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Models With

Heterogeneous

Models
Agents

Introduction

ogeneous

Agents

Introductio

n

Heterogeneous

agents models

have become the

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Models With

Heterogeneous

Agents

Introduction

norm in modern
macroeconomics
as the limitations
of the representa
tive-agent
paradigm and the
importance of
studying
household
heterogeneity
grow in
recognition.

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Models With

Heterogeneous

Agent

Agents

heterogeneity

Introduction
may not only be

important to

accurately

capture the

description of an

aggregate

equilibrium.

Also, the

representative

agent assumption

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Models With

Heterogeneous

Agents

Introduction

may hide many
distributional
effects and
therefore could
change the
answer to many
normative
questions usually
given by
representative
agent
models. This

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Models With

Heterogeneous

dissertation

Agents

contains three

Introduction

chapters

exemplifying

ways in which

the consideration

of heterogeneous

agents in the

modelling of

macroeconomic

phenomena has

important

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Models With

Heterogeneous

repercussions

Agents

for the

Introduction

predictions of

the model and its

normative

implications.

Chapters 1 and 2

show the

importance of

accounting for

worker

heterogeneity in

File Type PDF

Models With

Heterogeneous

Agents
the analysis of
labor markets.

Introduction
Chapter 1

presents a
search and
matching model
of unemployment
with
heterogeneous
workers which's
main features,
are ex-ante

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Models With

Heterogeneous

worker

Agents

heterogeneity

Introduction

and undirected

search. These

features enable

the model to

replicate the

empirical

correlations

between labor

market outcomes

and proxy

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Models With

Heterogeneous

variables for

Agents
worker

Introduction
productivity. The

model displays

job rationing,

which makes it

useful to

understand the

high levels of

unemployment

observed in deep

recessions. It

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Heterogeneous

Agents

Introduction

also constitutes a versatile tool for the analysis of several labor-market aspects in which worker heterogeneity could play an important role, such as the impact of employment

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Agents

Introduction

policies that are believed to have asymmetric effects across the labor force. Chapter 2 provides an example of such applications by analyzing the effects of increments of a

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minimum wage.

Agents

Introduction

It explores

theoretically and

empirically the

notion that

minimum wages

affect low-skill

workers

asymmetrically

due to

productivity

differences.

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Agents

Introduction

Using the model presented in chapter 1, with the incorporation of endogenous search intensity to account for the effects that minimum wages could have on worker participation, I

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Heterogeneous

Agents

Introduction

show that a rising minimum wage lowers the employment and labor force participation of low-productivity workers by pricing them out of the market, while it increases the

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Models With

Heterogeneous

employment,
Agents
Introduction
participation, and
wages of more

productive

workers that

remain hireable.

Chapter 2 also

contains an

empirical

analysis that

investigates and

ultimately

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Agents

Introduction

validates the model's predictions of changes in the minimum wage. Within the labor market for low-education (high school or lower) workers, increments in the minimum wage

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have

Agents

Introduction

diametrically
opposed effects:

they reduce the
employment and
labor force

participation of
teenagers with
less than high
school education,
while increasing
the employment

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Heterogeneous

Agents

Introduction

and labor force participation of mature workers with high school educational attainment. A calibrated version of the model targeting the low-education labor market shows

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Agents

Introduction

that, despite its
opposite effects
across the labor
force, an
increase in the
minimum wage
negatively
impacts
aggregate
employment,
labor force
participation, and

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Models With

Heterogeneous

social

Agents

welfare. Chapter

3 investigates

the existence of

complex

dynamics in the

behavior of

exchange rates

due

heterogeneity in

the expectations

of their future

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Models With

Heterogeneous

Agents

Introduction

value. A simple model of exchange rate dynamics featuring traders with heterogeneous expectations is introduced. The model is based on the asset pricing model in

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Heterogeneous

Brock and
Hommes (1998)

and features the

BNN dynamic

presented in

Brown et al.

(1950), a

dynamic with

desirable

properties

absent in other

dynamics used in

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Models With

Heterogeneous

the literature.

Agents

Introduction

The chapter shows that even this simple model can easily generate complex and even chaotic dynamics in the exchange rate because of the interaction of

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traders with

Agents

different beliefs.

Introduction

An important

implication is

that long-term

exchange rate

prediction is, in

theory, difficult.

Introduction to

Agent-Based Eco

nomics Academic

Press

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Models With

Heterogeneous

Agents

Introduction

We introduce a
generic
simulation
framework
suitable for
agent-based
simulations
featuring the
support of
heterogeneous
agents,
hierarchical

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Models With

Heterogeneous

scheduling, and

flexible

specification of

design

parameters. One

key aspect of

this framework

is the design

specification: we

use a format

based on the

Extensible

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Models With

Heterogeneous

Markup

Agents

Language (XML)

Introduction

that is simple-structured yet still enables the design of flexible models, with the possibility of varying both agent population and parameterization.

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Agents

Introduction

Further, the tool allows the definition of

communication channels to

single or groups of agents, and

handles the information

exchange. Also, both (groups of)

agents and

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Models With
Heterogeneous
Agents
Introduction

communications
channels can be
added and
removed at
runtime by the
agents, thus
allowing dynamic
settings with the
agent population
and/or
communication
structures

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Models With

Heterogeneous

Agents

Introduction

varying during
the simulation
time. A second
issue in agent-
based
simulations,
especially when
readymade
components are
used, is the
heterogeneity
arising from both

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Models With

Heterogeneous

the agents²

Agents
implementations

Introduction

and the

underlying

platforms: for

this, we

introduce a

wrapper

technique for

mapping the

functionality of

agents living in

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Models With

Heterogeneous

an interpreter-
based

Agents
Introduction

environment to a
standardized

JAVA interface,

thus facilitating

the task for any

control

mechanism (like

a simulation

manager). Again,

this mapping is

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Models With

Heterogeneous

Agents

Introduction

made by an XML-based definition format. (author's abstract).

In Chapter 2 we extend the heterogeneous discounting model introduced in Marín-Solano and Patxot (2012) to a

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Models With

Heterogeneous

stochastic

Agents

environment. Our

Introduction

main contribution

in this chapter is

to derive the

DPE providing

time-consistent

solution for both

the discrete and

continuous time

case. For the

continuous time

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Heterogeneous

Agents

Introduction

problem we
derive the DPE
following the two
different
procedures
described above:
the formal
limiting
procedure and
the variational
approach.

However, an

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Models With
Heterogeneous
Agents
Introduction

important
limitation of
these

approaches is
that the DPE
obtained is a
functional
equation with a
nonlocal term.

As a
consequence, it
becomes very

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Agents

Introduction

complicated to
find solutions,
not only
analytically, but
also numerically.
For this reason,
we also derive a
set of two
coupled partial
differential
equations which
allows us to

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Heterogeneous

compute

Agents

Introduction

(analytically or numerically) the

solutions for

different

economic

problems. In

particular, we

are interested in

analyzing how

time-inconsistent

preferences with

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Heterogeneous

heterogeneous

Agents

Introduction

modify the
classical

consumption and

portfolio rules

(Merton

(1971)). The

introduction of

stochastic

terminal time is

also discussed.

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Models With

Heterogeneous

Agents

Introduction

In Chapter 3, the results of Chapter 2 are extended in several ways.

First, we consider that the decision maker is subject to a mortality risk.

Within this context, we

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Models With

Heterogeneous

Agents

Introduction

derive the
optimal
consumption,
investment and
life insurance
rules for an
agent whose
concern about
both the bequest
left to her
descendants and
her wealth at

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Models With

Heterogeneous

retirement

Agents

increases with

Introduction

time. To this end

we depart from

the model in

Pliska and Ye

(2007)

generalizing the

individual time

preferences by

incorporating

heterogeneous

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Heterogeneous
Agents
Introduction

discount functions. In addition, following Kraft (2003), we derive the wealth process in terms of the portfolio elasticity with respect to the traded assets. This approach

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Heterogeneous

Agents

allows us to
introduce options
in the investment

opportunity set

as well as to

enlarge it by any

number of

contingent claims

while maintaining

the analytical

tractability of the

model. Finally,

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Agents

Introduction

we analyze how
the standard
solutions are
modified

depending on the
attitude of the
agent towards
her changing
preferences,
showing the
differences with
some numerical

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Heterogeneous

Agents

Introduction

illustrations. In Chapter 4 we extend the heterogeneous discount framework to the study of differential games with heterogeneous agents, i.e., agents who

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Heterogeneous

Agents

Introduction

exhibit different instantaneous utility functions and different (but constant) discount rates of time preference. In fact, although the non-standard models have usually focused on individual

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Heterogeneous

agents, the

Agents
Introduction
framework has
proved to be

useful in the

study of

cooperative

solutions for

some standard

discounting

differential

games. Our main

contribution in

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Agents

Introduction

this chapter is to provide a set of DPE in discrete and continuous time in order to obtain time-consistent cooperative solutions for N -person differential games with

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Heterogeneous

heterogeneous

agents. The

results are

applied to the

study of a cake

eating problem

describing the

management of a

common

property

exhaustible

natural resource.

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Agents

Introduction

The extension to a simple common renewable natural resource in infinite horizon is also discussed.

Finally, in Chapter 5, we present a summary of the main results of

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the thesis.

Agents

Introduction

Advances in

Economics and

Econometrics:

Volume 1

Complex Agent-

Based Models

The Role of

Heterogeneous

Agents

Competition,
Spatial Location

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Models With
Heterogeneous
of Economic
Agents
Activity and
Introduction
Financial Issues
Heterogeneous
Agent Modeling
An Agent-Based
Model of
Heterogeneous
Demand
Nonlinearity,
Bifurcation and Chaos
- Theory and

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Models With

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Introduction

Application is an edited book focused on introducing both theoretical and application oriented approaches in science and engineering. It contains 12 chapters, and is recommended for university teachers, scientists, researchers, engineers, as well as graduate and post-graduate students

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Introduction

either working or interested in the field of nonlinearity,

bifurcation and chaos.

In this thesis, I study two different economies that consist of heterogeneous labor.

By allowing for differences among individuals where previous analyses restricted attention to homogeneous labor, I

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Introduction

am able to understand the impact of such a consideration on issues of optimal policy and potential equilibria.

The first chapter, Optimal Social Insurance with Individual Private Insurance and Moral Hazard, characterizes optimal social insurance in an economy where

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Introduction

competitive firms also provide insurance to workers facing uncertain outcomes. An ex-ante heterogeneous population of workers exerts effort to increase the likelihood of high outcome events. This chapter is novel in its joint consideration of two sources of heterogeneity, two potential sources of

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Introduction

insurance, and an endogenous ex-post distribution of outcomes. The introduction of ex-ante heterogeneity in the presence of optimal private insurance changes the optimal prescription for social insurance away from zero. Moreover, the relative source of the variation in outcomes

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Models With

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Agents

Introduction

due to ex-ante heterogeneity and ex-post shocks plays a significant role in the welfare loss associated with setting optimal social insurance without recognizing the presence of private insurance. The second chapter, Efficiency Wages with Heterogeneous Agents, builds a model of

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Heterogeneous

Agents

Introduction

efficiency wages with heterogeneous workers in the economy who differ with respect to their disutility of labor effort. In such an economy, two types of pure strategy symmetric Nash equilibria in firm wage offers can exist: a no-shirking equilibrium in which all workers exert effort while employed and a

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Models With

Heterogeneous

Agents

Introduction

shirking equilibrium in which within each firm some workers exert effort while others shirk. The type of equilibrium that prevails in the economy depends crucially on the extent of heterogeneity among the workers. In addition, it is shown that the characterization of the

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Models With

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Agents

Introduction

economy is independent of allowing for variable labor hours and the subsequent adverse selection problem it introduces, as there does not exist a pure strategy symmetric separating Nash equilibrium. Finally, in the third chapter I correct the proof of the main proposition in the analysis of an

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Models With

Heterogeneous

Agents

Introduction

efficiency wage model
with a continuum of
heterogeneous agents
constructed by Albrecht
and Vroman (1998).

In this paper we study
the dynamics of a
simple asset pricing
model describing the
trading activity of
heterogeneous agents
in a "stylized" market.
The economy in the
model contains two

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Models With

Heterogeneous

Agents

Introduction

assets: a bond with risk-less return and a dividend paying stock.

The price of the stock is determined through market clearing condition. Traders are speculators described as expected utility maximizers with heterogeneous beliefs about future stock price and with heterogeneous estimation of risk. In

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Models With

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Agents

Introduction

particular, we consider traders who base their investment decision on different time horizons and we analyze the effect of these differences on the price dynamics. Under suitable parameterization, the stock no-arbitrage "fundamental" price can emerge as a stable fixed point of the model

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Models With

Heterogeneous

Agents

Introduction

dynamics. For different parameterizations, however, the market shows cyclical or chaotic price dynamics with speculative bubbles and crashes. We find that the sole heterogeneity of agents with respect to their time horizons is not enough to guarantee the instability of the fundamental price and

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Heterogeneous

Agents

Introduction

the emergence of non-trivial price dynamics.

However, if different groups of agents are characterized by different trading behaviors, the introduction of heterogeneous investment horizons can help to decrease the stability region of the "fundamental" fixed point. The role of time

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Models With

Heterogeneous

Agents

Introduction

horizons turns out to be different for different trade behaviors and, in general, depends on the whole ecology of agents' beliefs. We demonstrate this effect discussing a case in which the increase of fundamentalists time horizons can lead to cyclical or chaotic price behavior, while the same increase for the

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Models With

Heterogeneous

Agents

Introduction

chartists helps to

stabilize the

fundamental price. --

Asset pricing ;

Heterogenous beliefs ;

Investment horizons

This book offers a

thorough introduction

to the highly promising

complex agent-based

approach to economics,

in which agent-based

models (ABMs) are

used to represent

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Models With

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Agents

Introduction

economic systems as complex and evolving systems composed of heterogeneous agents of limited rationality who interact with each other, generating the system's emergent properties in the process. This approach represents a response to the limitations of the dominant theory in economics, which does

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Heterogeneous

Agents

Introduction

not consider the possibility of a major crisis, and to the inability of dynamic stochastic general equilibrium theory to generate empirically falsifiable propositions. In the new perspective, the focus is on identifying the elements of instability rather than the triggering event. As the theory of

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Models With

Heterogeneous

complexity

demonstrates, the

interactions of

heterogeneous agents

produce non-linearity:

this puts an end to the

age of certainties. With

ABMs, the methodology

is "from the bottom

up". The individual

parameters and their

distribution are

estimated, and then

evaluated to verify

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Models With

Heterogeneous

Agents

Introduction

whether aggregate regularities emerge on the whole. In short, not only micro, but also meso and macro empirical validation are employed. Moreover, it shows that the mantra of growth should be supplanted by the concept of a growth?. Given its depth of coverage, the book will enable students at the

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Agents

Introduction

undergraduate and Master's level to gain a firm grasp of this important emerging approach. "This book is flower blossomed by one of the two greatest Italian economists."

Bruce Greenwald,
Columbia University

"The author's - the
ABM prophet's -
thoughts on economics
have been at the

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Agents

Introduction

forefront of the world. Without a firm belief in and dedication to human society, it is impossible to write such a book. This is a work of high academic value, which can help readers quickly understand the history and current situation of complex economic theory. In particular, we can understand the basic

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Agents

Introduction

viewpoints, academic status, advantages and shortcomings of

various schools of

economic theory." Jie

Wu, Guangzhou

Milestone Software Co.,

China

Introduction to Agent-

Based Economics

Dynamic Optimization

in Environmental

Economics

Handbook of

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Heterogeneous

Computational
Agents
Economics

From Basic to State-of-
the-Art Computational
Techniques

Nonlinearity,

Bifurcation and Chaos

International

Handbook on the

Economics of

Integration

***Introduction
to Quantitative***

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Macroeconomics Using Julia:

From Basic to

State-of-the-

Art

Computational

Techniques

facilitates

access to

fundamental

techniques in

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Heterogeneous

and

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quantitative m

acroeconomics

**. It focuses on
the recent and
very promising
software, Julia,
which offers a
MATLAB-like
language at
speeds**

comparable to

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***C/Fortran, also
discussing
modeling***

challenges

that make

quantitative m

acroeconomics

dynamic, a key

feature that

few books on

the topic

include for ma

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Introduction

***Macroeconomists
who need the
basic tools to
build, solve
and simulate
macroeconomic
models. This
book neatly
fills the gap
between
intermediate
macroeconomic***

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Heterogeneous

c books and

modern DSGE

models used in

research.

Combines an

introduction

to Julia, with

the specific

needs of macr

oeconomic

students who

are interested

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in DSGE

models and

PhD students

and

researchers

interested in

building DSGE

models

Teaches

fundamental

techniques in

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Introduction

***macroeconomics
by introducing
theoretical
elements of
key macroecon
omic models
and their
potential
algorithmic im
plementations
Exposes
researchers***

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working in ma

croeconomics

to state-of-the-

art

computational

techniques for

simulating and

solving DSGE

models

Matthias

Müller makes

a case for the

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Models With

Heterogeneous

particular role

of the demand

side in

research on

innovation.

Based on a

complex agent-

based

simulation

model, he

analyzes the

versatile

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Models With

Heterogeneous

mutual

Agents

relationships

Introduction

between

consumers and

producers

within the

innovation

process.

Instead of

oversimplifyin

g the demand

side, the book

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Introduction

aims to apply important aspects which too often are only applied to the supply side, e.g., the heterogeneity and bounded rationality of economic actors

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Introduction

***embedded in
networks. The
results offer a
new
perspective on
the innovation
process,
proving that
the demand
side and
consumers are
important***

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Models With

Heterogeneous

Agents

Introduction

***drivers of
innovation,
which must be
included in
future***

***research for a
full picture.***

Mean Field

Games (MFG)

***are the infinite-
population***

analogue of

File Type PDF

Models With

Heterogeneous

symmetric

stochastic

differential

games with

interacting

players. By

considering a

limiting model

with a

continuum of

players, the

theory of MFG

File Type PDF

Models With

Heterogeneous

***provides a
more tractable
representation***

and can

effectively

approximate a

broad class of

perfectly

symmetric

stochastic

dynamic

games. This

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Models With

Heterogeneous

Agents

Introduction

***thesis studies
games with
heterogeneous
players, the
heterogeneity
being
expressed
either through
a type
parameter or
through
asymmetric***

File Type PDF

Models With

Heterogeneous

interactions

Agents

among

Introduction

players, and

aims at

understanding

under which

condition the

MFG

approximation

remains valid

for such

games and, if

File Type PDF

Models With

Heterogeneous

Agents

Introduction

***it fails, to find
a substitute
model. In
many real-life
settings,
players do not
view
themselves as
exchangeable
and accurate
models should
incorporate***

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Models With

Heterogeneous

this

Agents

heterogeneity.

Introduction

We first adapt

the MFG

paradigm to

model more

heterogeneous

agents by

introducing a

type

parameter in a

financial

File Type PDF

Models With

Heterogeneous

Agents

Introduction

***problem that
has gained
huge interest
in the recent
years: the
competitive
Merton
problem under
relative
performance
criteria.***

This paper

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Models With

Heterogeneous

Agents

Introduction

***extends the
equilibrium
business cycle
framework to
incorporate ex
ante skill
heterogeneity
among
workers.***

***Consistent
with the
empirical***

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Models With

Heterogeneous

evidence,

skilled and

unskilled

**workers in the
model face the**

same degree

of cyclical

variation in

real wages

although

unskilled

workers are

File Type PDF

Models With

Heterogeneous

subject to
substantially
higher

procyclical
variation in
employment.

Systematic
cyclical
changes in the
average skill
level of
employed

File Type PDF

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Heterogeneous

Agents

Introduction

workers are shown to induce bias in aggregate measures of cyclical variation in the labor input, productivity, and the real wage. The

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Models With

Heterogeneous

Agents

Introduction

***introduction of
skill***

heterogeneity

***improves the
model's ability***

to match the

empirical

correlation

between total

hours and the

real wage but

the correlation

File Type PDF

Models With

Heterogeneous

between total

hours and

labor

productivity

remains

higher than in

the data.

Asset Pricing

Model with

Heterogeneous

s Investment

Horizons

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Agents

Introduction

***Introduction
to Quantitative
Macroeconomics Using Julia
Speculators in
Oil Markets
Agent-Based
Computational
Economics
Long Or Short
Forecasters?.
Communicatio***

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Models With

Heterogeneous

n Networks

with

Agents

Introduction

Endogenous

Link Strength

and

Heterogeneous

s Agents

Economic

application of

nonlinear

dynamics,

microscopic agent-

based modelling,

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Heterogeneous

and the use of
Agents
artificial

intelligence

techniques as

learning devices of

boundedly rational

actors are among

the most exciting

interdisciplinary

ventures of

economic theory

over the past

decade. This

volume provides us

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Agents
with a most
fascinating series

of examples on

"complexity in
action"

exemplifying the
scope and

explanatory power
of these innovative
approaches.

Our paper
estimates and
compares

behavioral New-

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Models With

Heterogeneous

Agents
Keynesian DSGE
models derived

under two

alternative ways to
introduce

heterogeneous

expectations. We

assume that agents

may be either

short-sighted or

long-horizon

forecasters. The

difference does not

matter when

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Models With

Heterogeneous

agents have
rational

expectations, but it

does when a

fraction of them

form beliefs about

the future

according to some

heuristics.

Bayesian

estimations show

that a behavioral

model based on

short forecasters

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Agents

Introduction

fits the data better than one based on long forecasters.

Long-horizon predictors exhibit very poor predictive ability, whereas the short forecasters' model also outperforms the rational expectation framework. We show that the

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Models With

Heterogeneous

Agents

Introduction

superiority is due
to its ability to
capture

heterogeneous
consumers'
expectations.

Finally, by Monte-
Carlo-filtering
mapping, we
investigate the
indeterminacy
regions to
complement
existing literature.

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Heterogeneous

Agents

Introduction

Many problems in theoretical economics are mathematically formalized as dynamical systems of difference and differential equations. In recent years a truly open approach to studying the dynamical

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Models With

Heterogeneous

Agents

Interaction

behavior of these models has begun to make its way into the mainstream. That is, economists formulate their hypotheses and study the dynamics of the resulting models rather than formulating the dynamics and studying

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Models With

Heterogeneous

Agents

Introduction

hypotheses that could lead to models with such dynamics. This is a great progress over using linear models, or using nonlinear models with a linear approach, or even squeezing economic models into well-studied nonlinear systems

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Models With

Heterogeneous

Agents

Introduction

from other fields.

There are today a number of

economic journals open to publishing this type of work and some of these have become important. There are several societies which have annual meetings on the subject and

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Models With

Heterogeneous

Agents

Introduction

participation at these has been growing at a good rate. And of course there are methods and techniques available to a more general audience, as well as a greater availability of software for numerical and graphical analysis

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Heterogeneous

Agents

Introduction

that makes this type of research even more exciting. The lecturers for the Advanced School on Nonlinear Dynamical Systems in Economics, who represent a wide selection of the research areas to which the theory has been applied,

File Type PDF Models With Heterogeneous Agents

agree on the importance of simulations and computer-based analysis. The School emphasized computer applications of models and methods, and all contributors ran computer lab sessions.

We introduce a

File Type PDF

Models With

Heterogeneous

Agents
generic simulation
framework suitable

for agent-based

simulations

featuring the

support of

heterogeneous

agents,

hierarchical

scheduling and

flexible

specification of

design parameters.

One key aspect of

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Models With

Heterogeneous

Agents

Introduction

this framework is the design specification: we use an XML-based format which is simple-structured yet still enables the design of flexible models. Another issue in agent-based simulations, especially when ready-made

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Heterogeneous

Agents

Interactions

components are used, is the heterogeneity arising from both the agents² implementations and the underlying platforms. To tackle these kind of obstacles, we introduce a wrapper technique for mapping the functionality of

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Models With

Heterogeneous

Agents

Introduction

agents living in an interpreter-based environment to a standardized JAVA interface, thus facilitating the task for any control mechanism (like a simulation manager) because it has to handle only one set of commands for all agents involved.

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Models With

Heterogeneous

Agents

Introduction

Again, this mapping is made by an XML-based definition format. We demonstrate the technique by applying it to a simple sample simulation of two mass marketing firms operating in an artificial consumer environment.

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Models With

Heterogeneous

(author's abstract).

Agents
A Toolkit

Essays on Agent

Heterogeneity in

Macroeconomics

Time Consistency

in Investment and

Insurance Models

Introduction to

Computable

General

Equilibrium

Models

Agent-Based

File Type PDF
Models With
Heterogeneous
Agents
Methods in
Economics and
Finance

13th International
Conference,
ICTERI 2017, Kyiv,
Ukraine, May
15-18, 2017,
Revised Selected
Papers

**This book
contains
extended**

File Type PDF

Models With

Heterogeneous

Agents

Introduction

**versions of the
best papers
presented at**

the 13th

International

Conference on

Information

and Communic

ation

Technologies

in Education,

Research, and

File Type PDF

Models With

Heterogeneous

Agents

Introduction

Industrial Applications, ICTERI 2017, held in Kyiv, Ukraine, in May 2017. The 11 revised full papers included in this volume were carefully reviewed and

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Models With

Heterogeneous

Agents

Introduction

**selected from
151 initial
submissions
during several
rounds of
reviewing. The
papers are
organized in
the following
topical
sections:
modeling and**

File Type PDF

Models With

Heterogeneous

Agents

Introduction

**theoretical
frameworks;
ICT in
teaching,
learning, and
education
management;
and ICT
evaluation and
applications.
The goal of
this paper is to**

File Type PDF

Models With

Heterogeneous

Agents

Introduction

**simultaneously
unbundle two
interacting
reduced-form
building
blocks of
traditional ma
croeconomic
models: the
representative
agent and the
aggregate**

File Type PDF

Models With

Heterogeneous

production

Agents

function. We

Introduction

introduce a

broad class of

disaggregated

general

equilibrium

models with

Heterogeneous

s Agents and

Input-Output

networks (HA-

File Type PDF

Models With

Heterogeneous

IO). We

elucidate their
properties

through two

sets of results

describing the

propagation

and

aggregation of

shocks. First,

we

characterize

File Type PDF

Models With

Heterogeneous

Agents

Introduction

**how shocks
affect prices
and quantities
of goods and
factors. Even
with purely
microeconomic
shocks, the
mapping from
structural
primitives to
observed**

File Type PDF

Models With

Heterogeneous

Agents

Introduction

effects is complicated by "local" general equilibrium forces. Our framework shows how to account for these forces, and helps interpret IV-based cross-

File Type PDF

Models With

Heterogeneous

Agents

Introduction

**sectional
regression
results. We
also uncover a
surprising
property of a
large class of
efficient
representative
agent models:
they feature
symmetric**

File Type PDF

Models With

Heterogeneous

Agents

Introduction

**propagation in
that a shock to
producer i
affects the
sales of
producer j in
exactly the
same way that
a shock to j
affects the
sales of i . This
improbable**

File Type PDF

Models With

Heterogeneous

symmetry

Agents

breaks in the

Introduction

presence of

heterogeneous

agents or

distortions.

Second, we

provide

aggregation

results

characterizing

the responses

File Type PDF

Models With

Heterogeneous

**of industry-
level variables
such as**

**markups and
productivity.**

**The behavior
of these**

**aggregates is
particularly**

**delicate in
inefficient**

economies:

File Type PDF

Models With

Heterogeneous

Agents

Introduction

**they respond
to
microeconomic
shocks
outside of the
industry; and
they can give
rise to
fallacies of
composition
whereby
aggregates**

File Type PDF

Models With

Heterogeneous

Agents

Introduction

**move in the
opposite
direction of
their
microeconomics
counterparts.
Our results
shed light on
many
seemingly
disparate**

File Type PDF

Models With

Heterogeneous

Agents.

Introduction

**applied
questions,
such as:
sectoral co-
movement in
business
cycles; factor-
biased
technical
change in task-
based models;
structural tran**

File Type PDF

Models With

Heterogeneous

Agents

Introduction

**sformation;
the effects of
corporate
taxation; and
the
dependence of
fiscal
multipliers on
the
composition of
government
spending.**

File Type PDF

Models With

Heterogeneous

Agents

Introduction

Handbook of Computational Economics

summarizes

recent

advances in

economic

thought,

revealing some

of the

potential

offered by

File Type PDF

Models With

Heterogeneous

modern

Agents

computational

Introduction

methods. With

computational

power

increasing in

hardware and

algorithms,

many

economists are

closing the

gap between

File Type PDF

Models With

Heterogeneous

economic

Agents

practice and

Introduction

the frontiers

of

computational

mathematics.

In their efforts

to accelerate

the

incorporation

of

computational

File Type PDF

Models With

Heterogeneous

Agents

Introduction

**power into
mainstream
research,
contributors to
this volume
update the
improvements
in algorithms
that have
sharpened
econometric
tools, solution**

File Type PDF

Models With

Heterogeneous

Agents

Introduction

**methods for
dynamic
optimization
and
equilibrium
models, and
applications to
public finance,
macroeconomics,
and
auctions. They
also cover the**

File Type PDF

Models With

Heterogeneous

Agents

Introduction

**switch to
massive
parallelism in
the creation of
more powerful
computers,
with advances
in the
development
of high-power
and high-
throughput**

File Type PDF

Models With

Heterogeneous

computing.

Agents

Much more

Introduction

can be done to

expand the

value of

computational

modeling in

economics. In

conjunction

with volume

one (1996)

and volume

File Type PDF

Models With

Heterogeneous

Agents

Introduction

**two (2006),
this volume
offers a
remarkable
picture of the
recent
development
of economics
as a science as
well as an
exciting
preview of its**

File Type PDF

Models With

Heterogeneous

Agents

Introduction

future

potential.

Samples

different styles

and

approaches,

reflecting the

breadth of

computational

economics as

practiced

today Focuses

File Type PDF

Models With

Heterogeneous

**on problems
with few well-
developed**

**solutions in
the literature
of other**

disciplines

**Emphasizes
the potential
for increasing
the value of
computational**

File Type PDF

Models With

Heterogeneous

**modeling in
economics**

Agents

Introduction

**The explosive
growth in
computational
power over the
past several
decades offers
new tools and
opportunities
for
economists.**

File Type PDF

Models With

Heterogeneous

Agents

Introduction

**This handbook
volume
surveys recent
research on
Agent-based
Computational
Economics
(ACE), the
computational
study of
economic
processes**

Page 154/259

File Type PDF
Models With
Heterogeneous
modeled as
Agents
Introduction
dynamic
systems of

interacting
agents.

Empirical
referents for
"agents" in
ACE models
can range
from
individuals or

File Type PDF

Models With

Heterogeneous

social groups

with learning

capabilities to

physical world

features with

no cognitive

function.

Topics covered

include:

learning;

empirical

validation;

File Type PDF

Models With

Heterogeneous

**network
economics;
social**

dynamics;

financial

markets;

innovation and

technological

change;

organizations;

market design;

automated

File Type PDF

Models With

Heterogeneous

Agents

Introduction

**markets and
trading
agents;
political
economy; soci
al-ecological
systems;
computational
laboratory
development;
and general
methodologica**

File Type PDF

Models With

Heterogeneous

Agents

Introduction

**1 issues. *Every
volume
contains
contributions
from leading
researchers
*Each
Handbook
presents an
accurate, self-
contained
survey of a**

File Type PDF

Models With

Heterogeneous

Agents

Introduction

**particular
topic *The
series provides
comprehensive
and accessible
surveys**

**Nonlinear
Dynamical
Systems in
Economics
Heterogeneous
Discounting**

File Type PDF

Models With

Heterogeneous

**Theory and
Applications,**

Ninth World

Congress

SIMENV: A

Dynamic

Simulation

Environment

for

Heterogeneous

s Agents

Dynamic

Page 161/259

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Models With

Heterogeneous

**General
Equilibrium
Modeling**

**Essays in Macr
oeconomics
and Dynamic
Factor Models**

Imperfections
and Behavior in
Economic

Organizations
analyzes the

File Type PDF

Models With

Heterogeneous

organization of

Agents
economic

Introduction
decision making

in a

contemporary

setting. The

contributors

focus on two

important

aspects of this

analysis. First,

they address the

File Type PDF

Models With

Heterogeneous

Agents

Introduction

issue of
imperfect or
incomplete
information and
communication
in economic
organizations
and consider
imperfections
arising from the
interaction of the
market

File Type PDF

Models With

Heterogeneous

Agents

Introduction

organization with
its environment.

Second, the issue
of cooperation in
a competitive
environment is
thoroughly
analyzed and
alternative social
trade

organizations are
designed to

File Type PDF
Models With
Heterogeneous
Agents
Introduction

dissipate the allocation problems that arise in these situations.

Liquid markets generate hundreds or thousands of ticks (the minimum change in price a

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Models With

Heterogeneous

Agents

Introduction

security can have, either up or down) every business day.

Data vendors such as Reuters transmit more than 275,000 prices per day for foreign exchange spot rates alone.

Thus, high-

File Type PDF

Models With

Heterogeneous

Agents

Introduction

frequency data
can be a
fundamental
object of study,
as traders make
decisions by
observing high-
frequency or tick-
by-tick data. Yet
most studies
published in
financial

File Type PDF

Models With

Heterogeneous

Agents

Introduction

literature deal
with low
frequency,
regularly spaced
data. For a
variety of
reasons, high-
frequency data
are becoming a
way for
understanding
market

File Type PDF

Models With

Heterogeneous

microstructure.

Agents

This book

Introduction

discusses the

best

mathematical

models and tools

for dealing with

such vast

amounts of data.

This book

provides a

framework for the

File Type PDF

Models With

Heterogeneous

analysis,

Agents
modeling, and

Introduction
inference of high

frequency

financial time

series. With

particular

emphasis on

foreign exchange

markets, as well

as currency,

interest rate, and

File Type PDF

Models With

Heterogeneous

Agents

Introduction

bond futures
markets, this
unified view of
high frequency
time series
methods
investigates the
price formation
process and
concludes by
reviewing
techniques for

File Type PDF

Models With

Heterogeneous

Agents

Introduction

constructing
systematic
trading models
for financial
assets.

This introduction
to modern
business cycle
theory uses a
neoclassical
growth
framework to

File Type PDF

Models With

Heterogeneous

Agents

Introduction

study the economic fluctuations associated with the business cycle. Presenting advances in dynamic economic theory and computational methods, it

File Type PDF

Models With

Heterogeneous

Agents
applies concepts
to t

Introduction

"We present in the paper an extension of the model of Bloch and Dutta (2009) where we introduce agent's heterogeneity. We characterize Nash stable and

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Models With

Heterogeneous

efficient networks

Agents

in this setting."

Introduction

[source :

résumé].

Skill

Heterogeneity

and Aggregation

Bias Over the

Business Cycle

Essays on

Economies with

Heterogeneous

File Type PDF

Models With

Heterogeneous

Labor

Agents

Introduction

Two Simple Case
Studies

Firms Formation
and Growth in the

Model with
Heterogeneous

Agents and
Monitoring

Agent-Based
Models in

File Type PDF
Models With
Heterogeneous
Economics
Agents

*This thesis
comprises
three chapters
which share an
emphasis on
the importance
of agent
heterogeneity
in different
areas of macro
economics. The*

File Type PDF

Models With

Heterogeneous

Agents

Introduction

*first chapter
shows that the
introduction
of
heterogeneous
risk aversion
into a
consumption
based asset
pricing model
with Epstein-
Zin*

File Type PDF

Models With

Heterogeneous

preferences

allows to

replicate

several

features of

stock markets

such as the co

unter-cyclical

variation in

the equity

premium and

its

File Type PDF

Models With

Heterogeneous

*predictability
from the price
dividend*

*ratio. The
second chapter
complements a
Mortensen-
Pissarides
matching model
with*

*individual
savings for*

File Type PDF

Models With

Heterogeneous

Agents

Introduction

precautionary
reasons in
order to

analyze the

welfare

effects of

reforming

unemployment

insurance. Our

fully dynamic

analysis

reveals

File Type PDF

Models With

Heterogeneous

Agents

Introduction

significant transition costs that static comparisons miss. The third chapter is concerned with optimal capital and labor taxation when agents

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Models With

Heterogeneous

Agents

Introduction

*differ in
their wage-
wealth ratio.*

*We find that
if all agents
are to benefit
from a reform
(vis-à-vis the
status quo)
capital taxes
are abolished
only after a*

File Type PDF

Models With

Heterogeneous

Agents

Introduction

long period.
Esta tesis se
compone de
tres capítulos
que enfatizan
en la
importancia de
la
heterogeneidad
de agentes
económicos en
distintas

File Type PDF

Models With

Heterogeneous

Agents

Introduction

áreas de la
macroeconomía.

El primer
capítulo
demuestra que
la
introducción
de
heterogeneidad
en la aversión
al riesgo en
un modelo de

File Type PDF

Models With

Heterogeneous

Agents

Introduction

consumption

based asset

pricing con

utilidad de

tipo Epstein-

Zin permite

reproducir

algunas

regularidades

empíricas de

los mercados

financieros

File Type PDF

Models With

Heterogeneous

Agents

Introduction

como por ejemplo la variación anticíclica de la prima de riesgo y su previsibilidad a través del cociente precio-dividendos. El segundo capítulo

File Type PDF

Models With

Heterogeneous

Agents

Introduction

*introduce en
un modelo de
matching tipo*

Mortensen-

Pissarides

ahorros precau

cionarios con

el objetivo de

analizar los

efectos sobre

el bienestar

de reformas

File Type PDF

Models With

Heterogeneous

Agents

Introduction

*del seguro de
desempleo.*

Nuestro

análisis

dinámico

revela costes

significativos

de transición

no presentes

en

comparaciones

estáticas. El

File Type PDF

Models With

Heterogeneous

Agents

Introduction

*tercer
capítulo
investiga la
imposición
óptima de
capital y
trabajo cuando
los agentes
son
heterogéneos
con respecto a
su cociente su*

File Type PDF

Models With

Heterogeneous

eldo-

Agents

patrimonio.

Introduction

Handbook of

Computational

Economics:

Heterogeneous

Agent

Modeling,

Volume Four,

focuses on

heterogeneous

agent models,

File Type PDF

Models With

Heterogeneous

Agents,

emphasizing

recent

advances in

macroeconomics

(including

DSGE),

finance,

empirical

validation and

experiments,

networks and

related

File Type PDF

Models With

Heterogeneous

applications.

Agents

*Capturing the
advances made*

since the

publication of

Volume Two

(Tesfatsion &

Judd, 2006),

it provides

high-level

literature

with sections

File Type PDF

Models With

Heterogeneous

Agents

Introduction

*devoted to Macroeconomics,
Finance,*

Empirical

Validation and

Experiments,

Networks, and

other

applications,

including

Innovation

Diffusion in

File Type PDF

Models With

Heterogeneous

Heterogeneous

Populations,

Market Design

and

Electricity

Markets, and a

final section

on

Perspectives

on

Heterogeneity.

Helps readers

File Type PDF

Models With

Heterogeneous

fully

Agents
understand the

Introduction
dynamic

properties of

realistically

rendered

economic

systems

Emphasizes

detailed

specifications

of structural

File Type PDF

Models With

Heterogeneous

*conditions,
Agents,
institutional
Introduction
arrangements*

*and behavioral
dispositions*

*Provides broad
assessments*

*that can lead
researchers to*

*recognize new
synergies and*

opportunities

File Type PDF

Models With

Heterogeneous

Modern

Agents

business cycle

theory and

growth theory

uses

stochastic

dynamic

general

equilibrium

models. In

order to solve

these models,

File Type PDF

Models With

Heterogeneous

economists

Agents

need to use

Introduction

many

mathematical

tools. This

book presents

various

methods in

order to

compute the

dynamics of

general

File Type PDF

Models With

Heterogeneous

Agents

Introduction

equilibrium models. In part I, the representative-agent stochastic growth model is solved with the help of value function iteration, linear and

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Models With

Heterogeneous

Agents

Introduction

*linear
quadratic
approximation
methods,
parameterised
expectations
and projection
methods. In
order to apply
these methods,
fundamentals
from numerical*

File Type PDF

Models With

Heterogeneous

Agents

Introduction

analysis are reviewed in detail. In particular, the book discusses issues that are often neglected in existing work on computational

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Models With

Heterogeneous

Agents

Introduction

methods, e.g. how to find a good initial value. In part II, the authors discuss methods in order to solve heterogeneous-agent economies. In

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Models With

Heterogeneous

such

Agents

economies, the

distribution

of the

individual

state

variables is

endogenous.

This part of

the book also

serves as an

introduction

File Type PDF

Models With

Heterogeneous

Agents

Introduction

*to the modern
theory of
distribution
economics.*

*Applications
include the
dynamics of
the income
distribution
over the
business cycle
or the overlap*

File Type PDF
Models With
Heterogeneous
ping-
Agents
generations
Introduction

*model. In an
accompanying
home page to
this book,
computer codes
to all
applications
can be
downloaded.
The goal of*

File Type PDF

Models With

Heterogeneous

Agents

Introduction

*this paper is
to
simultaneously
unbundle two
interacting
reduced-form
building
blocks of
traditional
macroeconomic
models: the
representative*

File Type PDF

Models With

Heterogeneous

agent and the

Agents

Introduction

production

function. We

introduce a

broad class of

disaggregated

general

equilibrium

models with

Heterogeneous

Agents and

File Type PDF

Models With

Heterogeneous

Agents

Introduction

*Input-Output
networks (HA-
IO). We*

*characterize
their*

*properties
through two
sets of*

*results
describing the
propagation
and the*

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Models With

Heterogeneous

Agents

Introduction

aggregation of shocks. Our results shed light on many seemingly disparate applied questions, such as: sectoral comovement in business

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Models With

Heterogeneous

cycles; factor-

biased

technical

change in task-

based models;

structural tra

nsformation;

the effects of

corporate

taxation; and

the dependence

of fiscal

File Type PDF

Models With

Heterogeneous

*multipliers on
the*

Agents
Introduction

*composition of
government
spending.*

Reexamining

the Role of

Heterogeneous

Agents in

Stock Markets,

Labor Markets,

and Tax Policy

File Type PDF

Models With

Heterogeneous

Agents

Introduction

*Estimation of
an Adaptive
Stock Market
Model with
Heterogeneous
Agents*

*Computational
Methods and
Applications*

*A Simulation
Framework for
Heterogeneous*

File Type PDF

Models With

Heterogeneous

Agents

Agents
Frontiers of

Business Cycle

Research

Heterogeneous

Agent Models

*The book presents
new developments*

in the dynamic

modeling and

optimization

methods in

File Type PDF

Models With

Heterogeneous

Agents

Introduction

*environmental
economics and
provides a huge
range of
applications
dealing with the
economics of
natural resources,
the impacts of
climate change
and of
environmental*

File Type PDF

Models With

Heterogeneous

Agents

pollution, and

respective policy

measures. The

interrelationship

between economic

activities and

environmental

quality, the

development of

cleaner

technologies, the

switch from fossil

switch from fossil

File Type PDF

Models With

Heterogeneous

*to renewable
resources and the
proper use of*

policy instruments

*play an important
role along the path*

*towards a
sustainable future.*

*Biological, physical
and economic
processes are*

naturally involved

File Type PDF

Models With

Heterogeneous

Agents

Introduction

*in the subject, and
postulate the main
modelling,*

*simulation and
decision-making
tools: the methods
of dynamic
optimization and
dynamic games.*

*This User's Guide
is a resource for
investigators and*

File Type PDF

Models With

Heterogeneous

Agents

Introduction

*stakeholders who
develop and
review*

observational

comparative

effectiveness

research protocols.

It explains how to

(1) identify key

considerations and

best practices for

research design;

File Type PDF

Models With

Heterogeneous

Agents

Introduction

(2) build a protocol based on these standards and best practices; and (3) judge the adequacy and completeness of a protocol. Eleven chapters cover all aspects of research design, including:

File Type PDF

Models With

Heterogeneous

developing study

objectives,

defining and

refining study

questions,

addressing the

heterogeneity of

treatment effect,

characterizing

exposure,

selecting a

comparator,

File Type PDF

Models With

Heterogeneous

Agents

Introduction

*defining and
measuring
outcomes, and
identifying optimal
data sources.*

*Checklists of
guidance and key
considerations for
protocols are
provided at the
end of each
chapter. The*

File Type PDF

Models With

Heterogeneous

Agents

Introduction

*User's Guide was
created by
researchers*

*affiliated with
AHRQ's Effective
Health Care
Program,
particularly those
who participated in
AHRQ's DEcIDE
(Developing
Evidence to Inform*

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Models With

Heterogeneous

Agents

(Effectiveness)

Introduction

program. Chapters were subject to multiple internal and external independent reviews. More more information, please consult the Agency website: www.effectivehealth

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Models With
Heterogeneous
Agents
Introduction

care.ahrq.gov)

*This volume
contains ten
essays on seminal
topics in economic
theory by
internationally
renowned
scholars.*

*This study
investigates the
role of*

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Models With

Heterogeneous

heterogeneous

agents in oil

markets and tests

tales of

speculators in oil

price formation.

Results obtained

from using a non-

linear

heterogeneous

agent model

suggest that oil

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Models With

Heterogeneous

Agents

Introduction

market prices are driven by different groups of speculators, namely fundamentalists, chartists and the newly introduced contrarians. The latter enable us to disentangle stabilizing effects

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Models With

Heterogeneous

previously

Agents

attributed solely to

Introduction

fundamentalists,

and they are on

average the most

dominating group,

whereas chartists

exacerbate the

huge price swings

in 1990, 2008 and

2011. We also

show how

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Models With

Heterogeneous

Agents

Introduction

*sensitive the
model outcomes
are to the*

*specification of the
fundamental value,
what has strong
economic
implications.*

*Imperfections and
Behavior in
Economic
Organizations*

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Models With

Heterogeneous

Unbundling

Agents

Macroeconomics

Introduction

Via

Heterogeneous

Agents and Input-

Output Networks

Nonlinear

Dynamics and

Heterogeneous

Interacting Agents

Information and

Communication

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Models With

Heterogeneous

Agents,

Introduction

Technologies in

Education,

Research, and

Industrial

Applications

Macroeconomics

with

Heterogeneous

Agents and Input-

Output Networks

From Portfolio

Optimization to

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Models With

Heterogeneous

Agents

Introduction

Network Effects

The first step-by-step introduction to the methodology of agent-based models in economics, their mathematical and statistical analysis, and real-world applications.

This book provides an accessible, undergraduate-level

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Agents

**introduction to
computable general
equilibrium (CGE)**

models, a class of

model that has come

to play an important

role in government

policy decisions. The

book uses a

graphical approach

to explain the

economic theory that

underlies a CGE

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Heterogeneous

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Introduction

model, and provides results from simple, small-scale CGE models to illustrate the links between theory and model outcomes. The book includes eleven guided, hands-on exercises that introduce modeling techniques that are applied to real-world

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economic problems.

Students will learn

how to integrate

their separate fields

of economic study

into a

comprehensive,

general equilibrium

perspective as they

develop their skills as

producers or

consumers of CGE-

based analysis.

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Models With

Heterogeneous

Agents

Introduction

This second book on financial and economic simulations in Swarm marks the continued progress by a group of researchers to incorporate agent-based computer models as an important tool within their discipline. It is

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Heterogeneous

Agents

Introduction

encouraging to see such a clear example of Swarm helping to foster a community of users who rely on the Swarm framework for their own analyses. Swarm aims at legitimizing agent-based computer models as a tool for the study of complex systems. A

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Models With

Heterogeneous

Agents

Introduction

further goal is that a common base framework will lead to the growth of user communities in specific areas of application. By providing an organizing framework to guide the development of more problem-specific structures,

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Heterogeneous

Agents

Introduction

**and by dealing with
a whole range of
issues that affect
their fundamental
correctness and their
ability to be
developed and
reused, Swarm has
sought to make the
use of agent-based
models a legitimate
tool of scientific
investigation that**

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Agents

Introduction

also meets the practical needs of investigators within a community.

In this article we extend the agent-based model of firms & rsquo; formation and growth proposed in [4]. In [4] the firms & lsquo; creation, expansion or contraction

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Models With

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Agents

Introduction

results from the interaction of heterogeneous utility maximizers. While the original model was able to replicate the power law distribution in the firms & rsquo; sizes agents in the model set their utility maximizing effort levels completely

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Introduction

freely and undetected. This led to the emergence of free riding and influenced the overall dynamics of the model. Therefore we decided to extend the original model by introducing the monitoring which is seen in the economic literature, besides for

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Introduction

**example the proper
incentive scheme
([18]), as a possible
way how to make
employees work
harder. Our
motivation is to
compare the
extended model with
both to the original
case without
monitoring and
empirical data about**

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Models With

Heterogeneous

firms & sizes

distribution. --

monitoring ; firms'

size ; power law ;

agent-based model ;

simulation ;

heterogeneous agents

Theory and

Applications

Mean Field Games

with Heterogeneous

Players

An Introduction to

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Models With

Heterogeneous

Agents

Introduction

**High-Frequency
Finance
Bounded-rationality
and Heterogeneous
Agents
Simulations in
Swarm
Developing a
Protocol for
Observational
Comparative
Effectiveness
Research: A User's**

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Models With

Heterogeneous

Guide

Agents

Introduction

to Agent-Based

Economics

describes the

principal

elements of

agent-based

computational

economics

(ACE). It

illustrates

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Models With

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Agents

Introduction

***ACE's
theoretical
foundations,
which are
rooted in the
application of
the concept of
complexity to
the social
sciences, and
it depicts its
growth and***

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Models With

Heterogeneous

Agents

Introduction

***development
from a non-
linear out-of-
equilibrium
approach to a
state-of-the-
art agent-
based macroeco-
nomics. The
book helps
readers gain a
better***

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Models With

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Introduction

***understanding
of the limits
and
perspectives
of the ACE
models and
their capacity
to reproduce
economic
phenomena and
empirical
patterns.***

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Models With

Heterogeneous

**Reviews the
literature of
agent-based**

**computational
economics**

**Analyzes
approaches to
agents'**

expectations

**Covers one of
the few large
macroeconomic**

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Models With

Heterogeneous

agent-based

models, the

Modellaccio

Illustrates

both

analytical and

computational

methodologies

for producing

tractable

solutions of

macro ACE

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Heterogeneous

models

Agents

Describes

Introduction

diffusion and

amplification

mechanisms

Depicts

macroeconomic

experiments

related to ACE

implementation

S

'International

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Agents

Introduction

***Handbook on
the Economics
of Integration
edited by
Miroslav
Jovanovi?
provides
timely and
rich academic
contributions
to
considerations***

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Models With

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Introduction

***of the widest
array of integ
ration-related
issues.***

***European
integration
has been
providing an
inspiration to
a number of
academics and
researchers.***

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Models With

Heterogeneous

Agents

Introduction

the Handbook

is a

recognition of

the dynamic

and strong

solidarity of

European

integration.

At the same

time, the

European Union

often provided

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Models With

Heterogeneous

an example for

integration

schemes

throughout the

world which

spread

enormously

since the

mid-1990s.

Leading

experts from

all continents

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Models With

Heterogeneous

Agents

Introduction

***contributed to
this Handbook
which will be
a valuable
input into
academic and
policy-making
discussions
and actions.'***

***- José Manuel
Barroso,
President of***

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Models With
Heterogeneous
the European
Agents
Commission
Introduction