

## The economy and crime: briefing note September 2015

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Criminal justice policy throughout the 1980s and 1990s was defined by two prominent trends: rising rates of offending and rising rates of imprisonment. This briefing presents evidence to consider what gave rise to these dynamics, and to what extent they were interrelated.

### The economy and crime: a changing relationship?

Rising crime rates in the 1980s have been attributed to the economic shocks experienced by the UK during the period (e.g. deindustrialisation, high levels of unemployment). Among criminologists, the economy-crime link has stimulated much debate (Box 1987; Chiricos 1987); for example with studies suggesting effects of the unemployment rate (Pyle & Deadman 1984), GDP (Field 1990; 1999), wages (Machin & Meghir 2000) and inflation/prices (Fischer 1996).

More recently the after-shocks of the great financial crisis did not bring the same increases in crime – despite the outbreak of public disorder during the 2011 August riots. What can we learn from the dog that did not bark? Has the economy-crime relationship evolved? We present evidence based on time series analysis to explore this.

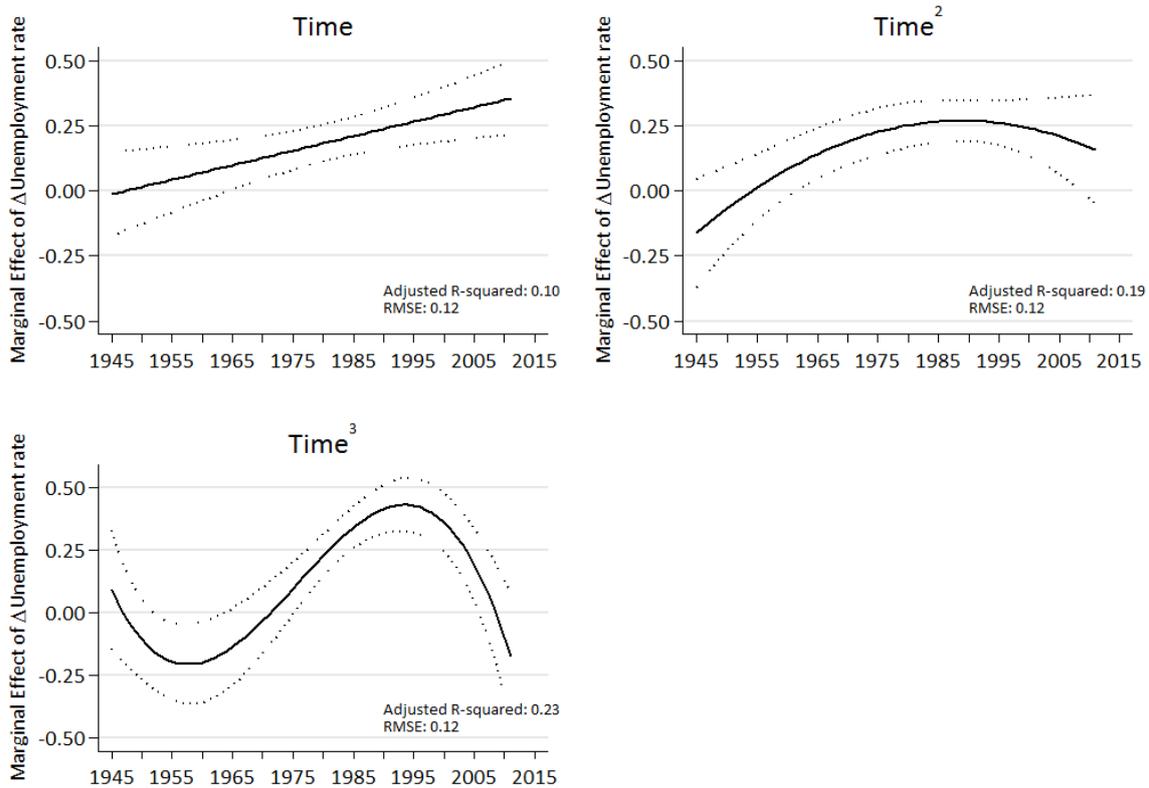
### *Method of analysis*

Like many other studies we use time series analysis to model the relationship between predictors and crime rates over time. In earlier work (Jennings et al. 2011) we found a strengthening of the effect of change in the unemployment rate on change in the rate of property crime (for the period between 1961 and 2006), consistent with the observation of Chiricos (1987) that evidence for the crime-unemployment link had grown in the 1970s. The idea that the influence of economic factors on crime is conditional has not received sufficient examination.

Using data on the unemployment rate (from the Global Financial Database) and recorded property crime (Home Office and Annual Abstract of Statistics sources) we model change in the level of crime as a function of change in the unemployment rate and also test for the *interaction* of that effect with time. That is, we test how the effect changes over time. Through the inclusion of linear, squared and cubic interaction functions we are able to model a range of the possible trajectories of the economy-crime relationship.

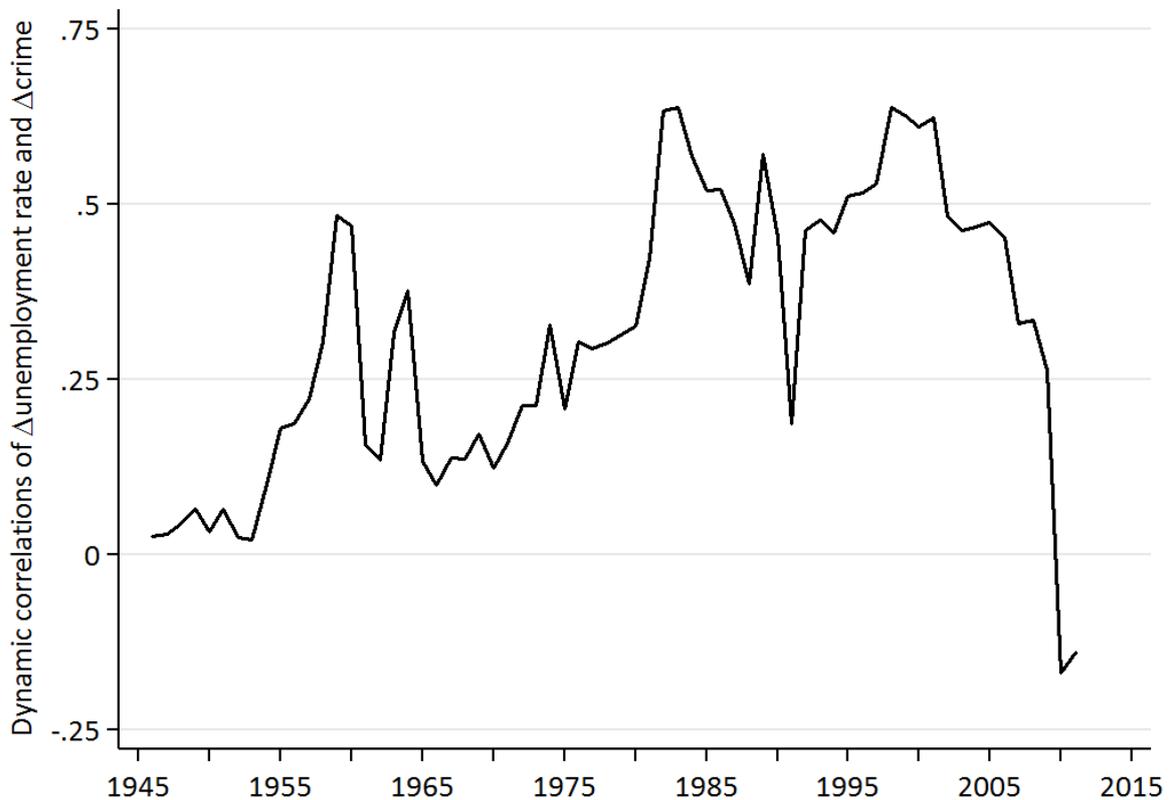
In Figure 1 below we plot the combined marginal effects (which are preferable to parameters of the regression model for interpretation of effects, Brambor 2006) alongside goodness-of-fit statistics for the underlying model (indicating how well each interaction function captures the relationship). The higher value of the Adjusted R-squared for the cubic (Time<sup>3</sup>) function reveals that the strength of the relationship between the unemployment rate and crime increased from the mid-1950s, but declined sharply after 1995, becoming indistinguishable from zero around 2005.

**Figure 1.** Time-conditional effects of change in unemployment rates on change in property crime



As a further test, we estimate *dynamic conditional correlations* (see Engle 2002) of the relationship between change in the unemployment rate and change in the rate of property crime. This approach is powerful because it drops the assumption that the mean and variance of our variables of interest, and relationship between them, remain constant over time (Lebo and Box-Steffensmeier 2008). As a result, it is possible to estimate the correlation of two variables at a particular point in time. We use a generalised autoregressive conditional heteroscedasticity (GARCH) modelling framework to model the time-varying variance (i.e. volatility) of each of the unemployment rate and the crime rate – and we then derive the time-varying correlation matrix to see how the unemployment-crime relationship varies over time. This is plotted in Figure 2. While the modelling approach is very different from that for interaction effects above, the conclusions are the same: that this relationship strengthened from the 1950s and 1960s onwards, but slumped after 2005.

**Figure 2.** Dynamic correlations of change in unemployment rates and change in property crime



### Summary of findings

Based on time series analysis of data on unemployment rates and recorded crime between 1945 and 2011, we find that:

- The relationship between the economy and crime rates is time-varying.
- The effect of unemployment rates on property crime rates increased during the 1970s and 1980s, peaking around 1995.
- The unemployment-crime link has vanished since the mid-2000s and was not revived in the downturn following the great financial crisis.

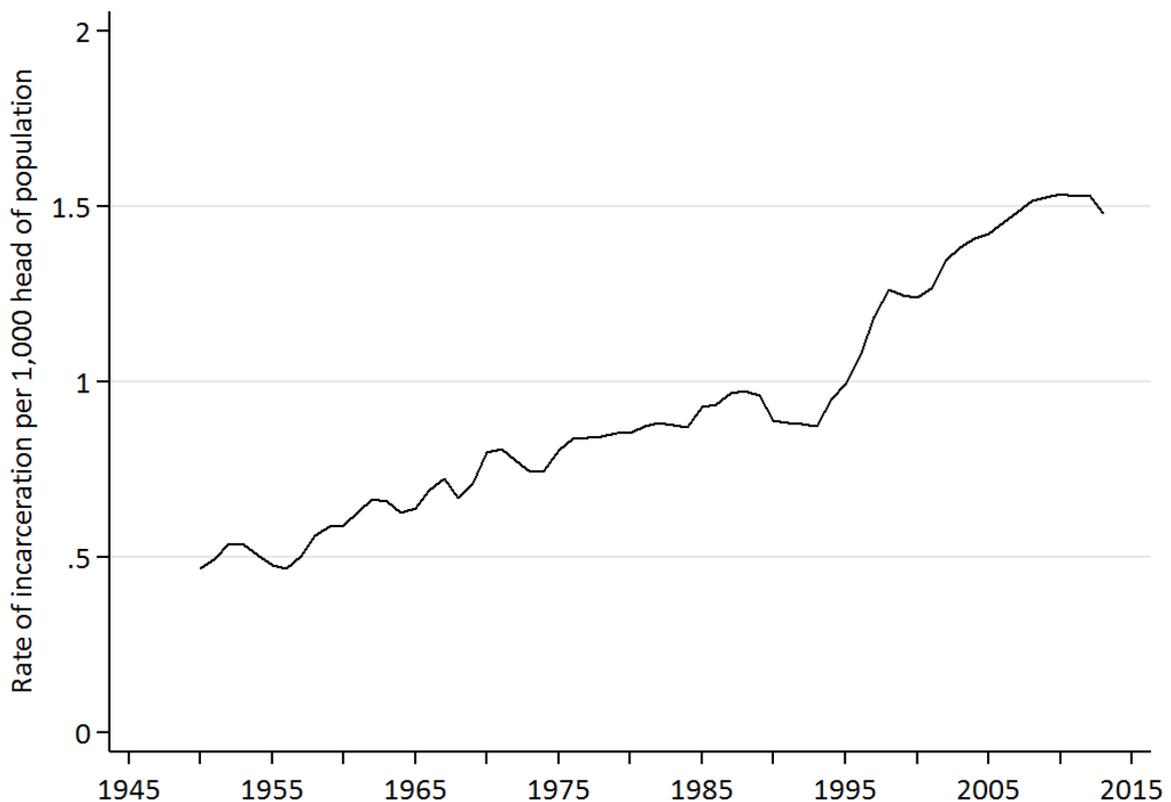
Based on time series analysis of monthly data on self-reported victimisation from the Crime Survey for England and Wales between 2001 and 2013, we find that:

- There is no longer a positive effect of the unemployment rate on crime (the effect is now negative).
- There is a positive and significant effect for economic pessimism (using the Ipsos-MORI 'economic optimism index'), in line with Durkheim's theory of *anomie*.

### Penal populism and the public thermostat:

Between 1980 and 2010, the prison population of England and Wales doubled, from around 40,000 to more than 80,000 people. A rising tide of 'penal populism' was first identified during the 1990s (see Bottoms 1995; Garland 2001), encapsulated in harsher sentencing, the increased use of imprisonment, social control orders and other innovative and experimental forms of crime control (e.g. anti-social behaviour orders). The upward trend in the rate of incarceration is depicted in Figure 3 below.

**Figure 3.** The size of the prison population per 1,000 population



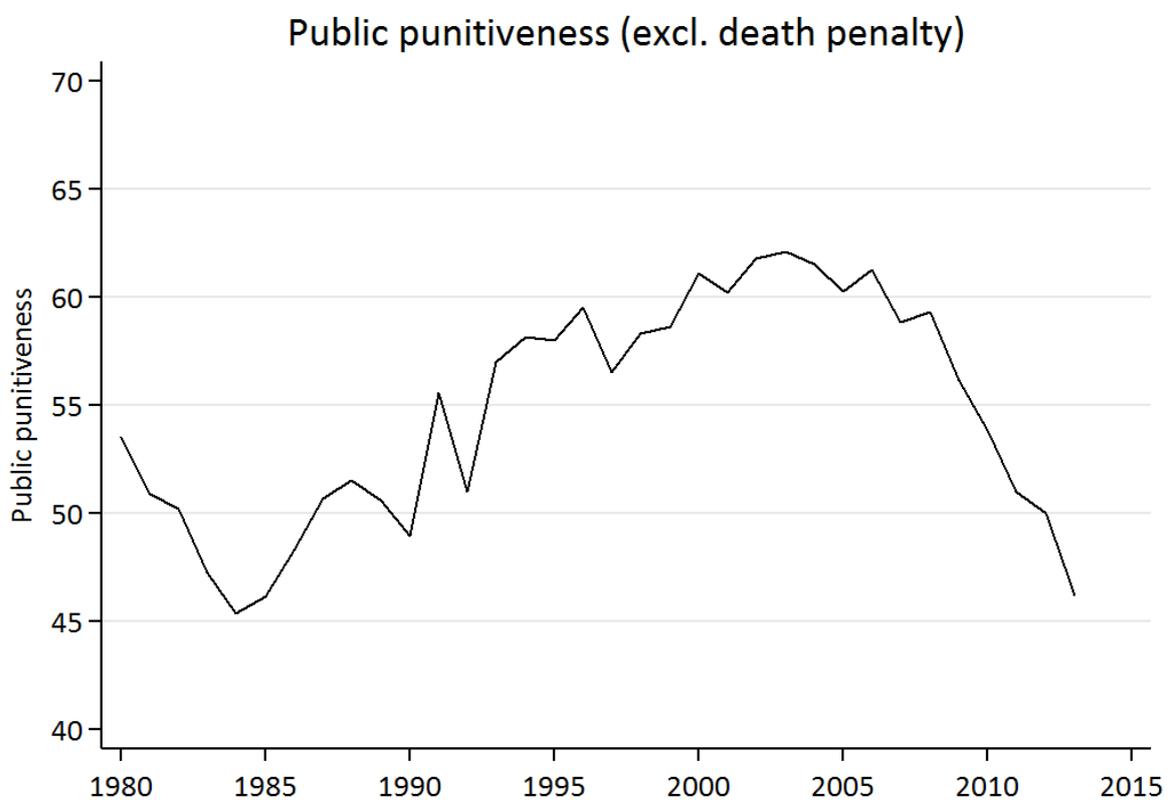
This trend has been framed as a response of political elites to public demand. In parallel to rising crime rates, it has been claimed that the 1980s and 1990s saw a British public that was increasingly punitive – such that no serious politician could disavow a hard line on criminal justice. But what evidence is there for this punitive shift in public opinion? To what extent did it reflect rising crime rates? And did it, in turn, lead to policies that were both rhetorically and substantively tougher on crime. In our research we derive a new measure of punitive public opinion and findings of its impact on incarceration rates – with important insights on how the punitive turn has quietly been reversed in recent times.

#### *Measuring public punitiveness*

One of the problems of measuring public opinion on crime (and indeed on any issue) over time is that most survey questions are asked infrequently or irregularly – surveys such as the British Social Attitudes Survey or British Election Study ask useful questions but typically not every year and often

with substantial gaps. To overcome this, we use a method developed by Stimson (1991), the ‘dyad ratios algorithm’, which estimates the underlying tendency in aggregate survey responses (using the ratio between responses to questions asked at two or more different points in time). We collected 2,007 aggregate-level survey items on crime and confidence in criminal justice system between 1938 and 2013, and coded them according to whether “tougher”, more punitive policy options on crime are preferred. This replicates the approach of Enns (2014) for modelling mass punitiveness in the US, and enables us to construct an index of the underlying common dimension of survey responses on crime/punishment. Our new measure of punitive attitudes on crime (excluding survey items relating to the death penalty), covering the period between 1980 and 2013 (where most data is available), is plotted in Figure 4.

**Figure 4.** Punitive opinion in Britain, 1980-2013



This reveals a steady increase in punitive attitudes towards crime and punishment of offenders from the early 1980s to mid-2000s, but a substantial shift towards more liberal attitudes on crime (as well as greater confidence in the criminal justice system) since around 2005. Time series modelling of this measure reveals that punitive opinion is responsive to changes in the rate of crime, suggesting that penal populism is “thermostatic” in its response to the state of the policy domain. We also estimate a version of the measure for monthly intervals between 2001 and 2013 (where substantial numbers of survey items are available from monthly sweeps of the Crime Survey for England and Wales). This reveals similar dynamics in response of public attitudes to variation in self-reported victimisation.

Using this measure, we test the influence of public opinion on rates of imprisonment, to determine whether there is support for the penal populism thesis. Our results, using both annual data between

1980 and 2013 and monthly data between 2001 and 2013, suggest that changes in the incarceration rate were responses to changes in public demand for government being tougher on crime.

*Summary of findings*

- The rising tide of punitive opinion observed in the 1980s and 1990s has not been sustained to the present day.
- Public demand for being “tough on crime” responds *thermostatically* to crime rates at the aggregate level: both for recorded crime statistics (1980-2013) and self-reported rates of victimisation (2001-2013).
- Punitive opinion influences both the rate of incarceration and attention to the issue of crime on the policy agenda of British government.

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