

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

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Abstract - There is a substantial, but contradictory, sociological and political science literature related to the contextual effects of increased ethnic diversity on socio-political behaviour. Much empirical work in this area has concentrated on providing testable measures that can contribute to the academic debate between contact theory and conflict theory regarding the impact of aggregate area level ethnic diversity on individual level attitudes and behaviours. Within political science there is a substantial history of research relating to the impact of area level ethnic diversity on voter behaviour dating back to VO Key's seminal 1949 study of politics in the Southern United States. However, research on the impact of ethnic diversity on voting has often produced contradictory results. On the one hand a number of significant studies have demonstrated that an increase in the ethnic minority population can lead to increased turnout through heightening the significance of political competition between ethnic minorities and majority groups. In contradiction to this a number of other studies have suggested that increased aggregate level ethnic diversity depresses turnout through its association with lower levels of social trust. Therefore, not only is this literature contradictory in terms of its empirical results, it also fails to clearly map on to the classic debate between contact and conflict theory and the mechanisms that may drive these effects have remained largely elusive in standard statistical models of voting behaviour.

This paper intends to contribute to the debate in this area by using a complex agent based simulation model to test two possible mechanisms of this relationship; one at the aggregate level and one at the individual level. At the aggregate level the model will test the impact of the rate of immigration and the level of ethnic diversity among immigrants on the turnout levels of non-immigrants. At the individual level the model will test whether different levels of immigrant civic duty impacts on propensity of non-immigrants to vote. Tests will be carried out using the 'voter model', a complex ABM which was developed as part of the Social Complexity of Immigration and Diversity project (SCID). It follows a "KIDS" rather than a "KISS" methodology - it aims to be more guided by the available evidence rather than simplicity (Edmonds & Moss 2005). This social model of voting aims to enable the exploration of the social processes behind voter turnout, including demographic trends in household size and composition, social influence via the social networks the individuals are embedded within, wider social norms such as civic duty, personal habit and identity, as well as individual rationality. This structure was designed to allow the relative priority and interaction of many different context-dependent social processes to be explored.

The paper will present findings from a number of simulations utilising the voter model. The simulation is based on a single contextual area (which, in terms of an aggregate political unit, we are loosely defining as a ward or constituency) of around 2-4000 agents. Each simulation evolves over a period of 100 years with elections set every 4 years and agents having the capacity to influence each other's vote intention and civic duty levels through conversation in the home, the workplace, social clubs and schools. Baseline levels of social interactions and demographic effects were established using data from British Household Panel Survey and Census data. The simulations vary the level of immigration (defined as agents entering the simulation grid from outside in family units) from a baseline of 0 to 3% a year. They also vary the character of the immigrant agents to test for different levels of ethnicity and civic duty. The findings show that increased levels of immigration lead to an increased level of turnout among the non-immigrant majority population over time but that this effect is mitigated by the level of civic duty among the immigrant population. If immigrants have higher levels of immigration this will lead to substantially increased levels of turnout among the non-immigrant population whereas lower levels of civic duty among immigrants leads to a much lower increase in the turnout of non-immigrants. In addition, primarily tests are provided for the impact of homophily in driving these effects. Finally, the paper will discuss the impact of these findings on existing theories of ethnicity and voter behaviour.