Scientific Computing in Economics with Python and Julia

A Workshop at the Federal Reserve Bank of Chicago

Introduction

May 2016

Big thanks to

FEDERAL RESERVE BANK *of* CHICAGO

and

Introduction

- Agenda

- Personnel

- Topics

- Motivation

- Resources

Agenda

1. Monday morning: Introduction to Julia

2. Monday afternoon: Introduction to Julia, continued

3. Tuesday morning: Introduction to Python

4. Wednesday morning: Dolo

5. Wednesday afternoon: Pandas

Personnel

- Chase Coleman (NYU)

- Matthew McKay (ANU, NYU)

- Viral Shah (Julia Computing)

- John Stachurski (ANU, NYU)

- Pablo Winant (Bank of England)

What's Python?

Modern, high level, open source, general purpose programming language

What's great about Python:

- Beautifully designed
- High productivity
- Extremely widely used
- Great scientific tools

What's Julia?

Modern, high level, open source, scientific programming language

What's great about Julia:

- Great design
- High productivity...
- and high performance!
- Great scientific tools

Which to Choose?

Who will benefit more from Julia?

- Focused on scientific programming

- Write your own algorithms

- Need optimization / high performance

Who will benefit more from Python?

- More diverse coding needs

- Require more stability and high productivity

Wednesday's Sessions

Dolo, by Pablo Winant

- A modeling language

- Solvers

- In Python, but a Julia version is on the way

Pandas, by Matt McKay

- High performance data analysis tool

- Finance industry, AI, data science

Resource

General info:

- http://quantecon.org/chicago_fed_workshop.html

Downloads:

- https://github.com/QuantEcon/ChicagoFed_workshop