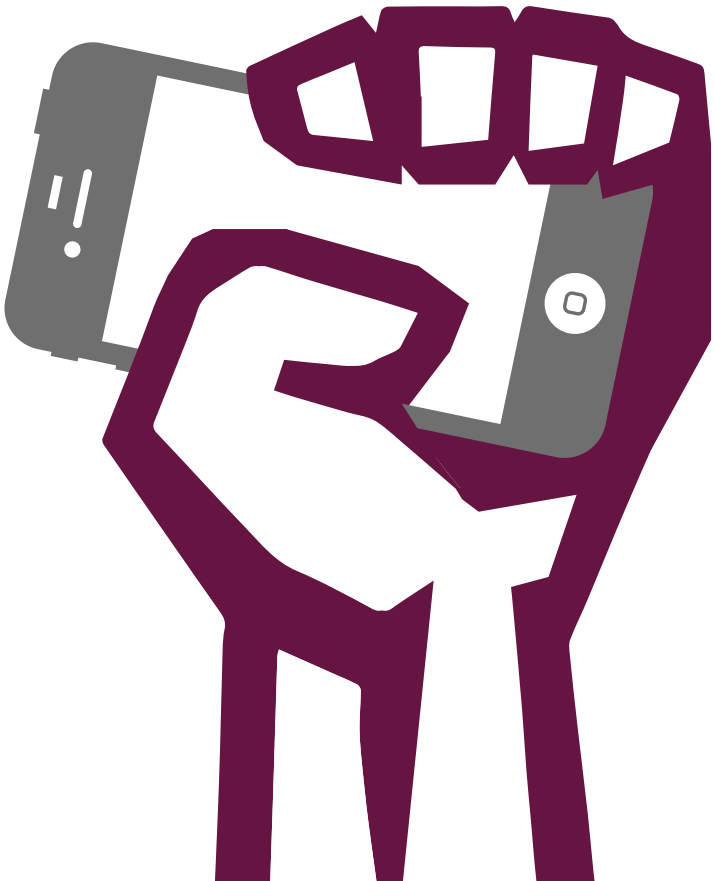
Digital technologies have been widely used for political activism in recent years. In the first systematic test of their role as catalysts for political participation, **Marco Manacorda** and **Andrea Tesei** find that the growing use of mobile phones in Africa leads to more protests during recessions and periods of national crisis.

Liberation technology:
mobile phones and political mobilisation in Africa



An often-heard argument is that digital technologies have become instrumental in mass political mobilisation and even democratic change, especially in autocratic regimes. This view is often reported in the media and it squares well with observations that two-way and multi-way mobile phone communication, Twitter and other social media were used extensively during the Arab Spring, the Occupy Wall Street movement in the United States and the Indignados movement in Spain – to name just a few – so much that a new term of 'mobile activism' has been coined.

This 'liberation technology' argument is made forcefully by some political sociologists and media scholars, such as Castells (2011) and Diamond (2010): thanks to the low cost of mobile phones and the internet, and their decentralised and open-access nature, they allow citizens to access and spread information. These technologies can also help to promote coordination among citizens, especially under authoritarian regimes and when reasons for grievance abound.

Despite the popularity of this argument, credible empirical evidence on the effect of information and communication technologies (ICT), particularly mobile phones, on political mobilisation is scant and the channels of impact not well understood. With the exception of a few recent studies that focus on the role of the internet and social media in protest participation (Acemoglu et al, 2014, for Egypt; Enikolopov et al, 2015, for Russia), a large body of research has focused on the effect of traditional media and the internet on civic forms of participation such as voting (Gentzkow, 2006; Falck et al, 2014).

Our research investigates the role played by mobile phones in political mobilisation across the whole of Africa and analyses the underlying mechanisms of impact. Africa is one of the continents with the fastest rate of adoption of mobile phone technology and it has been the theatre for some of the most spectacular episodes of mobilisation in recent years. Importantly, mobile phone technology adoption in many countries in the continent happened against the backdrop of a practically non-existent fixed line infrastructure. Because of this, the technology is claimed to have had unprecedented consequences for citizens' lives (Aker and Mbiti, 2010).

Our research uses novel geo-referenced data on mobile phone coverage for the entire continent over 15 years (1998 to 2012) at a level of geographical precision of between 1 and 20 km^2 on the ground. While in 1998 only 9% of the population was in reach of a signal, by 2012 this number had increased to 63% (see Figure 1).

We match this information with geo-located data derived from newswires on the occurrence of protests (from GDELT and ACLED) and with survey micro data on protest participation (from Afrobarometer).* Figure 2 provides an example of the level of detail of the protest data in GDELT, showing the exact location of episodes of protest during the Cairo uprising of 2011.

* http://www.gdeltproject.org; http://www.acleddata.com; http://www.afrobarometer.org

Figure 1:
Mobile phone coverage in Africa 1998-2012

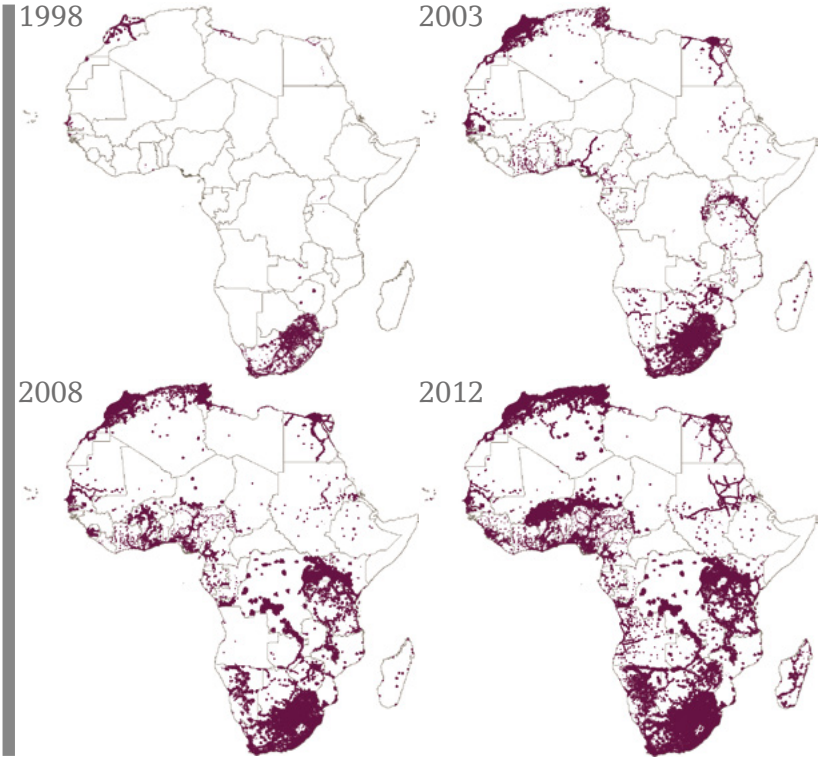
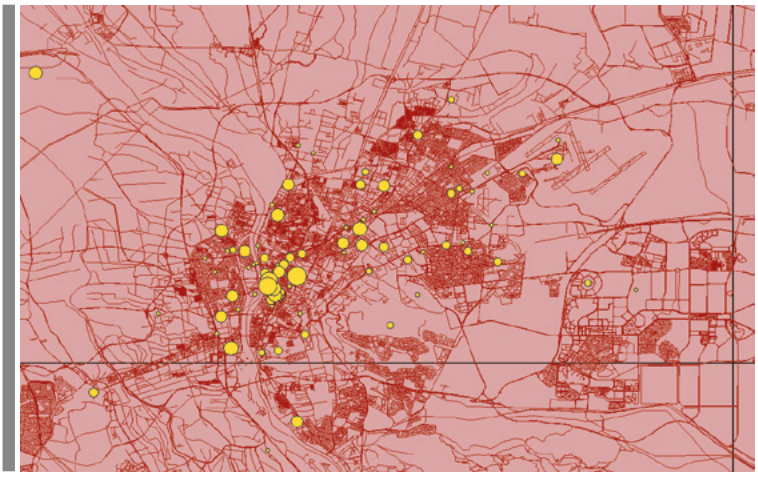


Figure 2:
Episodes of protest during the Cairo uprising of 2011



We exploit the very detailed level of geographical details warranted by our data to investigate trends in protest activity across areas within the same country that experienced different rates of mobile phone adoption.

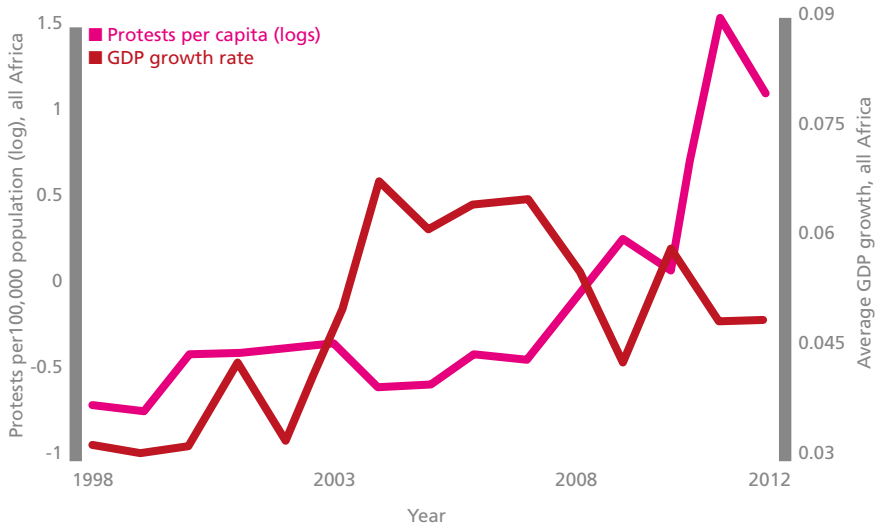
As might be expected, we find that protests are strongly counter-cyclical, with negative economic conditions acting as a trigger for protest participation (see Figure 3). This is possibly because recessions with more out of work reduce the opportunity cost of taking part in a protest or because reasons for grievance increase at these times.

We focus in particular on the differential responsiveness of areas with different mobile phone coverage to a country's aggregate macroeconomic shocks. Consistently across sources, we find that mobile phones act to amplify the effect of economic downturns on the incidence of protests: a four percentage point fall in GDP growth is associated with a 16% higher protest activity in areas fully covered compared with areas without phone coverage.

Figure 4 presents separate estimates and the associated confidence intervals for the effect of coverage on protests at five intervals of the GDP growth distribution, showing that it is precisely and only during recessions that the protest differential between high- and low-coverage areas arises.

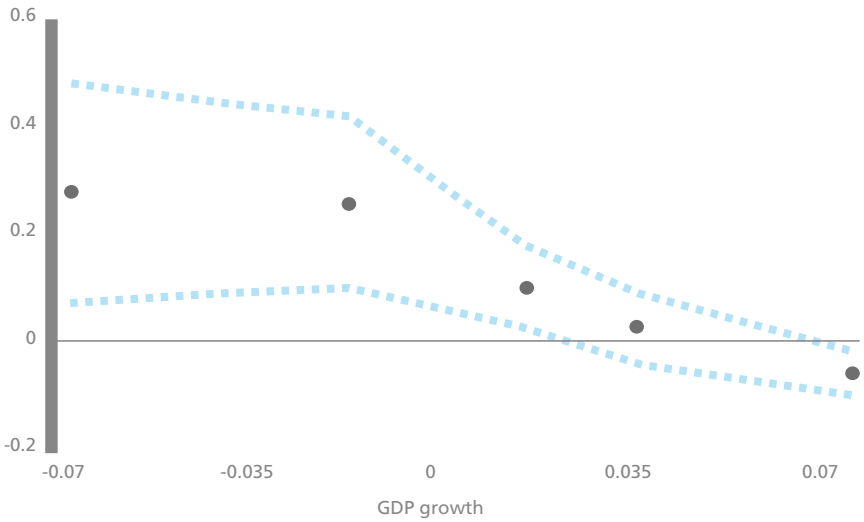
One challenge in our empirical analysis

Figure 3:
Negative economic conditions act as a trigger for protest participation



The mobilising potential of mobile phones is more pronounced in autocratic countries

Figure 4:
The effect of mobile phone coverage on protests at five points on the GDP growth distribution (plus associated confidence intervals)



Mobile phones do not cause political protests, but they amplify their effects

is that even within countries, mobile phones might not be randomly allocated across areas, as areas that witness earlier or greater penetration might be the ones with different underlying trends in protest activity.

We circumvent this problem by exploiting the circumstance that areas with greater lightning strikes activity (which we take from NASA) tend to experience slower adoption of mobile phone technology. This is due to mobile phone services being both in lower supply (as power surge protection is costly and poor connectivity makes the investment in technology less profitable) and lower demand (as the risk of intermittent communications discourages adoption).

The results from this analysis deliver even larger estimates of the impact of mobile phones on political protests. We also show that the effect is more pronounced under autocratic regimes and when traditional media such as television are under state control. This suggests that the technology may play a key role in fostering political freedom.

In the final part of our study, we use insights from economic theory to shed some light on the mechanisms through which digital ICT acts to foster citizens' responsiveness to economic downturns. We argue that two mechanisms are at play. First, mobile phones provide access to unadulterated information on reasons for grievance, hence leading to a greater increase in protests in areas with greater coverage.

But this is only a first-round effect. When the returns to political activism increase or the costs of participation decrease as the number of participants grows, mobile phone technology can also foster mass mobilisation through its ability to promote coordination. Knowledge, albeit imperfect, of others' likelihood of participating can foster individuals' willingness to participate, and lead to the emergence of protests, an outcome that would not result in a world where individuals act atomistically. Empirically, we show that both effects are at play.

Conclusion

Our analysis suggests that ICT does indeed help to promote mass mobilisation, especially when reasons for grievance arise and citizens blame the government for the poor state of the economy. But while citizens become empowered by the technology, governments also become cognisant of its potential to subvert the status quo.

The looming question is whether ultimately technology will increase government accountability or whether it will result in greater repression. The advent of 3G and 4G technologies, which further facilitate coordination among citizens but also expand the potential for government control, suggests that the technological battle for hearts and minds will further intensify in the future.

Mobiles foster mass mobilisation through their ability to promote coordination

This article summarises 'Liberation Technology: Mobile Phones and Political Mobilization in Africa' by Marco Manacorda and Andrei Tesei, CEP Discussion Paper No. 1419 (http://cep.lse.ac.uk/pubs/download/dp1419.pdf).

Marco Manacorda and **Andrei Tesei** of Queen Mary University of London are research associates in CEP's labour markets and community programmes.

Further reading

Daron Acemoglu, Tarek Hassan and Ahmed Tahoun (2014) 'The Power of the Street: Evidence from Egypt's Arab Spring', NBER Working Paper No. 20665.

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