Nici Zimmermann, Kaveh Dianati and Mike Davies

FUTURE WORK
**HEW future**

**Past**
- Pilot project
- Participatory mapping
- Quantitative system dynamics
- Interactive learning environment
- Module (10 lectures)

**Future**
- Continuously piloting new approaches
- Scenarios of uncertainty
- Policy work
- Organisational decision-making in housing (values, identity, attention)
- Master’s course
- Transdisciplinary research
- ...

Integrated decision-making about Housing Energy and Wellbeing (HEW)
4th stakeholder workshop
PhD Research Proposal by Kaveh Dianati
Supervisors: Nici Zimmermann, Mike Davies

THE HOUSING CRISIS IN LONDON
A SYSTEM DYNAMICS MODEL
Research motivation
Housing affordability

Ratio of median house price to median earnings

Source: DCLG table 577

Integrated decision-making about Housing Energy and Wellbeing (HEW)
4th stakeholder workshop
Tenure patterns

Dwelling stock by tenure (in thousands, 1980-2014)

Source: DCLG table 101
Research objective and method
Research objective and method

- **Objective:**
  - To describe the underlying socio-economic structure responsible for the housing crisis in London

- **Method:**
  - Create a System Dynamics model that can endogenously reproduce past trends
  - Use the model to explain the current situation
  - Simulate into the future to speculate how the situation may unfold under BAU
  - Use the model to test various sets of policies
Research framework
Research framework

- **HOUSEHOLDS**
  - Homeowners
    - Outright owners
    - Mortgaged owners
  - Tenants
    - Social
    - Private
  - Need vs. Demand
  - Homelessness

- **GOVERNMENT**
  - Schemes
    - Right to Buy
    - Help to Buy
    - Buy to Let
  - Taxes
    - Council tax
    - Inheritance tax
    - Stamp duty
  - Benefits
    - Housing benefits
    - Affordable rents

- **LOCAL AUTHORITIES**
  - Provision of land; Planning permission

- **HOUSING**
  - By Occupancy
    - Owner-occupied
    - Private Rental Sector
    - Empty houses
  - By Ownership
    - Council
    - Housing Associations
    - Private

- **BUILDERS**
  - Consolidation Performance
  - Drip feeding
  - Land banking

- **SALES MARKET**
  - Supply
    - Second-hand
    - New build
  - Demand
    - as Home
    - as Investment

- **CREDIT SECTOR**
  - To Buy
  - To Build

- **RENT MARKET**
  - Supply
    - Social
    - Private
  - Demand
    - Priced out
    - Housing benefits

- **ECONOMY**
  - Financialisation
  - Pressure on productive sectors
  - Economic stability
  - Inequality
The model
Preliminary insights
Bite-size insights
The price-rent loop
Bite-size Insights
The price-rent loop
Bite-size Insights
The price-rent loop
Bite-size Insights
Debt accumulation
Platform grant plans

- Complex Built Environment Systems
  - Complexity and context

- Unintended Consequences of Decarbonising the Built Environment
  - Challenges

- Built Environment Systems Thinking
  - Integrated solutions
    - Mechanisms
    - Dynamics
    - Soft AND hard factors
    - Microworld and connector → management of interdisciplinarity
    - Content areas: moisture, healthy buildings, …
Mike Davies

EVALUATION AND MOVING FORWARD QUESTIONNAIRE
Mike Davies

CLOSING REMARKS