-DESA), Ahmed Kamaly (American University in Cairo), Jeni Klugman, Praveen Kumar, Jorgen Levin (University of Örebro,
In addition to his personal contributions to the work, Francois Bourguignon played a critical role in starting and encouraging this program during his time as Chief Economist at the World Bank; in his position as the Manager directly involved, Hans Timmer has similarly provided critical institutional support. Robert Vos (UN-DESA) and Enrique Ganuza (UNDP) have contributed greatly to the application of the framework to countries in different parts of the developing world by engaging UN-DESA and UNDP in this work program. In the collaborative work involving the UN and the World Bank, Marco Sanchez, Martin Cicowiez and Carolina Diaz-Bonilla have made key contributions by backstopping the work of the different country teams.

Appendix B. Outputs in Written and/or Electronic Form


13. Brief entitled “Improving Country-Level Modeling in the World Bank”, prepared by DECVP (Jeff Lewis and Francois Bourguignon) with inputs from DECPG (Hans Lofgren and Hans Timmer).


21. World Bank. 2007. Country-Based Scaling Up: Assessment of Progress and Agenda for Action. Paper prepared for Development Committee Meeting in September. (For a discussion of MAMS and highlights of results from MAMS applications, see pp. 7, 11-12, 21, and 43-54.)


33. Lofgren, Hans. 2008. Note on MAMS Simulation Analysis for Uganda’s National Development Plan. Presented to the Ministry of Finance, Planning and Economic Development. February 22. (The content of the note and the simulations were developed in collaboration with the Ministry during a mission to Kampala, February 11-15.)

3. Africa Region. (For MAMS-related materials, prepared by Doerte Doemeland and François Painchaud, see pp. 5 and 40-45.)


46. Lofgren, Hans and Jouko Kinnunen. 2008. Note on MAMS Simulation Analysis for Uganda’s NDP. June 11. Presented to the Ministry of Finance, Planning and Economic Development. (The content of the note and the simulations were developed in collaboration with the Ministry during a mission to Kampala, May.)


53. GAMS program for cross-entropy estimation of SAMs and input-output tables written by Hans Lofgren. Last update: February 5, 2009


Appendix C. Presentations, Courses, and Workshops

1. Presentation by François Bourguignon titled “Toward Achieving the MDGs in Ethiopia: Economywide Analysis of Alternative Scenarios Using MAMS” at meeting with the UN Millennium Project in New York, December 2, 2004. The
presentation was prepared by François Bourguignon, Maurizio Bussolo, Hans Lofgren, Hans Timmer and Dominique van der Mensbrugghe


3. Presentation by Mark Sundberg of Ethiopian MAMS case study as part of the session “Aid Absorption: Recognizing and Avoiding Macroeconomic Hazards” at the Seminar on Foreign Aid and Macroeconomic Management, Maputo, Mozambique, March 14-15, 2005, organized by the IMF Institute and African Department.


5. Presentations and program at the PREM Learning Week half-day course “MAMS: Maquette for MDG Simulations,” offered April 27, 2005. The program: 1. Overview (Hans Lofgren); 2. MAMS: Why the framework is needed (Hans Timmer); 3. An application to Ethiopia (Carolina Diaz-Bonilla); 4. The structure of the MAMS framework (Hans Lofgren); 5. MDG and micro-simulation modules – alternative approaches (Maurizio Bussolo); 6. Data needs and a demonstration run (Carolina Diaz-Bonilla); 7. General discussion and wrap-up.

6. Presentation titled “MAMS: Model Structure and an Application to Ethiopia” given by Hans Lofgren and Carolina Diaz-Bonilla on May 19, 2005 to a group of IMF and World Bank economists working on Africa, including a VC link to the World Bank office in Ethiopia. The audience included the IMF Mission Chief for Ethiopia and the World Bank Country Director for Ethiopia.


8. Presentation titled “MAMS: Model Structure and an Application to Ethiopia,” given by Hans Lofgren on July 26, 2005 to representatives of the National Treasury of South Africa and World Bank staff in the Africa region (prepared with Carolina Diaz-Bonilla).

9. Presentation titled “Economic Policy Analysis in Ethiopia: Issues and Macro-Micro Approaches” given by Hashim A. Ahmed (Ethiopian Development Research Institute [EDRI], Addis Ababa), Sherman Robinson (the Institute for
Development Studies [IDS], Sussex), Ricardo Gottschalk (IDS), Hans Lofgren,
and Carolina Diaz-Bonilla to Ethiopian economists and donors at the EDRI,
September 27, 2005.

10. Lecture titled “MAMS: A CGE Model for MDG Analysis” given by Hans
Lofgren (prepared with Carolina Diaz-Bonilla) as part of the course “Simulating
the Poverty Impact of Macroeconomic Policies within the PAMS Framework,”
organized by Essama Boniface-Nssah of the World Bank Poverty Reduction and
Economic Management Network and offered to World Bank and IMF staff,
October 13, 2005.

11. Presentation titled “Public Expenditure Analysis with MAMS” given by Hans
Lofgren (prepared with Carolina Diaz-Bonilla) as part of a Technical Roundtable
on Approaches to Improve the Composition of Public Expenditures, organized by
PRMPR and PRMPS in cooperation with ECSPE, October 13, 2005.

12. Presentation titled “Economy-Wide Simulations of MDG Strategies: Approach
and Lessons from Ethiopia” given by Hans Lofgren and Carolina Diaz-Bonilla as
part of a World Bank Africa region (AFRCE and AFR PREM) Breakfast Seminar
on October 18, 2005.

13. Workshop for the joint UNDP – UN-DESA – World Bank project “Public
Policies for MDGs in Latin America and the Caribbean,” which covers 19
countries in the region, held in Caracas, Venezuela, November 7-10, 2005. Key
presentations by Martin Cicowiez, Carolina Diaz-Bonilla, Enrique Ganuza, Hans
Lofgren, Marco Sanchez, and Rob Vos.

14. Presentation titled “Introduction to MAMS Application in a Country Study” given
by Carolina Diaz-Bonilla at meeting of the World Bank Development Economics
Prospects Group (DECPG), February 1, 2006.

15. Presentation titled “Analyzing MDG Strategies” given by Hans Lofgren (prepared
with Carolina Diaz-Bonilla) at the Workshop “Experiences with Ex-Ante Poverty
Impact Assessments of Macroeconomic Policies in Bangladesh, Cameroun,
Ghana, the Philippines, and Nepal,” organized by the New Rules for Global
Finance Coalition and held at IMF Headquarters, Washington, DC, March 15,
2006.

16. Three-day course titled “Economy-Wide Analysis of Strategies for Achieving the
MDGs in Sub-Saharan Africa,” with 25 participants, including researchers from
six countries in sub-Saharan Africa (Ethiopia, Ghana, Kenya, Madagascar,
Malawi, and Uganda) and World Bank staff and consultants, designed by Hans
Lofgren and offered at World Bank HQ, April 4-6, 2006. Presentations were
given by François Bourguignon (World Bank Chief Economist and Senior Vice
President), Maurizio Bussolo (Senior Economist, Development Economics –
Prospects Group, World Bank), Bernard Decaluwé (Professor of Economics,
Laval University, Quebec, Canada), Carolina Diaz-Bonilla (Consultant, Development Economics – Prospects Group, World Bank), Boniface Essama-Nssah (Senior Economist, Poverty Reduction and Economic Management, World Bank), Ahmed Kamaly (Assistant Professor in Economics, American University in Cairo, Cairo, Egypt), Hans Lofgren, Senior Economist, Development Economics – Prospects Group, World Bank), John W. McArthur (Deputy Director, UN Millennium Project), John Page (Chief Economist, Africa Region, World Bank), Sherman Robinson (Professor of Economics, University of Sussex, UK), Mark Sundberg (Lead Economist, Development Economics – Office of the Chief Economist, World Bank), and Hans Timmer (Manager, Development Economics – Prospects Group, World Bank).

17. Preparatory workshop for the project “Assessing Development Strategies to Achieve the MDGs,” carried out by the World Bank in partnership with UN-DESA and UNDP. The workshop was held at the League of Arab States, Cairo, May 4-5, 2006. Key presentations by Martin Cicowiez, Hans Lofgren, Marco Sanchez, and Rob Vos.

18. Presentations and program at the PREM Learning Week half-day course “MAMS: A Tool for Analysis of MDG Strategies,” offered May 2, 2006. The program: 1. Introduction and Overview (Hans Timmer/Hans Lofgren); 2. The structure of the MAMS framework (Hans Lofgren); 3. Data requirements (Carolina Diaz-Bonilla); 4. MDG Scenarios in MAMS: Defining and simulating (Denis Medvedev); 5. Small group work: Analyzing simulations for country X (Medvedev); 6. General discussion and wrap-up.


21. Presentation titled “MAMS: Outil pour la diagnostique de l’achèvement des ODM et son application au cas de Madagascar” given by Dominique van der Mensbrugghe (prepared together with Shuo Tan), Antananarivo, June 22, 2006

22. Presentation titled “Analysis of Strategies for Achieving the Millennium Development Goals” by Hans Lofgren and Carolina Diaz-Bonilla at the Fifth

23. Presentation titled “Capturing the Demographic Bonus in Ethiopia” given by Kathleen Beegle and Hans Lofgren on July 10, 2006 at the National Symposium “Population Issues and the PASDEP: From Concept to Action.” The symposium was attended by representative of Ethiopia’s government, international organizations, research institutions, and NGOs interested in population issues in Ethiopia.

24. Presentation by François Bourguignon titled “MDG Strategy Analysis: Issues, Methods and Agenda for Future Work” (prepared together with Hans Lofgren and Jeff Lewis) at meeting on Approaches to MDG Analysis Organized by the Poverty Group, Bureau for Development Policy, UNDP and held in New York, August 15, 2006.


29. Presentation by Luc Christiaensen titled “Benefits from accelerating the demographic transition – evidence from Ethiopia” (with inputs from Hans
Lofgren and Rahimaisa Abdula) given at the “Economists Forum” held at World Bank Headquarters, April 19, 2007. The presentation was based on the World Bank Report No. 36434-ET. Capturing the Demographic Bonus in Ethiopia: The Role of Gender Equitable Development and Demographic Actions (see separate entry).

30. Inception and Training Workshop of the project “Assessing Development Strategies to Achieve the MDGs in the Arab Region”, carried out by the World Bank in partnership with UN-DESA and UNDP. The workshop was held at the League of Arab States, Cairo, April 2-5, 2007. Key presentations by Martin Cicowiez, Hans Lofgren, Marco Sanchez, and Rob Vos. For more information, see: www.un.org/esa/policy/cairo_mdgs.html


32. Presentation by Carolina Diaz-Bonilla titled “Choosing the Balance between Human Development and Infrastructure Spending in Malawi,” given to World Bank staff, Government representatives and Donors in Lilongwe, Malawi, June 20-21, 2007. The presentation covered MAMS-related results for the Malawi PER. Carolina also gave a workshop to World Bank staff interested in the modeling framework.

33. Presentation by Hans Lofgren titled “Policy Modelling of the MDGs: the MAMS Approach” (prepared with Carolina Diaz-Bonilla) at the workshop “Policy Modelling and Simulation for Well-Being Assessment: A Comparison of Methodological Tools” organized by the Human Development, Capability, and Poverty International Research Centre (HDCP-IRC) of the Institute for Advanced Study (IUSS) of the University of Pavia, Pavia, Italy, July 12-14, 2007.


37. Hans Lofgren and Jouko Kinnunen gave the two-day course “Introduction to MAMS: A Tool for Analysis of Development Strategies” in Kampala, December 10-11, 2007 to approximately 15 trainees, mostly from the Ministry of Finance but also from other government agencies and local research institutes.

38. Presentation titled “Uganda’s population growth: Is there need for action?” by Paul Mpuga, Dino Merotto, Jouko Kinnunen and Hans Lofgren was given in Kampala, December 14, 2007, at the World Bank Country Office to representatives of the government. The presentation had the following components: Background: Demographics in Uganda; Demographics and Economic Growth; Modeling Demographic Policy in MAMS; and Brainstorming and Next Steps for Analysis? (The part on MAMS was delivered by Jouko Kinnunen.)


41. The one-day course “Introduction to Fiscal Policy Analysis with MAMS” was offered by Hans Lofgren and Carolina Diaz-Bonilla at World Bank HQ, March 13, 2008. Materials and more information about the course is found at: www-wbweb.worldbank.org/prem/prmep/economicpolicy/dtea/details_dtea.asp?ID=574

42. Presentation by Jörgen Levin and Jane Kiringai titled ”Achieving the MDGs in Kenya – a need for additional aid flows?” given at Business School, Nairobi University, April 15, 2008.

43. Two-day course titled “Introduction to MDG Analysis with MAMS,” offered by Martin Cicowiez and Hans Lofgren as part of the World Bank – UNDESA – UNDP Project “Assessing Development Strategies to Achieve the MDGs in the Arab Region” at the Ministry of Planning, Sanaa, April 5-6, 2008.

44. Four-day course titled “Introduction to MDG Analysis with MAMS,” offered by Martin Cicowiez, Hans Lofgren, and Marco Sanchez as part of the World Bank - UN-DESA – UNDP Project “Assessing Development Strategies to Achieve the MDGs in the Arab Region” at the Ministry of Planning and International Cooperation, Amman, April 9-12, 2008.
45. Presentation by Hans Lofgren and Carolina Diaz-Bonilla titled “Scaling Up Aid in Uganda: A MAMS-Based Analysis,” offered as part of the two-day “Module 7: Evaluating the Poverty Impacts of Economy-Wide Policies” of the DEC Course “Poverty and Inequality Analysis. April 14, 2008. Information about the course and a full set of course materials are found at: go.worldbank.org/9TN0OJMG10


47. Presentation by Hans Lofgren titled “MAMS: A Tool for Public Finance and Development Strategy Analysis” offered as part of the “Public Finance Analysis and Management Core Course,” PREM Learning Week, April 23, 2008. Information about the course and a full set of course materials are found at: go.worldbank.org/B17WNZUCMO


49. One-week course titled “Introduction to Policy Analysis with MAMS in GAMS for Ghana,” offered June 2-7 2008 to seven Ghanaian officials from the Ministry of Finance and Economic Planning by team from DECPG with inputs from other World staff. Hans Lofgren was course coordinator and main instructor.


51. Presentation by Hans Lofgren and Caterina Ruggeri Laderchi titled “Unleashing the Potential of Ethiopian women: Current Gender Disparities and Scenarios for the Future” given on July 4, 2008 as part of the Sixth International Conference on the Ethiopian Economy, organized by the Ethiopian Economic Association and held July 3-5 at the United Nations Conference Center (UNCC), Addis Ababa.


55. Workshop offered by Hans Lofgren and Martin Cicowiez Sana’a, November 6-9, 2008 in support of Yemen country team analysis for the project “Assessing Development Strategies to Achieve the MDGs in the Arab Region”, carried out by the World Bank in partnership with UN-DESA and UNDP.

56. One-week course titled “Introduction to CGE Policy Analysis in GAMS for Uganda” offered to 10 trainees from the Ministry of Finance and other government agencies, at the World Bank office (together with Jouko Kinnunen, World Bank consultant and VATT/ÅSUB, Finland)


April 29, 2009. Information about the course and a full set of course materials are found at: go.worldbank.org/6MJKE6J690


63. Presentation by Jouko Kinnunen (of VATT – Finland’s Government Institute for Economic Research; prepared with Hans Lofgren) titled “Family Planning, Human Development and Growth in Uganda” at Twelfth Annual Conference on Global Economic Analysis, held in Santiago, Chile, June 10-12, 2009. The presentation was based on a paper with the same title by Jouko Kinnunen, Hans Lofgren, and Dino Merotto.

64. Presentation by Hans Lofgren (prepared with Carolina Diaz-Bonilla) titled “Analyzing policies for achieving the MDGs with MAMS” at the International Forum for Sustainable Asia and the Pacific (ISAP), held at the Institute for Global Environmental Strategies (IGES), Hayama, Japan, June 26-27, 2009.