

Opium for the Masses: How Foreign Media Can Stabilize Authoritarian Regimes

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In this case study of the impact of West German television on public support for the East German communist regime, we evaluate the conventional wisdom in the democratization literature that foreign mass media undermine authoritarian rule. We exploit formerly classified survey data and a natural experiment to identify the effect of foreign media exposure using instrumental variable estimators. Contrary to conventional wisdom, East Germans exposed to West German television were more satisfied with life in East Germany and more supportive of the East German regime. To explain this surprising finding, we show that East Germans used West German television primarily as a source of entertainment. Behavioral data on regional patterns in exit visa applications and archival evidence on the reaction of the East German regime to the availability of West German television corroborate this result.

1 Introduction

One of the most prominent subjects in comparative politics during the past few decades has been the explanation of political regime change from authoritarian rule to democracy. Beginning with the pathbreaking work of O'Donnell, Schmitter, and Whitehead (1986), many authors have developed complex theoretical models of the determinants of such transitions. The early literature on democratization concluded that international factors played no more than a secondary role in transitions to democracy, but more recent theoretical and empirical work has put greater emphasis on the international context (Huntington 1991, Pridham 1991, 1997; Starr 1991; Gasiorowski 1995; Linz and Stepan 1996; Whitehead

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1996; O'Loughlin et al. 1998; Kopstein and Reilly 2000; Starr and Lindborg 2003; Doorenspleet 2004; Brinks and Coppedge 2006; Gleditsch and Ward 2006). In the wake of this theoretical reorientation, foreign mass media have attracted increased attention as a cause of democratization. The view that Western mass media made a significant contribution to the fall of communism in Eastern Europe is widely shared among scholars and policymakers (Giddens 2000; Nye 2004, 2008; Parta 2007). What makes the wide acceptance of this view puzzling is that empirical research on the impact of foreign mass media on the stability of authoritarian regimes is almost nonexistent. Historical case studies of particular media sources such as *Radio Liberty* and *Radio Free Europe* (Lisann 1975; Nelson 1997; Puddington 2000) are suggestive but do not provide systematic evidence about their impact. A few studies use survey data from authoritarian regimes to document a correlation between exposure to foreign mass media and pro-democratic and pro-Western attitudes but fall short of demonstrating that these correlations are indeed causal (Hesse 1988, 1990; Parta 2007). However, a clear distinction between correlation and causation is particularly crucial in studies of media effects since it is well established that individuals tend to expose themselves to political messages they agree with (Bartels 1993; Stroud 2008).

In this paper, we address the question of the impact of foreign mass media on public support for authoritarian regimes by exploiting a natural experiment in communist East Germany. Because of East Germany's topography, West German television broadcasts could be received in most but not all parts of the country. We take advantage of this naturally occurring variation to identify the causal effect of West German television exposure on support for the East German regime. We rely on formerly classified survey data, behavioral data on exit visa applications, and archival evidence on the reaction of the East German leadership to the availability of West German television. Our main result is that exposure to West German television *increased* support for the East German regime. We argue that the best explanation for this counterintuitive finding is that East Germans used West German television primarily as a source of entertainment. In a society with a very limited number of entertainment options, the ability to watch West German television made a real difference in people's daily lives. It offered them a vicarious escape from the scarcities, the queues, and the ideological indoctrination, making life under communism more bearable and the East German regime more tolerable. We do not necessarily argue that West German television's political content did not undermine public support for the East German regime at all. However, the evidence shows that the net effect of West German television exposure was an increase in regime support. Behavioral data on regional patterns in exit visa applications and archival evidence on the reaction of the East German leadership to the availability of West German television corroborate these results.

2 The Effects of Foreign Media Exposure

During the Cold War, the United States attempted to reach audiences in communist countries through radio stations such as *Voice of America*, *Radio Liberty*, and *Radio Free Europe*. Some of these radio stations were explicitly set up as "surrogate" stations. They specialized in emulating the domestic stations that countries behind the Iron Curtain would have had if they had been free. U.S. international broadcasting policies were based on the expectation that access to uncensored and trustworthy information would nurture a more pro-democratic and pro-Western public opinion, restrain communist militarism and adventurism, and erode public support for communist rule in the long run (Presidential Study Commission on International Radio Broadcasting 1973; Lisann 1975; Quester 1990; Nelson 1997; Puddington 2000).

After the end of the Cold War, both scholars and policymakers agreed that U.S. international broadcasting, together with radio stations sponsored by other Western countries (e.g., *Deutsche Welle* and the *BBC*), had made a significant contribution to the demise of communism in Eastern Europe (Giddens 2000; Nye 2004, 2008; Parta 2007). The democratization literature holds that Western broadcasts sapped the strength of communist regimes by giving people behind the Iron Curtain hope and the assurance that the Free World had not forgotten them. They provided information not available in the state-controlled domestic media, thus allowing Eastern Europeans to compare communist propaganda with credible information from abroad. Western broadcasts addressed issues suppressed in the domestic media such as the existence of dissident movements, human rights violations, and communist countries' involvement in foreign wars. They enabled Eastern Europeans to compare their living standards with the (generally much higher) standards of living in supposedly declining capitalist countries. Through their coverage of domestic politics in democratic nations, they familiarized listeners with the functioning of democracy and introduced them to freedoms and liberties unknown under communism. In the long run, Western broadcasting nurtured pro-democratic attitudes and undermined public support for communism (Rustow 1990; Diamond 1993a, 1993b; Dalton 1994; Rohrschneider 1994, 1996; Whitehead 1996; Bennett 1998; Roberts 1999; Sükösd 2000).

The literature often cites the availability of West German television in East Germany as a particularly vivid example of the democratizing force of foreign mass media. Rustow (1990) for instance notes that West German television invited a constant comparison of living standards between affluent West Germany and its much poorer East German neighbor, thereby undermining the political legitimacy of the East German regime. According to Quester (1990: 128), the availability of West German television posed a "constant threat of destabilization and ferment." Roberts (1999: 33) also draws a direct connection between West German television and the fall of the East German regime, noting that "the availability of West German television in East Germany influenced attitudes over a long period [. . .], compelling a reluctant regime to initiate change." For Whitehead (1996: 6), "popular attitudes in East Germany were so powerfully influenced by messages transmitted neutrally from the West that democratization became unavoidable, whatever governments or political leaders within or without might have wished or attempted." Rohrschneider (1994: 935) asserts that access to West German television "undoubtedly helped to erode the legitimacy of the East German economic and political system."

West German television was indeed quite popular in East Germany; it was in fact much more popular than East German television (Stiehler 2001).¹ East and West Germans shared the same language and very similar cultures, which should have maximized the potential impact of West German broadcasts.² West German television also devoted much attention to politics in East Germany (e.g., political magazines such as *Kontraste* and *Kennzeichen D*). There can be no doubt that because of the availability of West German television, most East Germans had access to political information that the East German regime would have preferred them not to have. All in all, the claim that West German television undermined

¹West German television refers to ARD and ZDF, the two primary West German public broadcasting stations. Commercial television was introduced in West Germany in the mid-1980s but did not broadcast to East Germany and could only be received in some areas near West Berlin. Since East Germany bordered Poland and Czechoslovakia, some East Germans could have watched television broadcasts originating in these countries. We feel justified in ignoring this complication here since the communist orientation of these stations together with language barriers severely limited their appeal.

²Almost all East German households owned at least one television set in the 1980s (Staatliche Zentralverwaltung für Statistik 1989).

public support for the East German regime is very plausible, but it has not been tested empirically so far.

In its confidence in the power of foreign mass media to undermine authoritarian stability, the democratization literature also fails to consider the possibility that foreign media might inadvertently stabilize authoritarian regimes. West German television not only informed its viewers about the grim reality of communist rule in Eastern Europe, it also threw light on controversial aspects of capitalist societies such as crime, drug abuse, mass unemployment, and the unequal distribution of wealth. German communications scholars have therefore conjectured that West German television had a deterring effect on East Germans, raising their awareness of the “dark sides” of capitalism and increasing their appreciation for the advantages of “real existing socialism” (Hesse 1988: 118–22; Meyen 2003b: 67–8). East Germans could not buy the consumer goods or travel to the exotic places they encountered on West German television, but they also did not have to worry about unemployment or homelessness. Confronted with social ills that did not exist in East Germany, they might have come to the conclusion that the grass was not much greener on the other side of the Berlin Wall.

Alternatively, people living under authoritarian regimes might simply see the mass media, both domestic and foreign, as a source of entertainment that offers a temporary escape from the humdrum of daily life, the scarcities, the queues, and the ideological indoctrination (Lazarsfeld and Merton 1948; Katz and Foulkes 1962). Especially Meyen (2001, 2003b: 37–42) has stressed the escapism aspect of West German television. As in other communist countries, life in East Germany was rather dull and uneventful. A scarcity of restaurants, cinemas, theaters, and night and sports clubs contributed to domesticity and boosted West German television’s importance as the primary source of entertainment. As one German historian has put it, each night East Germans “collectively emigrated” to West Germany in front of their television screens (Wolle 1998: 71). West German television, and in particular its entertainment programming, may have offered East Germans a vicarious escape that made life under communism more bearable and the East German regime more tolerable.

Below, we test the conventional view that West German television exposure undermined support for the East German regime together with the deterrence and escapism hypotheses. The next section of the paper describes our research design and statistical methodology. Section 4 presents the main results. Section V shows that access to West German television was also related to the number of exit visa applications filed by East Germans, which serve as a behavioral indicator of political dissatisfaction. Based on research in the archives of the East German secret police and the ruling Socialist Unity Party (SED), Section VI shows that the East German leadership itself was aware of the stabilizing effects of West German television. The last section discusses our results.

3 Research Design

One challenge for research on media effects in authoritarian regimes is data availability. Authoritarian regimes rarely permit independent survey research and when they themselves conduct public opinion surveys the results are often not made public. Thus, with some exceptions (Geddes and Zaller 1989), reliable microlevel data on public opinion in authoritarian regimes are not readily available. Past research on media effects in Eastern Europe has attempted to address this problem by interviewing emigres or visitors to Western Europe. Hesse (1988, 1990), for example, interviewed refugees coming to West Germany. *Radio Liberty* and *Radio Free Europe* interviewed Eastern Europeans visiting

the West to estimate the effects of exposure to Western radio programs on political attitudes in Eastern Europe and the Soviet Union (Parta 2007). However, such surveys do not address the problem of self-selection into media exposure. Soviet citizens who listened to *Radio Liberty* almost certainly had different political attitudes than nonlisteners to begin with. To attribute differences in political attitudes between these two groups to *Radio Liberty* exposure is therefore problematic.

We rely on formerly classified survey data collected by the Zentralinstitut für Jugendforschung (Central Institute for Youth Research) that have become available to researchers after German reunification. The Central Institute was founded in 1966 to offer scientific guidance to East German authorities on questions of youth policy. Its critical reports aroused the hostility of parts of the East German bureaucracy and during most of its existence, researchers affiliated with the Central Institute were not allowed to publish any of their research. Between 1966 and 1990, the Central Institute conducted several hundred surveys of East German high school and college students, apprentices, and young workers. For each survey, questionnaires had to be approved by SED party officials, several government departments, and the Central Office for Statistics. Surveys representative of East Germany as a whole could not be conducted for political reasons; the only stratum of the East German population the Central Institute was allowed to survey were teenagers and young adults. The range of permissible survey questions was likewise restricted. Given these constraints, the Central Institute relied on cluster sampling of teenagers and young adults in schools, universities, and firms (Friedrich, Förster, and Starke 1999).

Researchers at the Central Institute were aware that people living under an authoritarian regime might be reluctant to participate in public opinion surveys and answer politically sensitive questions. To convince participants that survey responses would be completely anonymous the researchers eschewed face-to-face interviews. They always distributed questionnaires in group settings (e.g., high school or college lecture classes), thereby giving respondents the opportunity to see for themselves that the questionnaires were unmarked and could not be traced back to them. Completed questionnaires were collected in a sealed urn (Friedrich 1990). Ex post, it is impossible to determine with certainty to what extent these procedures eliminated preference falsification (Kuran 1991). Nonetheless, as we will show below, survey responses were fairly critical of the East German regime. Moreover, even if the existence of preference falsification cannot be completely ruled out, it almost certainly does not create a problem for our research design. We are not primarily concerned with identifying the true level of East Germans' regime support. Instead, we estimate the difference in regime support between East Germans who were exposed to West German television and East Germans who were not exposed to West German television. Unless levels of preference falsification varied systematically between these two groups, our media effect estimates will be unbiased.

Individuals tend to expose themselves to political messages they agree with, making it difficult to distinguish between association and causation in studies of media effects (Bartels 1993; Stroud 2008). If exposure to West German television is associated with critical attitudes toward the East German regime, it could be that West German television affected viewers' attitudes but it is equally plausible that East Germans dissatisfied with the regime were more likely to watch West German television in the first place. To address this self-selection problem we take advantage of a natural experiment. Natural experiments are observational studies in which some exogenous process ("nature") assigns units to different types of treatments in a haphazard fashion that is "as good as random" (Freedman 2005; Morgan and Winship 2007; Dunning 2008). We identify the effects of exposure to West German television by exploiting a natural experiment generated by East Germany's

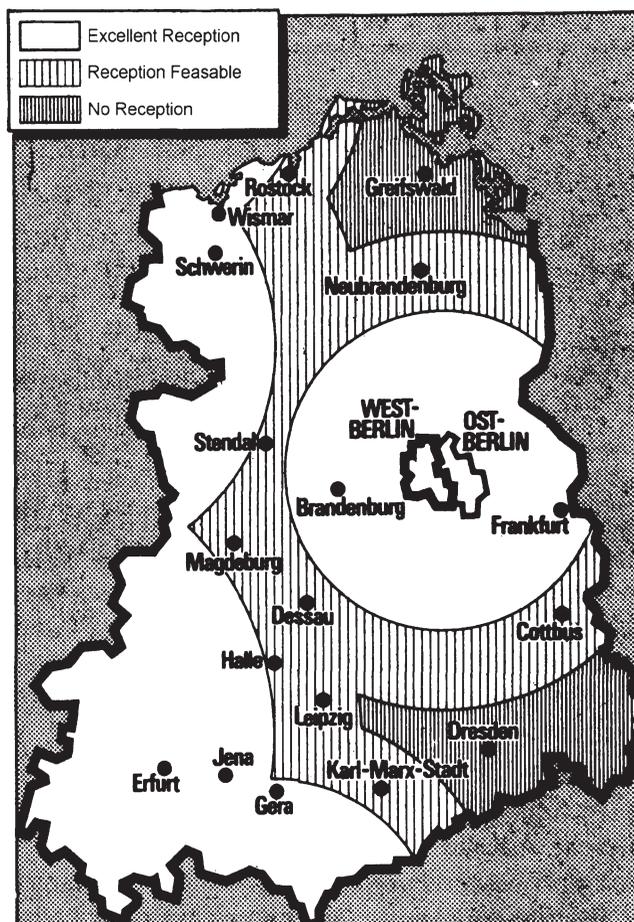


Fig. 1 Over-the-air signal strength of West German television broadcasts. *Source:* Adapted from *Die Welt*, October 27, 1980.

topography. As it turns out, West German over-the-air television broadcasts could not be received in all parts of East Germany. Especially the Dresden district in the Southeast was largely cut off from West German television due to topographical features and its distance from West German broadcasting towers (Fig. 1).

3.1 Survey Data

The survey data were collected between November 1988 and February 1989, less than 1 year before the fall of the Berlin Wall in November 1989.³ It is important to note that at that time no one expected the fall of the East German regime, which appeared to be one of the most stable communist regimes in Eastern Europe (Zelikow and Rice 1995). The sample contains mostly teenagers and young adults (the mean age is 23 years; the lower and upper quartiles are 18 and 26 years) from eight East German districts (Dresden, East

³Zentralarchiv für Empirische Sozialforschung ZA 6008: Politisches Klima und gesellschaftliche Bedingungen in der DDR 1988/89.

Berlin, Magdeburg, Cottbus, Leipzig, Erfurt, Karl-Marx-Stadt, and Schwerin). The total number of respondents is $N = 3564$.

3.2 Causal Inference Using Instrumental Variables

Our main quantity of interest is the effect of West German television exposure on expressed support for the East German regime. We code a binary variable D that takes the value 1 for respondents who watch West German television daily, multiple times each week, once per week, or less than once per week, and 0 for respondents who never watch West German television.⁴ Borrowing from the literature on causal inference in statistics (Rubin 1974, 1978; Holland 1986; Rosenbaum 2002), we refer to D as “treatment indicator,” the set of respondents exposed to West German television as “treatment group,” and the set of respondents not exposed to West German television as “control group.” We define Y_1 and Y_0 as the potential outcomes under treatment and control, that is, the levels of expressed regime support that a respondent would have had with and without exposure to West German television. For each respondent, the effect of West German television exposure is defined as the difference between these two potential outcomes ($Y_1 - Y_0$). The “fundamental problem of causal inference” (Holland 1986) is that for each respondent we never get to observe both potential outcomes but only the realized outcome $Y = DY_1 + (1 - D) \cdot Y_0$. In other words, for a respondent exposed to West German television, we never get to observe the counterfactual level of regime support that she would have had in the absence of exposure to West German television (and vice versa).

To obtain unbiased treatment effect estimates, we need to find a suitable control group of respondents that is sufficiently similar to the treatment group in all relevant characteristics except that it was not exposed to West German television. Finding a good control group is difficult in observational studies because selection into treatment is usually associated with the potential outcomes. It is for this reason that the naive comparison of the regime support of East Germans exposed to West German television with the regime support of East Germans not exposed to West German television would not be very informative about the causal effect of West German television exposure. We could attempt to make this comparison more credible by controlling for observable characteristics known to affect both selection into West German television exposure and political attitudes using some method of covariate adjustment (e.g., regression or matching). Such an approach would still be problematic, however, since we cannot rule out the possibility that East Germans selected into West German television exposure based on unobservable characteristics.

Instrumental variables (IV) (Imbens and Angrist 1994; Angrist, Imbens, and Rubin 1996; Abadie 2003; Imbens and Wooldridge 2008) offer a more credible identification strategy by exploiting the fact that not all parts of East Germany had access to West German television. We code a binary instrument Z based on information about respondents' place of work. It takes the value 0 for respondents living in the Dresden district and the value 1 for respondents living in districts with access to West German television

⁴Respondents were asked “How often do you watch West German television?” Responses are coded on a five-category scale ranging from daily to never. We dichotomize this variable to facilitate the interpretation of our results. One could also think of West German television exposure as a multivalued treatment, but that would make identification much more complicated (see Imbens and Wooldridge 2008 for details). Moreover, note that East Germany's topography induced variation in whether East Germans watched West German television but not necessarily in the specific amount they watched. In other words, West German television exposure might only be “as good as random” when dichotomized. Results are substantively identical when respondents watching West German television less than once per week are also coded as 0.

(East Berlin, Magdeburg, Cottbus, Leipzig, Erfurt, Karl-Marx-Stadt, and Schwerin). One can think of this instrument as inducing exogenous variation in the treatment.⁵

We follow Imbens and Angrist (1994) in conceptualizing IV identification in terms of potential treatment indicators. Let D_z represent potential treatment status given $Z = z$. For example, $D_0 = 0$ and $D_1 = 1$ means that a respondent would not watch West German television if she lived in the Dresden district but that she would watch West German television if she did not live in the Dresden district. The treatment status indicator can then be expressed as $D = ZD_1 + (1 - Z)D_0$. Similar to the missing data problem for potential outcomes, we only get to observe Z and D (and therefore D_z for individuals with $Z = z$) but never both potential treatment indicators for the same individual. Following the terminology in Angrist, Imbens, and Rubin (1996), we can distinguish four groups of respondents:

Compliers: $D_0 = 0$ and $D_1 = 1$. Compliers are respondents who watch West German television if they do not live in Dresden but who do not watch West German television if they live in Dresden.

Always-takers: $D_1 = D_0 = 1$. These are respondents who always watch West German television, no matter where they live.

Never-takers: $D_1 = D_0 = 0$. Similarly, these are respondents who never watch West German television, no matter where they live.

Defiers: $D_0 = 1$ and $D_1 = 0$. These are respondents who watch West German television if they live in Dresden but who do not watch West German television if they do not live in Dresden.

Since we only observe one of the potential treatment indicators (D_0, D_1), we cannot directly identify the group to which any particular respondent belongs. However, it turns out that under certain assumptions that we will discuss next, IV allow us to estimate average treatment effects for the subgroup of compliers (62% of our respondents) even though we cannot individually identify compliers in our sample.

3.2.1 Identification assumptions

Let Y_{zd} represent the potential outcome if $Z = z$ and $D = d$. For example, Y_{00} denotes the regime support of a respondent who lives in the Dresden district ($Z = 0$) and does not watch West German television ($D = 0$). Following Abadie (2003), this leads to the following nonparametric assumptions under which IV can be used to identify causal effects. X represents a vector of predetermined covariates.

- (i) Ignorability of the instrument: conditional on X , the random vector $(Y_{00}, Y_{01}, Y_{10}, Y_{11}, D_0, D_1)$ is independent of Z .
- (ii) Exclusion of the instrument: $P(Y_{1d} = Y_{0d}|X) = 1$ for $D \in \{0, 1\}$.
- (iii) First stage: $0 < P(Z = 1|X) < 1$ and $P(D_1 = 1|X) > P(D_0 = 1|X)$.
- (iv) Monotonicity: $P(D_1 \geq D_0|X) = 1$.

Are these identification assumptions plausible? Assumption (iv) rules out the existence of defiers. It is highly unlikely that there were East Germans who would have watched West German television if they had lived in Dresden but who would not have watched West German television if they had not lived in Dresden. Assumption (iii) is also innocuous.

⁵Could we have used a regression-discontinuity design (RDD) instead? RDDs are sometimes used with spatial treatment discontinuities (Black 1999). However, our survey data do not allow us to implement a spatial RDD because doing so would require information about respondents' place of residence at a much more disaggregate level.

Table 1 West German television exposure and place of residence

<i>How often do you watch West German television?</i>	<i>Living in</i>	
	<i>Dresden district Count (%)</i>	<i>Other districts Count (%)</i>
Daily	42 (5)	1820 (65)
Multiple times each week	69 (9)	732 (26)
Once per week	17 (2)	47 (2)
Less than once per week	108 (14)	101 (4)
Never	498 (64)	46 (2)
Missing	50 (6)	33 (1)
Total	784 (100)	2779 (100)

It guarantees that Z and D are correlated conditional on X . Given that most people in the Dresden district were cut off from West German television broadcasts, not living in the Dresden district is highly correlated with exposure to West German television. Table 1 displays the frequency of West German television consumption in our sample. As one would expect, respondents living in the Dresden district were much less likely to watch West German television than respondents living in other districts. The sample correlation between living in Dresden (Z) and consumption of West German television (D) is 0.74. When we regress Z on D while controlling for our extensive set of covariates (see below), the t -statistic on the treatment indicator is about 60.

Assumptions (i) and (ii) need more justification. Assumption (i) states that place of residence (Z) is “as good as randomly assigned” once we condition on X . Assumption (ii) implies that variation in the instrument does not change the potential outcomes other than through its effect on D . It allows us to define potential outcomes in terms of D alone, so that we have $Y_0 = Y_{00} = Y_{10}$ and $Y_1 = Y_{01} = Y_{11}$. Taken together, these two assumptions guarantee that conditional on X the instrument only has an effect on the outcome through the variation it induces in the treatment. Conditional on covariates, living in Dresden as such does not directly affect respondents’ political attitudes.

Assumptions (i) and (ii) might only hold after we condition on a set of covariates X . Our research design enables us to control for confounding factors at two levels. Below, we show that the Dresden district was very similar to the other East German districts in our sample. In this sense, aggregate-level differences are controlled for by design. In addition, the survey contains a number of individual-level characteristics that we can directly adjust for by including them in the estimations.

3.2.2 Threats to the exclusion restriction

The exclusion restriction would be called into question if the Dresden district was fundamentally different from other districts in our sample. Living conditions in Dresden for example might have been worse than in other parts of East Germany, making Dresden respondents more likely to express dissatisfaction with the East German regime.

Figure 2 shows that this possibility is rejected by the data. It displays characteristics for the eight districts in our sample for the year 1988 (Staatliche Zentralverwaltung für Statistik 1989; Grundmann 1997). The x axis shows standard deviations from the medians; the y axis lists the district characteristics. Red solid circles display values for the Dresden district; empty circles display values for the other districts. The first 24 rows in Fig. 2 list

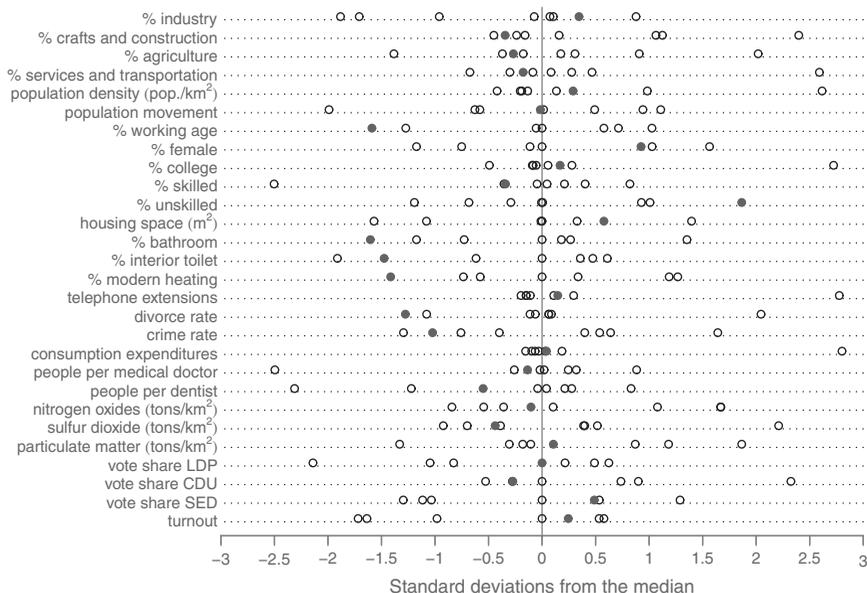


Fig. 2 District characteristics. The graph shows balance in district characteristics for the eight districts in our sample. The x axis shows standard deviations from the medians; the y axis lists the district characteristics. Red solid circles display values for the Dresden district; empty circles display values for the other districts. Note that for several district characteristics only seven values are shown as data for East Berlin are not always available. Data are taken from Staatliche Zentralverwaltung für Statistik (1989) and Grundmann (1997).

socioeconomic characteristics; they do not provide any indication that the Dresden district was fundamentally different from the other districts.

What about differences in political attitudes before West German television ever became available in East Germany? The last four rows of Fig. 2 show turnout and vote shares for the Christian Conservatives (CDU), Liberals (LDP), and the SED in the 1946 state elections held in the German territories then occupied by the Soviet Union.⁶ These elections were the first state elections after the collapse of the Third Reich. Although the Soviet occupation forces supported the SED and discriminated against the CDU and LDP, the elections were still reasonably free (Schmitt 1993; Hajna 2000). As we can see in the second to last row in Fig. 2, the SED's vote share in the Dresden district was close to average. The same is true for turnout and support for the CDU and LDP. There is no evidence that long-standing regional differences in political culture predating the introduction of West German television invalidate the exclusion restriction.

3.2.3 Threats to the ignorability assumption

East Germans who desired to watch West German television might have moved away from the Dresden district. If interest in West German television was correlated with regime support, which seems likely, this kind of sorting behavior would invalidate our

⁶The data are taken from Broszat and Weber (1993), adjusted for redistricting, and weighted by population size. East Berlin has been excluded since West German parties could run their own candidates in East Berlin at that time.

instrument. Residential mobility however was exceptionally low in East Germany. On average, East Germans moved across county borders once every 64 years, that is, approximately once per lifetime (Grundmann 1998).⁷ The lack of functioning labor and housing markets accounts for this extremely low level of residential mobility. In East Germany's centrally planned economy, factor allocation was controlled by the state. Mobility of labor between occupations and firms was not desired since it interfered with central planning and increased costs, and low labor mobility led to low residential mobility. Second, a dramatic shortage of housing depressed residential mobility further (Grünert 1996; Grünert, Bernien, and Lutz 1997; Grundmann 1998; Wolle 1998: 182–88; Uunk, Mach, and Mayer 2005). We therefore think it highly unlikely that the ignorability assumption is violated by spatial sorting.

3.3 Covariates

Even though the use of a natural experiment reduces the danger of confounding, some imbalances between the treatment and control groups might exist. Fortunately, the survey contains a relatively rich set of control variables that allows us to relax the ignorability assumption for the instrument. Here, we face the usual tradeoff involved in the choice of covariates (Rosenbaum 2002: 76). We want to avoid posttreatment bias, which is caused by adjusting for variables that are themselves affected by the instrument or the treatment (Rosenbaum 1984). Since we only have cross-sectional data at our disposal, it is not immediately obvious which variables are pretreatment in this sense. Age, gender, and father's and mother's occupational classification are the only variables in the survey that are causally prior to television exposure. We call this set of variables the limited covariate set. But we also want to maximize the credibility of the ignorability assumption. We therefore also show results for an extensive set of covariates. This set adds marriage status, living situation (whether the respondent is living alone or with a partner), number of children, highest educational attainment, occupational classification, net monthly income, and employment status to the limited covariate set. For some of these variables, it is not entirely inconceivable that they might be affected by the instrument or the treatment. As we will see, however, our results are virtually identical no matter which covariate set we use. All covariates are fully factorized to avoid functional form assumptions. Missing data, which affect less than 1% of our sample, are treated as additional categories.

3.4 Estimators

In the absence of covariates, the so-called Wald estimator identifies average treatment effects for compliers, also called local average treatment effects (LATE) (Imbens and Angrist 1994):

$$\alpha_{\text{LATE}} = \frac{\text{cov}(Y, Z)}{\text{cov}(D, Z)} = \frac{\mathbb{E}[Y|Z = 1] - \mathbb{E}[Y|Z = 0]}{\mathbb{E}[D|Z = 1] - \mathbb{E}[D|Z = 0]} = \mathbb{E}[Y_1 - Y_0 | D_1 > D_0]. \quad (1)$$

Recall that compliers are individuals for which treatment status is exogenously manipulated by the instrument. In the absence of covariates, the popular two-stage least squares estimator (2SLS) reduces to the Wald estimator and thus also identifies LATE. Once we

⁷East Germany was divided into 15 districts (including East Berlin), which in turn were divided into counties. The total number of counties was 217.

Table 2 Outcome variables

	<i>Fully disagree,</i> <i>n (%)</i> <i>1</i>	<i>Largely disagree,</i> <i>n (%)</i> <i>2</i>	<i>Largely agree,</i> <i>n (%)</i> <i>3</i>	<i>Fully agree,</i> <i>n (%)</i> <i>4</i>	<i>Missing,</i> <i>n (%)</i>	<i>Total,</i> <i>n (%)</i>
Convinced of Leninist/Marxist worldview	399 (11)	850 (24)	1697 (48)	571 (16)	47 (1)	3564 (100)
Feel closely attached to East Germany	154 (4)	600 (17)	1963 (55)	809 (23)	38 (1)	3564 (100)
Political power is exercised in ways consistent with my views	301 (8)	874 (25)	1969 (55)	373 (10)	47 (1)	3564 (100)

condition on covariates, however, 2SLS no longer identifies LATE unless treatment effects are constant within strata of X (Abadie 2003; Morgan and Winship 2007). This constant treatment effects assumption is often implausible since it requires that the treatment has the same effect for individuals with the same covariate values. In particular, the treatment effect for compliers is not allowed to differ from the treatment effect for noncompliers. To allow for heterogeneous treatment effects, we also implement a new class of IV estimators called local average response functions (LARF) recently proposed by Abadie (2003). The semiparametric LARF estimator allows for the identification of LATE conditional on covariates even without the constant treatment effects assumption.⁸

3.5 Outcome Variables

The survey includes several questions that measure support for the East German regime. Here, we focus on the three questions that seem most relevant:⁹

To what extent do you agree with the following statements:

- “I am convinced of the Leninist/Marxist worldview.”
- “I feel closely attached to East Germany.”
- “In East Germany, political power is exercised in ways consistent with my views.”

Response categories are fully disagree, largely disagree, largely agree, and fully agree. The distribution of the outcome variables is shown in Table 2.

4 Results

Table 3 presents the first set of results. The first column shows simple differences in means between exposed and unexposed respondents. Results for all three outcome variables suggest that watching West German television had only a small and statistically insignificant effect on regime support. However, there is every reason to believe that these estimates are confounded by self-selection.

⁸Standard errors are adjusted for clustering within the 169 sampling units (e.g., college lecture classes). We use the Eicker-White sandwich estimator for the 2SLS models and a pairs cluster bootstrap for the LARF specifications (Davison and Hinkley 1997: 101–103).

⁹Results are substantively identical when other questions are used instead.

Table 3 Effect of West German television exposure on regime support

<i>Estimator</i>	<i>Diff.</i>	<i>LATE</i>	<i>2SLS</i>	<i>LARF</i>	<i>2SLS</i>	<i>LARF</i>
<i>Covariate set</i>	—	—	<i>Limited</i>	<i>Limited</i>	<i>Extensive</i>	<i>Extensive</i>
Convinced of Leninist/Marxist worldview						
West German TV	-0.079 (0.053)	0.147 (0.083)	0.205 (0.084)	0.204 (0.084)	0.198 (0.087)	0.204 (0.108)
Feel closely attached to East Germany						
West German TV	-0.013 (0.044)	0.217 (0.067)	0.258 (0.072)	0.255 (0.075)	0.256 (0.073)	0.251 (0.090)
Political power exercised in ways consistent with my views						
West German TV	-0.014 (0.047)	0.158 (0.078)	0.193 (0.082)	0.191 (0.083)	0.186 (0.081)	0.185 (0.106)

Note. $N = 3441$. The table shows treatment effect estimates for each specification with cluster-adjusted standard errors in parentheses. Diff. denotes the difference in means between exposed and unexposed respondents. LATE is the unconditional average treatment effect for compliers. 2SLS is the two-stage least squares estimator. LARF is the local average response function estimator. The limited covariate set includes age, gender, and father's and mother's occupational classification. The extensive covariate set adds marriage status, living situation, number of children, highest educational attainment, occupational classification, net monthly income, and employment status to the limited set. Response categories for the outcome variables are coded as fully disagree = 1, largely disagree = 2, largely agree = 3, and fully agree = 4.

Column 2 displays unconditional LATE estimates. According to these specifications, exposure to West German television increased regime support by 0.15–0.22 on the four-point response scale. These treatment effect estimates are statistically significant at the .10 level or better.

The unconditional LATE estimates are confirmed when we introduce respondent-level covariates in columns 3–6. Exposure to West German television continues to have a positive effect on regime support; effect sizes vary between .19 and .26 depending on the exact specification. All estimates except one are statistically significant at the .05 level. Estimates for the subgroup of compliers (LARF, columns 4 and 6) and the whole sample (2SLS, columns 3 and 5) are virtually identical, which suggests that the constant treatment effects assumption is not critical in our application. The limited and extensive covariate sets also lead to very similar results. Overall, we find that exposure to West German television had a substantial positive effect on regime support. Evaluated at the means of the three outcome variables, the average increase in regime support due to West German television exposure was between 11% and 15%.¹⁰

How can we explain this surprising positive effect of West German television exposure? The survey also contains several questions that allow us to test the deterrence and escapism hypotheses. Recall that both hypotheses predict that exposure to West German television would increase support for the East German regime. The deterrence hypothesis posits that West German television exposed East Germans to negative aspects of West German society and thereby convinced them of the dangers of capitalism and the merits of communist rule. The escapism hypothesis in contrast predicts that West German television, and in particular its entertainment programming, allowed East Germans to vicariously escape the dull life under communism at least for a couple of hours each night, making their lives more bearable and the East German regime more tolerable.

¹⁰LARF ordered probit results, shown in the online supplement, are substantively similar to the results from these linear models.

Table 4 Deterrence and escapism

<i>Covariate set</i>	<i>Limited</i>	<i>Extensive</i>
Do you feel attached to West Germany? (mean = 2.28; SD = 1.08)		
West German TV	-0.193 (0.111)	-0.172 (0.113)
<i>N</i>	1141	1141
How satisfied are you with the available options for recreational activities? (mean = 3.05; SD = 1.10)		
West German TV	0.395 (0.117)	0.405 (0.110)
<i>N</i>	1148	1148

Note. Results are 2SLS treatment effect estimates with cluster-adjusted standard errors in parentheses. The limited covariate set includes age, gender, and father's and mother's occupational classification. The extensive covariate set adds marriage status, living situation, number of children, highest educational attainment, occupational classification, net monthly income, and employment status to the limited set. The 5-point response categories range from not at all = 1 to fully = 5.

Respondents were asked to what extent they felt attached to West Germany (upper half of Table 4).¹¹ If the deterrence hypothesis is correct and West German television exposed East Germans to the “dark side” of West German society, we would expect to see a negative effect of West German television exposure on attachment to West Germany. And this is indeed what we find, although the effect estimate is not all that large and does not quite reach conventional levels of statistical significance. Exposure to West German television on average decreased attachment to West Germany by about .17 on the 5-point response scale. This result is consistent with the deterrence hypothesis, although we are the first to admit that it would be desirable to have survey items on specific aspects of West German society instead of this more general question. Political constraints prevented the Central Institute from adding detailed questions about West Germany to their questionnaires.

The escapism hypothesis receives much stronger support from the data. Respondents were also asked about their satisfaction with options for recreational activities. If West German television was mainly a means of vicarious escape from “real existing socialism,” exposure to West German television should have increased respondents' satisfaction with how they could spend their free time. As one can see from the lower half of Table 4, exposure to West German television indeed had such an effect. On average, it increased satisfaction by about .40 on the 5-point response scale. This effect is more than twice as large as the deterrence effect; it is also highly statistically significant. Even if deterrence contributed to the positive effect of West German television exposure on regime support, the primary causal channel seems to be escapism.

These results are consistent with previous findings on the use of television in East Germany. We know from detailed survey data on East Germans' television viewing habits that they watched television primarily for its entertainment value.¹² When asked what changes they would like to see in East German television programming, they voted for more entertainment and less politics (Meyen 2001, 2003a). Former East Germans' television viewing habits still differ from those of West Germans although all Germans now have access to the same channels. Former East Germans have a stronger preference for

¹¹Note that only a subset of survey participants was asked these questions. The sample sizes in Table 4 are therefore smaller than in Table 3.

¹²Deutsches Rundfunkarchiv (German Broadcasting Archive), Ergebnisse der Programmarbeit im Zeitraum 1. Juli 1988 bis 8. Januar 1989, Programmredaktion Analyse II/1988.

entertainment programming than West Germans. They also favor commercial stations, which put greater emphasis on infotainment and soap operas, over public broadcasting stations (Darschin and Zubayr 2000; Früh and Stiehler 2002).

We have conducted extensive robustness checks, all of which are fully documented in the online supplement. We have replicated our analysis for regional subsamples, each composed of respondents living in Dresden and in one of the seven districts with access to West German television. If there was regional variation in unobserved confounders such as respondents' levels of preference falsification, there should be heterogeneity in treatment effect estimates across these subsamples. There is none. We have also replicated our analysis using data from an earlier survey conducted in 1984. In addition to respondents from Dresden, it contains a sample of young adults from several smaller East German cities (Halle, Schwerin, Dessau, Magdeburg, and Bitterfeld). Across all specifications, West German television exposure has a positive effect on East Germans' regime support, with effect sizes similar to the ones reported here. The survey also contains 167 respondents from Greifswald, a town in the Northeast of East Germany that for the most part also had no access to West German television (Fig. 1). We reestimated our models with these Greifswald respondents (instead of Dresden respondents) and again found a positive effect of West German television exposure. Taken together, these additional survey data results demonstrate that the findings reported here are not driven by biases particular to the 1988–89 survey or peculiarities of the Dresden district.

5 Exit Visa Applications

Is it possible to corroborate our survey data results with other indicators of regime support? A very direct measure of political (dis-)satisfaction is the decision to emigrate. Even though East Germans had no legal right to emigrate to another country, some East Germans insisted on moving to West Germany. Applying for an exit visa often had severe consequences. Applicants faced numerous punishments such as getting fired from their jobs, informal discrimination at work, confiscation of their passports, and criminal persecution (Mayer 2002: 177–181; Pfaff 2006).

Table 5 shows the number of new exit visa applications (per 1000 residents) filed in the districts in our sample in 1988. In the Dresden district, the rate at which such applications were filed was more than twice as high as the average.¹³

Table 5 is suggestive, but it is preferable to examine the relationship between exit visa applications and access to West German television at a more disaggregate level. In the mid-1980s, the Department of Postal Services, responsible for radio and television broadcasting in East Germany, conducted an investigation into West German television's over-the-air signal strength in the 17 counties that made up the Dresden district.¹⁴ The resulting map, submitted to the Politburo as part of a larger collection of material on West German television in East Germany, is shown as Fig. 3. It shows counties without access to West German television (white), counties with partial access to West German television, depending on the weather and exact location (light gray), and counties with full access to West German television (dark gray).

¹³The same pattern existed throughout the 1980s. Official statistics can be found in Office of the Federal Commissioner for the Records of the National Security Service of the Former German Democratic Republic (hereafter BStU) MfS-ZKG 10734.

¹⁴Federal Archive, Foundation for the Archive of the Parties and Mass Organizations of the GDR (hereafter BArch SAPMO) DY 30/J IV2/2/2317.

Table 5 Exit visa application rates in 1988

<i>District</i>	<i>Rate</i>
Dresden	16.4
East Berlin	11.8
Karl-Marx-Stadt	9.8
Leipzig	7.9
Erfurt	5.0
Cottbus	3.5
Magdeburg	2.8
Schwerin	2.4
Mean	7.45

Note. The table shows the number of new exit visa applications (per 1000 residents) filed in 1988.

Source: BStU MfS-ZKG 10734.

We were also able to obtain county-level exit visa application data for 1985–88.¹⁵ If exposure to West German television had a positive effect on regime support, we would expect the rate at which new exit visa applications were filed to be negatively associated with the extent to which residents of these counties had access to West German television.

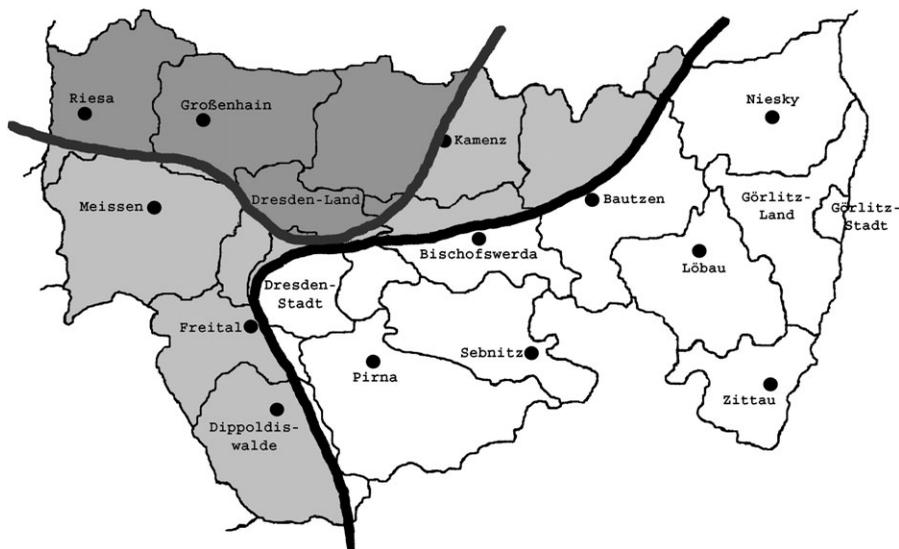


Fig. 3 Over-the-air signal strength of West German television broadcasts within the Dresden district. The map shows spatial patterns in access to West German television across the 17 counties in the Dresden district. White areas had no access, areas shaded in light gray had partial access, and areas shaded in dark gray had full access to West German television. *Source:* Adapted from original map in BArch SAPMO DY 30/J IV2/2/2317: 75.

¹⁵BStU MfS BV Dresden Stellvert. OP 21; BStU MfS BV Dresden BKG-8028/8029.

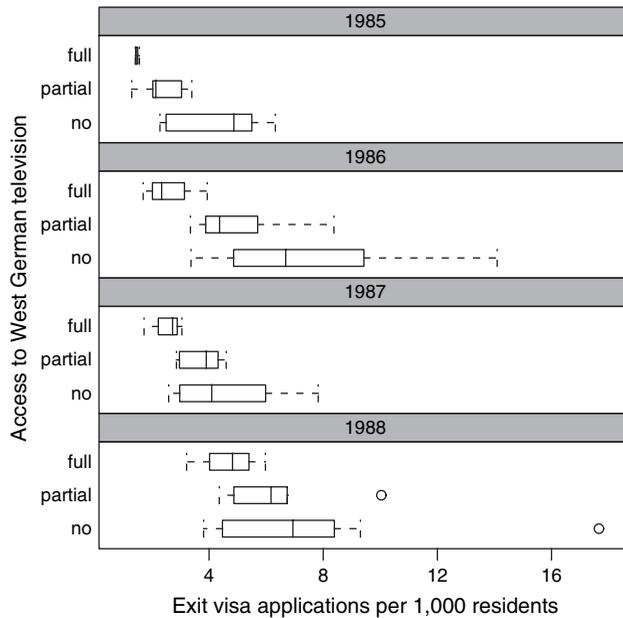


Fig. 4 Exit visa application rates and access to West German television for counties in the Dresden district. Each of the four panels shows three box-and-whisker plots for groups of counties with different levels of access to West German television. Görlitz-Stadt and Görlitz-Land have been merged since only the total number of exit visa applications is available for these two counties, so the sample size is 16 counties. Three of these counties had full access, six partial access, and seven no access to West German television. *Source:* BStU MfS BV Dresden Stellvert. OP 21; BStU MfS BV Dresden BKG-8028/8029.

For each year, Fig. 4 plots the distribution of exit visa application rates for counties with full access, partial access, and no access to West German television. We find a clear dose-response relationship: In all 4 years, the rate at which exit visa applications were filed was highest in the group of counties without access to West German television and lowest in the group of counties with access to West German television. Rates in the group of counties with partial access were always in-between. These differences are large in substantive terms. Averaging over all four cross-sections, the mean rate at which applications were filed in counties without access to West German television was more than twice as high as in counties with (partial or full) access to West German television (6.03 versus 2.82 applications per 1000 residents; $p = .02$).

6 Historical Evidence

A third type of empirical evidence that we can bring to bear is archival material on the reaction of the East German regime to the availability of West German television. We expect that if West German television helped to stabilize the East German regime, this surprising fact would not have gone unnoticed by East Germany's massive state security apparatus and the East German leadership.

Already in the 1960s, a large majority of East Germans, including many SED members, watched West German television. Although it was never illegal to watch West German television (except for members of the armed forces and the police), in the 1960s and

1970s East German authorities attempted to suppress its popularity through propaganda and harassment campaigns. The East German regime considered West German television a source of ideological destabilization and feared its effects on public opinion. It therefore attempted to limit its availability as much as possible.¹⁶ After the construction of the Berlin Wall in 1961, for example, SED youth squads tore down hundreds of roof antennas directed toward West Germany. The extreme unpopularity of such campaigns however meant that they were soon abandoned (Wolle 1998: 69–71; Stiehler 2001: 13–16; Holzweissig 2002: 49–65).

The attitude of the East German regime eventually changed. It had no choice but to accept that a large majority (85%–90%) of East Germans regularly tuned in to West German television. By 1984, 40% of East German households were connected to community antennas, large antenna systems linked to individual households via cable. Community antennas often carried West German channels.¹⁷ East Germans not connected to community antennas relied on smaller roof antennas. In some areas, however, reception of West German broadcasts was poor or even impossible and residents increasingly complained to state authorities about their inability to watch “international programs,” as West German television was euphemistically called.¹⁸ State-owned housing companies sometimes paid for the installation of community antennas, thus providing their tenants with access to West German television.¹⁹ In other cases, East Germans joined forces in grassroot efforts and paid for the installation of community antennas themselves. Although East German authorities were suspicious of such grassroot activities and kept them under close surveillance, they did nothing to prevent them (Stiehler 2001: 95–96).

Since the mid-1980s, East German authorities were increasingly confronted with requests from individuals and community initiatives to permit the installation of satellite dishes. Such requests came especially from parts of East Germany where even with community antennas West German television reception was poor (such as parts of the Dresden district). The private use of satellite dishes was prohibited in East Germany but some East Germans nonetheless installed satellite dishes they had illegally imported from West Germany or Hungary.²⁰ When the Department of Postal Services, which was responsible for the enforcement of telecommunications regulations, demanded the removal of such satellite dishes and imposed fines their owners would simply remove them only to reinstall them later.²¹

In a March 1988 report to the Politburo, the Department conveyed a dramatic picture of the prevailing public mood:

Demands from grass-roots initiatives and individual citizens to allow the reception of West German television [via satellite dishes] are becoming more and more brazen. There are constant disputes. The whole topic is increasingly becoming a political issue, especially since these grass-roots initiatives and individual citizens attempt to gain access to satellite television at all costs and fines imposed for violations of legal regulations do not have the desired effect.²²

Several months earlier, the Department had insisted on the removal of a satellite dish in Marienberg that provided 4000 households with access to West German television. This

¹⁶BArch SAPMO 30/IVA2/902/68.

¹⁷BArch SAPMO DY 30/IV2/2.039/276: 4–12.

¹⁸BStU 3189/87 IV: 2–5; BStU 3189/87 III: 58–61, 156–7.

¹⁹BStU 3189/87 IV: 6, 62.

²⁰BArch SAPMO DY 30/IV2/2.039/276: 36–40, 47–49.

²¹BArch SAPMO DY 30/IV2/2.039/276: 40–43.

²²BArch SAPMO DY 30/IV2/2.039/276: 37.

ruling led to massive protests and even local SED party officials recommended that the satellite dish should be allowed to stay since its removal would “lead to serious confrontations with thousands of citizens.”²³ A similar case happened in the town of Weissenberg. Residents of Weissenberg too had illegally installed a satellite dish. Pleading with state authorities who insisted on its removal, local SED party officials as well as the mayor pointed out that members of their community were “much more content” since the introduction of West German television. Their attitudes toward the East German regime had become “more positive” and all applications for exit visas had been withdrawn. The dismantling of the satellite dish would cause “enormous political problems” since it would contradict the wishes of the entire town.²⁴

The Politburo decided in August 1988 on the basis of such reports to almost completely liberalize the private use of satellite dishes (Holzweissig 2002; Stiehler 2001: 95).²⁵ Six months later, in February 1989, 203 satellite dishes were officially registered in the Dresden district, with 250 further applications pending.²⁶ The archival evidence we have summarized here illustrates a dramatic change in the regime’s attitude toward West German television. In the 1960s and 1970s, West German television was seen as undermining public support for communist rule. But during the 1980s, the East German regime began to realize that West German television, not unlike ancient Rome’s “bread and circuses,” helped to keep its citizens content and docile. In 1988, the East German leadership apparently even contemplated building broadcast relay stations that would have amplified the West German television signal so as to extend its range to the Dresden district (Wolle 1998: 69–71).

7 Discussion

In this paper, we have taken advantage of a natural experiment in East Germany to test the commonly held view that foreign mass media undermine the stability of authoritarian regimes. We have found that exposure to West German television increased support for the communist regime among East German teenagers and young adults. Our analysis suggests that the best explanation for this counterintuitive finding is escapism: West German television, and especially its entertainment programming, allowed East Germans to vicariously escape life under communism at least for a couple of hours each night, making their lives more bearable and the East German regime more tolerable. West German television also broadcast high-quality hard news programs, some of which offered in-depth coverage of politics in East Germany. There is no doubt that this political content could have undermined public support for the East German regime. What we have found, however, is that West German television exposure resulted in a net increase in regime support.

Behavioral data on exit visa applications and archival material on the reaction of the East German leadership to the availability of West German television corroborate our results. We have found that in the Dresden district, where levels of access to over-the-air West German television broadcasts varied from county to county, exit visa application rates were systematically higher in counties without West German television. And the archival evidence clearly shows that by the late 1980s, East German authorities had come to realize that

²³BArch SAPMO DY 30/IV2/2.039/276: 41.

²⁴BArch SAPMO DY 30/IV2/2.039/276: 45.

²⁵BStU Mf S BV Dresden 11147.

²⁶BArch SAPMO DY 30/J IV2/2/2317: 72–77. Note that satellite dishes were not sold in East Germany and had to be imported from abroad, which prevented most East Germans from obtaining one.

West German television was contributing to the stability of the regime, not undermining it. In an ironic twist for Marxism, capitalist television seems to have performed the same narcotizing function in communist East Germany that Karl Marx had attributed to religious beliefs in capitalist societies when he condemned religion as “opium of the people.”

Our survey only includes teenagers and young adults, which raises questions about the generalizability of our findings to other strata of the East German population. The fact that the behavioral and archival evidence agrees with our survey data results suggests that our inferences are not necessarily limited in their generalizability. But given the lack of public opinion data representative of East Germany as a whole, we cannot prove that West German television exposure had the same effect on other strata of the East German population.

We are the first to admit that our results do not provide a comprehensive explanation for why some authoritarian regimes are able to stay in power while others are replaced by democratic governments. The study of individuals’ political preferences, including how they are shaped by exposure to foreign mass media, is only one step toward a better understanding of authoritarian stability and decline (Welzel 2006; Welzel and Inglehart 2008). Work complementary to ours has analyzed the conditions under which individuals’ political preferences lead to collective revolutionary action (Granovetter 1978; Bikhchandani, Hirshleifer, and Welch 1988; Kuran 1991; Lohmann 1994) and how the international opportunity structure affects the emergence and success of popular movements against authoritarian rule (Pridham 1991, 1997; Whitehead 1996; Linz and Stepan 1996). Even though our results are context specific (East Germany in the middle to late 1980s) and limited to the impact of one specific foreign media source, we believe they usefully complement the existing literatures on transitions to democracy and political legitimacy in authoritarian regimes.

We believe our results also have relevance for contemporary U.S. international broadcasting efforts. After the attacks of September 11, Congress substantially increased funding for public diplomacy activities, which had been significantly reduced after the end of the Cold War (Nye 2004, 2008). In 2008 alone, the United States has spent almost \$700 million on radio and television broadcasts to the Middle East (*Radio Sawa* and *Alhurra TV*), Eastern Europe (*Radio Free Europe/Radio Liberty*), Asia (*Radio Free Asia*), Cuba (*Radio/TV Marti*), and the *Voice of America*. As during the Cold War, the goal of contemporary U.S. international broadcasting is to win the hearts and minds of foreign audiences, to increase understanding of and support for U.S. foreign policies, and to shift public opinion in non-democratic regimes in a more pro-democratic direction. But if history is any guide, foreign audiences might be more interested in the entertainment value of U.S. broadcasts than their political content.

Finally, our results also offer a caveat to optimistic predictions about the democratizing force of modern information technologies such as the Internet. Authoritarian regimes seem to be well aware of the fact that modern information technology not only breaks down national barriers to the transmission of information but also provides entertainment. China, for instance, successfully pursues a strategy of access *and* control, embracing the economic and entertainment uses of the internet to promote development and sustain public support while strictly controlling political content (Kalathil and Boas 2003; Shirk 2007).

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