

# Democracy, Market Liberalization and Political Preferences

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## Abstract

This paper questions the conventional wisdom concerning the sequencing of political and economic reforms in developing countries. We exploit the specific situation of frontier-zones as well as the considerable regional variations in culture and economic development in the countries of Central and Eastern Europe and the former Soviet Union in order to estimate the impact of market development and democratization on subjective political preferences. Taking advantage of a new survey conducted in 2006 by the European Bank for Reconstruction and Development and the World Bank in 28 post-transition countries, we find a positive and significant effect of democracy on support for a market economy, but no effect of the impact of market liberalization on support for democracy. Our results are robust to the use of various indices of market liberalization and democracy and alternative measures of political preferences. Hence, the relativist argument according to which the demand for democracy is an endogenous by-product of market development is not supported by our data.

*Keywords:* market and democracy, political preferences, spatial regression discontinuity, transition economies.

*JEL Codes:* H1, H5, P2, P3, P5, O1, O12, O57.

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## 1. Introduction

This paper questions the conventional wisdom concerning the sequencing of political and economic reforms in developing countries. The popular idea that market liberalization should come before democratization, in the early stage of a country's development is probably one of the unexpected side-effects of China's spectacular emergence. The continued hold of the Chinese Communist Party over political power is taken to be a positive ingredient in the construction of a viable market economy, as opposed to the erratic reform path experienced by Central and Eastern European countries of the former socialist bloc, which predominantly chose rapid and simultaneous political and economic liberalization in the 1990's (Dewatripont and Roland, 1992; Roland and Verdier, 2003; Godoy and Stiglitz, 2006). Another example is Latin America, where pervasive economic crises seem to illustrate that democracy can be an obstacle to the development of the market when leaders need to impose unpopular reforms while being responsible to their constituencies. This theory concludes that the optimal route is to develop market institutions in a first stage of development, and consider democratization at a later stage.

Pushing the argument one step further, some authors have argued that the desire for political freedom and democratic institutions does not arise until countries reach a certain degree of material comfort and market liberalization (Lipset, 1959; Miller et al., 1994, 1996). Hence, the argument goes, not only is it preferable to postpone democracy until advanced stages of a country's economic development, but this sequence also meets citizens' preferences.

In terms of scientific evidence, however, the empirical literature devoted to the relationship between market and democracy remains rather inconclusive. Most studies are unable to draw a clear direction of causality because of the interdependent dynamics followed by the two variables along the history of any given country. This interdependent dynamics between democracy and market development impedes the empirical estimation of whether one is successful at leading to the emergence of the other, as well as whether one is successful at reinforcing popular support for the other. In spite of the strong vitality of this research field, the scientific consensus on these issues is still in the making.

This paper contributes to the understanding of the relationship between political and economic development. It exploits a new set of micro evidence from an original survey of 28 transition economies, the *Life in Transition Survey*, which was implemented in the summer of 2006 (see EBRD, 2007). This survey offers the possibility to identify precisely the geographical location of

the primary sampling units. We first estimate the causal relationship that runs from actual democratization to the popular support for a market economy. Our empirical identification strategy consists of a spatial regression discontinuity design which relies on the specificities of frontier-zones. Our main assumption is that people who live on either side of an integrated frontier-zone experience different political regimes, but share the same experience of the market and, often, the same historically inherited “cultural attitudes” towards the market and democracy on both sides of the frontier. This assumption is particularly plausible for the often artificial frontiers of the former USSR and for other formerly integrated regions such as the Ottoman or the Habsburg Empires. This assumption is tantamount to keeping constant the omitted variables that usually bias estimations of the relationship between market development and the support for democracy. We then estimate the reciprocal relationship, whether actual market development leads to popular support for democracy. Here, we exploit within-country regional variations. We rely on the fact that the degree of market development is heterogeneous across different regions of the countries included in the survey; whereas people who live in the same country share a common experience of democracy. We build an index of regional market development that reflects the share of the modern sector of the economy, composed of private and smaller size firms. We then compare the support for democracy in the various regions of a given country, where market development varies but political and democratic rights are similar.<sup>1</sup>

The main result of this paper is that democracy increases popular support for the market, while economic liberalization does not clearly enhance support for democracy. This result is robust to alternative indices of democratization and market liberalization as well as to other proxies of preferences for democracy. To be sure, this finding only suggests that democracy increases subjective support for the market; it does not mean that democracy does not complicate the task of reformers, with the risk of impeding market liberalization. Still, our results cast doubt on the idea that democracy needs naturally emerge as a by-product of capitalism (Schumpeter, 1942). We find no evidence that market development in itself increases the support for democracy. This result contrasts with any conventional wisdom that market liberalization will increase the demand for democracy.

Section 2 discusses the background literature on the reciprocal linkages between economic and political liberalization. Section 3 presents the identification strategies for the two relationships:

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<sup>1</sup> The assumption of similar political rights within a country may be objectionable in many countries, but we argue later in the paper that it is valid in our sample of countries. Indeed, most countries in our sample are of small size and are highly centralized politically. Even in the case of the Russian Federation, the strong presidential regime helps attenuate the (statistical) problem.

between democracy and support for the market and between market development and support for democracy. Section 4 presents the data. Section 5 discusses the empirical results and provides a graphical analysis that illustrates one of our main assumptions and results. Section 6 concludes.

## 2. Background

The conventional wisdom concerning the linkages between political and economic systems has considerably changed over time. The idea that “modern democracy is a by-product of the capitalist process” (Schumpeter, 1942) find its roots in the writings of Montesquieu, Steuart, Hume and many philosophers of the eighteenth century who saw trade as a quiet passion (“le doux commerce”) and hypothesized an affinity between trade and social harmony (see Hirschman, 1977). Skepticism about this spontaneous “psychomachia” (Hirschman, 1977, page 24) started with Smith and de Tocqueville and became radical in the nineteenth century, which was predominantly skeptical about the compatibility between democracy and capitalism (see K. Marx, 1867 or J.S. Mill, 1860). Today, the consensus seems to be that “development” implies both market liberalization and political democracy<sup>2</sup>, but with the market first. Lipset (1959) for example claims that: “industrialization, urbanization, high educational standards and a steady increase in the overall wealth of society [are] basic conditions sustaining democracy”. Robert Dahl’s (1982a) conception of political democracy as based on competition between organized groups also stresses the economic preconditions of democracy. Private ownership of the means of production, competition and other characteristics of a market system appear as necessary, if not sufficient, conditions for the existence of a pluralistic political system with popular participation (see Andrain 1984 for a survey). A similar conclusion is reached by a certain “instrumental” view of political regimes. In the context of the political economy of transition (Aslund et al., 2001; Dewatripont and Roland, 1992; Roland, 2001; Roland and Verdier, 2003), researchers have focused on the question of how to overcome political opposition to reforms, and in particular opposition to economic liberalization. This literature discusses the relative pros and cons of democracy versus authoritarianism from the point of view of facilitating economic reforms; it thus focuses on the causality that runs from the political regime to the development of the market.

Beyond these theoretical models, the existing empirical literature does not offer any clear-cut results. An important research avenue has tried to capture the influence of economic growth on democracy, but has not led to unequivocal conclusions. Cross-section correlations between indicators of development, such as education or income, and democracy are likely to be due to the

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<sup>2</sup> Hence the concept of the “End of History” (Fukuyama, 1992).

hidden influence of an omitted variable (culture, religion, colonial institutions, etc.) that presides over the evolution of all the magnitudes of interest (Acemoglu et al., 2001, 2005a, 2005b, 2007a). Findings regarding the reverse causality<sup>3</sup> (from democracy to economic growth) are, similarly, “all over the place” (Persson and Tabellini, 2007b), and face similar empirical shortfalls. Some authors have tried to overcome these obstacles using matching, propensity scores and differences in differences methods, exploiting both cross-country and time series variations in panel datasets with macro-economic variables: Giavazzi and Tabellini (2005), Persson and Tabellini (2006, 2007a, 2007b) and Rodrik and Wacziarg (2005) find a positive relationship between democratic regimes and growth.

Fewer papers address directly the question of the interplay between democratization and economic liberalization, which is the focus of this paper. Using aggregate data, Fidrmuc (2003), in the case of 25 transition economies, find that democracy facilitates economic liberalization. The author rules out the reverse causality issue, on the –arguable– grounds that democratization largely preceded the resumption of growth in post-communist countries, and does not address the omitted variable issue that could bias his result. In this vein, Giavazzi and Tabellini (2005) find that both kinds of reforms have mutual feedbacks on one another. They claim that the timing of reforms indicate that causality is more likely to run from democratization to economic liberalization, but they cannot rule out feedback effects going in both directions.<sup>4</sup>

Another set of studies has focused on the support for democracy and a market economy based on individual data. Again, conclusions regarding the direction of causality are unconvincing. Based on survey data, most studies related to Central and Eastern Europe, with the exception of Finifter and Mickiewicz (1992), confirm the prediction that individuals who support a free market economy are more likely to embrace democratic principles. Concerning the reverse causality, Hayo (2004), using survey data, finds a positive effect of democratization on the support for market reforms. However, none of these studies correctly address the identification problem which also hinders macro studies and which is contained in the very idea of the modernization theory that the same development dynamics favor both democracy and market development (Lipset, 1959). Assessing the direction of causality between the advancement of a market economy and democracy, on the one hand, and political preferences for these two elements on the other hand appears to be an almost impossible

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<sup>3</sup> These include, among many, Przeworski and Limongi 1993; Burkhart and Lewis-Beck 1994; Helliwell 1994; Barro 1996; Leblang 1997; Rodrik 2000; Przeworski, 2004.

<sup>4</sup> However, from the point of view of growth, the authors conclude that a sequencing based on market liberalization first is most favorable: “Countries that first liberalize and then become democracies do much better than countries that pursue the opposite sequence” (Giavazzi and Tabellini, 2005).

exercise in the absence of a valid exogenous instrument. Even papers based on panel data with time and country fixed effects are likely to suffer from omitted variables, as the relevant dimension of heterogeneity is not necessarily national: it can be more local (e.g. eastern versus western Ukraine) or wider than the nation (the lasting influence of past empires).

In this paper, we try to overcome this simultaneity bias by using the precise spatial information available in the survey and exploiting both the national and regional sources of heterogeneity. A large part of our identification strategy relies on the specificity of frontier-zones.

We do not pretend to explain the long run causality between democracy and market development; instead we ask whether the demand for democracy emerges after a certain degree of market development is reached, and whether, conversely, democratization is more likely to be an obstacle or an ingredient to citizens' support for market liberalization.

### **3. Data**

Our study uses the Life in Transition Survey (LITS) conducted by the European Bank for Reconstruction and Development and the World Bank in 2006, in 28 post-transition countries.<sup>5</sup> Respondents to the survey were drawn randomly, using a two stage sampling method, with census enumeration areas as Primary Sampling Units (PSUs)<sup>6</sup>, and households as secondary sampling units. This nationally representative survey includes 1000 observations per country, making a total of 28,000 observations.

#### ***3.1 Support for the market and for democracy***

Support for the market is analyzed using the following question:

*Which of the following statements do you agree with most?*

- *A market economy is preferable to any other form of economic system.*
- *Under some circumstances, a planned economy may be preferable to a market economy.*
- *For people like me, it does not matter whether the economic system is organized as a market economy or as a planned economy.*

We analyze the probability of choosing any of the three modalities of this question.

Concerning the support for democracy, we analyze the probability of choosing either modalities of

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<sup>5</sup> Turkmenistan was not included in the survey, neither was Kosovo.

<sup>6</sup> PSUs were selected randomly, with probability proportional to size.

the question:

*Which of the following statements do you agree with most?*

- *Democracy is preferable to any other form of political system.*
- *Under some circumstances, an authoritarian government may be preferable to a democratic one.*
- *For people like me, it does not matter whether a government is democratic or authoritarian.*

One concern with this type of subjective questions is that answers might to a large extent reflect some personality traits rather than genuine preferences. We believe this is not a major issue in our case. While there is no way to fully eliminate this concern, we check that people do not answer these two questions in a systematic way. For example, people who declare that *Under some circumstances, a planned economy may be preferable to a market economy* are as likely to chose modality one or two in the question about democracy. We also use alternative measures of support for democracy by looking at the demand for more specific aspects of democracy, such as free and fair elections, independence of the press or of the courts system (see section 5.2).

### **3.2. *Frontier-zones***

The LITS is based on Primary Sampling Units (PSUs), each containing 20 observations (surveyed persons). Information on the precise location of these PSUs is available in a series of country maps and through the availability of location names, which we use in order to identify groups of PSUs that are located in the immediate vicinity of a political frontier. We define frontier-zones as groups of PSUs that are quasi-adjacent and located on both sides of a frontier (less than 25 km from each other). We identify 36 valid frontier-zones that contain between 40 and 460 observations, concentrated in 2 (Slovak Republic-Ukraine) to 24 (Croatia-Slovenia) PSUs.

### **3.3. *Scores of democratization***

The index of democratization that we mainly use is the Freedom House democracy score (Freedom House, 2006a), which averages ratings for the electoral process, civil society, independent media, independence of the judicial system, and corruption. It takes values from 1 to 7, with 1 representing the highest level of democratic progress and 7 the lowest; we have recoded it in order to present the score of democracy in an ascending order. In an alternative specification, we dichotomize this score and for each pair of adjacent countries, we build a dummy variable that takes value 1 in the PSUs located in the most democratic country of each pair, and 0 in PSUs located in the country which fares worse (according to the Freedom House indicator). For robustness, we verify that our results hold when using other political scales, such as Freedom in the World (Freedom House, 2006b), BTI

indicators (Bertelsmann Stiftung, 2005) or Polity IV (CIDCM, 2006) (see Table A5 in the Annex). We favor the Freedom House democracy score over other ratings, because it is entirely focused on democratic rights, as opposed to Freedom in the World or BTI, which include ratings on civil and economic rights, and because it is more contrasted than other indicators, including Polity IV.<sup>7</sup>

### **3.4. *Indices of market liberalization***

Using questions about the respondents' first, second and third jobs<sup>8</sup>, we build a regional score of market liberalization. The score is the regional proportion of respondents among the active labor force who declare that they either: work in a small enterprise, work in a medium enterprise, work in a private firm, work in a newly created enterprise (since 1989), are self-employed with more than five employees or have a formal employment contract.<sup>9</sup>

During the Soviet era, socialist economies were distinguished by their exceptionally low proportion of small and medium sized enterprises (SMEs). The necessities of central planning favored the organization of production and distribution in large units. We thus interpret the presence of SMEs as an indicator of market development. The presence of private and of newly created firms is also a sign of progress in transition towards a market economy, an essential aspect of which is the process of privatization of the formerly dominant state-owned sector and the elimination of former monopolies under the pressure of new competitive firms (Berkowitz and Jackson, 2005). Self-employed persons with at least five employees are also part of this new economic pattern that is typical of a market economy and was absent of the landscape of planned economies. We do not count self-employed persons with less than five employees on the grounds that those are unlikely to be small firms but rather forms of quasi unofficial economy or what is sometimes called “disguised unemployment” (Earle and Sakova, 2000). Finally, we interpret the existence of an employment contract as a sign that the person is working in the official sector rather than in the informal sector, a sign of development of the market.

This index varies from 0 to 5 with an average of 2.37. It is highest, on average, in Latvia (2.78), followed by the other two Baltic states, and is lowest in Azerbaijan (1.90) and Belarus (1.92). Of course, the quality of this index is limited by the lack of representativeness of the data at the regional level. However, there is no alternative regional index of private sector development or

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<sup>7</sup>In particular, it offers a score for Montenegro different from that of Serbia.

<sup>8</sup>Multiple jobs are frequent in transition countries.

<sup>9</sup>This index thus excludes workers in state run enterprises or collective farms, enterprises that were already existing in 1989, large enterprises of more than 100 employees, self employed with strictly less than five employees and employees without a former labor contract. Our results are robust to variations of that index, for example by considering workers in firms larger than 100 employees or by ignoring whether employees have a formal labor contract.

market liberalization that is comparable across countries of our sample.

All descriptive statistics are presented in the Annex.

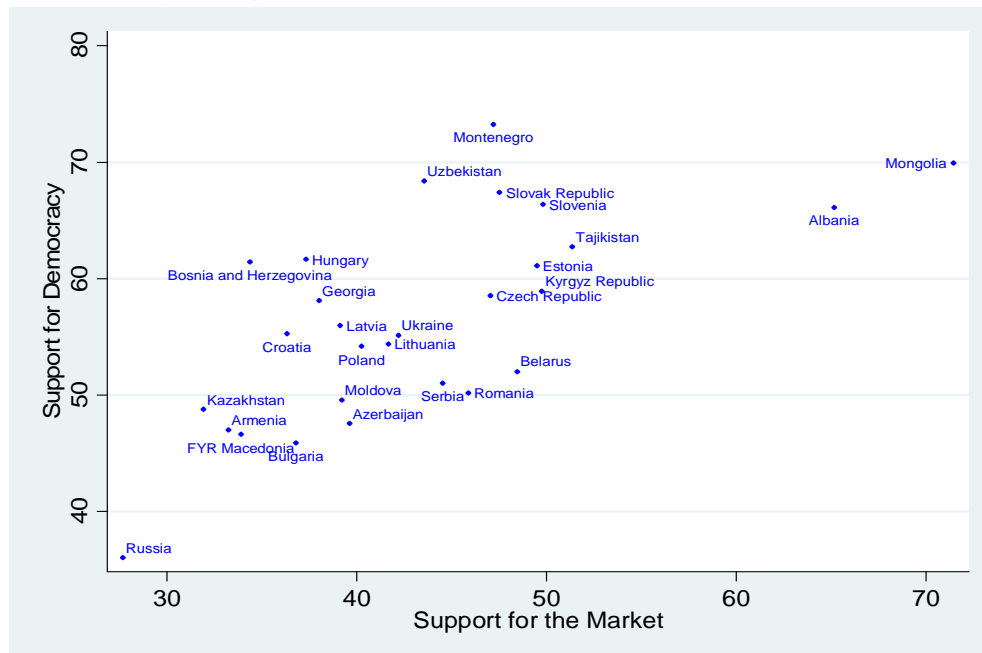
#### 4. Identification strategy: spatial regression discontinuity

In order to discern the direction of causality between market and democracy, one should ideally rely on a situation in which one variable is exogenously “frozen” while the other randomly takes different values across countries. Of course, in the real world this ideal setting could never exist. On the contrary, market liberalization and democracy are processes that follow highly intertwined dynamic evolutions and depend on countries’ historical background.

Even in the case of transition countries, where democracy and the market have both been abolished by the communist experience for at least half a century, these institutions have evolved in parallel since 1989, probably under the influence of common factors, such as popular pressure and the influence of European and international organizations.

As an illustration, Figure 1 shows the strong general cross-country relationship between the average support for the market and the average support for democracy in the 28 countries covered by the *Life in Transition Survey* (LITS). Regional differences are also visible. In particular, countries of Central and Eastern Europe and the Baltic states, which are most advanced on the road to a free market and to a full-blown democracy, are also the most supportive of the two processes.

**Figure 1. Support for the Market and for Democracy**  
Percentage of respondents who favor the market and democracy (see section 3).



Obviously, using the pooled cross-section data of LITS and running a naive regression of support for democracy on an index of market development, or of support for the market on a democratic index, would come across serious identification problems. The observed correlation would not readily be interpretable in terms of causality because of the influence of omitted variables affecting altogether market development, democracy and the subjective support for either political democracy or a market economy. We propose two different identification strategies in order to isolate the direction of causality from democracy to support for a market economy, and from market development to support for democracy.

#### **4.1. Democracy and support for the market**

The first question is whether a higher degree of democracy is more likely to be a positive or a negative ingredient in the support for a market economy. To address this question, one needs to overcome the problem that subjective support for a market economy may be due both to the degree of democracy and to the degree of market development itself, both variables being likely to evolve at a parallel pace. It can also be suspected that common “cultural factors” influence attitudes towards both the market and democracy. This potential heterogeneity may come from both national and more local regional history.

In other words, one would like to estimate the naive equation (1) of the support for the market of individual  $i$  in region  $r$  of country  $j$  depending on the degree of democracy in country  $j$  ( $Democracy_j$ ):

$$SupportMarket_{irj} = a_0 + a_1Democracy_j + a_2X_{irj} + u_i \quad (1)$$

but suspects that the true relationship is (1’):

$$SupportMarket_{irj} = a_0 + a_1Democracy_j + a_2Market_j + a_3Culture_{rj} + a_4X_{irj} + u_i \quad (1')$$

where subscripts  $i$  stands for individuals,  $r$  for regions,  $j$  for countries;  $X_{irj}$  stands for the socio-demographic characteristics of respondent  $i$  living in region  $r$  of country  $j$ ,  $Culture_{rj}$  embodies regional or national cultural factors and  $u_i$  is the error term.

Our strategy consists of trying to keep the second and third terms of equation (1’) constant. As our analysis is based on individual data, we need to find individuals who, in an exogenous way, are confronted to different levels of democracy but to the same degree of market development and who share the same inherited “culture” regarding the politico-economic system.

### **The specificity of frontier-zones**

We rely on the fact that the survey covers a large continuous territory comprising many contiguous countries, including observations at the political border between pairs of countries. The idea is to identify observations in frontier-zones. We assume that, because of spatial integration, people who live in open frontier-zones share the same culture and the same perception of market development even though they live on different sides of the frontier. In other words, while there is, by definition, variation in political institutions and hence in the level of democracy at the frontier, there is local invariance in the level of market development. This relies on two types of arguments.

The first one is the well-documented high level of interregional trade in frontier-zones (Feenstra, 2004). It is well known that in frontier-zones, when possible, people do not hesitate to cross the border to work or shop. As a particular case, seasonal migration is well-documented (e.g. Gould 1994). “Shuttle trade” is another specific form of transactions that are particularly vivid near the border (Grafe et al. 2005), and are partly sustained by local social and business networks (Rauch 2002). Hence regional integration is a fact of everyday lives, what certainly influences the perception of the market by residents of the frontier-zone.

To be sure, political frontiers also act as a barrier to trade between countries, as attested by the “frontier-effect” familiar to trade economists (McCallum 1995, Wolf, 2000). However, recent papers have shown that the lower intensity of trade across frontiers is essentially due to the size of countries, pricing effects (Anderson and van Wincoop 2003), language (Melitz, 2002), social networks (Rauch, 2002) and currency heterogeneity (Parsley and Wei, 2001; Frankel and Rose, 2002), rather than to political discontinuity. It is likely that these factors are less important for inhabitants of a frontier-zone than for the average citizen of a country, as the former usually speak at least one common language and are certainly less reluctant to hold the currency of the other country, which they can use frequently. Hence, even though the volume of international transactions is lower than that of intra-country transactions, bilateral trade between two countries is likely to be particularly vivid in the vicinity of the border between them. This is consistent with the well-established finding, in gravity models for instance, that distance is an obstacle to trade, in particular internal distance to the border (Melitz, 2007).

Secondly, in the specific case of the 15 former Soviet republics, regional integration was a hard fact until the early 1990's: under the socialist system, the economy of the Soviet republics was submitted to the centralized organization of material resources by the Soviet plan based in Moscow. Many countries, particularly in Central Asia and the Caucasus, have inherited from the Soviet

Union integrated infrastructure networks, which is a positive factor of trade and regional integration (Broadman, 2006). Fidrmuc and Fidrmuc (2003) actually show that trade among the former constituent republics of the Soviet Union, of Yugoslavia and of Czechoslovakia has remained well above any definition of “normal” trade intensity, even after the disintegration of the three federations. In the case of Central Asia and Caucasus, the very slow change in patterns of trade since 1990 (Babetskii et al, 2003; Broadman, 2006) have led researchers to argue that these countries are “overtrading” among themselves (Grafe et al., 2005).<sup>10</sup>

Based on these arguments and observations, we thus assume that inhabitants of certain frontier-zones share the same experience of the market, even when they live in different countries with different political institutions.

Clearly, the validity of our identification assumption relies on the level of trade openness and market integration across the considered borders. We thus distinguish open frontiers from those that are closed or restricted because of political tensions and disputed territories or geographical obstacles. We exclude the frontiers between Armenia and Azerbaijan, Georgia and Russia, Moldova and Ukraine, as well as all Uzbek borders. We consider all the other frontiers as open. In the case of the ten new EU members<sup>11</sup>, persons and goods are free to circulate. This is also true of most part of Central, Eastern and South-Eastern Europe (for example Albania, Macedonia and Montenegro<sup>12</sup>; Bulgaria and Macedonia or Moldova and Romania). Many countries of the survey are integrated in Euro-regions, the purpose of which is to promote trans-frontier cooperation.<sup>13</sup> Two CIS countries: Belarus and Ukraine are also integrated into Euro-regions.<sup>14</sup> These countries are also largely integrated with Russia, historically and formally, in the framework of the Neman Euro-region which also includes Lithuania and Poland.

We verify that the degree of market development is more similar between two adjacent frontier-zones than it is on average between two adjacent countries. Using the index of market development defined in section 3.4, Table 1 shows that on average, the correlation between indices of market

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<sup>10</sup> Using relative prices of a bundle of goods to complement official trade data, Grafe et al. (2005) show that the impact of borders on trade between Kazakhstan, Kyrgyzstan, Uzbekistan and Tajikistan is much smaller than what the view of cumbersome crossing border procedures and licensing systems would imply. The authors attribute this result to the large development of shuttle trade in this region.

<sup>11</sup> Bulgaria, the Czech Republic, Estonia, Latvia, Lithuania, Hungary, Poland, Romania, the Slovak Republic and Slovenia.

<sup>12</sup> As well as Kosovo, but Kosovo was excluded from our sample.

<sup>13</sup> For example, Albania, Bosnia and Herzegovina, Croatia, Montenegro and Slovenia are part of the Adriatic Euroregion; Latvia, Lithuania, Poland and Russia are part of the Baltic Euroregion (alongside with Sweden and Denmark); Hungary, Romania, and Serbia are integrated in the Danube - Kris - Mures - Tisza Euroregion

<sup>14</sup> Białowieża Forest Euroregion between Poland and Belarus, the BUG Euroregion between Belarus, Poland, Ukraine.

development is three times as high between adjacent frontier-zones of the sample ( $z_i$  and  $z_j$ ) as it is between adjacent countries ( $i$  and  $j$ ) of the sample. If one restricts the analysis to subsets of formerly more integrated countries, the proximity between adjacent frontier-zones appears even higher. For instance, in Central Asia, the correlation between two adjacent frontier-zones is 0.78 against 0.11 in two adjacent countries (row 5 of Table 1). We also check that in frontier-zones, the structure of industrial employment in terms of occupations and industry is identical on either side of the border (Table A2); by contrast this is not true of entire adjacent countries.

**Table 1: Correlation between Market Development Indices**

Correlation between market development indices	Adjacent frontiers	Adjacent countries
Whole sample	0.68	0.21
CIS	0.21	-0.08
Central Asia	0.78	0.11
Baltic states	0.90	0.38
European Union	0.73	0.26
Former USSR	0.73	0.27
Former Yugoslavia	0.08	-0.27
Former Ottoman Empire	0.10	-0.18
Former Habsburg Empire	0.10	0.07
Former Polish Lithuanian Commonwealth	0.51	-0.13

*Notes to Table 1:*

Number of observations (frontier-zones): whole sample: 65; CIS (Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russia, Ukraine and Tajikistan): 23; Central Asia (Kazakhstan, Kyrgyz Republic and Tajikistan): 5; Baltic states: 7; European Union: 26; Former USSR (CIS and Baltic States): 31; Former Yugoslavia (Bosnia and Herzegovina, Croatia, Macedonia, Montenegro, Serbia and Slovenia): 12; Former Ottoman Empire (see below): 13, Former Habsburg Empire (see below): 15; Former Polish Lithuanian Commonwealth (see below): 20.

For each pair of frontier zones between two countries  $i$  and  $j$ , the average indices of market liberalization (see section 3.4) are calculated at the level of frontier zone  $i$  and frontier zone  $j$  and of country  $i$  and country  $j$ .

Market integration at frontier-zones is useful to eliminate the risk that our measure of support for market liberalization reflects the actual market development; but what about “cultural” omitted factors? A first element of answer is that the citizens of the former Socialist bloc, and in particular the Soviet Union, have been living for 45 to 70 years in a common political system marked by strong official ideological values concerning the market. It is not farfetched to assume that they share a common heritage in terms of attitudes towards the market (Alesina and Fuchs-Schundeln, 2007). The very idea of “national culture” is that countries’ past experience continues to exert long-term effects (Fernandez and Fogli, 2005).<sup>15</sup> We therefore rely on the idea that citizens of countries that have belonged to formerly highly integrated zones share a common culture, i.e. common inherited attitudes towards the market and democracy. There are some subsets of the transition

<sup>15</sup> In Bisin and Verdier (2000) or Fernandez and Fogli (2005), culture is defined as long term inertia in preferences.

countries in which this assumption is particularly appealing. Regions that belonged to the Ottoman Empire (Albania; Bosnia and Herzegovina; Bulgaria; Bessarabia; Crimea; FYR Macedonia, Moldavia; outer Montenegro; Serbia, except Vojvodina; and Wallachia) developed under the same rule for several centuries.<sup>16</sup> The same is true of regions of the Habsburg Empire (Croatia, except Dalmatia; Czech Republic; Hungary; Polish Silesia; Slovak Republic; Slovenia; Transylvania and Vojvodina), of Prussia (Estonia, Latvia, Polish Silesia, Pomerania, Royal Prussia), countries of the former Polish-Lithuanian Commonwealth (which included Poland, Ukraine, Lithuania, Belarus and western parts of Russia), countries of the USSR (1922-1991), or countries of the Former Yugoslavia (Bosnia and Herzegovina, Croatia, FYR Macedonia, Montenegro, Serbia and Slovenia), who shared the same rule for several decades (1918-1991). Countries of Central Asia have also shared common influences practically up until their independence in the early 1990's, from Alexander the Great's Empire, then under the Persian Sassanid (226–651) and Samanid Empires (819-999), the Great Seljuq Empires (1037-1219), then under the Mongol and Timuride Empires (1219-1500) and finally under the Russian Empire and the Soviet Union. We thus retain these cultural and historical groupings in order to deal with the potential impact of cultural factors on attitudes towards the politico-economic system (we run sub-regressions inside each of these cultural zones).

We also rely on the fact that current frontiers of many transition countries are more or less artificial divisions of formerly integrated jurisdictions and have been frequently changing. The idea that frontiers are arbitrary has been challenged by recent empirical work, e.g. Schulze and Wolf (2007) who show that frontiers can emerge spontaneously in a manner that separates heterogeneous populations and include together more homogenous groups (see also Alesina and Spolaore, 1997, or Alesina, Spolaore and Wacziarg, 2000). In the case of the former USSR however, frontiers and entire ethnic groups have on the contrary been artificially displaced under the Stalinist regime, mixing heterogeneous populations together and tracing arbitrary frontiers in order to minimize the risk of nationalism, secessionist movements and mobilization against the Soviet regime (Werth, 2001; Cadiot, 2005). Of course, after the dissolution of the Soviet Union new frontiers were traced, which were not all arbitrary. However, the legacy of the Stalinist territorial policy made it impossible to delimitate ethnically homogenous territories. The fact that people were free to move after the delimitation of the border does not alter our main assumption that they share many of the politico-economic attitudes with the inhabitants of the other frontier-zone. Even in Central and

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<sup>16</sup> Of course, the delimitation of the former Habsburg, Prussian or Ottoman Empires has varied greatly along history. We only retain in this paper regions that have belonged to these former Empires for at least 300 years (source: Sheperd, 1911, 1923, 1926; Euratlas, 2008).

Eastern Europe, it was only after the First World War and the collapse of the Ottoman, Tsarist, Prussian and Habsburg empires that ‘nation-states’ became established, and from the start, questions lingered over their viability, precisely because of unresolved ‘national questions’ which did not correspond to the borders of these new states, but on the contrary widely cut across them (Batt, 2002).

### **Estimating support for the market in frontier-zones**

Our test therefore consists, for the set of inhabitants of open frontier-zones, of regressing individual support for the market on an index of democratic liberalization, controlling for frontier-zone dummies and other socio-demographic characteristics of respondents. The assumptions of (i) market integration and (ii) common culture at the frontier between two formerly integrated countries mean that the third and fourth terms of equation (1’) are constant and can thus be dropped out. We thus estimate equation (1’’) on the sub-samples of frontier-zones: we regress the support for democracy of individual  $i$  living in frontier-zone  $k$  of country  $j$ , on the level of democracy of country  $j$ :

$$\text{Support Market}_{ikj} = a_0 + a_1 \text{Democracy}_j + a_2 X_{ikj} + a_3 C_k + u_i \quad (1'')$$

where  $\text{Democracy}_j$  corresponds to the Freedom House democracy score of country  $j$ ,  $X_{ikj}$  stands for the socio-demographic characteristics of respondent  $i$ , living in country  $j$  and frontier zone  $k$ ,  $C_k$  is a vector of frontier-zone dummies and  $u_i$  is the error term. In an alternative specification, we run the same regression on a dummy variable indicating whether the country of residence of an individual is more democratic than the adjacent country (i.e. we dichotomize the variable measuring the score of democracy). We also check that our results hold when alternative measures of democracy are used (see section 3).

### **4.2. Market development and Support for democracy**

To isolate the causation running from market liberalization to support for democracy, we need to overcome the symmetrical problem, i.e. to avoid the contamination of the actual degree of democracy and the influence of “cultural factors” on support for democracy. This implies keeping constant the second and third terms of equation (2):

$$\text{Support Democracy}_{irj} = b_0 + b_1 \text{Market}_j + b_2 \text{Democracy}_j + b_3 \text{Culture}_{rj} + b_4 X_{irj} + u_i \quad (2)$$

Here, we rely on the considerable within-country regional variations in terms of market development (Zhuravskaya, 2006; EBRD, 2006). We build indices that reflect the regional

emergence of private, small and medium enterprises and the formal sector (see section 3.4).

We start with the simplifying assumption that political institutions and “culture” are the same in a given country. We consider that as far as democracy is concerned, the changes mainly operate at the national level, whereas the emergence of the market is more differentiated across regions. Of course, in some countries, especially federal countries like the Russian Federation, it is possible that the degree of democracy varies across regions if local governments have an important autonomy in terms of institutional design or implementation of federal laws. However, this problem is not likely to be important in the countries under consideration, which are rather highly centralized politically. Even in the case of the Russian federation, the strong presidential regime, whose focus has precisely been to recentralize state power (Fish, 2001), helps attenuate the (statistical) problem. In other large countries, such as Poland, Romania, Ukraine, Belarus, or Kazakhstan, power devolution to the regions and the extent of local democracy remain limited.<sup>17</sup>

We thus identify individuals of a given country who live in regions that experience unequal degrees of market development and we estimate the support for democracy of individual  $i$  living in region  $r$  of country  $j$  on the degree of market development of region  $r$  in country  $j$  ( $Market_{rj}$ ), controlling for individual socio-demographic characteristics  $X_{irj}$  and for country dummies  $C_j$ .

$$SupportDemocracy_{irj} = b_0 + b_1 Market_{rj} + b_2 X_{irj} + b_3 C_j + u_i \quad (2')$$

In order to control for potential omitted cultural factors, we rely again on the long lasting influence of former empires or federations, and we run equation (2') within formerly integrated empires and federations and today's areas of deeper integration.

Admittedly, the identification strategy for the estimation of equation (2') is weaker than that of equation (1'). Indeed, it relies on the assumption that the uneven development of the market across the regions of a country is not due to some local variable that would also influence the political attitudes of the inhabitants. In order to reduce this omitted variable risk, we control for the type of living area of respondents (metropolitan, urban or rural areas). Of course, this does not entirely solve the problem. For example, one could suspect that the western part of Ukraine is both more prone to democracy and to economic development than the eastern part, because it is influenced by the more “modern” values and attitudes of its western neighbors, Poland, Slovakia or Hungary.

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<sup>17</sup> See, for example, Kovryga and Mooney Nickel (2004) and Riabchuk (2008) for the case of Ukraine, Regulska (1997) and Yoder (2003) for that of Poland. For Belarus or other authoritarian regimes in Central Asia, presidential power centralization is an impediment to any form of power devolution.

While we recognize this risk, we assume that the heterogeneity of values and culture inside a given country is smaller than it is on average between different distant countries. In other words, we assume that the degree of cultural distance between two randomly chosen individuals increases gradually with the size of the region that they are picked in. The intuition of this assumption is that there is more cultural distance, on average, between a Lithuanian and a Kazakh than between a Lithuanian and a Pole. This idea is based on the importance of local social interactions in the transmission of cultural traits (Bisin and Verdier 2001, Glaeser and Scheinkman 2001). The underlying empirical model is a transposition of gravity models, where cultural proximity is explained instead of commercial intensity.

In order to validate this assumption, we estimated a gravity model that allows to assess the role of physical distance and geopolitical factors on cultural attitudes and economic outcomes.<sup>18</sup> We find that, indeed, physical distance increases the dissimilarity in attitudes to the political economic system and in economic occupation patterns between pairs of locations, while belonging to the same, or to a different but contiguous country, decreases it (Table A3).<sup>19</sup>

## 5. Results

Although simple correlations show that supporting the market and supporting democracy are highly correlated attitudes (the correlation coefficient is 0.45), our identification strategies leads to a more contrasted picture. We find that democracy does increase support for a market economy, but that the development of the market has no significant effect on the support for democracy.

This pattern is apparent even in descriptive statistics. Table A4 shows that at frontier-zones, the support for a market economy tends to be higher on the border of the country that enjoys a higher level of democracy (according to the Freedom House ranking). On average, in more democratic countries, the market was preferred by an average of 7% more respondents than on the less democratic side of the border. By contrast, at the county average level, demand for democracy does not appear to increase with market development, as illustrated by the scatter plot of the two variables (Figure A1).

### 5.1. *Democracy increases support for the market*

Graphical analysis confirms the validity of our spatial discontinuity regression assumption, in the

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<sup>18</sup> for a detailed account of the underlying theoretical and empirical models as well as a fuller set of results, see Grosjean, 2008.

<sup>19</sup> The effect is quite large. For example, the negative border effect on dissimilarity in economic occupation patterns is equivalent to reducing the physical distance between pairs of PSUs by 8127 km (the average distance between PSU pairs being 2322 km), and belonging to the same country by 7546 km.

sense that there is no discontinuity in our index of market development once one gets within a sufficiently close range from the border (25 km). Graphical analysis also illustrates our main result that there exists a significant discontinuity of support for the market at the border. Figure 2 presents the percentage of people who support the market, according to our measure defined in section 4, and our index of market development as a function of distance to political borders. Using longitudinal and latitudinal coordinates of each PSU in the sample, we compute the distance of every PSU in each country to each border of this country.<sup>20</sup> Distances are indexed with negative signs when one “approaches” the political border on its least democratic side (using the Freedom House Nations in Transit ranking) and with positive signs on its most democratic side. For example, the distance between a PSU in Poland and the Polish-Belarusian border is indexed positively, while the distance between that same PSU and the Polish-Czech border is indexed negatively. We then average our measure of support for the market and our index of market development across countries, and by distance to borders. Panel (a) in Figure 2 includes all the PSUs in our sample. Support for the Market is clearly higher on the “more democratic” side of the border, but so is the index of market development, hence possibly confounding the influence of democracy and that of market development on political preferences. Panel (b) in Figure 2 only retains PSUs that are situated less than 25 km away from a border. Support for the market is still significantly higher on the “more democratic” side of the border.<sup>21</sup> However, there is no longer any discontinuity at the border in the average level of market development. This indicates that our main identifying assumption for our spatial regression discontinuity is valid: there is local invariance in the level of market development within 25 km of the border, while there is variation in political development and preferences for a market economy.

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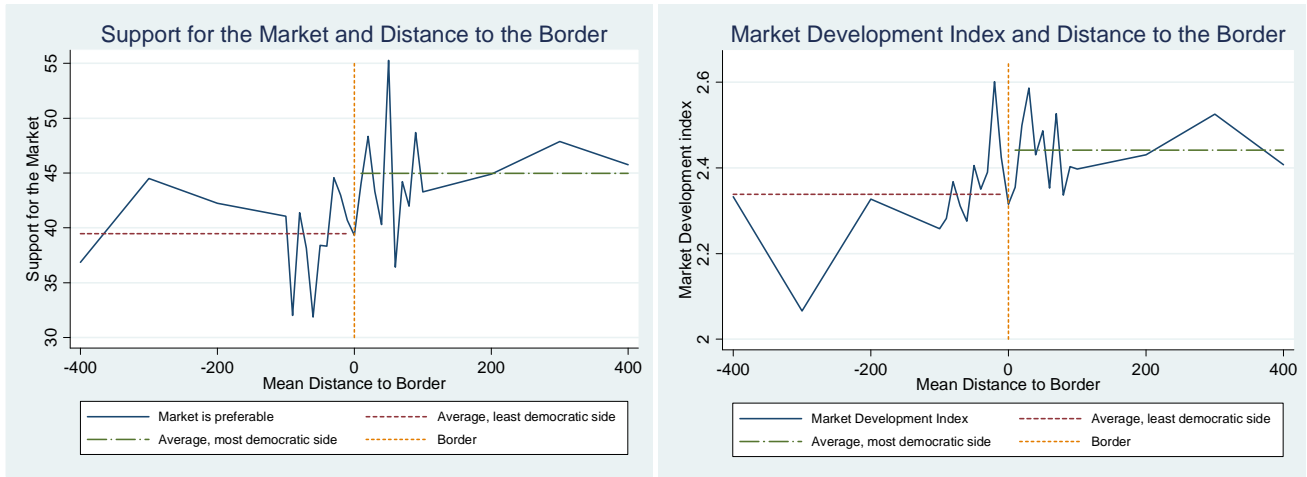
<sup>20</sup> We use the great circle formula (Head and Mayer, 2007) in order to compute physical distance from coordinates.

<sup>21</sup> The P-value for a negative difference between the means of “Support for the Market” between the least and the most democratic side of the border is 0.079.

**Figure 2: Support for the Market and Market Development Index at the Border**

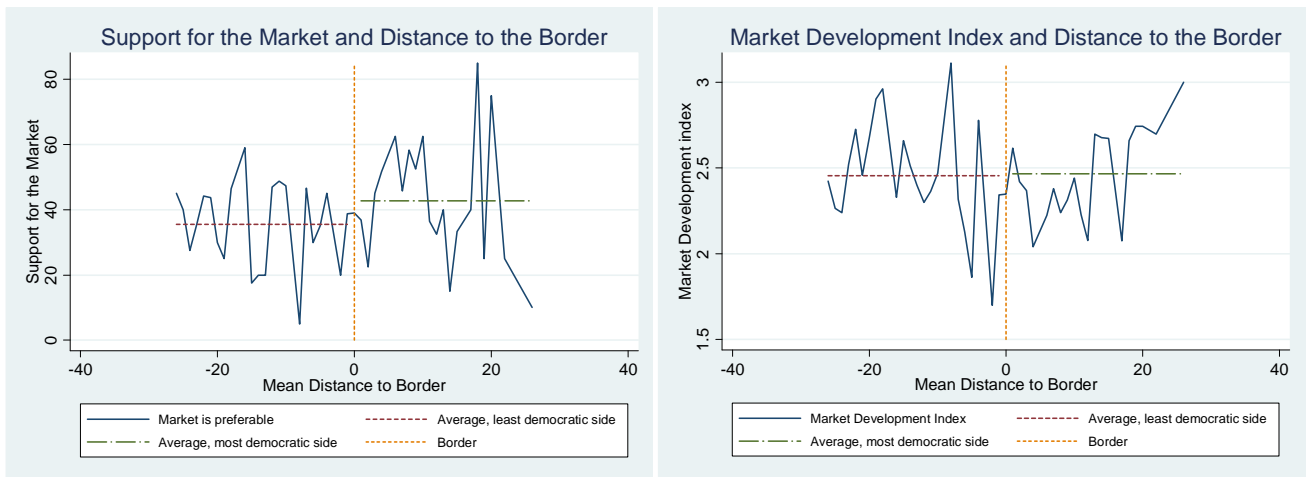
**Panel (a): Whole Sample: country wise averages**

Both support for the market and the level of market development are higher on the more democratic side of the border



**Panel (b): In the neighborhood of borders: PSUs 25 kilometers or less from a border:**

Support for the market is higher on the more democratic side of the border, but the level of market development is identical



*Notes to Figure 2:*

In panel (a), distances are rounded by ten for distances up to 100 and rounded by fifty for distances higher than 100.

The conclusion from this graphical analysis is that the local invariance in the level of market development at political borders enables us to identify the impact of democracy on support for the market. Support for the market is markedly higher on the most democratic side of the border, providing preliminary evidence for a positive and significant impact of democracy on support for a market economy.

This effect is confirmed in regression analysis, where we control for frontier-zone fixed effects. Table 2 presents the general regressions of the support for the market (equation 1'') on scores of

democratization. Columns 1 to 3 present the regression on the *Freedom House* democracy score; whereas columns 4 to 6 contain the regressions on a dummy variable representing the relative advancement of democracy (see section 4.3). All regressions are performed on the sub-sample of respondents living in frontier-zones, less than 25 km away from the border. We control for frontier-zone dummies and standard errors are adjusted for clustering on frontier-zones. Finally, in Table 3, the regressions are performed within each zone of deeper cultural integration, as discussed in section 3.

Columns 1 and 4 in Table 2 analyze the determinants of the probability of declaring that “a market economy is preferable to any other form of economic system”. The coefficients on both the democratic index and the “more democracy” dummy variable are positive and significant. Column 1 displays the marginal effect of a change in the Freedom House democratic score, while the coefficient on the variable “more democracy” represents the effect of a discrete change of this dummy variable from 0 to 1 (on the probability to support the market). Hence, column 4 in Table 2 shows that conditionally on living in a frontier-zone, living on the “more democratic” side of the frontier increases the probability of supporting the market by about 8.8%.

Columns 2 and 5 analyze the determinants of the probability to declare that “under some circumstances, a planned economy may be preferable to a market economy”. Column 2 shows that an incremental change in the democracy score does not significantly affect the preference for a planned economy. However, the coefficient on the discrete “more democracy” dummy variable is significant at 5%, as it captures more significant progress towards democracy. Column 5 thus indicates that conditionally on living in a frontier-zone, experiencing a more democratic regime reduces the probability of favoring a planned economy by roughly 6.7%. Finally, columns 3 and 6 analyze the probability of declaring that “for people like me, it does not matter whether the economic system is organized as a market economy or a planned economy”. This attitude appears not to be significantly influenced by the degree of democracy.<sup>22</sup>

Other rows of Table 2 display the other correlates of attitudes towards the market. We distinguish three income categories (the richest, middle and poorest quantiles of income inside each country), six educational levels, occupational categories, and employment status (self-employed versus employees). Self-employed workers tend to be more supportive of the market, while elder people

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<sup>22</sup> In alternative specifications not reported in this paper, we verify that our results are robust to alternative specifications, such as OLS or multinomial logit. We also check that the results are robust to clustering at the country level. Further, our result that democratic development enhances subjective support for the market holds when comparing people who chose that a “market economy is preferable” to people who declare themselves favorable to a planned economy only, that is to say when people who declare that it “does not matter” for them are excluded.

and the poorest third of the population are less so.

**Table 2. Democracy Increases the Support for Market Development**

dprobit regressions of Support for the Market	(1)	(2)	(3)	(4)	(5)	(6)
	Market is preferable	Plan is preferable	Does not matter	Market is preferable	Plan is preferable	Does not matter
<b>Democracy index</b>	0.040*** [0.015]	-0.026 [0.019]	-0.012 [0.017]			
<b>More democracy</b>				0.088** [0.034]	-0.067** [0.028]	-0.016 [0.025]
Adult (35-19)	-0.067*** [0.015]	0.053*** [0.016]	0.016 [0.017]	-0.068*** [0.015]	0.054*** [0.016]	0.014 [0.017]
Mid-age (50-65)	-0.094*** [0.021]	0.055*** [0.021]	0.043* [0.024]	-0.095*** [0.021]	0.055*** [0.020]	0.042* [0.023]
Old (>65)	-0.157*** [0.024]	0.062** [0.031]	0.090*** [0.025]	-0.162*** [0.025]	0.066** [0.031]	0.089*** [0.025]
Poor	-0.067*** [0.018]	-0.008 [0.016]	0.070*** [0.017]	-0.065*** [0.018]	-0.009 [0.015]	0.070*** [0.016]
Rich	0.016 [0.021]	-0.005 [0.015]	-0.012 [0.014]	0.011 [0.020]	-0.001 [0.014]	-0.01 [0.013]
Male	0.051*** [0.010]	-0.001 [0.011]	-0.049*** [0.011]	0.053*** [0.010]	-0.003 [0.011]	-0.050*** [0.011]
Compulsory education	-0.019 [0.032]	0.096*** [0.033]	-0.052 [0.032]	-0.016 [0.031]	0.100*** [0.031]	-0.059* [0.030]
Secondary education	0.039 [0.035]	0.131*** [0.034]	-0.127*** [0.035]	0.046 [0.035]	0.130*** [0.032]	-0.133*** [0.033]
Professional education	0.055* [0.032]	0.126*** [0.028]	-0.139*** [0.030]	0.061* [0.032]	0.124*** [0.028]	-0.142*** [0.028]
University education	0.105*** [0.034]	0.193*** [0.034]	-0.227*** [0.026]	0.111*** [0.033]	0.190*** [0.033]	-0.229*** [0.024]
Post grad.. education	0.023 [0.076]	0.200*** [0.076]	-0.145*** [0.045]	0.039 [0.078]	0.190** [0.077]	-0.148*** [0.042]
Unemployed	0 [0.027]	-0.006 [0.027]	0.008 [0.025]	0.006 [0.027]	-0.012 [0.026]	0.008 [0.025]
Self employed	0.096*** [0.027]	-0.088*** [0.018]	-0.006 [0.025]	0.110*** [0.027]	-0.096*** [0.018]	-0.01 [0.024]
White collar worker	0.051 [0.037]	0.006 [0.028]	-0.069** [0.032]	0.057 [0.036]	-0.004 [0.028]	-0.063** [0.032]
Blue collar worker	0 [0.033]	0.027 [0.029]	-0.026 [0.029]	-0.001 [0.032]	0.023 [0.027]	-0.018 [0.029]
Service worker	0.033 [0.033]	-0.007 [0.025]	-0.027 [0.034]	0.043 [0.033]	-0.017 [0.024]	-0.025 [0.033]
Farmer, farm worker	0.031 [0.052]	0.014 [0.033]	-0.037 [0.048]	0.048 [0.051]	0.001 [0.033]	-0.044 [0.045]
Pensioner	-0.012 [0.037]	0.004 [0.022]	0.003 [0.029]	-0.002 [0.036]	-0.005 [0.023]	0.005 [0.028]
Student	0.023 [0.059]	0.011 [0.046]	-0.034 [0.043]	0.029 [0.057]	0.004 [0.043]	-0.03 [0.042]
Housewife	0.045 [0.049]	-0.026 [0.028]	-0.019 [0.043]	0.06 [0.048]	-0.039 [0.028]	-0.019 [0.043]
Observations	6690	6690	6690	6910	6910	6910
Pseudo R2	0.0689	0.0331	0.075	0.0742	0.0337	0.0825

Notes to Table 2: Controls: frontier zone dummies. Omitted categories: young (17 to 34 years old), middle income group, lowest education, employee, occupation in army. Robust standard errors adjusted for clustering on frontier zones. \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%. **Democracy index** is built on the basis of Freedom House (2006a). **More democracy** is a dummy variable based on the same index (see section 3.3)

If one accepts the assumption that people living in a common frontier-zone share the same practical experience of market development (and the same background culture), the lesson of Table 2 is that living in a country with a higher degree of democracy exerts a positive influence on the support for the market.

As a robustness check, we run the same regression as column 4 of Table 2 within each frontier-zone.<sup>23</sup> The positive effect of democratic institutions on the support for the market proves particularly strong and significant at borders that are well integrated both culturally and economically, for example the frontier between Moldova and Romania or between Estonia and Latvia. The effect is also particularly strong for the Belarus-Lithuania, Belarus-Poland and Ukraine-Russia frontier-zones, all formerly part of the Polish-Lithuanian Commonwealth and currently highly integrated. The effect is globally well respected except for most Hungarian frontiers and the Bulgaria-Romania, Croatia-Serbia and Poland-Ukraine frontier-zones. The unexpected results for Hungary may be explained by the difficult situation in the country, which, at the time of the LITS, was going through a political crisis. Concerning the Bulgaria-Romania frontier, the fact that the development of democracy in the two countries is very close, as shown by the identical ranking of these countries by other democracy indices, such as *Polity IV*, might explain why the sign of the coefficient of “More Democracy” is reversed. The same reason may explain why some coefficients are insignificant at the borders of countries that experience similar level of democracy, such as the Czech Republic and Poland (which obtain the same ratings by both *Freedom in the World* and *Polity IV*), Bulgaria and FYR Macedonia or Bosnia and Herzegovina and Croatia.

As our identification strategy is based on the assumption of regional integration, we expect the result not to hold at frontiers that were excluded from our sample for being closed or severely restricted. We verify that the coefficient inside the Armenia-Azerbaijan border zone is -0.070 (0.128); it is of -0.328 (0.207) in the Kazak-Uzbek frontier-zone; of -0.097 (0.051) in the Kyrgyz-Uzbek and of 0.004 (0.696) in the Moldova-Ukraine zone. Considering all the closed frontier-zones together (and controlling for frontier-zones dummies), the coefficient on the *Freedom house* democracy index is 0.039 (0.053) in the regression of support for the market. Hence the relationship is not significant in closed frontier-zones, which is consistent with our interpretation of regional integration.

We also estimate equation (1'') within various sub-samples of frontier-zones belonging to historically integrated regions. Table 3 presents the regressions by “cultural zones” as defined in

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<sup>23</sup> Results are not reported here but are available from the authors upon request.

section 4.2. Market development exerts a positive and significant influence on the demand for democracy in the regions of the former Ottoman Empire, Prussia, Polish Lithuanian commonwealth, countries of the former USSR, of the former Yugoslavia, of the CIS and of Central Asia. By contrast, it is not significant for the former Habsburg Empire. Nevertheless, when Hungary is excluded from the sample, the effect is positive and significant in the other regions of the former Habsburg Empire.

**Table 3. Democracy and Support for the Market within Cultural Areas**

dprobit estimates of Support for the Market	(1) <b>Habsburg Empire</b>	(2) <b>Habsburg Empire (i)</b>	(3) <b>Ottoman Empire</b>	(4) <b>Prussia</b>	(5) <b>Polish Lithuanian Commonwealth</b>
<b>Democracy index</b>	-0.003 [0.065]	0.078*** [0.011]	0.105** [0.049]	0.172*** [0.020]	0.032** [0.013]
Pseudo R2	0.07	0.08	0.07	0.51	0.11
Observations	1976	1676	1840	57	1714
	(6) <b>USSR</b>	(7) <b>Yugoslavia</b>	(8) <b>CIS</b>	(9) <b>Central Asia</b>	
<b>Democracy index</b>	0.064*** [0.020]	0.085*** [0.022]	0.060* [0.031]	0.231*** [0.043]	
Pseudo R2	0.09	0.06	0.10	0.13	
Observations	2914	2134	2314	740	

*Notes to Table 3:*

(i) Without Hungary

Sub-samples of frontier-zones. Controls: income categories, age categories, gender, occupation categories, self employed, education categories and frontier zone dummies. Robust standard errors adjusted for clustering on frontier zones. \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%.

**Democracy index** is built on the basis of Freedom House (2006a).

As a robustness check, we also test different indicators of democracy (see Annex for a presentation of such indicators). The result that the development of democracy positively and significantly influences the demand for the market is preserved using the *Freedom of the World* (Freedom House, 2006b), *BTI* (Bertelsmann Stiftung, 2005) or *Polity IV* (CIDCM, 2006) indicators.

## 5.2. *Market liberalization does not raise the support for democracy*

We now address the symmetric question whether market liberalization increases the support for democracy. As explained in section 3, we rely on the evidence that there are wide regional differences within the countries under study.

Table 4 displays various estimates of political attitudes on indices of regional market development using the entire sample, i.e. including all regions of a given country. Because the impact of market development on political attitudes could be driven by metropolitan regions, in which market liberalization is more advanced and where people are likely to have different political attitudes, we

include a control for the type of area (metropolitan/urban/rural) in all regressions. We checked that the results are essentially unchanged when these controls are not performed and when metropolitan regions are dropped from the sample.

Column 1 analyzes the determinants of the probability of declaring that “*democracy is preferable to any other form of political system*”. Surprisingly, the index of market development has no impact on this variable. Identically, the probability to declare that “*under some circumstances, an authoritarian government may be preferable to a democratic one*” (column 2), and of choosing the modality “*for people like me, it does not matter whether a government is democratic or authoritarian*” (column 3) do not depend on the index of market development.<sup>24</sup>

Hence, market liberalization does not appear to reinforce democratic values. Other effects indicate that the richer, better educated, younger, self-employed people and surprisingly, farmers and farm-workers, are more supportive of democracy. By contrast, the poor, those who have not completed compulsory education and women are less supportive of democracy and more likely to declare that the political system does not matter to them. These results are similar to Fidrmuc (2000).

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<sup>24</sup> In alternative specifications not reported in this paper, we verify that our results are robust to alternative specifications, such as OLS or multinomial logit. The same result still holds when comparing people who chose that “democracy is preferable” to people who declare themselves favorable to an authoritarian system only, that is to say when people who declare that it “does not matter” for them are excluded.

**Table 4. Support for Democracy and Regional Indices of Market Liberalization**

dprobit estimates of Support for Democracy/Authoritarianism	(1) <b>Democracy preferable</b>	(2) <b>Authoritarian government preferable</b>	(3) <b>Does not matter</b>
<b>Market development index of region</b>	<b>-0.011</b> [0.030]	<b>0.002</b> [0.019]	<b>0.008</b> [0.029]
Adult (35-19)	-0.026** [0.011]	0.018** [0.008]	0.007 [0.008]
Mid-age (50-65)	-0.032** [0.016]	0.022** [0.010]	0.01 [0.010]
Old (>65)	-0.061*** [0.023]	0.026* [0.015]	0.028** [0.014]
Poor	-0.053*** [0.010]	-0.001 [0.006]	0.049*** [0.008]
Rich	0.031*** [0.010]	-0.003 [0.005]	-0.030*** [0.007]
Male	0.037*** [0.008]	0.002 [0.005]	-0.038*** [0.008]
Compulsory education	0.044** [0.021]	0.029* [0.017]	-0.053*** [0.013]
Secondary education	0.105*** [0.022]	0.040*** [0.015]	-0.112*** [0.014]
Professional education	0.119*** [0.019]	0.046*** [0.015]	-0.129*** [0.014]
University education	0.188*** [0.020]	0.056*** [0.016]	-0.193*** [0.012]
Post graduate education	0.254*** [0.026]	0.016 [0.026]	-0.206*** [0.012]
Unemployed	0.023 [0.018]	-0.013 [0.013]	-0.008 [0.015]
Self employed	0.032 [0.022]	-0.017 [0.014]	-0.015 [0.014]
White collar worker	0.091*** [0.013]	-0.012 [0.011]	-0.083*** [0.012]
Blue collar worker	0.031* [0.016]	-0.01 [0.012]	-0.018 [0.015]
Service worker	0.054*** [0.014]	-0.007 [0.011]	-0.046*** [0.014]
Farmer, farm worker	0.066*** [0.019]	-0.001 [0.013]	-0.060*** [0.017]
Pensioner	0.001 [0.019]	-0.005 [0.010]	0.003 [0.019]
Student	0.134*** [0.029]	-0.036** [0.014]	-0.093*** [0.021]
Housewife	0.045** [0.019]	-0.037*** [0.014]	-0.008 [0.020]
Observations	27920	27920	27955
Pseudo R2	0.054	0.027	0.072

*Notes to Table 4:*

Controls: country dummies, urban/rural or metropolitan area. Omitted categories: young (17 to 34 years old), middle income group, occupation in army, self-employed, lowest education.

Robust standard errors adjusted for clustering at the country level. \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%.

The market development index is constructed at the regional level (see section 3.4).

We also run the same estimation of support for democracy within each country of the survey<sup>25</sup>. Country-wise regressions corroborate the finding that support for democracy does not increase with the market development indicator.

We estimate the support for democracy within each zone of deeper cultural integration (Table 5). Essentially, regional market development again appears to have no significant impact on the support for democracy. The index of market development is only significant for the regions of the former Habsburg Empire. Again, this is due to the specific situation of Hungary, which was experiencing political troubles at the time of the survey. Once excluded from the sample, the effect is no longer significant in the other regions of the former Habsburg Empire. In countries of the former USSR and of Central Asia, the impact of the market index is significantly negative.

**Table 5. Support for Democracy and Regional Indices of Market Liberalization in Former Empires and Federations**

dprobit estimates of Support for Democracy	(1) <b>Habsburg Empire</b>	(2) <b>Habsburg Empire (i)</b>	(3) <b>Ottoman Empire</b>	(4) <b>Prussia</b>	(5) <b>Polish Lithuanian Commonwealth</b>
<b>Market development Index</b>	<b>0.119***</b> [0.046]	<b>0.089</b> [0.092]	<b>0.014</b> [0.048]	<b>-0.022</b> [0.128]	<b>-0.004</b> [0.044]
Pseudo R2	0.06	0.06	0.06	0.09	0.06
Observations	4635	5635	7954	239	4972
	(6) <b>USSR</b>	(7) <b>Yugoslavia</b>	(8) <b>CIS</b>	(9) <b>Central Asia</b>	
<b>Market development index</b>	<b>-0.080**</b> [0.034]	<b>0.045</b> [0.044]	<b>-0.077</b> [0.048]	<b>-0.204**</b> [0.096]	
Pseudo R2	0.05	0.06	0.06	0.05	
Observations	13952	5971	10972	4000	

*Notes to Table 5:*

Controls: income categories, age categories, education categories, gender, occupation categories, self-employed, country dummies.

Regions (in columns) are defined as in Table 3. (i) Without Hungary. The market development index is constructed at the regional level.

Robust standard errors adjusted for clustering at country level. \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%.

Finally, as a robustness check, we use alternative indicators of the explained variable (support for democracy) and of the explanatory variable (market development). First, we built an index of adhesion to democratic principles based on the following survey question:

*To what extent do you agree that the following are important for your country?*

- *Free and fair elections*
- *Law and order*

<sup>25</sup> Results are not reported here but are available from the authors upon request.

- *Freedom of speech*
- *A press that is independent from the government*
- *A strong political opposition*
- *A courts system that defends individual rights against abuse by the state*
- *A courts system that treats all citizens equally, rather than favoring some over others*
- *Protection of minority rights (religious, ethnics, etc...)*
- *Freedom to travel abroad*

(Scale: Strongly disagree, Disagree, Neither agree nor disagree, Agree, Strongly agree, Difficult to say)

We construct an index measuring the “value of democracy”, which sums the number of times a person “agrees” or “strongly agrees” that the items listed in the above table are important. The regional index varies from 0 to 9, with an average of 4.5. Country average score is highest in Montenegro and Croatia (7) and lowest in Tajikistan (3).

Table 6 shows the ordered probit regression of this index on the regional market development index, for the whole sample. Again, regional market indices do not seem to influence the importance that citizens attach to democratic values.

**Table 6. The Value of Democracy and Regional Indices of Market Development**

Ordered Probit regression of the score of Importance of Democracy	(1)
<b>Market Development index of region</b>	<b>0.048</b> [0.090]
Observations	27955
Pseudo R2	0.038

*Notes to Table 6:*

Controls: type of area (rural, urban or metropolitan), income categories, age categories, education categories, gender, occupation categories, self-employed, country dummies.

Robust standard errors adjusted for clustering at the country level. \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%.

Of course, the indices of market development that we used may be misconstrued and it is possible that better measures of market liberalization would be found to influence support for democracy. We regret that indices of industrial concentration are not available at the regional level for the whole set of countries in the sample.<sup>26</sup> Nevertheless, in order to address this concern, we use an indicator of relative wealth as an alternative to the previous market development index. We compute the average aggregate regional income based on the real expenditures declared by the

<sup>26</sup> In our view, indices of this type would be best suited, if they were available, than some often used indicators based on governance, the protection of legal rights, the protection of minority shareholders or indices of price liberalization. The latter have two important drawbacks: firstly, they are only available at the national level and secondly, they often reflect the progress of the rule of law, i.e. of democracy itself, rather than that of the freedom of transactions on the market.

households of the survey, relative to the national average.<sup>27</sup> This is based on the idea that aggregate income is an outcome of market development. This relative wealth index is thus more specifically an indicator of the successful outcome of market development. Again, as shown by Table 7, this indicator does not have any significant impact on the attitudes to democracy or authoritarian regimes. Hence, individual data do not confirm the relationship between average income and democracy that has been observed at the aggregate level by Barro (1996) or Minier (2001).

**Table7. Support for democracy and relative regional income**

dprobit estimates of Support to Democracy	(1) <b>Democracy preferable</b>	(2) <b>Authoritarian government preferable</b>	(3) <b>Does not matter</b>
<b>Regional level of expenditure</b>	<b>0.021</b> [0.043]	<b>-0.002</b> [0.031]	<b>-0.018</b> [0.028]
Observations	27960	27960	27995
Pseudo R2	0.055	0.027	0.073

*Notes to Table 7:*

Controls: income categories, age categories, education categories, gender, occupation categories, self-employed, country dummies.

The market development index is constructed as the average regional real level of expenditure.

Robust standard errors adjusted for clustering at the country level. \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%.

As a final remark, in section 4.2, we discussed the possible endogeneity bias that is suspected to affect these results, i.e. that people who are exposed to a higher level of market development also have (unobserved) reasons to be more favorable to democracy. This should lead to a positive co-variation between the two variables, in other words, it should bias the results upward. The fact that we do not observe any statistical impact of the level of market development on the demand for democracy suggests that the bias is actually negligible.

In summary, the degree of market development does not seem to exert a sizable impact on the political support for democracy, or on the rejection of authoritarian regimes. In contradiction with a frequently held view that democracy will “follow” market liberalization, developing market institutions is not a guarantee or a sufficient condition of the subsequent emergence of demand for democracy, even when the market is successful in raising aggregate income.

<sup>27</sup> Household expenditures were adjusted for household size using the modified OECD equivalence scale.

## 6. Conclusion

The main result of this paper is that in transition countries democracy increases popular support for the market, while economic liberalization does not influence support for democracy. Our data do not support the widespread view that democracy needs naturally emerge as a by-product of capitalism. Instead, our results indicate that building democratic institutions can act as an ingredient in favor of market liberalization, whereas early market development is no guarantee of subsequent popular support for democracy, particularly in less developed countries of our sample in Central Asia and the former Soviet Union. These observations are consistent with the empirical fact that market economies can live without democracy, whereas there is no historical evidence of a democratic society without a market economy (Dahl, 1982b). One explanation for this is certainly that preferences of citizens do not, by definition, matter in autocracies.<sup>28</sup> Our results illustrate an alternative explanation, which is that the determinants of the support for democracy have to be found elsewhere: market liberalization, in itself, is not sufficient to trigger the demand for democracy.

One tentative explanation for the positive relationship between democracy and support for a market economy, which is explored in more details in a related paper (Grosjean and Senik, 2008), can be found in the impact of democracy on income distribution. We find support for the hypothesis that although rising income inequality in itself triggers backlash against reforms, extending democratic rights appears as a credible promise of future income redistribution (Acemoglu and Robinson, 2000, 2002, Acemoglu et al., 2007b) and acts as a positive ingredient in reinforcing adhesion to the economic reform process.

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<sup>28</sup> Although the survival of autocracies may eventually depend on the preferences of the people. Indeed, an increasingly large body of the literature discusses the incentives of autocracies to adopt welfare enhancing policies in order to increase the probability of a dictator's survival (for a review, see Besley and Kudamatsu, 2007)

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## Annex

**Table A1. Descriptive Statistics**

Variable		mean	std. dev.
Market preferable	1 if resp. prefers market economy to other form of economic system	0.43	0.50
Planned economy is preferable	1 if resp. prefers planned economy under certain circumstances	0.26	0.44
Does not matter-economic	1 if resp. answers “for people like me it does not matter” whether the economy is organized as a market economy or as a planned economy	0.31	0.46
Democracy preferable	1 if resp. prefers democracy to other form of political system	0.57	0.49
Authoritarian reg. preferable	1 if resp. prefers authoritarian regime under certain circumstances	0.16	0.37
Does not matter-political	1 if resp. answers “for people like me it does not matter” whether a government is democratic or authoritarian	0.27	0.37
Old	more than 65 years old	0.16	0.37
Mid-age	between 50 and 65 years old	0.24	0.43
Adult	between 35 and 50 years old	0.31	0.46
Gender	1 if male	0.48	0.50
Unemployed	actively looking for a job. waiting for an answer or find no job available	0.09	0.29
White collar worker (i)		0.17	0.38
Blue collar worker (i)		0.18	0.38
Service worker (i)		0.12	0.32
Farmer or farm worker (i)		0.05	0.22
Pensioner		0.21	0.41
Student		0.03	0.16
Housewife		0.06	0.25
Self employed	work as self employed at their main job (regardless occupation)	0.08	0.28
Market development index	regional index: sum of shares of active population employed in: SMEs. private. post-1989 created enterprises. Min: 1; Max:5	2.39	1.05
Imp free elections	importance of free and fair elections. Min: 0; Max 1	0.89	0.32
Imp law order	importance of law and order. Min: 0; Max 1	0.59	0.49
Imp free speech	importance of freedom of speech. Min: 0; Max 1	0.51	0.50
Imp peace	importance of peace and stability. Min: 0; Max 1	0.65	0.48
Imp indep. press	importance of press independence. Min: 0; Max 1	0.44	0.50
Imp pol. opposition	importance of political opposition. Min: 0; Max 1	0.39	0.49
Imp court indep.	importance of courts to defend individual rights against abuse by state. Min: 0; Max 1	0.55	0.50
Imp court equal	importance of equal treatment of citizens in courts. Min: 0; Max 1	0.60	0.49
Imp minority protec.	importance of minority rights protection. Min: 0; Max 1	0.42	0.49
Imp free abroad	importance of freedom to travel abroad. Min: 0; Max 1	0.53	0.50
Imp democracy	global index (sum) of importance of above democratic institutions. Min: 0; Max: 9	5.38	3.59

*Notes to Table A1:*

(i) The different categories of employment were constructed from the responses about the respondent’s first job, using the ISCO classification. The ISCO categories corresponding to our white collar category are: 1: Legislator, Senior Official and Manager, 2: Professionals, and 3: Technicians and Associated Professionals. Our service workers category consists of: 4: Clerks and 5: Service workers and shop and market sales workers. 6: Skilled agricultural and fishery workers are in our “farmer and farm worker category” together with independent farmers. All the remaining ISCO categories (except 0. Armed forces, our excluded category) are considered as blue collar workers.

**Table A2: Respondents characteristics on each side of the frontier**

	On less democratic side frontier (a)	On more democratic side frontier (a)	Difference (b)
Age	46.5 [0.293]	48.6 [0.319]	-2.100***
Education	2.46 [0.019]	2.38 [0.021]	0.071*
Proportion of unemployed (i)	0.095[0.018]	0.077 [0.011]	0.018
Proportion of self employed (i)	0.057 [0.007]	0.070 [0.018]	-0.013
Proportion of white collar (i)	0.180 [0.023]	0.137 [0.015]	0.043
Proportion of blue collar (i)	0.153 [0.012]	0.164 [0.012]	-0.010
Proportion of service workers (i)	0.115 [0.010]	0.111 [0.010]	0.113
Proportion of farmers or farm workers (i)	0.043 [0.010]	0.055 [0.024]	-0.012
Industry (ISIC classification) (ii)	8.323 [0.102]	8.617 [0.118]	-0.294
Observations	3801	3121	

*Notes to Table A2:*

(a): mean with standard errors in brackets. (b): statistical significance of the difference between means across the border: \*\*\* significant at 1%, \* significant at 10%. (i) Proportions are computed over the active population. (ii) We check that the proportion of people employed in each category of the 2 digit ISIC classification of industries is identical on either side of the border, but do not report results for each individual category. (iii) self-positioning on a 10 steps income ladder.

**Table A3: Results of the Cultural Gravity Model**

	(1)	(2)	(3)	(4)	(5)	(6)
	MD Preference for the market	MD Preference for the market	MD Preference for democracy	MD Preference for democracy	MD occupation	MD occupation
ln (distance)	0.006*** [0.001]	0.000 [0.001]	0.005*** [0.000]	0.000 [0.001]	0.015*** [0.000]	0.008*** [0.001]
Same Country		-0.044*** [0.003]		-0.033*** [0.002]		-0.026*** [0.002]
Contiguous		-0.006*** [0.001]		-0.007*** [0.001]		-0.029*** [0.001]
Observations	1034641	1034641	1034641	1034641	1034641	1034641
R-squared	0.039	0.039	0.045	0.045	0.227	0.228

Notes to Table A3:

Dependent variables are expressed in the Manhattan Distance (MD) metric of dissimilarity between pairs of PSUs. MD sums over absolute differences in shares of responses. For example, “MD pref. for democracy” is defined as:  $|d_1 - d_2| + |a_1 - a_2|$  where  $d_1$  (respectively  $d_2$ ) is the share of respondents in location 1 (respectively 2) preferring democracy,  $a_1$  (respectively  $a_2$ ) is the share of respondents in location 1 (respectively 2) expressing a preference for autocratic regimes. Categories used in the construction of the Occupation Manhattan distance are: unemployed; pensioner; student; housewife; or employed; this last category is broken up in different subcategories of: white collar, blue collar service worker and farmer or farm-worker.

These measures of dissimilarity are computed over all PSU pairs. Our analysis is then conducted over the cross section of 1450<sup>2</sup> distance measures. Grosjean (2008) develops a theoretical model, which extends previous models of cultural transmission by specifying that the social interaction which influences vertical transmission mechanism is geographical in nature. This model assumes that the preferences of children are acquired through an adaptation process which depends on the parents’ socialization actions, *and* on the social environment in which children live and which consist of parents peer group in the geographical neighborhood (Glaeser, Sacerdote and Sheinkman, 1996). The predictions of this theoretical model are tested using the following linear estimation approach of a gravity model, the main advantage of which is to circumvent the reflection bias (Manski, 1993): .

$$MDC_{ln} = \alpha_1 DIS_{ln} + \alpha_2 I + \alpha_3 C + \alpha_4 MDS_{ln} + \alpha_5 MDO_{ln} + \alpha_6 MDE_{ln} + \alpha_7 MDR_{ln} + \delta_i + \delta_j + \epsilon_{ln}$$

were the MD variables are metrics of dissimilarity between pairs of locations  $l$  and  $n$ . The physical distance (DIS) between each pair of PSU is computed using the great circle formula (Head and Mayer, 2007). The next covariates in (9) examines the role of geographic distance between two locations.  $I$  is a dummy variable indicating whether the two districts are located in the same country (Same Country). As usual in the gravity trade models,  $C$  is a dummy variable to indicate whether the two countries in which each location belongs are contiguous (Contiguous). The other covariates: Social class dissimilarity  $MDS$ , education dissimilarity  $MDE$ , occupation dissimilarity  $MDO$  and religious affiliation dissimilarity  $MDR$  are defined in a Manhattan distance measures. The results in Table A3 hold through when each covariate is introduced individually in the regressions.

Regressions in columns 1 to 4 control for country dummies and Manhattan distance measures of dissimilarity between PSU in terms of age structure, occupation structure, education, religious affiliation and social class structures (shares of rich, poor and middle income levels within the PSU), and education. Regressions in column 5 and 6 control for country dummies and Manhattan distance measures of dissimilarity between PSUs in terms of age structure and religious affiliation. All non reported covariates have the expected positive and significant effect, except for dissimilarity of religious affiliation which has a non significant effect on our measure of dissimilarity in democratic preferences.

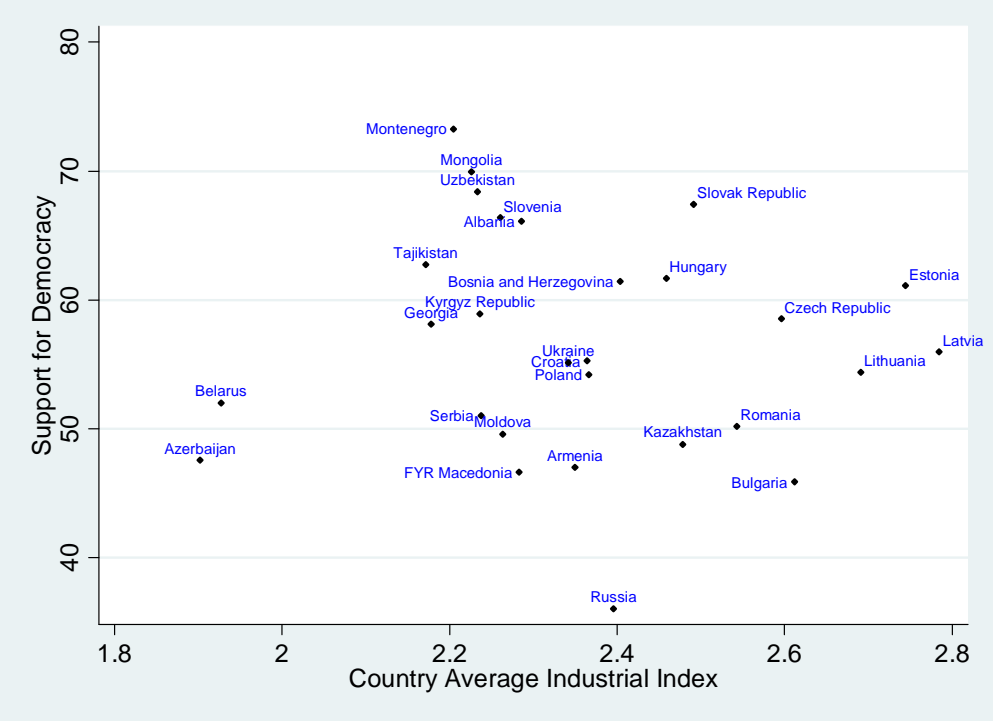
\*\*\* indicates significance at 1%, \*\* significance at 5%, \* significance at 10%.

**Table A4. Attitudes towards the Market and Democracy in frontier zones of adjacent countries, ranked by democracy level**

Democracy in country <i>i</i> > Democracy in country <i>j</i>	Country <i>i</i> Market preferable (1)	Country <i>j</i> Market preferable (2)	(1) - (2)
Albania> Montenegro	0.71	0.51	0.20
Bulgaria> Macedonia	0.25	0.54	-0.29
Bulgaria>Romania	0.25	0.41	-0.16
Croatia> Bosnia and Herzegovina	0.34	0.3	0.04
Croatia>Serbia	0.28	0.54	-0.26
Estonia >Latvia	0.46	0.17	0.29
Estonia> Russia	0.56	0.33	0.23
Georgia > Azerbaijan	0.35	0.39	-0.04
Georgia>Armenia	0.45	0.05	0.40
Hungary>Croatia	0.12	0.37	-0.25
Hungary> Romania	0.27	0.68	-0.41
Hungary>Serbia	0.57	0.38	0.19
Kyrgyzstan>Kazakhstan	0.49	0.27	0.22
Kyrgyzstan>Tajikistan	0.7	0.35	0.35
Latvia> Lithuania	0.32	0.5	-0.18
Lithuania > Belarus	0.55	0.33	0.22
Lithuania>Russia	0.26	0.45	-0.19
Mongolia>Russia	0.75	0.21	0.54
Poland > Ukraine	0.13	0.46	-0.33
Poland>Belarus	0.37	0.45	-0.08
Poland>Czech Rep	0.46	0.48	-0.02
Poland>Russia	0.75	0.45	0.30
Romania > Moldova	0.59	0.41	0.18
Romania >Serbia	0.56	0.39	0.17
Romania>Ukraine	0.74	0.82	-0.08
Russia > Belarus	0.32	0.48	-0.16
Russia>Kazakhstan	0.28	0.35	-0.07
Serbia>Bosnia and Herzegovina	0.56	0.27	0.29
Serbia >Macedonia	0.9	0.27	0.63
Slovak Rep.>Hungary	0.58	0.37	0.21
Slovak Rep.>Ukraine	0.48	0.5	-0.02
Slovak>Czech Rep.	0.44	0.41	0.03
Slovak>Poland	0.27	0.33	-0.06
Slovenia>Croatia	0.55	0.4	0.15
Ukraine>Belarus	0.53	0.41	0.12
Ukraine>Russia	0.5	0.22	0.28
Average	0.46	0.39	0.07*

Notes to Table A4: symbols > or < indicate the country ranking in terms of democracy according to Freedom House Nations in Transit 2006. Average score inside each zone.

Figure A1. Indices of market development and subjective demand for democracy



**Table A5. Indices of Democracy and Country Rankings**

	Freedom House		BTI	Polity IV
	<i>Nations in Transit (i)</i>	<i>Freedom in the World (ii)</i>	<i>Ranking</i>	
Slovenia	1.75	95	1	10
Estonia	1.96	95	2	6
Slovakia	1.96	91	5	10
Hungary	2.00	93	4	10
Latvia	2.07	89	9	8
Poland	2.14	92	7	10
Lithuania	2.21	90	6	10
Czech Rep.	2.25	92	3	8
Bulgaria	2.93	98	10	9
Romania	3.39	75	11	9
Croatia	3.71	84	8	9
Serbia	3.71	76(vi)	14 (vi)	8
Albania	3.79	63	16	7
Macedonia	3.82	61	12	9
Montenegro	3.89	NA	NA	8
Bosnia and Herzegovina	4.07	62	17	5
Ukraine	4.21	72	13	7
Georgia	4.86	61	21	7
Moldova	4.96	57	23	8
Armenia	5.14	41	19	5
Kyrgyzstan	5.64	47	24	3
Russia	5.75	35	20	7
Tajikistan	5.93	30	27	-3
Azerbaijan	5.93	33	25	-7
Kazakhstan	6.39	32	22	-6
Belarus	6.71	15	26	-7
Uzbekistan	6.82	3	28	-9
Mongolia	NA	83	18	10

*Notes to Table A5:*

All rankings and scores are in 2006.

(i) The *democracy score* ratings from *Nations in Transit* survey by Freedom House are based on a scale of 1 to 7, with 1 representing the highest level of democratic progress and 7 the lowest. It averages ratings for the electoral process, civil society, independent media, independence of the judicial system, and corruption.

(ii) The *Freedom in the World* ratings are based on a list of 10 political rights questions and 15 civil liberties questions. The political rights questions encompass electoral process, political pluralism and participation, and functioning of the government. The civil liberties questions are concerned with freedom of expression and belief, associational and organizational rights, rule of law, and personal autonomy and individual rights. The highest number of points on the political rights list is 40, and that on the civil liberties list is 60, with the highest score indicating more freedom.

(iii) The *Bertelsmann Transformation Index (BTI)* ranking analyzes and evaluates the development and transformation processes in 119 countries. It is however not only concerned with democracy, but also with the development of the market economy in each country, and for that reason, is less well suited than indicators purely concerned with democracy for our identification strategy.

(iv) The *Polity IV Democracy indicator* is an additive eleven-point scale (0-10), which is a weighted indicator of the competitiveness of political participation, the openness and competitiveness of executive recruitment, and constraints on the chief executive.

(v) The *Polity indicator* from Polity IV is a combined polity score computed by subtracting the ‘autocracy score’, which indicates how restricted or suppressed political participation is, to the democracy score. A negative ranking signifies that autocratic characteristics of a regime outweigh its democracy characteristics.

(vi) Serbia and Montenegro are pooled.