Explaining U.S. Exceptionalism in Homicide Over Time: The role of the Welfare State and Age Structure

Homicide rates vary substantially across countries. As a result, there has been a burgeoning literature exploring cross-national variation in homicide rates. This literature has advanced a number of perspectives for explaining this variation including differences in: absolute deprivation, relative deprivation, modernization, social disorganization, political and institutional structure, culture, and demography (Nivette 2011). However, this research is severely limited by its heavy reliance on cross-sectional studies, which hampers the ability of scholars to make inferences about what factors explain cross-national variation (Nivette 2011). This research is also hampered by reliance on biased sample composition (Nivette 2011). The general strategy has been to take the largest cross-sections of countries with available data, regardless of whether the countries in the sample are respresentative of any specific set of countries.

In this paper, I address these limitations by using data from 17 advanced democracies from 1960 to 2010. The focus on advanced democracies is warranted because, although advanced democracies are similar in many ways, they differ substantially in homicide rates. Specifically, the U.S. stands out among advanced democracies as a country with an exceptionally high homicide rate. Over the 51 year period in which I have data, the mean homicide rate in the U.S. is 7.71 homicides per 100,000 population compared to 1.24 homicides per 100,000 people in the other 16 countries (Sutton 2014). These average homicide rates mask temporal differences. The U.S has experienced a substantial drop in homicides since the 1970s, with a particularly stark drop since the 1990s. During the 1970s, the mean homicide rate in the U.S. was 9.77, while in the 2000s, the mean homicide rate declined to 5.9 (Sutton 2014). Despite this dramatic improvement, the U.S. still lags other advanced democracies, who averaged a homicide rate of just over 1 per 100,000 (Sutton 2014). In this paper, I test two possible explanations for why the U.S. has higher homicide rates than other countries: its more youthful age structure and its greater reliance on the private sector for the provision of security and services (ie health insurance). Moreover, I also explore whether the decline in the homicide rate in the U.S. over time may be due to an aging population and an increase in reliance on the public sector for the provision of security and services (ie health insurance).

Data and Methods

In this paper, I use data on homicide rates from 17 advanced democratic countries (USA, UK, Ireland, Australia, New Zealand, Japan, Norway, Sweden, Denmark, Finland, Austria, Belgium, France, Germany, Italy, and the Netherlands) from 1960-2010. The data on homicide rates were drawn from data compiled by Sutton (2014). I measure the homicide rate as the number of homicides per 100,000 population and log transform this rate (as has been done in prior research) because it is highly positively skewed (Jacobs and Richardson 2008; Messner and Rosenfeld 1997; Sutton 2004). The other variables in my analyses were drawn from the Comparative Welfare States Data Set (Brady, Huber, and Stephens 2014). The key independent variables measure the strength of the welfare state, and the age structure of the population. The measures for welfare state strength tap two dimensions: the generosity of the welfare state (Public expenditure on social benefits other than social transfers in kind, as a percentage of GDP) and the reliance on private/employment/market sources for the provision of welfare state functions (Public expenditure on health care, as a percentage of total expenditure on health care). Age structure is measured as a variable with three categories: the proportion of the population younger than 15 years old, the proportion of the population between 15 and 64 years of age, and

the proportion of the population aged 65 and over (Reference group). I also control for: the strength of left institutions (wage coordination, current left party power, cumulative left party power, and union density), opportunity structure (unemployment, GDP per capita, and the share of the population in the armed forces), social disorganization (percent of population in urban areas, infant mortality rate, and ethnic threat), economic structural factors (percent of population in manufacturing employment and trade openness), and period (decade fixed effects). Multiple imputation with 5 data sets is used to fill in missing data on the independent variables.

To explore the impact of the welfare state and age structure on homicide rates, I present results from OLS models with country fixed effects (with standard errors clustered by country to account for lack of independence of observations). The primary advantage of fixed effects models over common alternatives, such as random effects and ordinary least squares (OLS) models, is that they control for all time invariant variables, even if the time stable variables are unobserved (Allison 2005; Firebaugh and Beck 1994; Halaby 2004). In this case, given the long time frame and variety of countries in the data set, this is crucial, since time invariant characteristics, such as aspects of a country's history, may be particularly difficult to measure, but also critically important factors in explaining why some countries have higher homicide rates than others (Conley and Springer, 2001; Firebaugh and Beck 1994). As a result, fixed effects models have the advantage of being better able to isolate causal effects of the key variables of interest in this study (welfare state variables and age structure), which change over time.

Results:

In Table 1, I explore the associations between the welfare state, age structure, and the homicide rate in the full set of countries. In Models 1 and 2, I explore the association between the welfare state and homicide rates and the age structure and homicide rates respectively without including any control variables. Model 1 demonstrates that greater reliance on the public sources for welfare state protection is associated with lower homicide rates (the proportion of health expenditures that come from public sources), while overall welfare state generosity does not appear to be associated with homicide rates. Model 2 demonstrates that countries with younger age structures have higher homicide rates. In Model 3, I add a full set of control variables. While the magnitude of the coefficients decrease, I still find the same statistically significant pattern of results: greater reliance on the public sources for welfare state protection is associated with lower homicide rates, while more youthful age structures are associated with higher homicide rates. In Model 4, I test whether there is an interaction between the welfare state and a country's age structure. The results demonstrate that the homicide promoting association of a large working age population is reduced in countries with a welfare state that is greatly reliant on public sources of funding.

In Table 2, I test the robustness of these findings when U.S. cases are excluded from the analyses. This is important because the U.S. has an exceptionally high homicide rate, a welfare state that is particularly reliant on private sources of support, and a youthful age structure. In Models 5 and 6, I demonstrate that my previous results are not sensitive to the exclusion of the United States. In Model 5, I demonstrate that, when U.S. cases are excluded, greater reliance on public sources for welfare state protection remains associated with lower homicide rates, while more youthful age structures continue to be associated with higher homicide rates. In Model 6, I demonstrate that, even when the U.S. is excluded, the homicide promoting association of a large working age population is reduced in countries with a welfare state that is greatly reliant on public sources of funding.

Explaining U.S. Exceptionalism

What are the implications of the findings above? The U.S. has a younger population than other countries in the sample and relies on the market to provide welfare state functions more than other countries. The fact that these two factors are associated with higher rates of homicide suggests that the U.S.'s welfare state and its age structure may partly explain its exceptionalism in homicide. Moreover, over time, the U.S. population has aged and public funding has made up a larger share of health expenditures. As a result, changes in age structure and in the welfare state may explain why the U.S., while still having much higher homicide rates than other developed countries, has experienced a reduction in homicide over time.

Table 1: Models Predicting Cross-National Variation in Homicide (Full sample)

	Model 1	**Model 2**	**Model 3**	**Model 4**
Welfare State				
Public Health Spending	-0.034(0.011)**		-0.011(0.004)*	0.291(0.152)+
Social Security Transfers	0.019(0.016)		0.002(0.012)	-0.004(0.012)
Age Structure				
Percent Young (Ref=Percent Old)		0.071(0.026)*	0.054(0.028)*	0.211(0.094)*
Percent Working Age (Ref=Percent Old)		0.136(0.040)**	0.089(0.019)**	0.384(0.142)*
Left Institutions				
Union Density			0.006(0.004)	0.007(0.004)
Wage Coordination			0.023(0.025)	0.025(0.025)
Cumulative Left Party			-0.002(0.007)	-0.001(0.007)
Current Left Party			0.000(0.000)	0.000(0.000)
Opportunity Structures				
Unemployment Rate			-0.014(0.009)	-0.008(0.010)
GDP Per Capita			-0.022(0.010)*	-0.018(0.010)+
Share in Armed Forces			15.569(23.946)	21.538(27.125)
Social Disorganization				
Urban			0.024(0.012)+	0.024(0.011)+
Infant Mortality			-0.002(0.008)	0.001(0.008)
Percent Ethnic Minority (Logged)			-0.088(0.061)	0.083(0.055)
Structure of the Economy				
Manufacturing Employment			-0.020(0.011)+	-0.016(0.011)
Trade Openness			0.005(0.003)+	0.005(0.003)+
Period				
1970s (Ref=1960s)			0.393(0.053)**	0.387(0.057)**
1980s (Ref=1960s)			0.447(0.097)**	0.456(0.097)**
1990s (Ref=1960s)			0.450(0.108)**	0.482(0.116)**
2000s (Ref=1960s)			0.239(0.130)+	0.279(0.136)+
Interactions				
Public Health*Percent Young				-0.002(0.001)
Public Health*Percent Working Age				-0.004(0.002)+

Note: Models include controls for country fixed effects (not shown). Robust standard errors are clustered by country. **P<0.01, *P<0.05, +P<0.10. Tests are two-tailed.

Table 2: Models Predicting Cross-National Variation in Homicide (Sample Excluding U.S.)

	Model 5	**Model 6**
Welfare State		
Public Health Spending	-0.011(0.004)*	0.347(0.196)+
Social Security Transfers	0.002(0.014)	-0.001(0.013)
Age Structure		
Percent Young (Ref=Percent Old)	0.058(0.028)+	0.234(0.104)*
Percent Working Age (Ref=Percent Old)	0.088(0.024)**	0.447(0.191)*
Interactions		
Public Health*Percent Young		-0.002(0.001)
Public Health*Percent Working Age		-0.005(0.003)+

Note: Models include controls for country and period fixed effects, and all previous controls listed in Models 3 and 4 (not shown). Robust standard errors are clustered by country. **P<0.01, *P<0.05, +P<0.10. Tests are two-tailed.

References

Allison, Paul D. 2005. *Fixed Effects Regression Methods for Longitudinal Data Using SAS*. Cary, NC: SAS Institute.

Brady, David, Evelyne Huber, and John D. Stephens. 2014. *Comparative Welfare States Data Set.* University of North Carolina and WZB Berlin Social Science Center.

Conley, Dalton, and Kristen W. Springer. 2001. "Welfare State and Infant Mortality." *American Journal of Sociology 107(3):* 768-807.

Firebaugh, Glenn, and Frank D. Beck. 1994. "Does Economic Growth Benefit the Masses? Growth, Dependence, and Welfare in the Third World." *American Sociological Review 59(5):* 631-653.

Jacobs, David, and Amber M. Richardson. 2008. "Economic inequality and homicide in the developed nations from 1975 to 1995." *Homicide Studies, 12:* 28-45.

Halaby, Charles N. 2004. "Panel Model in Sociological Research: Theory into Practice." *Annual Review of Sociology 30:* 507-544.

Messner, Steven, F., and Richard Rosenfeld. 1997. "Political restraint of the market and levels of criminal homicide: A cross-national application of institutional anomie theory." *Social Forces, 75*: 1393-1416.

Nivette, Amy, E. 2011. "Cross-National Predictors of Crime: A Meta-Analysis." *Homicide Studies, 15(2):* 103-131.

Sutton, John R. 2004. "The Political Economy of Imprisonment in Affluent Western Democracies, 1960–1990." *American Sociological Review 69(2):* 170-189.

Sutton, John R. 2014. *Cross-National Imprisonment Data: 1960-2010.* University of California Santa Barbara.