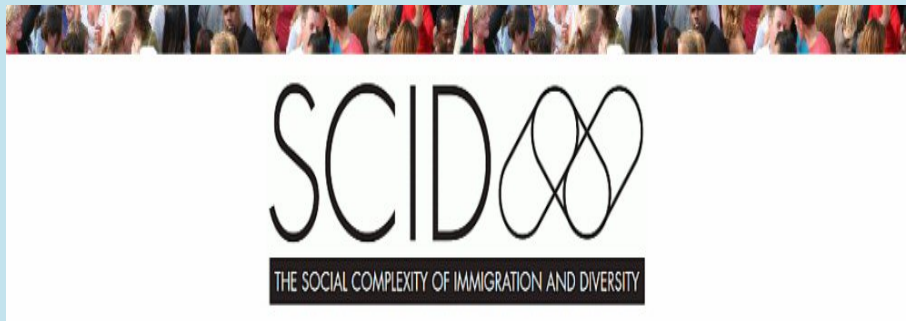# Disruptive Norms - Assessing the impact of ethnic minority immigration on non-immigrant voter turnout using a complex model.

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Beyond Schelling and Axelrod, Manchester Metropolitan University
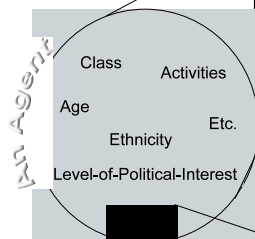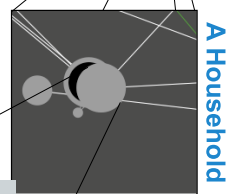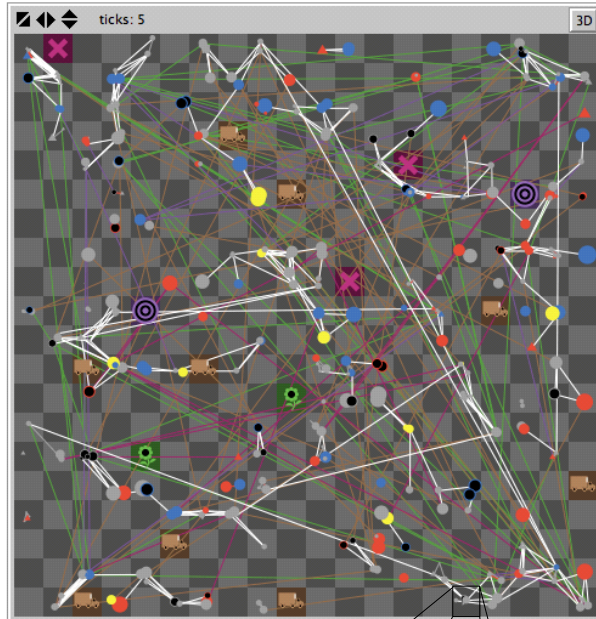7/7/17

Presentation Outline

- Introducing the SCID Project Voter Model and its assumptions

- Theory, background and rationale for looking at immigration and turnout

- Model Results

- Implications

Modelling Turnout in a complex World

- Builds on a social-relational theory of turnout developed by Fieldhouse and Cutts stressing importance of social norms and inter-personal mobilisation
- Explores interaction of the social and dynamic processes using agent-based simulations that allows us to capture complex dynamic behavioural processes including interpersonal influence and habit
- Adopts descriptively complex modelling approach
- Allows estimate of direct and indirect effects of mobilisation
- Differs form previous analyses based on observational data and 'top-down' statistical methods
- Agent-based models allow for non-linearity, path dependence and self-organisation

A Small District

ticks: 5 3D

A Household

An Agent

Class   Activities
Age
Ethnicity   Etc.
Level-of-Political-Interest

Discuss-politics-with person-23 blue expert=false
neighbour-network year=10 month=3
Lots-family-discussions year=10 month=2
Etc.

An Agent's Memory of Events

- Multiple factors affecting evolution of population, turnout decision and other relevant phenomena

- System representing a single candidate election in an imaginary location of approximately 1,000 inhabitants nested in households

- Agents' characteristics are initiated from BHPS

Overview of processes

Underlying data about population composition	Characteristics of people in households	Social Network Formation and Maintenance	Behaviour	Influence via Social Networks

Rules of Behaviour based on causal evidence

- There is homophily in social networks
- Initial party preference learnt in families.
- Education increases the level of political interest.
- Political experts are more influential within political discussion networks.
- People share the political views of their networks

- Voting is a social norm (Civic Duty).
- Satisfaction with the outcome of an election increases future turnout.
- Voting can be hindered by personal shocks.
- Electors can be mobilised to vote by family, friends and political parties.
- People vote because they care about who wins.
- People vote out of habit.
- Voting varies with age, ethnicity, class.

Political discussion networks

- Key networks in the voter model
  - Influence on vote & party choice
- Content of political discussions
  - Duty
  - Colour
  - Intention
- Characteristics of discussions
  - Strength of message
  - Location
  - Occurrence
- Content can be passed along discussants
  - Ability to pass information along dependent on the level of political interest of discussants
- Network influence is auto-regressive

Voting: intention and decision

- Agents have a vote intention
  1. Civic duty
  2. Habit
  3. Instrumental reasons
- Agents vote for the party they support (colour)
  - Acquired/changed via discussion
  - Voters must have a preference
- Intention to vote may be fulfilled come Election Day
  - Theory of planned behaviour
  - Factors disturbing positive intention
- Those without the intention to vote can be mobilised to do so by family/friends/parties

Voter Model Substantive Experimental Application– Immigration, Civic Duty Norms and Turnout

- The subjective norm of voting (often measured using proxy of personal normative belief such as Civic Duty) is a key motivator of turnout both at the individual and aggregate level (Gerber and Green 2008, Blais and Aachen 2011).
- Immigration may have an impact on the norm of voting through changing patterns of network structure and influence by:
  - Altering the homogeneity of the community (Fowler, 2005).
  - Introducing groups having different norms of voting to the base population (Huckfeldt, Johnson and Sprague 2004, Johnston and Pattie 2006).
- The Voter Model allows us to simulate a series of scenarios measuring the effect of turnout on varying both the levels of immigration into a community and the norms of voting those immigrants have.

Assumptions and Model Set-Up

Constant Features

– Focus is on the impact that immigration levels and the characteristics of those immigrants have on the turnout level of non-immigrants – ie. social influence models.

– Simulations are run in Netlogo over a 100 year period.

– The population of the model is around 1200 agents.

– Elections are held each year with Major Elections held every 4 years.

Immigration Rules

-Immigration is set at a rate of 1% a year.

-Non-Immigrant community is a homogenous ethnic majority (at the start of models).

-Immigrant community is a homogenous visible minority.

Focus of the Models

1= Influence of Immigration on Non-Immigrant Turnout.

2 = Influence of immigrant Civic Duty Levels on Non-Immigrant Turnout.

3 = Influence of Campaign Effects as a mediator

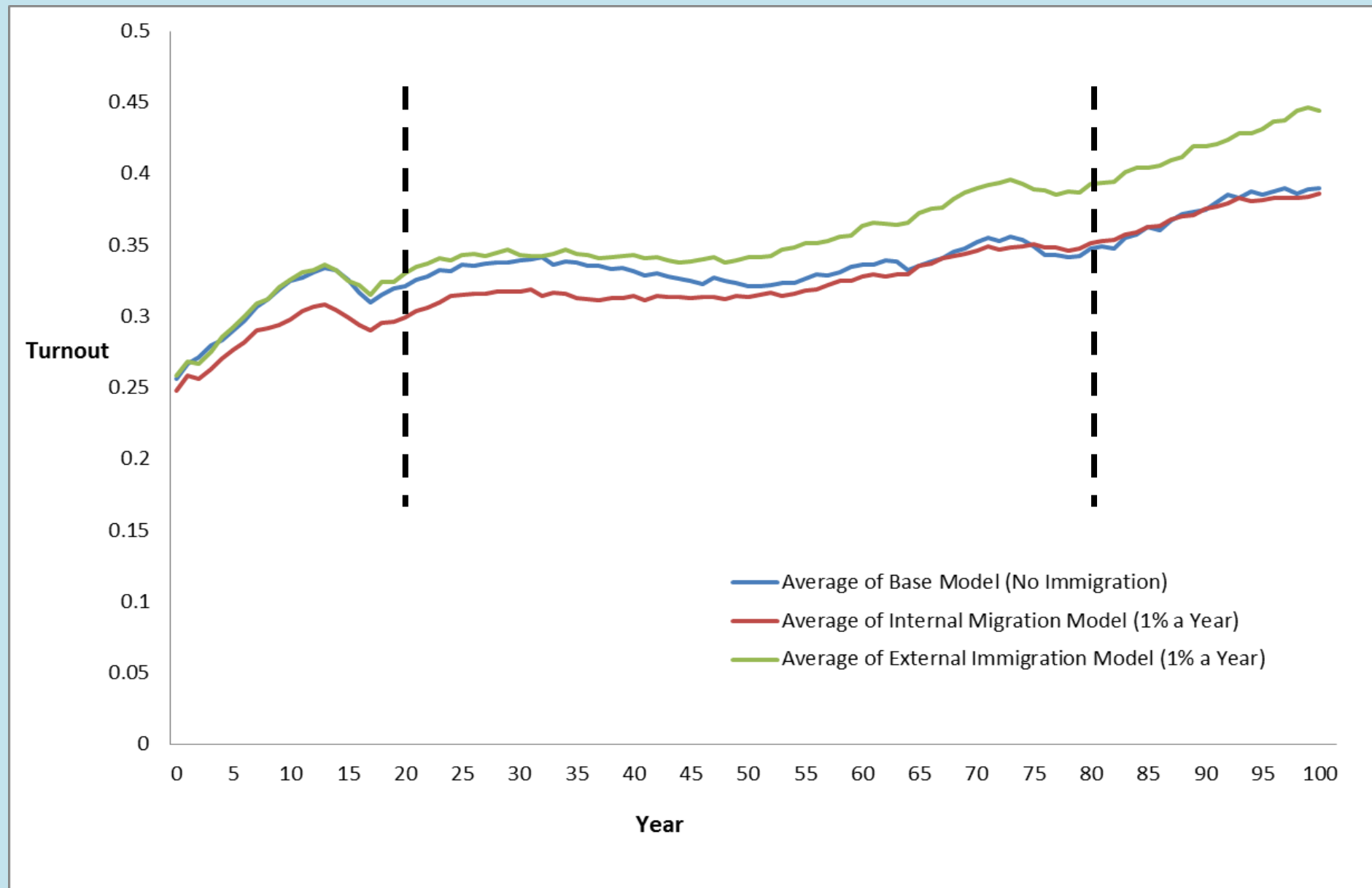4=Convergence of Immigrant and Non-Immigrant Turnout.

Model Set-Up

1 = Base Model with no Immigration (Blue Line). A Homogenous non-immigrant ethnic Majority Population very little churn beyond attrition.

2 = A Model with 1% internal migration (Red Line).   A homogenous non-immigrant Majority Population with a regular churn in population with agents entering and leaving the model through an internal migration process.

3 = A model 1% external migration (Green Line). An increasingly mixed population in which a homogenous non-immigrant Majority population at the start of the models is supplemented with 1% external immigration a year from a visible minority immigrant group.

Results 1 – Immigration Models

Civic Duty Models Set-Up

1 = Base Model with no Immigration (Blue Line). A Homogenous non-immigrant ethnic Majority Population very little churn beyond attrition. Normal Civic Duty Levels.

2 = A Model with 1% internal migration (Red Line). A homogenous non-immigrant Majority Population with a regular churn in population with agents entering and leaving the model through an internal migration process. Normal Civic Duty Levels.

3 = A model 1% external migration (Green Line). An increasingly mixed population in which a homogenous non-immigrant Majority population at the start of the models is supplemented with 1% external immigration a year from a visible minority immigrant group. Normal Civic Duty Levels.

4 = Identical Model to 3 but with Immigrants having a higher probability of acquiring Civic Duty than Non-Immigrants (Purple Line).

5 = Identical Model to 3 but with Immigrants having a lower probability of acquiring Civic Duty than Non-Immigrants (Yellow Line).

Results 2 – Civic Duty Models
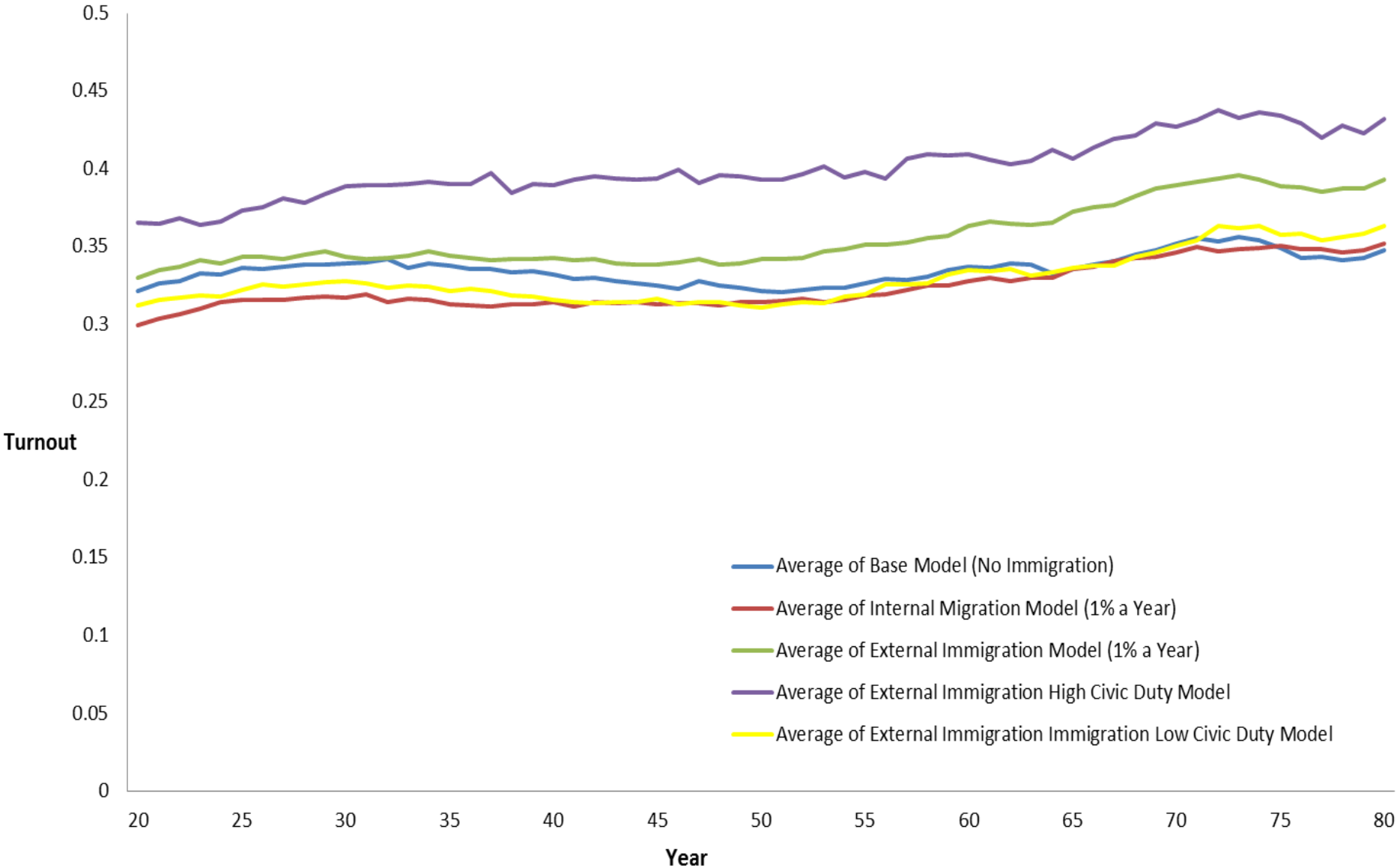
Campaign Influence Models Set-Up

- Identical Model set ups to previous models except with campaign effects turned on.

- This means that levels of contact from influential agents (high levels of political interest) go up during the period of Major Campaigns every 4 years.

- Interested to see if this exacerbates or dampens differences.

Results 3 – Campaign Influence Models
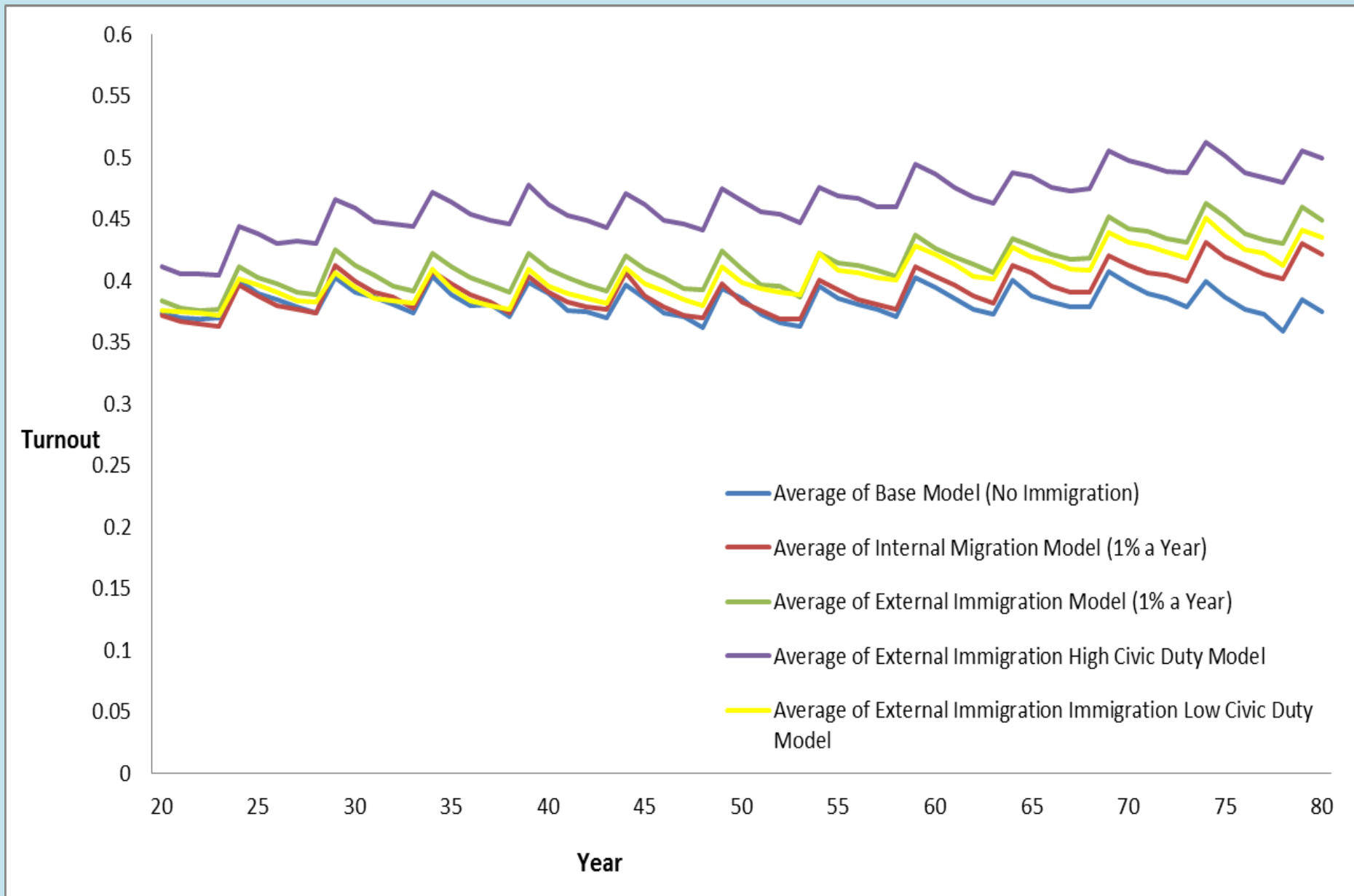
Results 4 – Turnout Convergence Models
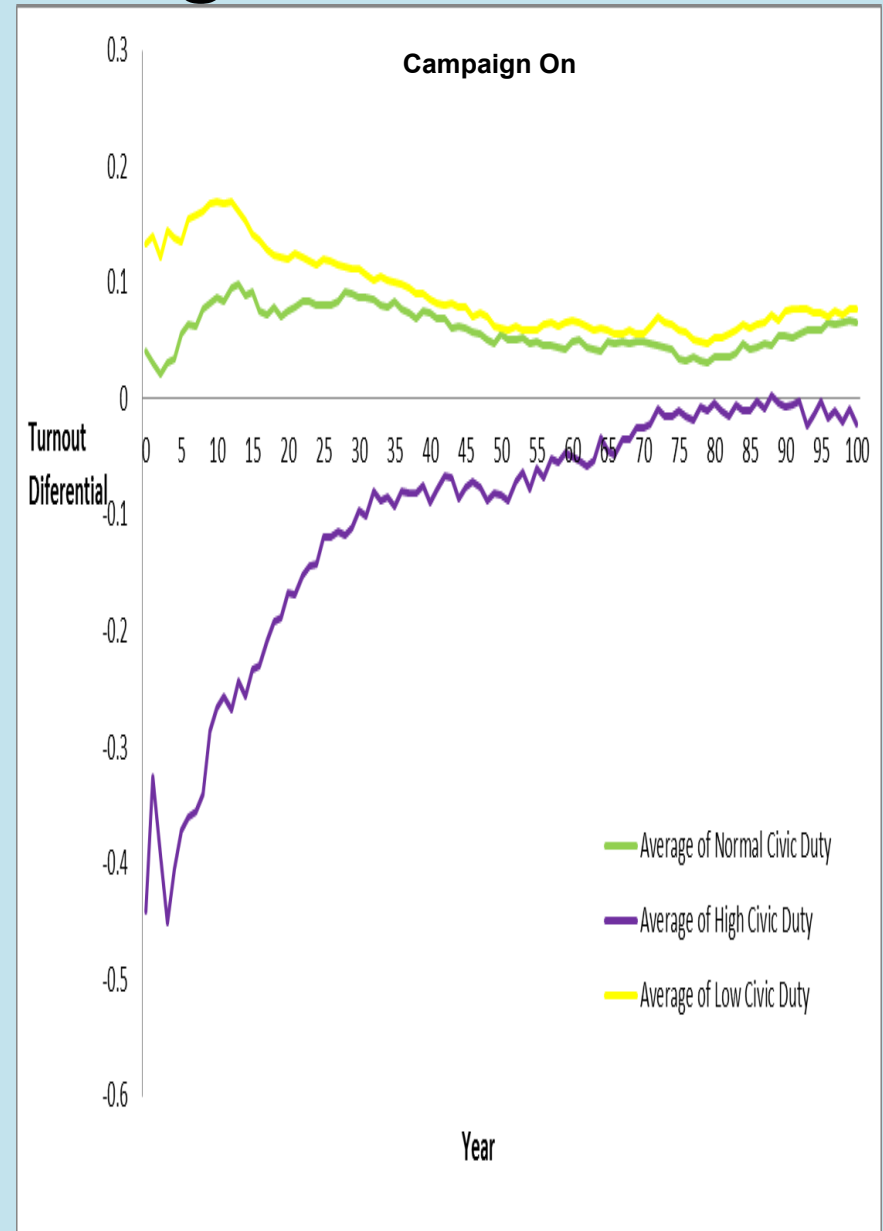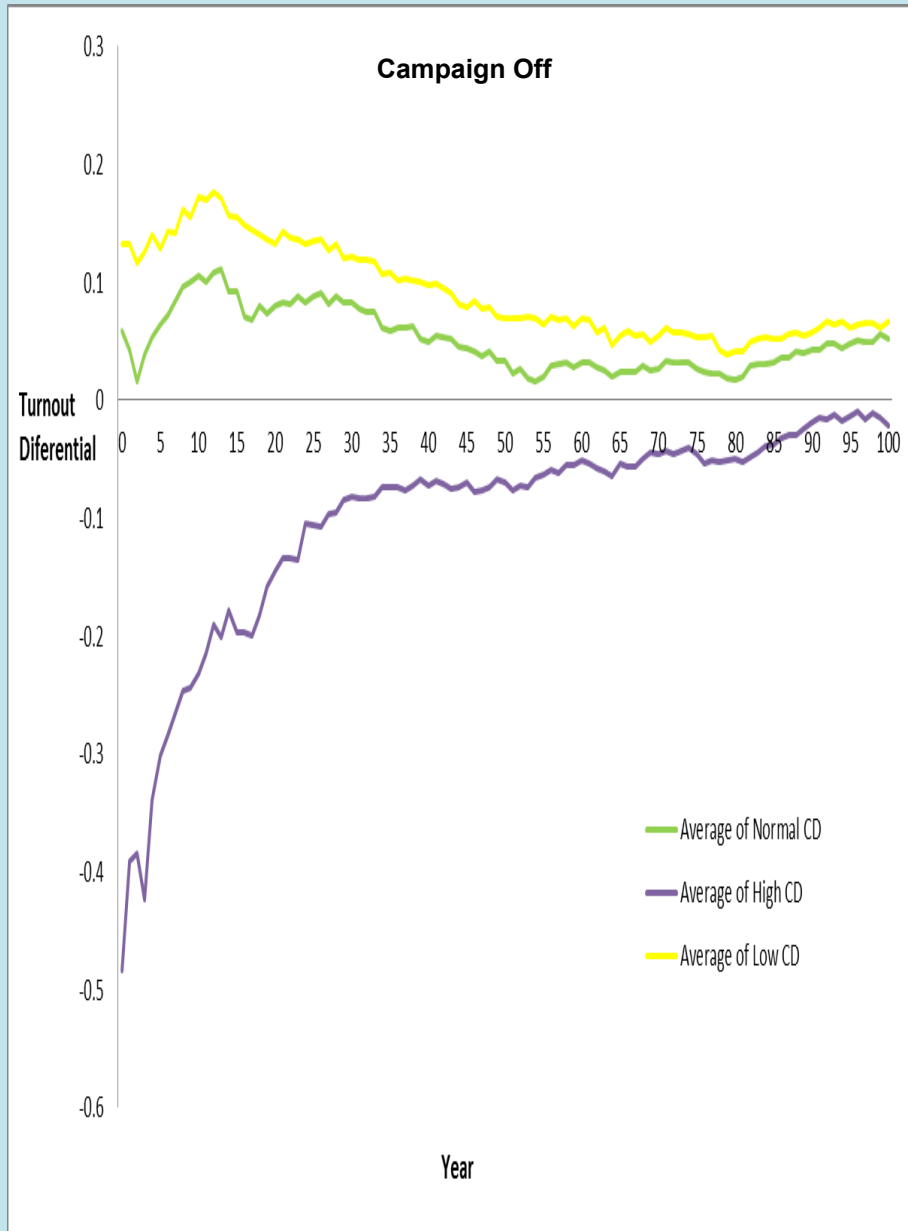
Conclusions

- Substantive vs Methodological dilemma.

- Variation is relatively small but these are aggregate indirect effects (social network influence).

- Substantive conclusion that immigration itself has an impact in raising turnout among non-immigrants. Civic Duty levels among immigrants influence turnout levels of non-immigrants. (Conflict vs Contact Theory).

- Evidence to support social relational theory (Fieldhouse and Cutts) although partial.

- Methodological conclusion that our findings highlight the internal dynamics of our model and its relative stability.

Current and Future directions – Mechanisms

- Accounted for alternative explanations from within the model.

- Effects are not driven by world size, population saturation, data sample or levels of influence. These impact overall turnout levels but not variation between the models.

- Individual agent level analysis struggled to account for variation in terms of classic characteristics in the model (Civic Duty Level, Party Identification, Political Interest).

- Changing levels of Homophily in the model had little impact.