

CENTRE FOR MARKET AND PUBLIC ORGANISATION

# Research in **Public Policy**

ISSUE 14  
**SUMMER 2012**



## **Peer pressure**

[bristol.ac.uk/cmpo](http://bristol.ac.uk/cmpo)

---

# Editorial

## Summer 2012

Social interactions, such as between friends, family members or colleagues, can be a powerful influence on many of the outcomes that matter in public policy. The focus of this issue of *Research in Public Policy* is on the role played by social interactions – or ‘network effects’ – in a number of policy settings.

The first four articles summarise research presented at a workshop on social influences on charitable giving – looking at how individuals’ donations are affected by the behaviour of other people around them. Two articles focus on behaviour within networks of givers, looking at the importance of peer effects and publicity on giving, while the other two consider how charitable giving is affected by people’s wider non-giving networks – their immediate social networks (such as friendships) as well as the ethnic composition of the communities in which they live. The finding from Canada that growing diversity is associated with lower levels of giving suggests a number of potential challenges for policy-makers and practitioners.

The next two articles consider the importance of social networks (such as those accessed by having attended an elite university) in professional appointments – to the judiciary and to company boards. They examine whether well connected individuals are likely to be more successful. This is particularly relevant at a time when some senior executives have been defending their high levels of pay by appealing to the independence of board members, and when increasing diversity in the top professions has been on the policy agenda.

The final two articles on social interactions consider how they might influence aspirations to continue in education and to engage in risky behaviour such as smoking. The first article analyses data on adolescent friendship networks and finds that young people’s educational aspirations do appear to be influenced by good friends. The second looks at how peer effects, together with altruistic concerns about friends or family can lead to a trade-off: family members might influence each other to smoke cigarettes, but at the same time concerns about harm to others through passive smoking might decrease the amount they smoke.

The final article in this issue looks at a policy question that links to the current debate around the effects of competition in healthcare. It summarises new evidence on hospital mergers and concludes that the consolidation of English acute hospitals over the late 1990s and early 2000s brought few benefits.

**Helen Simpson and Sarah Smith**

---

# Contents

- 1 Peer effects in charitable giving
- 4 Pledges and publicity: an experiment in civic behaviour
- 6 Diversity and donations
- 9 Small world economics in a big society
- 11 Informal networks and corporate board appointments
- 14 Social networks and the law
- 16 Friendship networks and young people’s aspirations
- 19 Risky behaviour in social networks
- 21 NHS hospital mergers: what benefits? 

## Keep updated



Visit the CMPO blog ‘Viewpoint’:  
[bristol.ac.uk/cmpo/blog](http://bristol.ac.uk/cmpo/blog)



Follow us on Twitter:  
[@cmpobristol](https://twitter.com/cmpobristol)



Watch us on YouTube:  
[youtube.com/user/CMPObristol](https://youtube.com/user/CMPObristol)



Listen to our podcasts:  
[bristol.ac.uk/cmpo/audio](http://bristol.ac.uk/cmpo/audio)

**Produced by:**  
Centre for Market and Public Organisation  
Bristol Institute of Public Affairs (BIPA)  
University of Bristol  
2 Priory Road  
Bristol BS8 1TX

Tel: +44 (0)117 331 0799  
Fax: +44(0)117 331 0705  
Email: [cmpo-admin@bristol.ac.uk](mailto:cmpo-admin@bristol.ac.uk)  
[bristol.ac.uk/cmpo](http://bristol.ac.uk/cmpo)



[bristol.ac.uk/cmpo](http://bristol.ac.uk/cmpo)

# Peer effects in charitable giving

**‘Seeing others give is one of the most powerful drivers of further giving’, according to the UK government’s ‘Giving White Paper’. CMPO research by Sarah Smith and colleagues analyses data from two fundraising websites to measure the extent to which donors are influenced by how much other people have given.**

There is a widespread belief that peer effects are important in charitable giving. Yet perhaps surprisingly, there is little direct evidence on whether donors respond to donations made by their peers and how powerful these effects are in practice.

A number of studies have looked at the effect of ‘social information’ – that is, information given to donors on how much other people have given (Alpizar et al, 2008; Shang and Croson, 2009). But these are not quite the same as genuine peer effects since the information usually refers to other (unknown) donors or to a ‘typical’ donor.

Another study looks at peer effects in solicitation (Meer, 2011). Using the random assignment of college roommates in the United States, it shows that charitable solicitations by alumni are more persuasive when they come from a former roommate than from someone the potential donor didn’t know. But again this is not quite the same as showing that there is an effect from observing donations made by peers.

An earlier study addresses peer effects among workplace teams (Carman, 2004). But in this case, the peer group includes the team captain who plays a direct role in encouraging and motivating giving among team members.

Our research looks directly at peer effects in charitable giving by analysing data from two fundraising websites: Justgiving and Virgin Money Giving. In the UK, these are a major source of income for many charities. Since 1991, more than two million individual fundraisers have raised more than £1 billion for a wide range of different charities through the biggest individual fundraising websites.



The way that online fundraising typically works is as follows. An individual fundraiser decides on an activity to raise money for their chosen charity. These activities often involve a sporting event such as running a marathon or swimming the English Channel, but novelty activities such as head shaving are also popular.

The individual fundraiser then sets up a personalised page on a fundraising website and invites people – typically their friends, family and work colleagues – to make donations to their chosen charity. Most of the donations are made online to the fundraising page and are passed directly by the website to the charity, together with tax relief at the basic rate of tax if the donor has made a Gift Aid declaration.

All of the online donations are listed in reverse order on the fundraising page with the most recent first. So information on how much has been given and by whom is visible to each donor who arrives at the fundraising page.

We make use of this set-up to look at whether individuals' donations are affected by how much other people have given, in a situation where many of those donations are likely to have been made by people who are very similar to them and whom they may know directly. Our analysis focuses on more than 300,000 donations made on behalf of more than 10,000 individual fundraisers running in the 2010 London marathon and seeking to raise money for charity.

The key issues we explore are whether donors are influenced by how much other people have given before them – and, in particular, whether the level of past donations affects how much they give.

Of course, donations to a page are likely to be correlated as a result of the similarity of members within the peer group, as well as because of common fundraiser effects – that is, the fact that some fundraisers will be better than others at encouraging donations. Our research strategy relies on the within-page variation in the observed history that arises as a result of donors arriving at the website at different times.

We find clear evidence of positive peer effects. The easiest way to show this is to look at what happens if there is a large donation to a fundraising page, where we define 'large' as twice the average (mean) donation on the page and not less than £50 – which works out as around £100.

Donations before and after the large donation are shown in the first panel of Figure 1. The pattern is quite striking: donations made after the large donation are clearly larger than donations before. If, as seems likely, there is some randomness in exactly when people go to make a donation – and hence in whether they happen to arrive just before or just after the large donation – then we can attribute this difference to the causal effect of the large donation.

The effect is fairly sizeable: a large donation increases the average donation size by £10 on average. So as a fundraising strategy, a £100 donation would pay back in ten donations' time.

There is also no evidence that peer effects 'crowd-out' donations to other pages. Making use of the fact that some Justgiving donors sponsor multiple fundraisers, we look at whether, after following a large donation and giving more to one page, donors give less to other pages that they subsequently visit.

Focusing on around 1,600 donors who make multiple donations, we find, as before, that the estimated direct effect of a large donation is positive and significant, while the estimated spillover effect is positive but insignificant. This implies that there is no evidence that the 'crowd-in' effect of a large donation to one page is also associated with a crowd-out of donations to other fundraising pages.

Does a bigger 'large' donation lead to a bigger response? The general answer is yes, but only up to a point. Our analysis shows that the effect of a large donation that is twice the page average is to increase subsequent donations by £9.40 on average.

A large donation that is between three and five times the page average increases subsequent donations by £10.30 on average, while a large donation that is between five and ten times the page average increases subsequent donations by £15.20 on average. Yet a large donation that is more than ten times the page average has the same effect: £15.20. So there may be a limit to the power of peers to boost donations.

We also find that peer effects can cause the value of donations to go down as well as up. Looking at the effect of a small donation, defined as less than half the page average, the second panel of Figure 1 shows that the effect is similarly clear: donations are smaller than the ones that went before. Again, the effect seems sizeable: subsequent donations are around £5 lower following a small donation.

In summary, this evidence shows that peer effects are important, at least in this online fundraising context. But there may be some limits to their effectiveness in increasing donations: people can only be persuaded to increase the amount they give up to a point; and peer effects can cause people to give less as well as more.

## Peer effects in charitable giving can cause the value of donations to go down as well as up

It is also important to understand why peer effects might be important. One possibility suggested by previous research is that donors respond because other people's donations change the way they think about the value of the cause they are being asked to support (Vesterlund, 2003).

But looking across charities, we find no evidence that peer effects are stronger for smaller, newer charities where information

on the value of causes is likely to be more important. We also find no difference between older and younger donors.

We can rule out the possibility that donors are simply trying to avoid being the least generous donor to a page (since large donations matter). Similarly, we can rule out the possibility that donors are trying to be the biggest donor (since small donations matter). Both findings are also inconsistent with a story in which donors seek to conform by aligning themselves with the average donation as measured by the median or mode.

## A large donation on a fundraising website increases the subsequent average donation size

Our preferred explanation, which is consistent with an empirical finding that the effect of large and small donations diminishes across the page, is that donors give what they think that they personally are expected to give where the distribution of the donations of their peers (along with other factors, such as income and specific cause) feed into the formation of that expectation.

This article summarises 'Peer Effects in Charitable Giving: Evidence from the *(Running) Field*' by Sarah Smith, Frank Windmeijer and Edmund Wright, CMPO Working Paper No. 12/290 (<http://www.bris.ac.uk/cmipo/publications/papers/2012/wp290.pdf>).

**Sarah Smith** is a Professor of Economics at the University of Bristol.  
**Frank Windmeijer** is a Professor of Econometrics at the University of Bristol.  
**Edmund Wright** is a teaching assistant at the University of Bristol.

### Further reading

Francisco Alpizar, Frederik Carlsson and Olof Johansson-Stenman (2008) 'Anonymity, Reciprocity, and Conformity: Evidence from Voluntary Contributions to a National Park in Costa Rica', *Journal of Public Economics*.

Katherine Carman (2004) 'Social Influences and the Private Provision of Public Goods: Evidence from Charitable Contributions in the Workplace', Harvard University Working Paper.

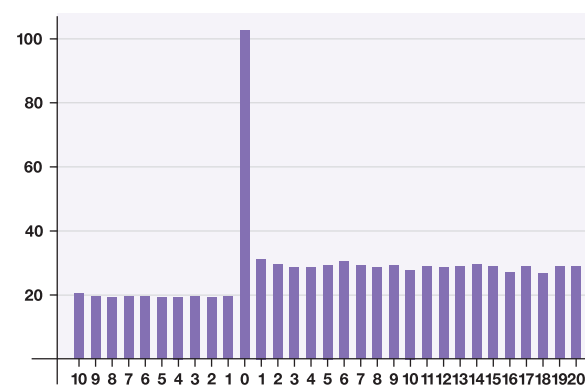
Jonathan Meer (2011) 'Brother, Can You Spare a Dime: Peer Pressure in Charitable Solicitation', *Journal of Public Economics*.

Jen Shang and Rachel Croson (2009) 'Field Experiments in Charitable Contribution: The Impact of Social Influence on the Voluntary Provision of Public Goods', *Economic Journal*.

Lise Vesterlund (2003) 'The Informational Value of Sequential Fundraising', *Journal of Public Economics*.

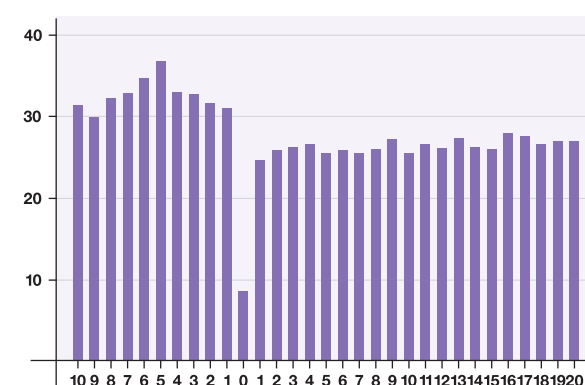
**Figure 1**  
**Are donors influenced by how much other people have given?**

**A: Effect of a large donation**



X: Donations before/after Y: Mean of amount

**B: Effect of a small donation**

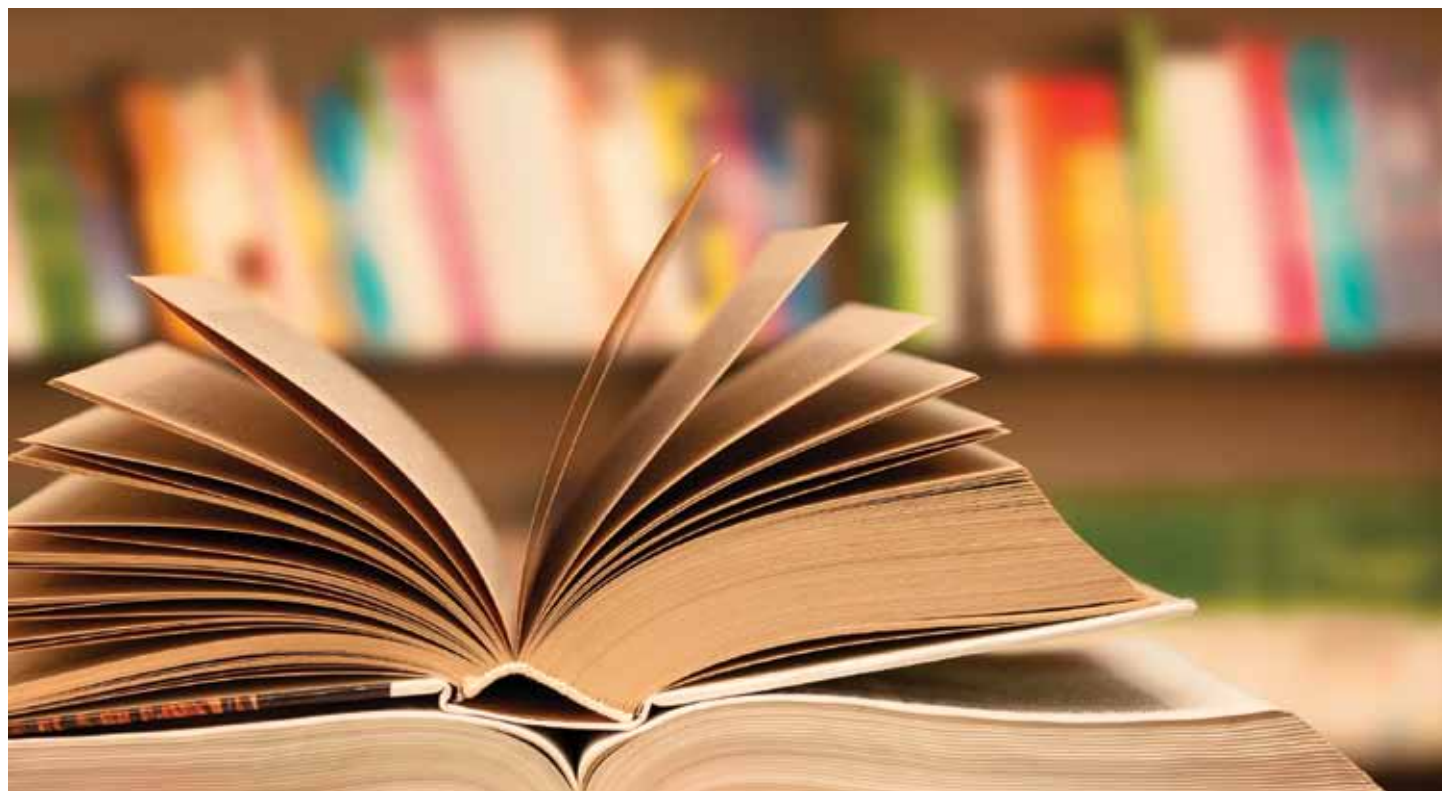


X: Donations before/after Y: Mean of amount

Source: Data taken from Justgiving and Virgin Money Giving Fundraising pages, 2010 London Marathon; Smith et al (2012)



# Pledges and publicity: an experiment in civic behaviour



**Can citizens be encouraged to adopt behaviour that benefits the collective good? Peter John reports the results of an experiment in attracting donations of books for schools in South Africa through a pledge scheme in two electoral wards in Manchester.**

The UK government is interested in whether 'nudges' can change behaviour, including by increasing charitable donations. The effect of many of these nudges can be tested easily using 'randomised controlled trials' to discover their impact in practice – as the following study demonstrates.

In this case, a randomised controlled trial was used to test whether a pledge scheme could encourage people to adopt civic behaviour. The basic idea behind pledging is that if people make a commitment to do something positive for society, they are more likely to do it. Once people make a choice or take a stand, they are perceived as encountering personal and interpersonal pressures to behave consistently.

The experiment sought to test the effect of pledging in the specific context of a request for people to donate books to schools in South Africa. The book collection was organised with Community Heart (UK registered charity no. 1052817), which takes books from the UK to set up school libraries in South Africa.

Letters were sent to 12,000 households in two electoral wards in Manchester asking them to donate books to help set up the libraries. Out of 32 wards in Manchester, the two wards selected were the least deprived ward and the ninth most deprived.

Households were randomly allocated to three different groups:

- A pledge group, in which households were sent a letter advertising the book collection and asking them to pledge a book by postcard, email or telephone. A few weeks later, they were sent a reminder letter with details of drop-off points.
- A pledge and publicity group, in which households were sent two similar letters and, in addition, were told that a list of book donors would be displayed in the local drop-off points, typically a local library. Figure 1 shows the letter that was sent to this group.
- A control group, in which households were sent two similar letters, without the pledge or the offer of publicity.

**The combination of a pledge campaign with publicity for the donors can significantly raise donations**

All households were asked to take donated books to one of six book collection points, three in each area, during Children's Book Week, between 27 February and 6 March 2010. Afterwards, the results and the names of book donors were displayed in all the collection points.

The specific research questions addressed were: were those asked to make a pledge more likely to donate books compared with people not asked to pledge? And does making it public encourage people to pledge and donate books?

In total there were 948 donors, representing 8% of households that were sent a letter. Asking households to pledge increased book donations from 7.3% to 8.2%. This is a 12.5% increase but the difference is too small to be statistically significant.

The combined approach of asking for a pledge and promising local publicity increased book donations from 7.3% to 8.9%. This is a 22% increase that is statistically significantly different to the control group at the 5% level.

## Pledges may encourage people to volunteer, to give blood or to undertake environmental action

The effect of publicity was to increase the proportion that pledged to give, but this was not significantly different to simply asking people to pledge with no publicity. Some people within the control group made a pledge, which may suggest possible spillover effects (which would tend to reduce the estimated effect).

The response to the book collection was highest in less deprived neighbourhoods: 11.4% of households in the least deprived ward gave, compared with 4.8% of households in the more deprived ward. Donation levels were also higher in areas with a high proportion of retired residents and those with a low proportion of single person households. After taking these measures into account, the effect of an area having high numbers of children under 16 or a high number of religious people was not significant.

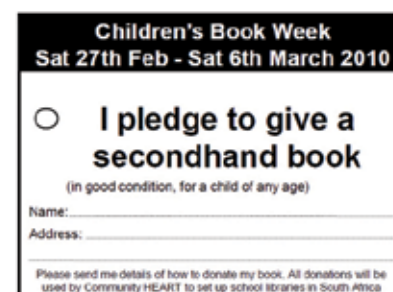
### Policy implications

The research shows that the combination of a pledge campaign with publicity for the donors significantly raised donations. This is the first time that these nudges have been tested in relation to civic behaviour. There may be other areas where they produce a similarly positive response.

Examples include a pledge to undertake environmental action, such as recycling, energy saving or alternatives to car travel; a pledge to volunteer or campaign for a cause, with a promise that a list will be displayed as a thank you to those who gave their time; and a pledge to attend an annual workplace blood donation session, with a thank you list of donors displayed afterwards.

Peter John is at University College London.

**Figure 1**  
**An invitation to pledge**



# Diversity and donations

## Does a greater variety of ethnic or religious groups within an urban neighbourhood lead to changes in people's charitable giving? Research by Abigail Payne and colleagues looks at the link between diversity and donations in the Canadian city of Toronto.

There are many reasons to embrace multiculturalism and diversity in our neighbourhoods. With diversity, however, we are mingling different cultures and a range of values and needs. These may lead to differences in opinion about the provision of public goods, be they through public or private provision. Our research explores whether neighbourhood diversity leads to changes in donations to charity.

### Why diversity might affect giving

Whether diversity matters depends on the structure of charities and how one thinks about charitable giving. If residents prefer to sort into social groups that are similar to themselves in terms of ethnicity, religion or other definable characteristics, then increased diversity may mean that individuals are more likely to give to charitable causes that benefit their own group, such as local religious organisations or neighbourhood food banks.

If, however, charities are seen as helping those outside their group, then the same insular feelings that lead to less support for publicly provided goods may result in lower giving to these charities.

Previous research has focused on understanding how diversity affects publicly provided goods. It suggests that there is lower spending on goods such as schools, roads and hospitals in ethnically diverse communities. But the effect of diversity on charitable giving has not been as extensively studied.

## Growing diversity could lead to significant and sizeable effects on the charitable sector

We study the effect of ethnic and religious diversity on donations reported on individual tax returns in Canada for the period 1991 to 2006. Although its population is slightly more than half that of the UK, Canada is an ideal place to study the effects of diversity. It is a highly diverse nation, one that promotes multiculturalism and is more open to immigration than most other developed countries. Over the last few decades, it has seen tremendous fluctuations in diversity.

### Diversity at a community level

Our analysis is focused on studying individuals as a group defined by a neighbourhood. Here, a neighbourhood is defined by postal code boundaries and consists of an average of between 5,000 and 8,000 households. We look at reported donations by the individuals residing in these neighbourhoods and see if, as our measure of diversity changes, donations change (after controlling for individual shares of groups in neighbourhood composition and other characteristics of the neighbourhood).

To measure diversity, we sum the squared terms of each group (for example, the share of the neighbourhood population that belong to a given ethnic group) and subtract that from 1. This measure then ranges from 0 to 1, with 0 representing a neighbourhood with no diversity (all members are from the same group) and 1 representing a neighbourhood with complete diversity.

The value assigned to each neighbourhood represents the likelihood that any two random members of the neighbourhood belong to different groups. For example, a value of 0.15 would suggest there is a 15% chance that a person from one descent is likely to interact with a person from another descent.

Figure 1 illustrates the spatial distribution of ethnic diversity around Toronto, Ontario. We group each neighbourhood into quintiles based on their level of diversity. The darker shades identify neighbourhoods with greater diversity.

Looking at the characteristics as they existed in 2006, the areas closest to the centre of Toronto contain the highest levels of diversity. During the 1990s and 2000s, however, in many areas around Canada, the changes in diversity levels in neighbourhoods are mostly seen in the areas around the core of major cities (for example, the 'doughnut' around the city core).

Between 1996 and 2006, more than 60% of neighbourhoods experienced an increase in the shares of non-white ethnic groups of at least one type. There were increasing shares of East and Southeast Asians, South Asians, Blacks, Hispanics and individuals from Arab/West Asian descent. The highest proportions of non-whites in Canada, however, generally come from the East/Southeast Asian and South Asian areas.

### Donation patterns

In Canada, all taxpayers may receive a credit against their taxes for their donations to charity. The credit is applied against both federal and provincial income tax liabilities. While each tax return represents an individual's income, couples can combine the tax receipts for their donations. We thus are reporting donations at the household level.

Between 1996 and 2006, the average donation per household was \$200 (£125). Average donations, however, increased over the period: from an average of \$175 in 1996 to \$280 in 2006.

### More diverse neighbourhoods experienced a decline in giving

Measuring diversity based on ethnicity, neighbourhoods that increased in diversity experienced a decrease in giving. An increase of 0.1 in the diversity measure resulted in a decline of giving by \$27, representing a 14% drop in giving. To put this into context, between 1996 and 2006, neighbourhood diversity increased by an average of 0.06, resulting in a decline in giving by 8% over that decade.



Figure 1  
Ethnic diversity, Golden Horseshoe 2006



Table 1  
Visible minority and religion groups over time

Visible minority	1996	Percentage Point Change 2006-1996	% of FSAs with Increasing Share 1996-2006
Not visible minority	85.47%	-5.64	12.50%
East/Southeast Asian	6.43%	2.05	73.45%
South Asian	3.02%	1.88	66.97%
Black	2.58%	0.51	69.53%
Latin American and Other	1.40%	0.61	76.37%
Arab/West Asian	1.10%	0.59	63.96%

Religion	1991	Percentage Point Change 2001-1991	% of FSAs with Increasing Share 1991-2001
Catholic	45.05%	-1.90	42.47%
Christian	35.76%	-4.68	17.15%
No religion	13.72%	3.88	91.03%
Jewish	1.67%	-0.10	44.87%
Muslim	1.26%	1.39	74.78%
Buddhist, Hindu, Sikh, and Other	2.54%	1.42	65.50%

Names of visible minority and religious groups are the names given in the Canada Census. The first column is the population share for a particular group, and the second column is the change in the share over 10 years. There is no data on visible minorities in 1991, and no data on religion in 1996 or 2006.



## Canadian neighbourhoods that became more ethnically diverse experienced a decrease in charitable giving

### **The effect on giving in more religiously diverse neighbourhoods is less clear**

What if we measure diversity based on religious background? In this respect, Canada is extremely diverse. While many Canadians describe themselves as Catholic or Christian, an increasing share of the population is affiliated with non-Christian denominations.

An increase of 0.1 in religious diversity decreases giving by \$20. But this estimate is less precisely measured and so it is harder to draw strong conclusions on the effects of changes in religious diversity on giving.

### **Policy implications**

As communities continue to diversify, this diversity may lead to significant and sizeable effects on charities. This could lead to more diversification across charities if they try to specialise in ways that will promote greater affinity with the members of the communities in which they operate. Alternatively, the decline in charity revenues could lead to greater pressure from charities to receive more direct support from the government.

Yet, other research suggests that the public provision of public goods also declines with increases in diversity. Because donors are also voters, if donors decrease their support for charities as their neighbourhoods become more diverse, their voting behaviour could also signal to the government less interest in providing public support for the charities. So whether government support alone could counter the effects of changing neighbourhoods is not certain.

This article summarises 'Diversity and Donations: The Effect of Religious and Ethnic Diversity on Charitable Giving,' by James Andreoni, Abigail Payne, Justin Smith and David Karp, CMPO Working Paper No. 12/289 (<http://www.bris.ac.uk/cmppo/publications/papers/2012/wp289.pdf>).

**James Andreoni** is at the University of California, San Diego.

**Abigail Payne** is at McMaster University and CMPO.

**Justin Smith** is at Wilfred Laurier University.

**David Karp** is at McMaster University.

# Small world economics in a big society

**Are public policies towards charities keeping up with the information revolution? Kimberley Scharf argues that more attention needs to be paid to the many forms of social interaction that influence voluntary giving.**

Now that the proposed cap on tax relief for charitable contributions has been abandoned, are we all happy that public policies for the charitable sector are as they should be? Well, there have been longstanding noises about reforming Gift Aid. And there is talk about changing other tax incentives – on gifts of land, buildings and shares; payroll giving; and legacies.

But is there anything else that we should discuss with respect to charities and public policies? Maybe we should think in new directions to keep up with the fast changes in the way that information flows in a world more connected than ever.

Here are some facts about people who give to charity: 16% give in a place of worship; 13% give in the workplace; 18% sponsor friends and family; and 7% give to pub collections (DCLG, 2009). These all involve social interactions that happen for reasons other than giving.

So how do social interactions shape voluntary giving? It could be that we give to impress friends and colleagues or to show them that we are nice people. A less cynical take is that empathising with people we know can make us sensitive to causes that would otherwise not worry us. Or it could be that we can more easily share information about worthwhile causes with people we know.

Whatever the reason, voluntary giving is a quintessentially social phenomenon. Charities are well aware of this fact and they take account of it in their fundraising strategies. Add to this the ease of communicating through modern social media, and it could be that the social side of giving is more central to charity than ever before.

Yet the way economists and policy-makers have traditionally thought of giving completely ignores its social connotations: it is studied as an individual choice, mainly determined by selfish or altruistic motives and by such factors as tax breaks, which affect the cost for individuals to give. This approach to the analysis of philanthropy is at odds with the evidence and how people working for charities view giving.

## Voluntary giving is a quintessentially social phenomenon

Isn't it time to ask questions about how social connections shape giving to help us understand how better to target private and public resources aimed at encouraging more charitable contributions? I can answer with an emphatic yes: the study of the relationship between giving and non-giving social interactions is long overdue.

Let me be a little more precise about the difference between giving interactions and non-giving social interactions. The former is an interaction based on a direct relationship between a person and a charity: direct debit contributions to one's favourite association; give as you earn schemes; and so on. Non-giving social interactions might include open garden schemes run for charity, church services and beer and skittles evenings – activities where giving happens but it is not the main event.

## Charitable giving frequently happens because of non-giving social interactions – at work, in church, down the pub, etc.

Do social connections always promote giving? Not always. For example, people we know might share information with us about worthy causes or good providers, but if we know lots of people, then the advice of each one could end up lost in the noise of the crowd. If this happens, there are implications for efficiency and thus for public policy.

In a recent study of the effect of social structure on information diffusion and giving, I develop an economic model of giving where people share overlapping social neighbours – as with Facebook where I have friends and my friends have friends (Scharf, 2011). I ask if the number of social connections that individuals have affects the way that information about the quality of charity provision is diffused – and, if so, what the implications are for total giving.

My main conclusion is that information transmission about giving opportunities is undermined by 'free-riding' incentives – we all count on neighbours to convey the information and



so save on the effort of doing it ourselves. The consequence is that the more social neighbours that people have, the less information sharing there is and so the lower is the aggregate level of giving.

Remember that this is a theoretical prediction that shouldn't be taken to imply that more 'social connectivity' discourages giving. On the contrary, it implies that there is more giving in smaller, closer-knit groups of individuals who share common interests. What matters is the closeness of social interactions: large loosely connected groups share information less effectively than smaller, better integrated groups.

## While tax incentives can encourage giving, they might crowd out private incentives to share information

But my research makes more than a general statement about information flows in social networks: it also generates testable predictions that have direct implications for public policy. One is that even though tax incentives can encourage giving, they might crowd out private incentives to share information. In such cases, government subsidies for fundraising efforts – such as Catalyst endowments – might achieve a higher level of charitable contributions than tax incentives.

What can we learn from the charitable sector's own approach? Fundraisers have long understood the importance of non-giving social interactions as a determinant of success at fundraising, and there are lots of resources devoted to targeted relationship-building. Yet fundraisers face obstacles both in being effective and in maintaining charity-donor relationships once they have been established.

Why? It may be that fundraising efforts are not as effective as they could be simply because nobody really understands the information channels through which non-giving social interactions affect giving. But there may be other reasons too and we don't really have a proper understanding of the causes and effects.

Can economists help? Only if they move beyond a focus on the incentives for individual giving and stop leaving social interactions out of the picture. This criticism is nothing new: almost 40 years ago Gary Becker published an influential study, in which he complained that obsession with formalism meant that a lot of important things, such as non-giving social interactions, were being ignored by economists (Becker, 1974).

Economic research is now starting to take notice of social interactions. In addition to my study, recent work on social information and social norms finds that giving behaviour is influenced by how much others give and by how many

others are giving (Frey and Meier, 2004). This means that the effectiveness of giving incentives depends very much on the types of givers.

Other research looks at the effects of social pressure on giving. A recent study finds that people give more when pressured (giving goes up) but social pressure creates incentives for people to avoid situations where they might be pressured (giving goes down). The overall effect is ambiguous: giving can rise or fall depending on which effect is stronger (DellaVigna et al, 2009).

Other economic research takes a less charitable view of donors. For example, signalling models presume that people are naturally greedy and make contributions out of concern for reputation or status (Benabou and Tirole, 2006).

Can we do better than this? I think so, not only from a research perspective but also from a policy perspective. Even though policy-makers seem to be picking up the scent of a winning horse, beyond generic endorsements of the value of the 'big society' and/or 'small world economics', there is nothing in current policies to reflect the role of social interactions in charity.

To sum up, the provision of charitable goods and services frequently happens because of non-giving social interactions. Charities have long known this, but economists and policy-makers are both lagging behind. Given the growing reliance of service provision on private donations, public policies directed towards charity have never been more important. And given the recent explosion of social networks, there is no longer any excuse for economists and policy-makers to leave social interactions out of the picture.

**Kimberley Scharf** is a Professor of Economics at the University of Warwick.

### Further reading

Gary Becker (1974) 'A Theory of Social Interactions', *Journal of Political Economy* 82(6): 1063-93.

Roland Benabou and Jean Tirole (2006) 'Incentives and Pro-social Behavior', *American Economic Review* 96(5): 1652-78.

DCLG (2009) 'Citizenship Survey: 2008 09 (April 2008-March 2009), England 1', Cohesion Research Statistical Release 8, Department for Communities and Local Government.

Stefano DellaVigna, John List and Ulrike Malmendier (2009) 'Testing for Altruism and Social Pressure in Charitable Giving', NBER Working Paper No. 15629.

Bruno Frey and Stephan Meier (2004) 'Social Comparisons and Pro-social Behavior: Testing Conditional Cooperation in a Field Experiment', *American Economic Review* 94(5): 1717-22.

Kimberley Scharf (2011) 'Private Provision of Public Goods and Information Diffusion in Social Groups', CEPR Discussion Paper No. 8607.



# Informal networks and corporate board appointments

**To what extent are new appointments to corporate boards made through the educational and social networks of current members and potential members? Edward Cowley, Helen Simpson and Edmund Wright are investigating school, college and club connections in the boardrooms of the UK's top companies.**

In 2011, the independent review of Women on Boards led by Lord Davies recommended that FTSE 100 boards should aim for 25% female membership by 2015. In examining low levels of female representation, the Review found that 'the informal networks influential in board appointments, the lack of transparency around selection criteria and the way in which executive search firms operate, were together considered to make up a significant barrier to women reaching boards.'<sup>1</sup>

Our research is examining these informal networks and the role played by social ties in board appointments and the careers of company executives. The early findings suggest that social connections – through membership of elite private members' clubs and golf clubs – may still play a role in boardroom appointments. This implies that reduced reliance on such networks will be necessary to increase board diversity.

The research makes use of a wealth of information on executives' educational and employment backgrounds, positions on boards of trustees and affiliations to private members' clubs and golf clubs. We investigate whether the likelihood of a senior

executive getting further corporate board appointments is related to their educational and social connections.

More precisely, we examine whether an individual is more likely to be appointed to a specific company board if he has a link with an existing board member – for example, through membership of the same golf club, such as Wentworth or Sunningdale, or the same private members' club such as White's or the Reform Club.

## Membership of elite private clubs appears to play a role in boardroom appointments

Our study analyses data on around 1,700 UK listed companies, all of which made new appointments to their boards over the period from 1998 to 2008. We look at whom was chosen for each board position among a set of potential candidates comprising around 2,600 directors.

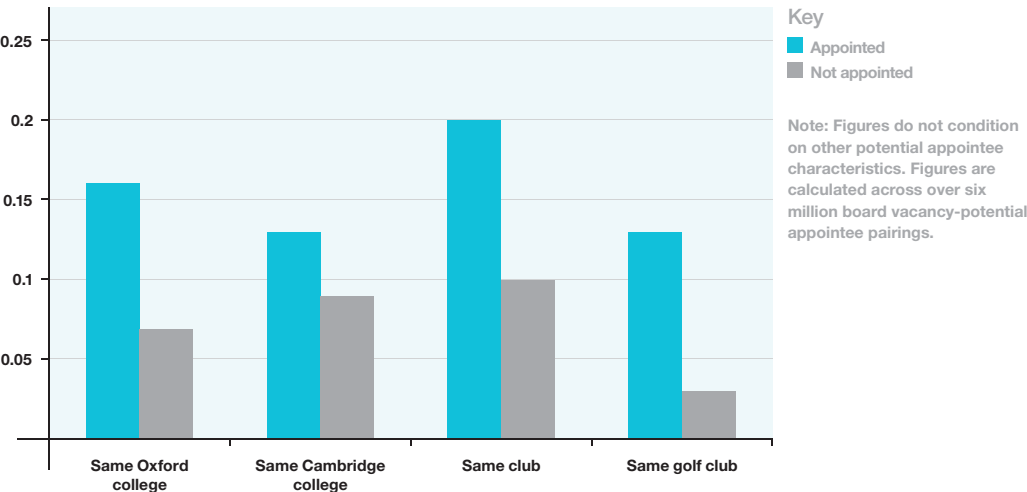
The choice of whom to appoint is taken to be related to the characteristics of each individual – such as their age, whether they were Oxbridge educated, whether or not they are members of private members' clubs and golf clubs, and the number of board positions they currently hold and have held in the past.

The main factors of interest in the appointments process are not just whether an individual is a member of a golf club or



1. <http://www.bis.gov.uk/assets/biscore/business-law/docs/w/11-745-women-on-boards.pdf>

**Figure 1**  
**Potential appointee connections with current board members:**  
**Percentage with each characteristic**



attended Oxford University, but whether any of the current board members also attended the *same* Oxford college (perhaps even at the same time) or are members of the *same* golf club – and whether these links are related to the probability that an individual is appointed.

But it is important to note that such measures can only be a proxy for a potential social connection: they do not tell us whether two people definitely know each other.

Figure 1 gives an indication of some of the results. For each pairing of a board vacancy and a potential appointee in the data, it shows the percentage of potential appointees who have a link to the current board, and splits them according to whether or not they subsequently joined the board.

Because the dataset is set up so that each individual director is considered as a potential appointee for each vacancy (resulting in over six million observations), the overall likelihood of a connection is very low (less than 1% of the sample). But what Figure 1 clearly reveals is that before taking account of individuals' other characteristics, those who are appointed to a board are much more likely to share an educational or social connection with current board members than those not appointed.

A key issue that our research must address is the true direction of the relationship between new board appointments and social connections between the new appointee and existing members. Gaining membership to some private members' clubs and golf clubs requires nomination by, and the approval of, existing members. It is therefore possible that individuals become members of particular golf clubs after joining a corporate board, via an introduction from an existing member.

To address this issue, we use data on individuals who were already members of specific clubs in 1997, and look at

new board appointments from 1998 onwards. We also use information on individuals' existing board positions in each year to construct measures of direct and indirect professional connections that they have with individuals on other boards.

For example, suppose Company A in Figure 2 is recruiting a new board member. Director 1 who sits on the board of Company A also sits on the board of Company B and through this knows Director 2. Director 1 also has an indirect professional link with Director 3, because Director 1 and Director 3 both know Director 2. Connections such as these may lead to recommendations of particular individuals for new positions and may therefore influence who is appointed.

## Social networks formed through male-dominated clubs may remain a barrier to increasing female representation on boards

Our findings suggest that social connections through private members' clubs and golf clubs – as well as networks of contacts established through existing boardroom positions – may play a role in shaping who gains a seat on a board.

Characteristics such as having attended Cambridge University, being relatively young, having a larger network of professional connections and being more experienced in terms of the number of board positions held in the past (but currently holding a smaller number of positions on quoted company boards) are all positively associated with gaining a new board appointment.

**Figure 2****Direct and indirect professional connections**

Direct link between Directors 1 and 2

**Company A**  
 Director 1

**Company B**  
 Director 1  
 Director 2

Indirect link between Directors 1 and 3

**Company A**  
 Director 1

**Company B**  
 Director 1  
 Director 2

**Company C**  
 Director 2  
 Director 3

Being a member of a golf club also seems to be associated with a higher probability of gaining a board seat. But what appears to be more strongly related to the likelihood of being appointed is being a member of the same golf club as a director who already sits on the board.

## Educational connections through an elite school or Oxbridge college play less of a role than social connections

Having taken account of directors' other characteristics, our research finds that educational connections with current board members – through attending an elite school, such as Eton, or being educated at the same Oxbridge college – appear to play less of a role than social connections. But clearly these connections may well have had a prior influence on social club memberships.

The final stages of the research will examine the split between executive and non-executive board appointments. We will also look at potential appointees' connections with the members of a board's nomination committee, which is tasked with identifying suitable candidates for board positions.

Our research uses data on individuals who had already gained their first boardroom position. Interestingly, for this group with existing board experience, women actually seem more likely to gain additional board positions than men. But if social connections are also important for gaining a *first* board appointment, then the findings imply that the role of

networks formed through male-dominated or exclusively male social clubs is likely to prove a barrier to increasing female representation on boards.

In relation to this, one recommendation from Lord Davies' review is that firms should make more information available about the appointments process and the work of the nomination committee. The aim would be to improve transparency in recruitment and subsequent board diversity.

**Edward Cowley** is a CMPO research assistant.

**Helen Simpson** is a reader in Economics at the University of Bristol.

**Edmund Wright** is a teaching assistant at the University of Bristol.



# Social networks and the law

**Did ‘judges choosing judges’ – the age-old English practice for making judicial appointments – lead to well-connected candidates being favoured? Jordi Blanes i Vidal and Clare Leaver examine the significance of social networks in the legal profession – and the impact of a recent reform of the system.**

In June 2003, Prime Minister Tony Blair took the legal world by surprise when he announced sweeping reforms of the English justice system. A key feature of these reforms was the creation of a judicial appointments commission (JAC), whose remit included appointing and promoting members of the senior judiciary. Its creation would end the age-old practice of senior judges reviewing and short-listing candidates for formal approval by a cabinet minister.

Many felt that the reforms were long overdue. One point of contention was the involvement of a cabinet minister in selecting senior judges. But criticisms extended beyond calls for a ‘separation of powers’. The senior judiciary was regularly accused of elitism, being out of touch and having one single overriding objective: maintenance of the status quo. The practice of ‘judges choosing judges’ was widely deemed to be responsible for a judiciary out of step with modern sensitivities.

A cursory look at the gender, racial and educational composition of the senior judiciary did not help. Watchdogs, newspapers and even the Home Affairs Select Committee of the House of Commons regularly produced reports underlining the fact that most senior judges were white, upper class men.

Furthermore, many of these judges had practiced in the same barristers’ chambers, attended the same universities (essentially Oxbridge) and even gone to the same fee-paying schools. These personal connections, together with a general preference for ‘elite’ candidates, were thought to be responsible for the lack of diversity among the senior judiciary. Put simply, the popular view was that equally qualified non-elite candidates were being overlooked.

Before the creation of the judicial appointments committee, senior judges were, if anything, favouring non-elite candidates

Our research explores this claim for promotions from the High Court to the Court of Appeal, using information on the background of the 275 judges who had served in the High Court between 1985 and 2005. Since elite is a generic term encompassing a variety of educational and professional characteristics, we simplify the exposition by classifying a judge as ‘elite’ if he (and it was almost always he) had attended a private school and/or Oxbridge followed by a top ranking barristers’ chambers.

Unsurprisingly, we find that 71% of the judges in our sample were elite. We also see that elite High Court judges were more



likely to be promoted to the Court of Appeal. By the end of 2005, 39% of the elite judges had been promoted compared with just 11% of the non-elite judges.

Our question is: could this difference be regarded as evidence of the favouritism of elite candidates? To answer it, we first need to understand the criteria that are supposed to guide the promotion of judges. The official guiding principle has always been 'merit'. In practice, this has meant choosing candidates who are young yet experienced, who have a legal specialism matching the needs of the Court of Appeal and who display high ability, as evidenced by their track record on the bench.

In our baseline analysis without any controls, elite status is associated with a fourfold increase in the odds of a candidate being chosen for a given promotion. But once we control for candidates' age, experience, legal specialism and performance, this effect more than halves.

This tells us that (at least part of) the reason for the difference in promotion rates is that elite candidates were better endowed with promotion-relevant characteristics. Indeed, our data reveal that elite judges were on average two years younger when they entered the High Court. They were also more likely to have expert knowledge of public and civil law, the kinds of law that are more in demand in the Court of Appeal.

## When reform was under discussion, non-elite candidates were significantly more likely to be promoted

To explore the favouritism hypothesis further, we conduct two additional tests. Since many commentators point to the role of social networks, we first look to see whether elite judges might have fared better because they were personally connected to the promotion committee. To do this, we analyse information on the backgrounds of the individuals responsible for filling each Court of Appeal vacancy between 1985 and 2005.

Our question is: are candidates more likely to be chosen when they have gone to the same school, attended the same Oxbridge college and/or worked in the same chambers as a member of the promotion committee? Surprisingly, we find that the opposite was true: better connected candidates were less likely to be chosen. This finding is clearly at odds with the notion that elite judges benefited from their social networks.

We also look to see how elite and non-elite judges performed after promotion to the Court of Appeal. Favouring elite candidates would imply that the average promoted elite candidate is less able than his non-elite counterpart. Consequently, under the favouritism hypothesis, we would expect promoted elite judges to do less well in the Court of

Appeal (and therefore issue less influential decisions) than promoted non-elite judges. In fact, our findings are the exact opposite: elite judges received more citations than their non-elite counterparts.

To summarise, a closer look at the data reveals that the promotions process was a complex one. On the face of it, elite judges had an advantage. But a large part of this advantage appears to have been due to their higher endowment of promotion-relevant characteristics – their 'merit' – and not, as many have argued, their social networks.

## Elite judges' advantage in promotions was due to their merits not their social networks

Regardless of this observation, it is fair to say that in the early 2000s, pressure was building up to reform the system. One intriguing question is whether judges attempted to pre-empt these reforms by selecting non-elite candidates.

Between 2003 and 2005, the Labour government had committed to reforming the system, but there was considerable uncertainty about the final composition of the JAC. During this period, several alternatives – in which judges held very different levels of influence – were considered. Since senior judges were actively lobbying to influence the final composition of the new body, it is reasonable to hypothesise that any perception of favouritism during this period would have been damaging to their case.

Consistent with this, we find that during this 'high stakes' period, non-elite candidates were significantly more likely to be promoted than during previous periods. Furthermore, being connected to members of the promotion committee was even more damaging to promotion prospects than during normal times.

Our findings have implications for the policy debate surrounding the JAC. Tellingly, the chair of the Home Affairs Select Committee remarked that in terms of appointing candidates with a less traditional background, the new system is 'actually worse' than the previous system with its greater judicial influence. In response, the government proposed to hand even more control to lay commissioners.

Our evidence – that senior judges were, if anything, favouring non-elite candidates under the previous system – offers an alternative explanation for the perceived poor performance of the commission. It suggests that the proposed reforms will not be a quick fix. Rather, the data indicate that attention would be better focused on widening access at the early stages of a legal career.

**Jordi Blanes i Vidal** is at the London School of Economics.  
**Clare Leaver** is at the University of Oxford.

# Friendship networks and young people's aspirations

## How important are friends in shaping young people's aspirations to do well in school and go on to future career success? CMPO's director Simon Burgess and colleagues explore this question using data on the friendship networks of disadvantaged and middle-income adolescents in and around the city of Bristol.

By all accounts, the visit of Michelle Obama to the Elizabeth Garrett Anderson school in London in 2009 had a profound effect on the students<sup>1</sup>. She drew parallels between her life and their lives: "There was nothing in my story that would land me here. I wasn't raised with wealth or resources or any social standing to speak of."

She also told them how she had made it to Harvard Law School and a leading Chicago law firm: "If you want to know the reason why I'm standing here, it's because of education. I never cut class. I liked being smart. I loved being on time. I loved getting my work done. I thought being smart was cooler than anything in the world."

Obama met the students again two years later in the hall of Christ Church College in Oxford, a well-chosen setting: "It's important that you know this. All of us believe that you belong here." *The Guardian* reported that this had a powerful effect on the aspirations and intentions of the students<sup>2</sup>. One said: "We're coming here. There's no doubt in my mind. I don't care what anyone says. I'm going to go to Oxford University. I'm going to work *really* hard. Believe me. I am going to work so hard."

### Aspirations in education

Few would dispute that aspirations matter, particularly in education. For students who do not find school fun, there has to be something to get them through chemistry homework on a cold night in November. The thought that this matters and will lead to greater things does that job.

It has become increasingly fashionable for policy-makers to cite low aspirations as one factor behind poor educational performance. There are certainly substantial differences in stated educational aspirations: for example, white boys from disadvantaged backgrounds generally have the lowest fraction wanting to stay in education beyond the minimum compulsory time. Studies also show that high aspirations are associated with high attainment in school, though establishing causality is not straightforward (see, for example, Gregg and Washbrook, 2011).

Given this background, there is a search for policies to raise aspirations as one route to raise attainment. But this is not easy, as we do not have a fully articulated model of the formation of aspirations. Understanding the forces that influence aspirations may help the formation of better policies to raise the sights of students.

We know that there are big ethnic differences in educational aspirations. The first big decision taken is whether to stay in school. For 14 year old girls, there is a ten percentage point gap between white students at 85% and South Asian and black Caribbean students at 94% or 95%. The proportion of black African girls wanting to stay in school is even higher, at 99%.

There is a similar pattern for boys across ethnic groups. Again, over 90% of students in the South Asian and black African groups want to stay on, and again, the proportion of white students wanting to stay on is the lowest of all the ethnic groups at only 73%. Black Caribbean boys display a slightly higher proportion on average, at 81%.

It is important to note that these aspirations are not just pipe dreams. What survey respondents say largely reflects the actual decisions of a previous cohort at the age of 16: a higher percentage of students of Indian, Bangladeshi, Pakistani and black African heritage stay in school than do white students. Very similar large ethnic differences are found in students' views about how likely it is that they will apply to university.

## Disadvantaged adolescents with friends from wealthier families have higher educational aspirations

### Formation of aspirations

How are aspirations formed? Why do some students have higher aspirations than others? Clearly, a full answer to this would involve a number of approaches, including at least psychology and sociology as well as economics. Research evidence, including our own, suggests that students' prior attainment matters: the more able have higher aspirations, and vice versa. More broadly, students' perceptions of their talent matters: this is called 'academic self-concept'.

Some aspects of family circumstances matter too. For example, the qualifications of parents are correlated with their children's aspirations, and some studies find that community or neighbourhood factors also matter. But the most important single factor is the aspirations of students' parents. Parental aspirations are a very strong correlate: 89% of students whose parents want them to stay in school express the same wish.

### Friendship networks

As children get older, time spent with their parents falls and is increasingly replaced by time spent with their friends. By adolescence, much of daily life is transacted with friends and these are a major potential source of receiving (and giving) influence.

The growing body of research on social networks emphasises that networks are transmitters of information and values (Calvo-Armengol and Jackson, 2009; Jackson, 2010; Jackson and Yariv, 2010). Social networks are ubiquitous and powerful: these are the 'people with whom we interact ... [they] influence our beliefs, decisions and behaviours' (Jackson, 2010).

Recent CMPO research uses new data on friendship networks to test a possible source of influence on aspirations (Burgess and Umaña-Aponte, 2011). This is an adolescent friendship network of almost 7,000 friendship links in and around the city of Bristol.

1. <http://www.guardian.co.uk/education/2009/apr/05/michelle-obama-school-london>

2. <http://www.guardian.co.uk/world/2011/may/29/michelle-obama-elizabeth-garrett-anderson-school>

There are numerous advantages to this data. It is a longitudinal dataset that has been collected since the individuals were born. We therefore have several measures of the respondents' academic achievement, ability, personality, behaviour, aspirations and socio-economic status of their families.

The dataset also contains detailed information of the relationships and interactions of friends, such as whether they were going to the same school, the place where they met, the length of their friendship, how much time they spend together and their tastes, activities and conversation topics. For aspirations, they were asked at the age of 14 whether they wished to, and whether they expected to, stay in full-time education after they finished compulsory schooling two years later.

We use friendship links that were formed in primary school – at least three years before the question on aspirations was asked and, in many cases, five or more years before. It seems implausible to argue that 8 and 9 year old children are forming friendships strategically to aid their future prospects. And while it is not implausible to suggest that their parents help them to form links that they believe are 'useful' for life, we can control for a range of attributes of both sets of parents – that is, the focus child's parents and the focus child's friend's parents – including their aspirations for their children.

We focus our attention on children from disadvantaged and middle-income backgrounds, and ask whether those with friends from a wealthier background have higher aspirations than otherwise similar children without such links. The results suggest that there are such effects. They are not very precisely measured but they are robust to the inclusion of a broad set of controls concerning the child, his or her parents and the parents of the friend.

We find that young people from low-income families with friends from high-income families have higher educational expectations and aspirations than similar young people from low-income families without such friends. This effect is quantitatively and statistically significant.

## Young people's aspirations are amenable to change, especially from the influence of good friends

We also show that for a young person, the aspirations of their friend's mother matter too (even conditional on their own mother's aspirations). Individuals from a lower-income background have raised aspirations by being friends with someone from a high-income family. This is especially true for middle-income students who are 9.3 percentage points more likely to wish and 12 percentage points more likely to expect to stay in full-time education after they finish compulsory school.

Similarly, the expectations of low-income children to continue in full-time education are higher by 15.2 percentage points when they



## Family income and parents' occupational class seem not to matter for young people making friendships

have at least one friend from a high-income family. Their desire to stay in full-time education also seems to be higher.

### Formation of friendship networks in schools

But where do friendships come from and what is the basis on which they are formed? One of the most widely discussed ideas about friendship networks is that of 'homophily' – that people form friendships with people like themselves in some way. Often these are very simple demographic markers such as gender or ethnicity. Homophily is also closely linked to the ideas of separation and segregation. High levels of homophily imply high segregation.

In the context of a large friendship network of adolescents, the effects of homophily seem particularly important. These individuals are making a transition between childhood and adulthood and their emerging attitudes and beliefs will be affected by their friendships. More transiently, but of great practical importance, is the spread of information and views around the network, for example, about future education and careers, or about risky behaviours.

The degree of homophily in a network affects the speed of contagion across a network – for example, the spread of beliefs or behaviours. Recent research shows that homophily actually slows down the speed at which a society reaches a global consensus: while information moves very quickly within homophilic groups, it is much harder for information or beliefs to 'jump' across groups to cover the whole society (Golub and Jackson, 2011).

These researchers argue that understanding homophily is crucial to understanding the functioning of a society. In the case of our

dataset of friendship networks at school, that society is adolescents on the brink of adulthood and making important decisions on their future life chances. We have used that dataset to study the nature of homophily in the adolescent friendship network (Burgess et al, 2011).

We find that adolescents are very similar to their friends in their academic achievement (especially in key stage 2 and 3 test scores), total IQ, popularity, bad behaviour (such as arriving at school late and missing classes) and their mothers' education. In addition, some dimensions of personality, such as extraversion, locus of control and intensity seeking, are very important in the process of friendship formation for teenagers.

It could be objected that since we are largely looking at friends in schools, the sorting of students across schools will by itself generate a correlation of ability, even in a comprehensive system. We deal with this issue in a number of ways, but one technique is to generate 'simulated friends'.

For each student in our data, we randomly generate a set of 'friends' for them from other students in her school and compare the 'aliveness' of these simulated friends to the focus student. We do this many times and take the average of these simulations.

The results for the degree of homophily for the IQ measure are shown in Figure 1. The relationship between a student's own IQ score and that of his or her friends is much closer than that for his or her simulated friends. So this does seem to be a real phenomenon, not just driven by the school admissions system.

One perhaps surprising finding is that family income and parents' occupational class do not seem to be relevant characteristics for establishing friendships. Socio-economic status homophily is relatively low. Whether this is unique to Bristol or a more general finding we cannot yet say.

## Conclusions

Not every school in England can be visited by Michelle Obama. But these results do suggest that young people's aspirations are amenable to change. The circumstances and values of their good (long-lasting) friends do appear to modify their own aspirations.

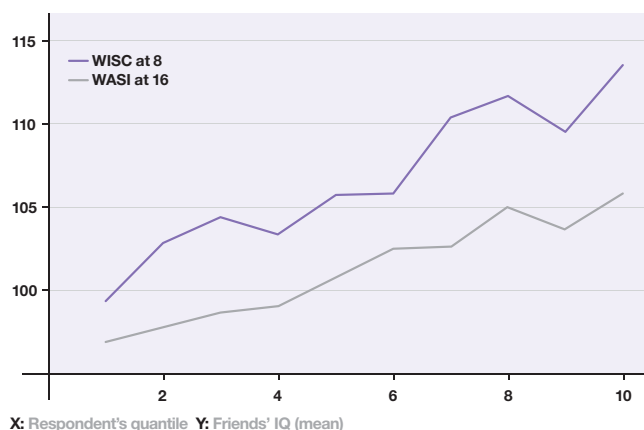
Broadening this out, it seems that messages from trusted sources (which are probably implicit) do matter. While it seems unlikely that there are direct policy implications in terms of influencing friendship formation, the results do provide some hope that messages on aspirations might have weight if carefully crafted.

Finally, the results suggest that providing contexts, in this case schools, where children of different social classes can meet and potentially befriend each other may have implications for the aspirations of disadvantaged children. This is part of the case for comprehensive schools and the case against selective or otherwise segregated schools.

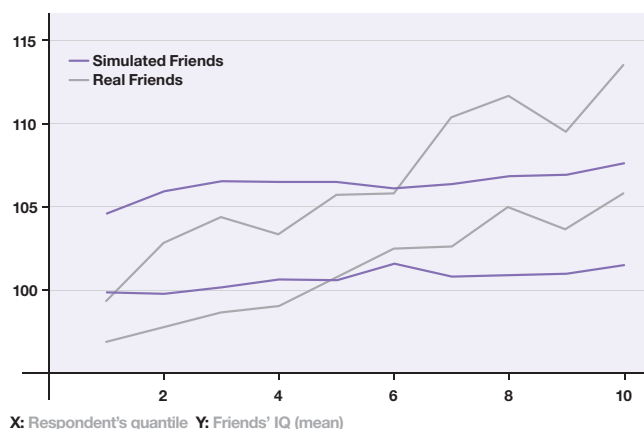
**Simon Burgess** is a Professor of Economics at the University of Bristol and Director of CMPO.

**Figure 1**  
**Real friends and simulated friends**

### A: Real friends



### B: Simulated friends



### Further reading

Simon Burgess, Eleanor Sanderson and Marcela Umaña-Aponte (2011) 'School Ties: An Analysis of Homophily in an Adolescent Friendship Network', CMPO Working Paper No. 11/267 (<http://www.bristol.ac.uk/cmipo/publications/papers/2011/wp267.pdf>).

Simon Burgess and Marcela Umaña-Aponte (2011) 'Raising your Sights: The Impact of Friendship Networks on Educational Aspirations', CMPO Working Paper No. 11/271 (<http://www.bristol.ac.uk/cmipo/publications/papers/2011/wp271.pdf>).

Antoni Calvo-Armengol and Matthew Jackson (2009) 'Like Father, Like Son: Social Network Externalities and Parent-child Correlation in Behavior', *American Economic Journal: Microeconomics* 1(1): 124-50.

Benjamin Golub and Matthew Jackson (2011) 'Network Structure and the Speed of Learning: Measuring Homophily based on its Consequences', *Annals of Economics and Statistics*.

Paul Gregg and Elizabeth Washbrook (2011) 'The Role of Attitudes and Behaviours in Explaining Socio-economic Differences in Attainment at Age 11', *Longitudinal and Life Course Studies: International Journal* 2(1): 41-58.

Matthew Jackson (2010) 'An Overview of Social Networks and Economic Applications', in *Handbook of Social Economics* edited by Jess Benhabib, Alberto Bisin and Matthew Jackson, North Holland.

Matthew Jackson and Leeat Yariv (2010) 'Diffusion, Strategic Interaction, and Social Structure', in *Handbook of Social Economics* edited by Jess Benhabib, Alberto Bisin and Matthew Jackson, North Holland.



# Risky behaviour in social networks



**There is increasing awareness in health policy that people's health-related behaviour is affected by their relationships with family and friends. Research by Sergio Currarini and colleagues is exploring how social networks influence individuals' decisions to take risks with their own and others' health – for example, by smoking.**

The health behaviour of friends and family members can have a crucial influence on individuals' own health behaviour. This happens through what are known as 'peer effects', where people follow the behaviour of others within the same social group.

Risky health behaviour, such as smoking, can also exert 'externalities' – that is, it affects other people, in the case of smoking by creating passive smoke. Typically, those affected are in the same groups through which peer effects operate, such as family, friends and colleagues.

Moreover, individuals may be aware, to varying degrees, of the effects they have on their friends and family, and they may care about the health consequences. Such 'altruistic' concerns are likely to affect individuals' decisions about how to behave. Our research looks at the role of social interactions in shaping individuals' incentives to adopt risky behaviour when both externalities and altruistic concerns are present.

## Peer effects

Peer effects generally refer to individuals' behaviour affecting others in a group because of various psychological and sociological forces stemming from emulation, group acceptance, identity and so on. This means that one person's actions, such as taking up smoking, can be amplified as others in the same social group react and copy the behaviour. The amplification of individual behaviour that arises from being in a group is usually referred to as the 'social multiplier' (Glaeser et al, 2003).

Research in network economics has looked at the role of social structure in driving peer effects and behaviour (Ballester et al,

2006; Galeotti et al, 2010). But many questions remain.

For example, are peer effects stronger in groups that are more cohesive or which have more intense social interaction? Should we expect more risky behaviour when social ties are stronger, and which policies are likely to be more effective in closer social contexts? And how does risky behaviour relate to whether an individual plays a central or peripheral role within a group?

## Peer effects and externalities

When people's actions affect others, we would expect them to take account of these externalities when deciding how to behave. In the case of smoking, for example, passive smoke may alter the perceived damage of smoking an extra cigarette and, therefore, the associated incentives to do so. If people are aware of the increasing marginal damage of smoke (well documented in extensive medical research), a larger amount of passive smoke should deter people from smoking because of the larger expected damage from the extra cigarette.

When passive smoke comes from the same people that generate the peer effects, the final effect of being part of a social group is a trade-off between these two factors. For example, within a family, if one individual takes up smoking, this may influence other family members to do the same. But if this is the same group who will be exposed to the passive smoke, this may lessen the overall amount they smoke.

One implication of this is that empirical studies that try to measure peer effects could understate their magnitude if in practice they are dampened by the presence of such negative externalities.

## Policies to reduce the prevalence of smoking should take account of the structure of social relationships

### The role of altruism

The effect of externalities becomes more salient when people care about the negative consequences of their behaviour on their friends and family. Because of altruism, an individual takes account of the damage inflicted by the extra passive smoke on her friends, when deciding whether to smoke an extra cigarette. This extra damage is higher the larger the amount of passive smoke these friends are already exposed to.

Within a social group, this accumulated amount of passive smoke is affected by the nature of the social network – for example, whether the individuals socialise frequently or live in the same household, or whether they are less closely connected.

In a closely connected group, high levels of smoke would be more difficult to sustain. This is because everyone would be exposed to large amounts of passive smoke over time, which, in the presence of altruism and increasing adverse health

effects from additional smoke, would increase the perceived marginal damage of smoking.

Again, this illustrates the trade-off. A closer network of social connections implies stronger peer effects in terms of individuals behaving in the same way, implying higher levels of smoke. But at the same time, the closer network in this example implies more pervasive negative externalities and greater incentives to reduce smoking.

Since passive smoke increases strongly with the number of individuals in the group, with each being exposed to the passive smoke generated by all the others, the effect of this negative externality can outweigh the peer effects in some cases, leading to overall smoking starting to decrease.

#### Segregation and 'central' individuals

Social networks can be characterised by a certain degree of segregation. This might be due either to homophily (the tendency to connect to similar people) or the effects of policies aimed at separating different types of people (for example, smokers from non-smokers as the result of a smoking ban).

If only peer effects are present, then if people form groups according to their preferences for smoking, this could lead to polarised groups – those who smoke and those who do not. If individuals are altruistic and negative externalities are present, this is no longer the case. For high segregation, with people sorted into groups according to their preferences for smoking, heavy smokers face strong incentives to reduce smoke because of the high prevalence of passive smoke among their group.

Individuals can be categorised according to how 'central' they are within their social network, and people's behaviour can be related to this characteristic (Ballester et al, 2006). These central individuals are well connected and linked to people who are themselves well connected.

Our research shows that in the presence of altruism, central individuals have strong incentives to reduce smoking. To see why, note that friends of central individuals are likely to be exposed to large amounts of passive smoke because of their high connectedness. This raises the marginal damage from smoking perceived by these central individuals, who consequently choose to smoke less to decrease the effect of their smoke on their friends' health.

In a society where the negative effects of passive smoke are well understood, we would therefore expect heavy smokers to be placed at the periphery of the social network. This result is consistent with various empirical findings for the United States (Christakis and Fowler, 2008).

#### Effectiveness of policies

Our research shows that policy-makers should take account of the structure of social relationships when designing policies that aim to reduce the prevalence of smoking (or other risky

behaviour). Our results show that different types of policies can be more or less effective, depending on the structure of the social networks in which people live.

Compare, for example, a policy that stresses the damages of active smoke to another stressing the damages from passive smoke and targeting people's altruistic concerns. When the network is closely connected, the latter is more effective than the former, while the reverse is true in less closely connected networks.

## The most effective policies for reducing risky behaviour will target people who are central within a social group

Moreover, policies can often target only a limited number of people, in which case the question becomes which groups to target. For example, advertising aimed at decreasing the perceived private benefits from smoking are often most efficient when they target specific social groups.

Our results suggest that the highest impact on aggregate smoking is achieved by targeting those people that are central within a network where altruistic concerns about passive smoking are present. This suggests that taking account of altruistic behaviour can be important for the fine-tuning of anti-smoking policies.

**Sergio Currarini** is at the University of Bristol.

**Elena Fumagalli** is at the University of East Anglia.

**Fabrizio Panebianco** is at the Università Milano Bicocca.

#### Further reading

Coralio Ballester, Antoni Calvó-Armengol and Yves Zenou (2006) 'Who's Who in Networks, Wanted: The Key Player', *Econometrica* 74(5): 1403-17.

Nicholas Christakis and James Fowler (2008) 'The Collective Dynamics of Smoking in a Large Social Network', *New England Journal of Medicine* 358: 2249-58.

Andrea Galeotti, Sanjeev Goyal, Matthew Jackson, Fernando Vega-Redondo and Leeat Yariv (2010) 'Network Games', *Review of Economic Studies* 77(1): 218-44.

Edward Glaeser, Bruce Sacerdote and José Scheinkman (2003) 'The Social Multiplier', *Journal of the European Economic Association* 1(2): 345-53

# NHS hospital mergers: what benefits?

**Around half the acute hospitals in England were involved in a merger during the late 1990s and early 2000s. CMPO research by Carol Propper and colleagues examines whether this wave of hospital consolidation brought any benefits.**

Between 1997 and 2003, over half of the 200 or so acute NHS hospitals in England were involved in a merger, in which at least one hospital trust was absorbed into another. The scale of the consolidation was such that the average number of hospitals in a local health economy fell from seven to five.

The mergers were instigated by various parties, including local commissioners and the local strategic health authorities. These proponents argued that mergers would allow potentially failing hospitals to improve their clinical and financial performance. We have tested whether this assertion was correct. Our central finding is that mergers are unlikely to be the most effective way of dealing with poorly performing NHS hospitals.

Figure 1 shows the location of merged hospitals compared with non-merged hospitals. There were fewer mergers in rural areas – none, for example, in Cornwall and Norfolk – and more mergers in urban areas – London, for example. This is not surprising: there are already fewer hospitals in rural areas so it is more difficult to make a case that any should close. In general though, hospitals in most areas of the country were at risk of merger in the late 1990s and early 2000s.

Our research compares the pre- and post-merger performance of hospitals that merged with the performance of a ‘control group’ of hospitals. The use of a ‘before and after the merger’ approach (known as an ‘event study’) allows us to examine the effects of the merger; the comparison with a control group allows us to control for changes over time that would have happened anyway.

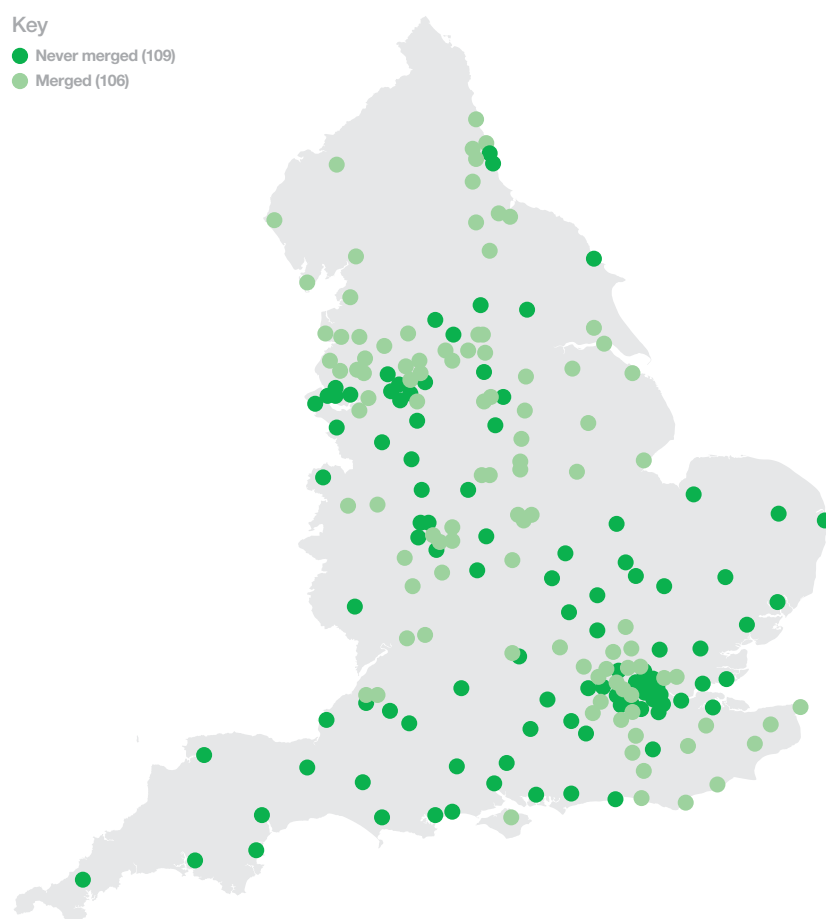
The control group we use is a subset of those hospitals that were not subject to a merger. In taking this approach, we allow for the fact that the hospitals that merged may have been different to those that did not. For example, those that merged may have experienced financial problems over a number of years.

So we have to match merging hospitals with a control group that are similar in key dimensions. To ensure that this approach identifies trusts that are actually similar, we take advantage of the fact that while a merger case is prepared with respect to economic fundamentals, whether it actually goes ahead depends on local politics.

In previous research, we have shown that hospitals located in or close to marginal constituencies (those won and lost by a small proportion of the votes) tend to be ‘saved’ from closure (Bloom et al, 2010). In other words, whether a merger goes ahead depends only in part on whether it is expected to bring benefits: it also depends on local politics.

This allows us to select a group of hospitals that did not merge and which are similar in terms of performance to those that did

**Figure 1**  
**Location of merged and never merged acute hospitals in England 1997-2006**



Mergers are unlikely to be the most effective way of dealing with poorly performing NHS hospitals

merge but differ in this key political dimension. It gives us our counterfactual control group of non-merged hospitals.

We compare the performance of merged and non-merged hospitals up to four years after the date at which a merger was agreed. We look at a large range of measures of performance, including the activity per staff member, financial performance, waiting times for elective surgery and a range of measures of clinical performance collected by the Department of Health and used to assess the performance of English hospital trusts.

We find that hospital admissions fell by around 10% four years after hospitals merged, but the number of staff fell by about

the same amount. So per staff member employed, there was no increase in activity. Poor financial performance continued, so that hospitals that merged were making larger deficits post-merger than pre-merger.

In addition, the length of time people had to wait for elective treatment rose post-merger, and there were few indications that clinical quality improved. So on average the impact of mergers was simply to reduce hospital-based activity without any gain in productivity or reduction in losses.

It is possible that some mergers were better than others. To examine this, we explore whether the effects of mergers in areas where there were a relatively few hospitals pre-merger were different from in areas where hospital density was greater. It might be expected that when mergers essentially turn the local health economy into a monopoly, outcomes might be different to cases where, even post-merger, there are quite a few local hospitals.

We find that mergers in areas where there was less capacity pre-merger were less likely to lead to reductions in activity and waiting times did not rise as much. But this was at the cost of larger increases in deficits. This finding suggests that these hospitals were perhaps more likely to have been able to exploit their monopoly power to keep drawing activity into the hospital, but at a financial cost.

## Just as in the private sector, mergers offer much before the event but fail to deliver on their promise

We look at other characteristics of the mergers – for example, whether mergers in which one party was small and another large were better or worse or if having to absorb a hospital with a large deficit gave greater problems. We find no clear differences. In the last case, this is probably because few hospitals involved in mergers had large surpluses.

In summary, our study indicates that, just as in the private sector, mergers offer much before the event but fail to deliver on their promises. In the case of the NHS, all mergers have done is to reduce hospital activity.

Of course, this may be desirable if the activity is shifted into other settings, such as more appropriate treatment in a community setting. But we should note that this fall in activity was not accompanied by higher staff productivity or a drop in the level of deficits – in fact deficits rose. So cutting activity was not costless.

Together with earlier CMPO findings, which indicate that competition between hospitals has beneficial effects on quality (Gaynor et al, 2011), this new study has lessons for the newly created economic regulator of NHS foundation trusts. Monitor



has a duty to promote efficiency and will need to establish an appropriate way of dealing with failing NHS hospitals.

Our research suggests that the promotion of competition brings gains. As mergers potentially threaten these gains by removing competing hospitals and since they do not bring savings or productivity gains, the case for mergers will have to be considered very carefully. It is not enough for those wishing to merge to hope that gains will arise: they will need to provide robust evidence.

This article summarises 'Can Governments Do it Better? Merger Mania and Hospital Outcomes in the English NHS' by Martin Gaynor, Mauro Laudicella and Carol Propper, *Journal of Health Economics* 31 (2012) 528-43, previously published as CMPO Working Paper No. 12/281 (<http://www.bris.ac.uk/cmppo/publications/papers/2012/wp281.pdf>).

**Martin Gaynor** is the E.J. Barone Professor of Economics and Health Policy at Carnegie Mellon University.

**Mauro Laudicella** is a Research Fellow at Imperial College London.

**Carol Propper** is a Professor of Economics at the University of Bristol and Imperial College London.

### Further reading

Nicholas Bloom, Carol Propper, Stephan Seiler and John Van Reenen (2010) 'The Impact of Competition on Management Quality: Evidence from Public Hospitals', CMPO Working Paper No. 10/237 (<http://www.bristol.ac.uk/cmppo/publications/papers/2010/wp237.pdf>).

Martin Gaynor, Rodrigo Moreno-Serra and Carol Propper (2010) 'Death by Market Power: Reform, Competition and Patient Outcomes in the National Health Service', CMPO Working Paper No. 10/242 (<http://www.bristol.ac.uk/cmppo/publications/papers/2010/wp242.pdf>).



# Upcoming conferences

---

**October 12 2012**

**Policy experiments: Maximising impact**

**Seminar rooms, Institute for Government, London, SW1Y 5AA**

---

Experiments – both in the field and in the lab – are increasingly seen as important for public policy development as a way of testing what works and learning about why things work (and don't work).

This one-day workshop, run jointly with the behavioural insights team at the Cabinet Office, will bring together policy-makers and academics to discuss how, practically, experiments can have maximum usefulness and impact for policy.

This will include the policy-makers' perspective on the role of experiments, an academic perspective on ensuring robust and valid design and discussion of a number of experiments that are being used to evaluate public policy in practice.

**Speakers to include:**

- **Johannes Abeler** University of Oxford
  - **Michele Belot** University of Edinburgh
  - **Simon Burgess** CMPO, University of Bristol
  - **Gary Charness** University College, Santa Barbara
  - **Robert Dur** Erasmus University, Rotterdam and Tinbergen Institute
  - **Michael Hallsworth** HMRC and Institute for Government
  - **David Halpern** Director, Cabinet Office Behavioural Insights Team
  - **Laura Haynes** Head of research, Cabinet Office Behavioural Insights Team
  - **Michael Sanders** CMPO, University of Bristol and Cabinet Office Behavioural Insights Team
  - **Orla Doyle** Geary Institute
- 

**October 22 2012**

**The third sector as public service providers**

**NCVO, Regents Wharf, London**

---

Organised by the Third Sector Research Centre (TSRC) and the Centre for Market and Public Organisation (CMPO)

Researchers from TSRC and CMPO discuss third sector involvement in public service delivery, looking at key areas such as the work programme, health and legal advice. A discussion panel will be held, with representatives from the Department for Communities and Local Government, Local Government Association, Turning Point, Local Trust and the Public Management and Policy Association.

**For more information please contact:**

[cm-po-admin@bristol.ac.uk](mailto:cm-po-admin@bristol.ac.uk)

[bristol.ac.uk/cm-po/events](http://bristol.ac.uk/cm-po/events)



# CMPO Viewpoint Blog

---

April 18 2012

## **“The rich are different...”**

**Sarah Smith**

---

The furore over the cap on tax relief on charitable giving refuses to go away. As one backbencher put it the other day – it is hard to see why you would want to pick such a fight for such small estimated financial savings.

And if you do, it would be good to be armed with some good arguments and some hard evidence – the current Government appears to have neither.

The bad arguments are that wealthy philanthropists are dodging tax to give to dodgy charities. The overwhelming majority of philanthropists most likely are not – and anyway, a tax cap is the wrong tool to address the problem.

A better argument would focus on the effect of tax incentives on donations. If you cut tax incentives, donors are likely to reduce their giving (i.e. the charity sector will lose) but they aren't likely to stop giving altogether. The critical issue for the Government is whether the loss in donations is more or less than the gain in tax revenue. It is the combination of the two – total donations and total tax revenues – that will determine the overall level of “public services” (in the broad sense) that can be provided.

What matters is the responsiveness of charitable donations to changes in the “price of giving”. The critical level of the price elasticity is one (in absolute value). If the price elasticity is less than one in absolute value then the fall in money from donations will be less than the increase in Exchequer revenue – the charity sector will lose but this will more than offset by an increase in tax revenue out of which to fund public services (or to compensate charities). If the price elasticity is greater than one in absolute value, however, then the fall in donations will be greater than the increase in tax revenue.

What does the evidence say? The Government has said very little on the likely behavioural response. But just over two years ago, we did some research for HMRC and HM Treasury on donor responsiveness to changes in Gift Aid tax relief. This looked at both the rebate relief (how much higher-rate donors can claim back – which is the bit that is going to be capped) and also the basic-rate relief that charities can claim on all taxpayer donations. This second element is a bit like a match – I give £1 to charity out of my net-of-tax income and then the Government matches it with 25 pence worth of basic rate relief. Our main finding for higher-rate taxpayers as a whole was that contributions were significantly more responsive to changes in the match element (elasticity greater than one) than they were to changes in the rebate (elasticity less than one) – this result is shown in the first row of the table below.

In principle, this would provide a plausible rationale for cutting back on rebates. An elasticity less than one in absolute value means that rebates are not a cost-effective way of increasing money going to the sector – it would be more cost-effective for the Government to increase the match element, or to allocate the funding to charities itself through grants.

Yet, as F Scott Fitzgerald once said, “the rich are different to you and me” and in this case, the more people give, the more responsive they are to changes in tax relief – not surprisingly since the stakes are higher. This is clear from the other results in the table below. In the report, we estimated the elasticity separately for donors who had given £10,000 a year or more – and found that they were more responsive than other higher-rate donors, although the rebate elasticity was still below its critical level.

But, we can do further analysis on the data to get closer to the group that is actually going to be affected by the cap. The table reports new results for donors who reported that they gave £25,000 and £50,000. The sample sizes are small for this final group, but

the estimated rebate elasticity is -1.19. This is greater than the critical level, implying that the loss in donations following a cut in the rebate would be greater than any increase in tax revenue.

Of course, there are caveats to this finding – donors were responding to hypothetical changes, there are only a few really big donors in the sample, a cap on relief is not the same as a change in the value of the rebate. Yet, it is pretty much the only available evidence on how these donors would respond and it suggests a sizeable response among the group that is going to be hit by the cap – bigger than any increase in tax revenues.

**Figure 1**  
**Estimated elasticities – changes to the rebate and match elements of Gift Aid**

Donations	Rebate elasticity	Match elasticity	p-value	N
All higher rate donors	-0.33	-1.16	0.000	850
Donations >=£10,000	-0.64	-1.19	0.000	83
Donations >= £25,000	-0.72	-1.28	0.018	30
Donations >=£50,000	-1.19	-1.93	0.045	12

The impact on the level of funding, therefore, is potentially negative. There may be a different argument to be made about the allocation of funding – the services funded through private donations will be different to publicly-funded services. In some quarters, this has been characterized as a choice between the NHS and the Royal Opera House, although this is a gross simplification – wealthy donors give to a range of different charities; and charities may be better at delivering public services in many cases. Indeed, one reason why the cap on tax relief is hard for many to swallow is that up until now, this Government has been clearly signaling that it favours private funding and private delivery ('Big Society, not Big Government'). Behind the debate over the tax cap lie some fairly fundamental issues about how – and by whom – public services should be funded and provided.

**Tags:** [Budget 2012](#), [Charitable giving](#), [Donations](#), [Tax Incentives](#), [Tax relief](#)

## Other recent posts include:

**Test, Learn, Adapt**  
[Michael Sanders](#)

**Reforming teacher training**  
[Simon Burgess and Rebecca Allen](#)

**Who fails wins? The impact of failing an Ofsted Inspection**  
[Simon Burgess and Rebecca Allen](#)

**On the benefits of competition in healthcare**  
[Carol Propper](#)

**The cost of youth unemployment**  
[Paul Gregg and Lindsey Macmillan](#)

**Why the new school league tables are much better, but could be better still**  
[Simon Burgess and Rebecca Allen](#)

# About this publication

*Research in Public Policy* is the publication of the Centre for Market and Public Organisation.

The Centre for Market and Public Organisation (CMPO) is a leading research centre, combining expertise in economics, geography and law. Our objective is to study the intersection between the public and private sectors of the economy, and in particular to understand the right way to organise and deliver public services.

The Centre aims to develop research, contribute to the public debate and inform policy-making. CMPO started its second five years as an ESRC Research Centre in October 2009. The Centre was established in 1998 with two large grants from The Leverhulme Trust, and in 2004 was awarded ESRC Research Centre status.

## Keep updated



Visit the CMPO blog 'Viewpoint':  
[bristol.ac.uk/cmipo/blog](http://bristol.ac.uk/cmipo/blog)



Follow us on Twitter:  
[@cmpobristol](https://twitter.com/cmpobristol)



Watch us on YouTube:  
[youtube.com/user/CMPObristol](https://youtube.com/user/CMPObristol)



Listen to our podcasts:  
[bristol.ac.uk/cmipo/audio](http://bristol.ac.uk/cmipo/audio)

[bristol.ac.uk/cmipo](http://bristol.ac.uk/cmipo)



University of  
BRISTOL



## CMPO working papers

Recent additions to the CMPO Working Paper Series, all of which, along with the rest of the series, can be downloaded at:  
[bristol.ac.uk/cmipo/publications/papers](http://bristol.ac.uk/cmipo/publications/papers)

### 12/292 One Kind of Democracy

Siwan Anderson, Patrick Francois and Ashok Kotwal

### 12/291 Increasing charitable giving – what can we learn from economics?

Sarah Smith

### 12/290 Peer effects in charitable giving:

**Evidence from the (running) field** Sarah Smith, Frank Windmeijer and Edmund Wright

### 12/289 Diversity and Donations:

**The effect of religious and Ethnic Diversity on Charitable Giving** James Andreoni, Abigail Payne, Justin Smith and David Karp

### 12/288 The Impact of Fathers' Job

**Loss during the 1980s Recession on their Child's Educational Attainment and Labour Market Outcomes** Paul Gregg, Lindsey Macmillan and Bilal Nasim

### 12/287 How should we treat under-performing schools? A regression discontinuity analysis of school inspections in England

Rebecca Allen and Simon Burgess

### 12/286 Ethical and Economic Perspectives on Global Health Interventions

Sonia Bhalotra and Thomas Pogge

### 12/285 Separation of Powers and the Size

**of Government in the U.S. States** Leandro de Magalhães and Lucas Ferrero

### 12/284 Incumbency Effects in Brazilian

**Mayoral Elections: A Regression Discontinuity Design** Leandro de Magalhães

### 12/283 The Effect of a Hospital Nurse Staffing Mandate on Patient Health Outcomes:

**Evidence from California's Minimum Staffing Regulation** Andrew Cook, Martin Gaynor, Melvin Stephens Jr. and Lowell Taylor

### 12/282 Competition in Health Care Markets

Martin Gaynor and Robert J. Town

### 12/281 Can governments do it better?

**Merger mania and hospital outcomes in the English NHS** Martin Gaynor, Mauro Laudicella and Carol Propper Published in the Journal of Health Economics (2012)

### 11/280 Health and the Political Agency

**of Women** Sonia Bhalotra and Irma Clots-Figueras

### 11/279 War and Stature: Growing Up During

**the Nigerian Civil War** Richard Akresh, Sonia Bhalotra, Marinella Leone and Una Osili

### 11/278 Measuring the intergenerational

**correlation of worklessness** Lindsey Macmillan

### 11/277 Intergenerational Persistence in

**Income and Social Class: The Impact of Within-Group Inequality** Jo Blanden, Paul Gregg and Lindsey Macmillan