

Learning Economics with Dynamic Modeling

An International Collaboration

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University of Bergen



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Developments in Economics Education Conference

University of Exeter, September 2013



UNIVERSITETET I BERGEN

System Dynamics Group

My Purpose Today



1. To tell you about a *development* in economics education.
2. To provide a reminder of the benefits of collaboration generally and *international collaboration* specifically.
3. To start a *conversation* with anyone who might be interested in collaboration on similar projects.

My Co-Authors for this Presentation



Professor Iryna Lukianenko
Chair, Department of Finance
National University of Kiev-Mohyla Academy
Kiev, Ukraine

NaUKMA Graduate
Students in Bergen
during 2012:



Oleksandr Faryna
PhD student



Iaroslava Stelmashenko
PhD student



Iryna Volyanyuk
master's student

Background



2001: *MacroLab* development began
(a system dynamics model of the US economy
used for teaching macroeconomics)

2008: Professor Lukianenko's visit to Bergen

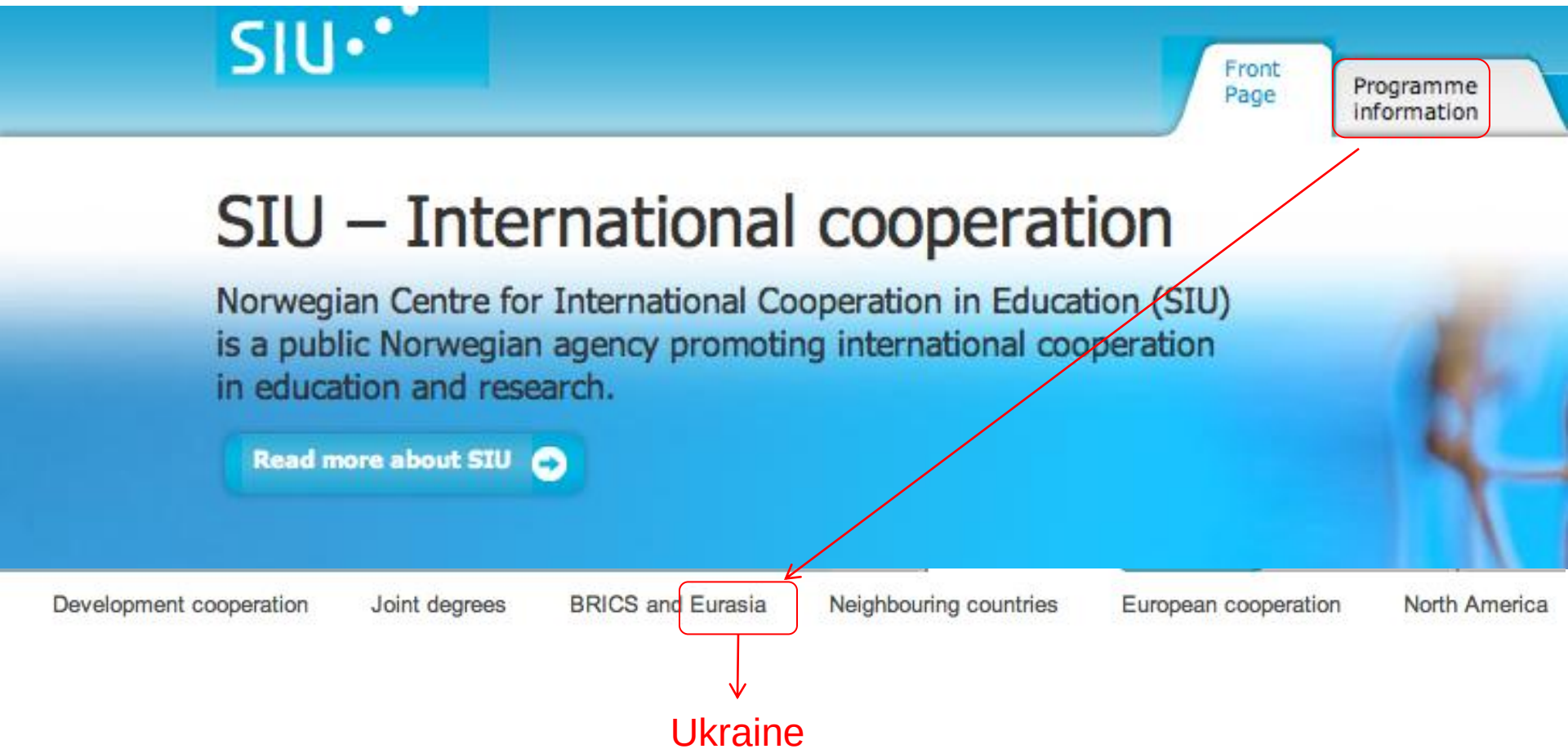
2008: Memorandum of Understanding: UiB & NaUKMA

2012: *Learning Economics with Dynamic Modeling* ("LEDM")
- project funding (about 200,000 GBP) from
Norwegian Centre for International
Cooperation in Education

Norwegian Centre for International Cooperation in Education



<http://www.siu.no/eng>

A screenshot of the SIU website. The header includes the SIU logo and navigation links for 'Front Page' and 'Programme information'. The main heading is 'SIU – International cooperation', followed by a description of the agency. A 'Read more about SIU' button is present. The footer contains a list of cooperation areas. A red box highlights 'Programme information' in the header, and a red arrow points from it to a red box around 'Eurasia' in the footer. Another red arrow points from 'Eurasia' down to the word 'Ukraine'.

Development cooperation

Joint degrees

BRICS and Eurasia

Neighbouring countries

European cooperation

North America

Ukraine

LEDm Project Goal & Strategy



Goal:

To integrate system dynamics (SD) modeling as an educational and research tool in the economics curriculum at NaUKMA.

Strategy:

1. *Train the Trainers* at UiB in Bergen:

UiB courses & seminars for NaUKMA graduate students in Bergen;

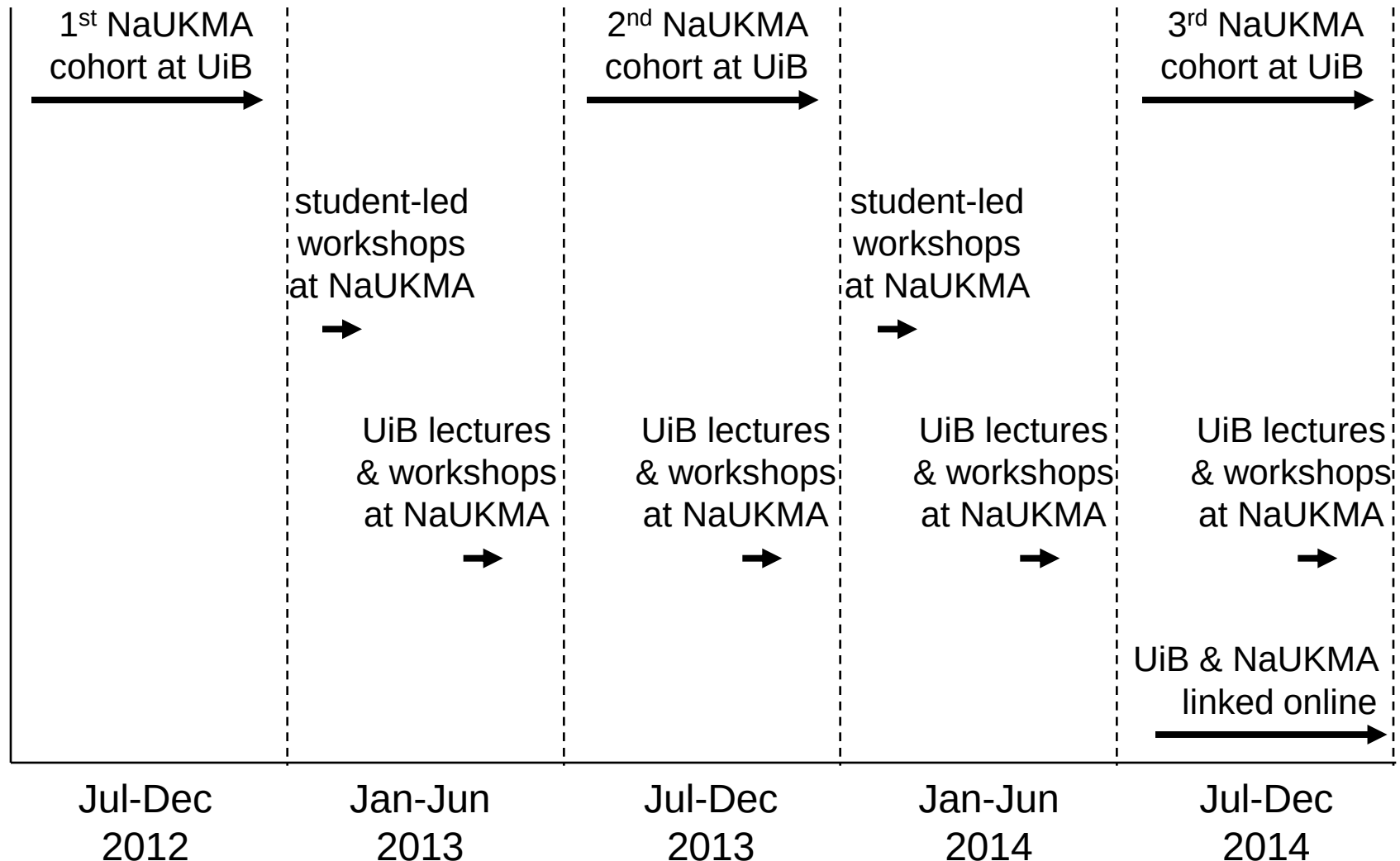
2. *On-site Training* at NaUKMA in Kiev:

Workshops & guest lectures for NaUKMA students & professors in Kiev;

3. *On-line Training* that links UiB and NaUKMA:

Online support system to sustain the collaboration beyond 2014.

LEDM Project Timeline



Professor Lukianenko's Visit to Norway

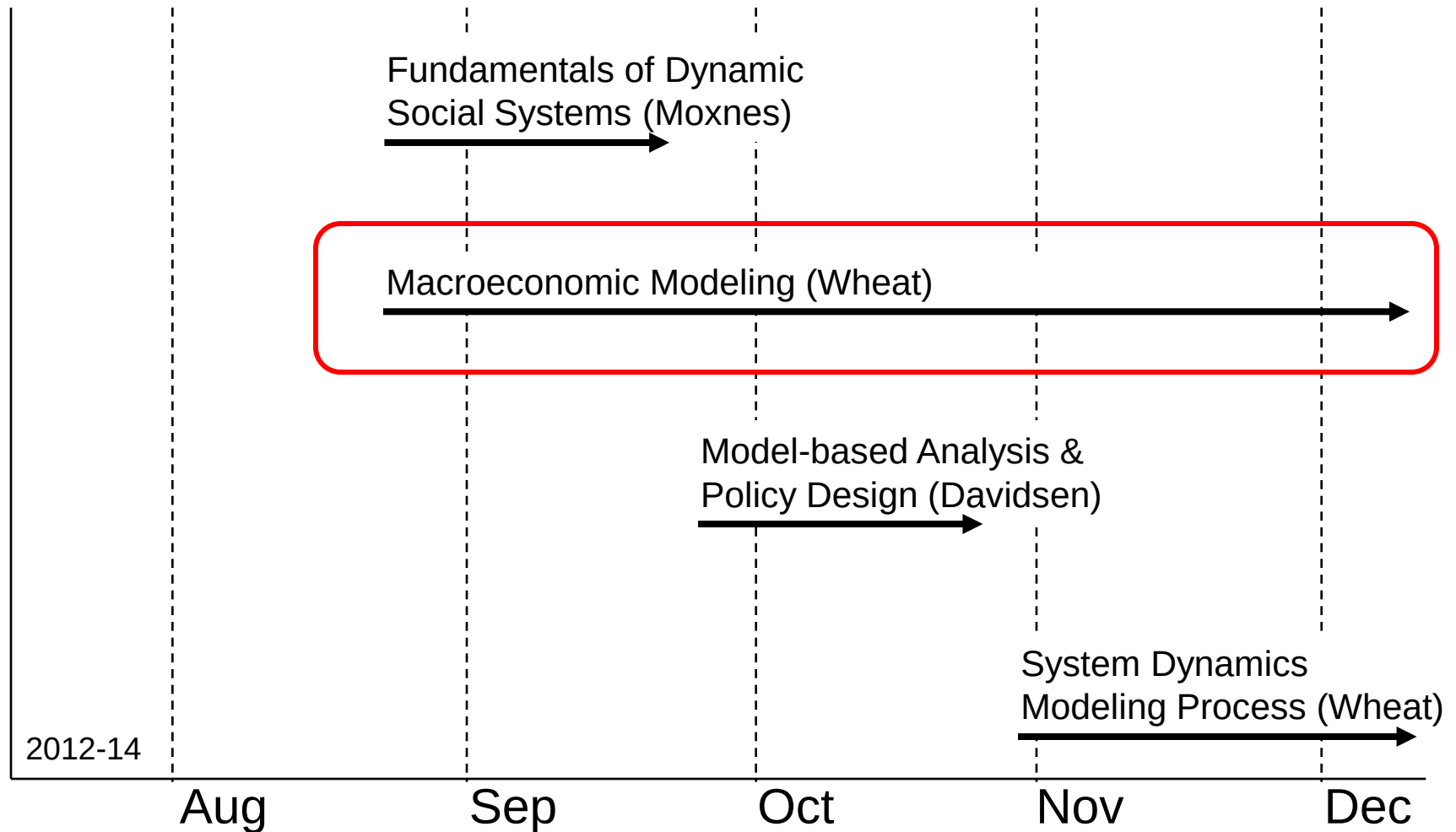
December 2012



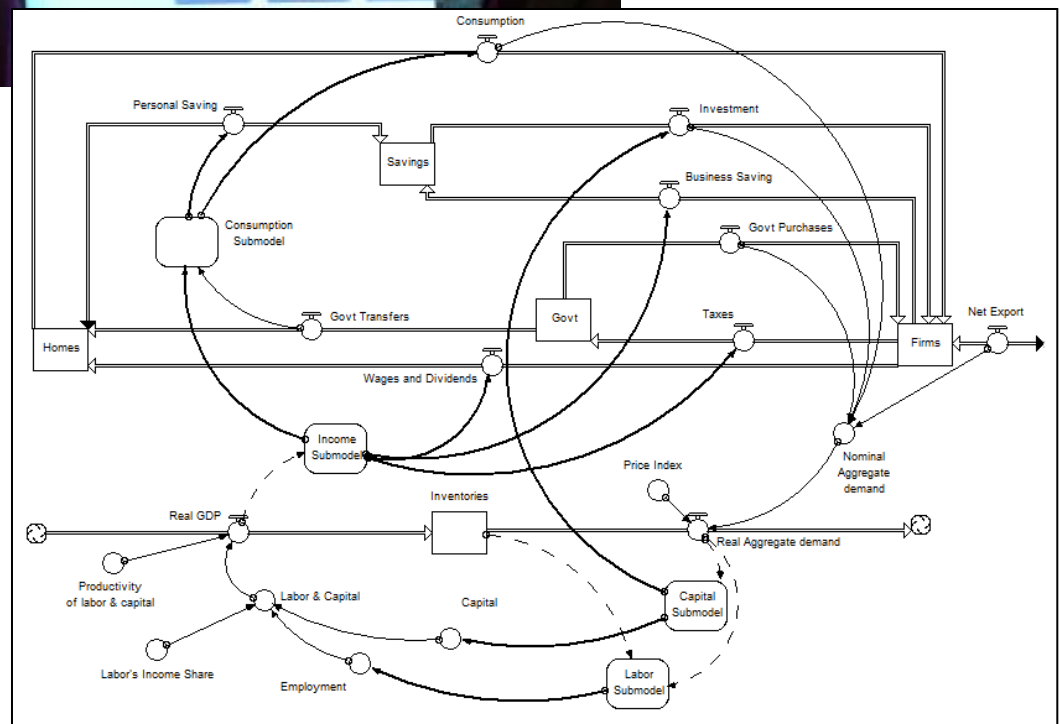
My Visit to Ukraine, May 2013



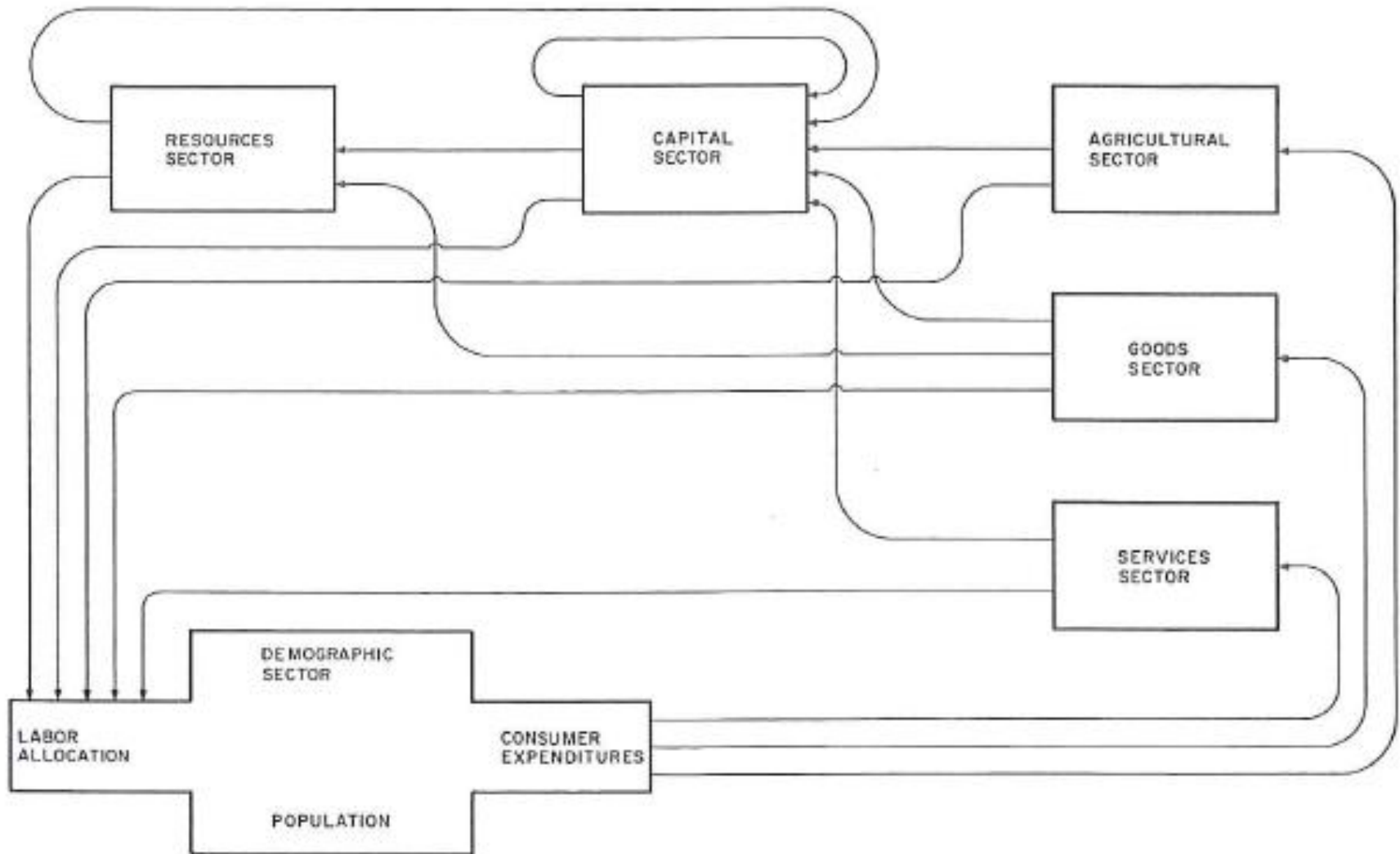
Courses NaUKMA students take at UiB



Macroeconomic Modeling: Short to Medium-Term

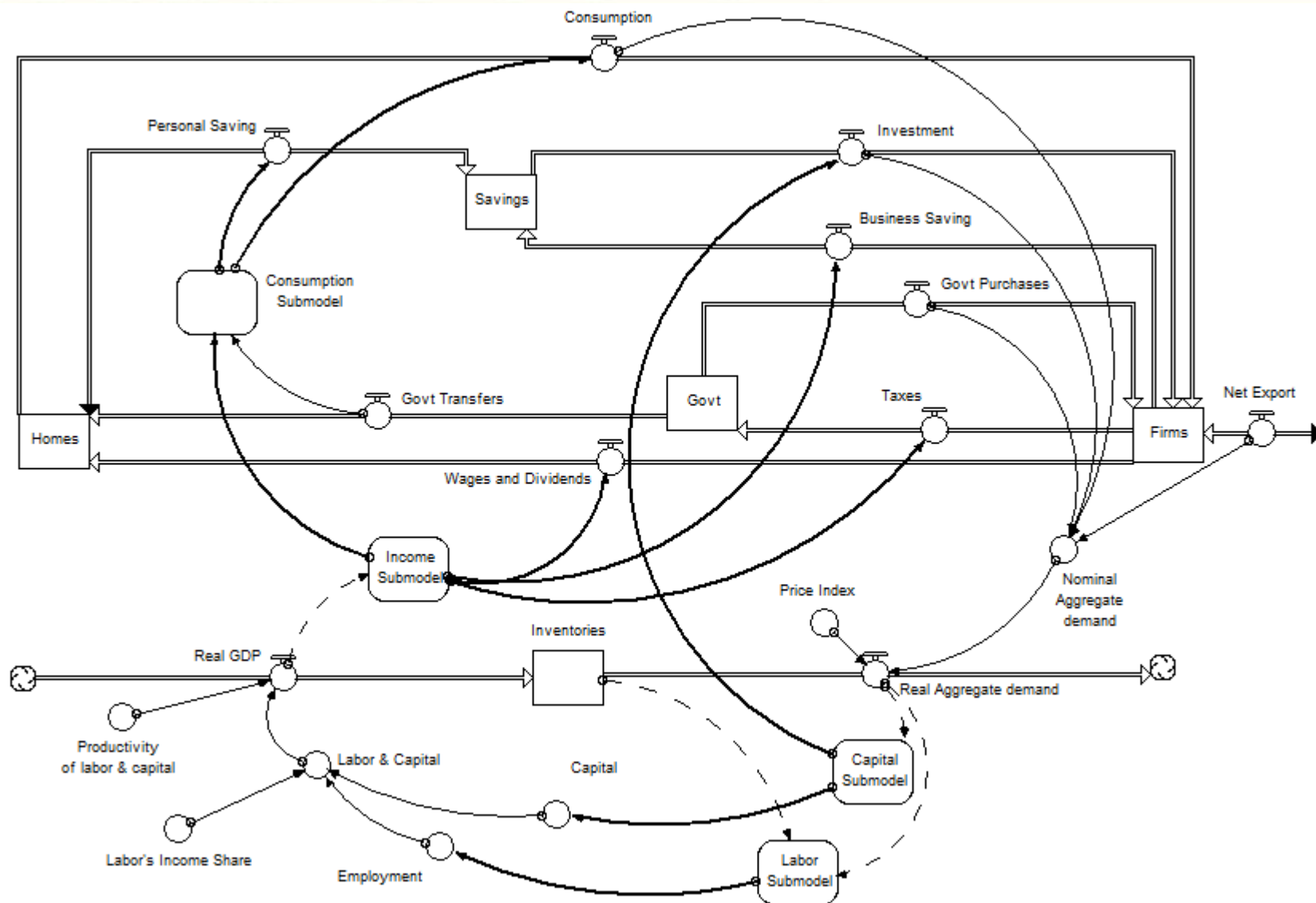


Macroeconomic Modeling: Very Long Term

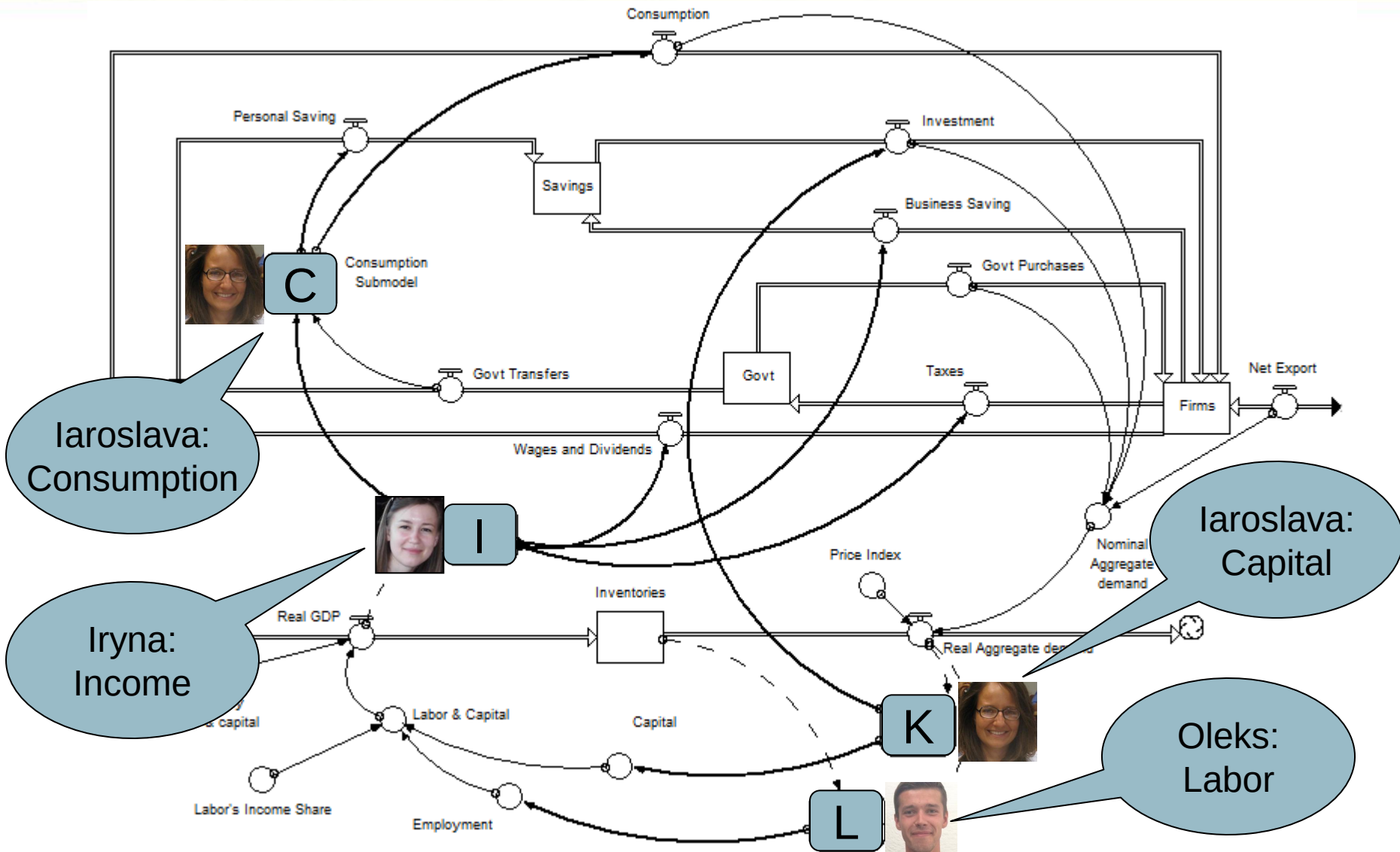


N. Forrester's Model: *Life Cycle of Economic Development*

MacroLab Ukraine, Stage 1 (2012)



Developing MacroLab Ukraine, stage 1



This Year's Students from NaUKMA



Oleksandr Faryna

Oleks:

- PhD student
- 2nd year at Bergen
- my teaching assistant



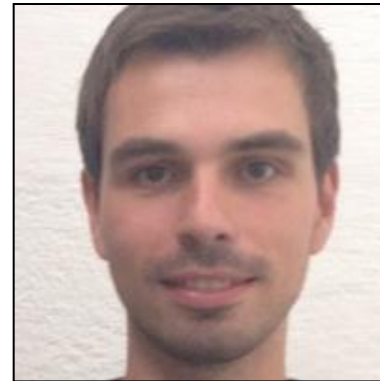
Pervin Dadashova
master's student

"Pery"



Heorhii Liapkalo
master's student

"George"



Anton Lytvyn
PhD student

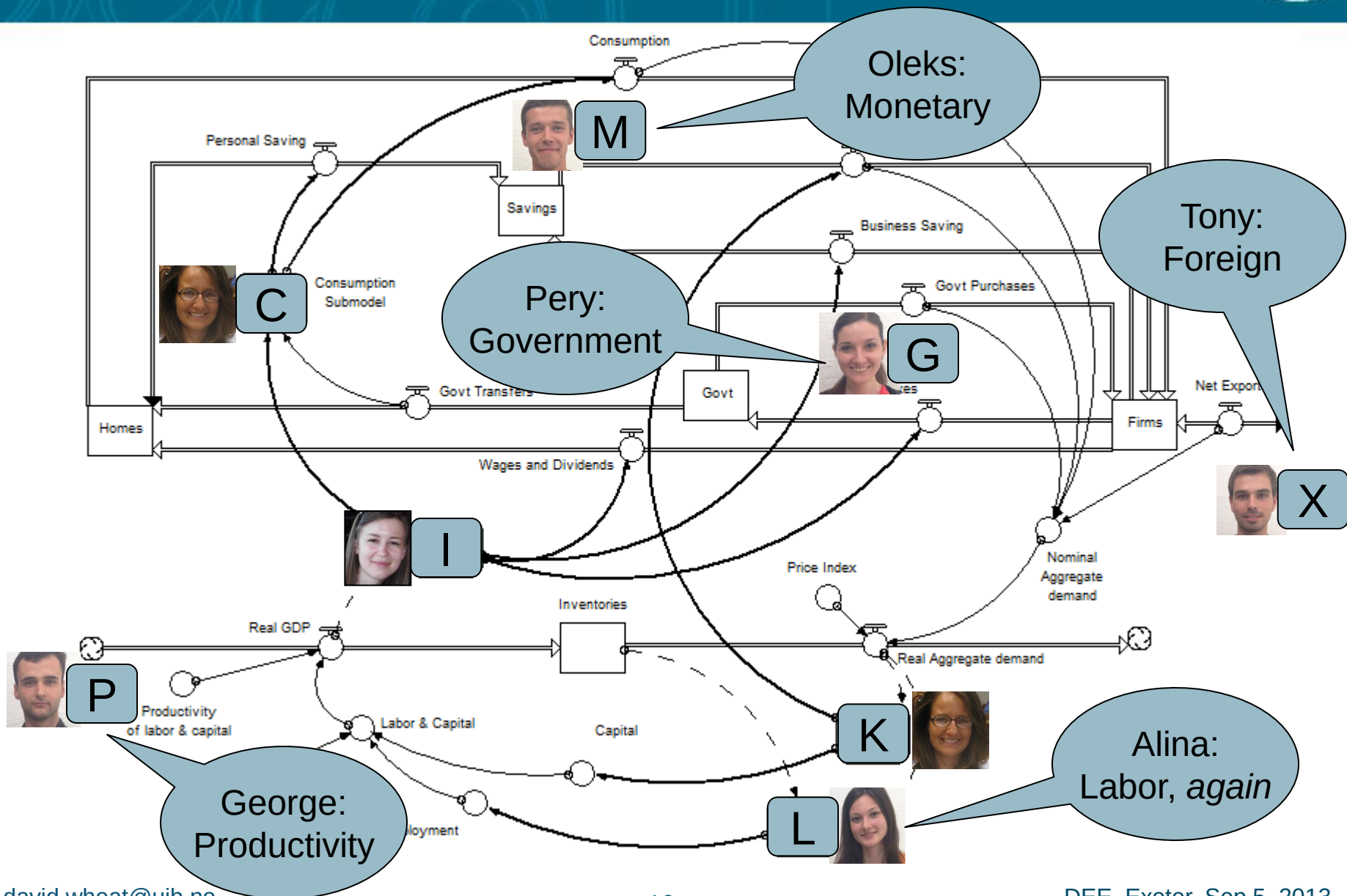
"Tony"



Alina Novik
master's student

"Alina"

Developing MacroLab Ukraine, stage 2



NaUKMA's Plan for SD Instruction



1. Develop a Bachelor-level course in the Department of Finance
-- to introduce the basics of system dynamics as a modeling tool
2. Develop a Graduate-level course in the Department of Finance
-- to build advanced modeling skills for research
3. Use an SD-based approach to teaching courses in the Dept. of Finance
 - *Monetary Theory & Policy*
 - *Macroeconomic Policy*
 - *Financial Control*
 - *Financial Management*
 - *Financial Markets*
 - *Macroeconomic Forecasting*
 - *Banking Operations*
 - *Corporate Finance*

Bottom line, from my co-authors...



Professor Lukianenko: *"We are forming a strong team that will be ready for teaching economics and engaging in research using an innovative tool for dynamic modelling."*



Iryna: *"After one semester in Bergen, I used SD in my master thesis. I was excited about my defence this spring, when I was able to present this approach to macroeconomic modelling."*



Iaroslava: *"Learning SD in Norway was my best experience ever. System dynamics is a useful and interactive modelling tool, and Norway is a beautiful country with tolerant and welcoming people."*



Oleksandr: *"When SD permeates into your life and you start thinking in stocks and flows every day, you realise it is not only a useful modeling approach but a powerful tool for a clear worldview. Now I want to connect my life with SD and spread it through the world."*

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