Introducing the Econ-ARK: Economics "Algorithmic Repository and toolKit"

Generic Presentation

May 23, 2018

Goal: Tool like DYNARE for Models With Heterogeneity

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State-of-the-art set of tools for:

1. Solving dynamic stochastic optimization problems
   - 'Hard' Bellman problems with uncertainty, 'kinks,' nonconvexities
2. Simulate behavior of populations of agents
3. Finding equilibria for markets/economies populated by such agents

Who Has Produced It?

Name	TLA	Affiliation
Christopher D Carroll	CDC	JHU, CFPB
David C Low	DCL	CFPB
Nathan M Palmer	NMP	OFR
Matthew N White	MNW	UDel, CFPB
Alex Kaufman	ABK	CFPB $\rightarrow$? (Timbuktu?)
Jiaxiong Yao	JXY	JHU $\rightarrow$ IMF

Nothing herein may be interpreted as reflecing opinions of

CFPB	-	United States Consumer Financial Protection Bureau
JHU	-	Johns Hopkins University
IMF	-	International Monetary Fund
OFR	-	Office of Financial Research, U.S. Treasury
UDel	-	University of Delaware

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Three Years

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- Hire Programmers, RA's, Open Source Project Managers, etc etc

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  - Unlike Noah's, our ARK can hold more than two of each kind!
  - Ultimate goal: Get examples on the ARK of all types of animal (model)

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   - 1970 econometrics: Write your own matrix inversion package!

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   - Progress very slow
   - Confidence is not very high

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Remove the excuse 'Structural model was not worth the effort'

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2. Formal, structural, "software" theory

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17th and 18th century version of github.com!

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Run our demonstration notebooks using MyBinder

References I

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