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Accounting Quality in Eastern Europe after Communism

Frederick Lindahl
George Washington University

Hannu Schadéwitz
Turku School of Economics, University of Turku

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Introduction and motivation

The 11 countries in the eastern EU have undergone enormous changes in the past quarter century. They left behind authoritarian communist rule and became free democracies. Many of them engaged in nation-building, in the majority of cases where they had been Soviet republics or parts of larger nations.[1] Finally, motivating this paper, they abandoned centrally controlled socialism and adopted free markets. It is the purpose of this paper to study the development of financial reporting, a vital element of successful market economies.[2]

This is a study of cross-national corporate governance, within the "legal" category of Schiehll and Martins (2016)[3]

The central idea is that good financial reporting stems from good corporate governance. Good corporate governance is the result of, among other factors, good legal systems, in which the legal system consists of both written laws and legal practice. Good legal practice has many dimensions: non-corrupt court systems, highly trained judges and lawyers, strong institutions such as courts, and well funded regulatory agencies. To understand accounting quality one must study the determinants of accounting quality. Among the determinants are legal underpinnings, in the form of company and securities law, financial regulators, and the polity's acceptance of a strong rule of law.

Financial accounting is an important element of corporate governance.[4] It is the mode of communication between hired managers and the dispersed investors who entrust their investments to the managers. Although there could be alternative means for the parties to communicate with each other, standardized formats and rules ensure that the communication is properly understood by the sender and the receiver. The role of the independent auditor lends even more credibility to the completeness and veracity of the messages. The enormous resources of supporting a financial regulator such as a Securities and Exchange Commission or a Financial Services Authority (Jackson and Roe 2009) are further indications of how vital this element of corporate governance is. Some of the most notable cases of corporate governance failure are fraudulent financial reporting (Enron, WorldCom).

The development of free market economies is the product of many factors, such as the development of institutions. One of the factors is the legal system, which has not been well studied. The law is rightly regarded as the foundation for the structure of a society, strong rule of law is associated with successful growing societies, and conversely. In this paper, we acknowledge that important contributions have been made to economic development studies that come from the strategy, institutions, and other literatures.

This study traces the development of legal systems in those 11 eastern European Union countries that underwent the shock of abandoning their communist economic systems. There were many historical developments that affected the quality of legal systems as they apply to financial reporting to shareholders. We trace some of those important transitional developments. In order to discover whether they had an effect on financial reporting, we perform empirical tests to measure "accounting quality."

The tests are based on the frequency of "small gains" relative to "small losses" This metric was introduced by Burgstahler and Dichev (1997). They argue that fewer small losses compared with small gains indicates accounting manipulation through managing earnings in order to present better results than actual performance. We find rather convincing results that accounting quality in the eastern EU countries, taken as a whole, has improved, but has not achieved western EU standards. Partitioning the east into country clusters shows evidence that legal quality differences are associated with differences in accounting quality, in the predicted direction.

BACKGROUND

While there was some private property in those eastern European countries that were satellites or Soviet republics (Skapska 2009, pp. 294-5), there were no functioning stock markets and no large-scale private enterprises before the fall of the Iron Curtain in 1989. The initial conditions were poor: "What the regime had left behind … was the atomized and politically decapitated mass of ex-clients of state socialism" (Elster et al. 1998). In this section we describe some major developments in eastern Europe as they developed market economies. To allow us to understand the evolution of corporate governance, as indicated in reports to investors, this section outlines the historical development of economic and legal institutions.

The first step in the progress toward stock trading on exchanges with adequate protection for shareholders was privatization. Before having a free market, governments had first to move assets from the state to the private sector. Voucher schemes were one popular approach that promised an equitable distribution, but other countries used other methods, such as selling state enterprises to foreign investors (e.g., Hungary: Greskovits 1999). This step preceded the development of western-style legal systems, and as a result the rights and responsibilities of the new owners were poorly defined. A strong notion of responsibility to report to dispersed owners was still in the future.

The next phase was the development of laws in the area of company and contract law. This established the basis for a company's obligation to its shareholders and other investors. The World Bank (WB) played an important role. It disbursed development funds to most of these countries, and gave advice—sometimes conditions—that went along with the money. This provided an impetus toward developing western-style laws and legal systems, specifically in a common law format. The WB and other legal scholars believed that this was the best path to development (Rubin 1994, Ajani 1995).

Later in the 1990s, these eastern European countries decided to pursue EU membership. This EU consisted mostly of civil law countries. The civil law countries' approaches to the law differed in several respects from the common-law guidance the eastern countries had been receiving from the WB.

- Court decisions are based on finding the governing provisions within the code, with little room for the judicial discretion that characterizes common law (Hayek 1978).
- Different qualifications: judges enter the judiciary immediately from university, rather than practicing as lawyers for several years before becoming judges.

In the space of a few years these countries moved from communist law, to a law flavored with common law principles, to a civil law approach. The switching among legal families would have made a tradition of close adherence to sound principles of corporate governance (including reporting to investors) very slow and halting. One could not reasonably expect the best corporate governance to have flowed from this erratic development of the law.

The development of laws for free markets was not the only, or even the biggest task. For the following reasons, development of commercial law was slowed by more important matters. The development of law focused first on human rights (Sadurski 2004). Not only was it necessary for the countries to look forward in their legal systems, they had simultaneously to deal with their past. In the political aftermath of repressive governments, the countries were forced to create lustration laws, which specified, among other things, what restrictions would be imposed on former communist officials. One concern (Gillis 1999) was whether former communist officials, if allowed to participate in government, would really support and actively implement reforms needed to divorce the countries from their communist legacies. The task of modifying old and developing new laws was complex and wide-ranging.

Further to complicate the transition in eastern Europe to western norms, consider that more than half of them were new countries. The Baltic republics were reconstituted to an earlier form, but had been for more than 40 years parts of the USSR. Czechoslovakia peacefully divided itself into the Czech Republic and the Slovak Republic in 1992. Slovenia and Croatia left the former Yugoslavia. Nation-building may have been the most important transition activity.

Adopting new laws for free markets was required. The institutions, practices and culture also demanded change as a preparation for capitalism. Respect for law was very low during the communist era. Greskovits (1999, p.10) says about the Hungarian legacy, "...cultural norms left behind by socialism—e.g., that laws do not matter and theft from state is morally permissible." Zila (2003, p.83) writes about Czechoslovakia: "after forty years of socialist contempt for the law, public confidence in the courts and the judicial system in general was equal to zero." Küpper (2003), referring to Romania: "Under Ceausescu, the entire sphere of power including the law was totally discredited and lacked all credibility in the eyes of Romanians" (199).

New laws are effective only if they are followed; they must be enforced and respected. That requires that citizens have confidence that the law will be applied evenly and fairly. There is evidence that regular courts (as distinguished from constitutional courts) have performed poorly (Ganev 2009). The only country in this group where a majority of people thought the judiciary was not corrupt in 2005 was Estonia (Anderson and Gray 2005). In 2003, after 14 years of democracy, only 7% of Poles believed that their fundamental democratic institutions worked well (Sadurski 2004). Table 1 reports one measure of the perceived quality of the legal systems.

Insert table 1 about here

The new laws in eastern Europe were modeled after those in other free market nations. The very notion of "transplanting" legal systems is problematic. Legrand (1997) argues the "impossibility" of transplants, because the underlying conditions in the recipient are always too different to support the new law as it operates in the host. Watson (1993) is fairly optimistic about the effectiveness of transplants, arguing that almost all new laws are adaptations or copies of laws found elsewhere. It is, at best, a challenge to import the legal system of another country that was developed in different social conditions. Pistor et al. (2002) show systematic differences between the "origin" countries (England, Germany, France) and the recipients of their transplanted laws. Siems (2007) maintains that laws do not survive transplants unchanged.

In the context of markets, even more is required than passing new laws and implementing them. An important aspect of the free market system in the west is the independent securities regulator (e.g., Securities and Exchange Commission, Financial Services Authority). In the eastern countries with their communist past, the idea of an "independent" regulator, immune to political influence, was simply unthinkable (e.g., Pistor 2000).[5] Here was another obstacle to effective markets that went beyond passing good laws.

Even with good laws, well enforced, with supporting institutions, there is the matter of capability. With the best intentions, effective implementation of accounting standards is challenging. When the eastern EU countries acceded to the EU, they were required to adopt International Financial Reporting Standards (IFRS). This was more disruptive for the east than the west since all the western countries adopted at the same time, and furthermore those western countries were moving from national systems that had long anticipated the transition to IFRS (Walton 2009). In addition, they had a longer history of good accounting quality and Big Four auditors.

In summary, the eastern countries did not simply glide from one legal system to another. The road has been rocky and hurdles have taken many forms. A system of law is complex. Even human capital is a hurdle; there were, obviously, no civil law judges or lawyers under communism. Resources were often lacking (Taube 2003). The path to a corporate structure with good protection for investors was tortuous. Legal system quality started the sample period with almost no capitalist law and in remarkably few years reached a point of meeting EU standards.

The evidence that legal quality has improved is overwhelming: eleven countries that had systems tailored to autocratic, non-democratic rule in planned communist societies have been accepted as members of the European Union.

Another indicator of improvement is the level of trust of citizens in their national governments. The literature on the transition of the east Europe stresses: “Trust in legal institutions and legal certainty are preconditions for a working market economy” (Fogelklou and Sterzel 2003). Table 1, row Eastern Europe average, shows that the average trust score for these countries has increased.

Corporate governance, as analyzed here, refers to the external mechanisms that affect or determine how corporations make decisions. A large part of these mechanisms is of a legal nature; for example, company law, securities regulation, investor protection laws, as well as the governmental mechanisms for implementing and enforcing the statutes. As in other aspects of the law (e.g., human rights) countries had to create these market mechanisms: “New laws allow a democratic market economy to exist” (Zila 2003).

Some aspects appear to be outside the strict limits of the law. For example, stock exchanges impose listing requirements that do not have the force of law. Nevertheless the requirements must conform with the law, so listing conditions are still subject to the legal system. Corporate governance also consists in mechanisms and policies *internal* to a corporation; for example, “whistle-blower” policies. They are not analyzed in this study because they are unobservable to the researcher. Furthermore there is no reason to believe that they are as dependent on national legal traditions as are the external rules in the form of laws and government regulation.

Since corporate governance is largely a subset of the legal system, it is logical that a strong legal system viewed in its entirety will include high quality of corporate governance. This high quality may be an important determinant of accounting quality.

This is the background for the research question: Does an increase in legal quality and corporate governance cause an associated increase in the quality of financial reports to investors [accounting quality]? If so, this supports the fundamental importance of legal systems for accounting quality. Aside from some preliminary efforts in previous research, to see if legal families affect quality, this has not been studied. In fact, one of the more popular methods in accounting research, a “civil or common” variable, would have no applicability at all among these countries that are *all* civil law.[6] Further evidence of the connection would be to find that where legal quality is higher, the accounting quality is also higher than in places where legal quality lags.

HYPOTHESIS DEVELOPMENT

Earnings management in eastern EU

This section develops hypotheses based on the observed improvement in eastern EU legal processes which are shown in very abbreviated form in table 2. Tests are conducted to determine whether those improvements are reflected in improved accounting quality. The test can be strengthened by observing whether <u>differential</u> improvements in law within the eastern EU can be associated with <u>differential</u> changes in accounting quality. The question is motivated by causation that proceeds from the law through corporate governance to accounting quality.

Insert table 2 about here

The logic for the hypothesis is that with good corporate governance, via effective securities regulation, etc., the whole package of investor protection will be of good quality, and reports from managers to owners (i.e., financial statements) will be complete, honest and accurate. The fact that all the sample countries adopted IFRS in 2005 adds to the overall level of accounting quality. Furthermore "transnationalization" forces (Bruszt and Greskovits 2009), in the form of the EU, cross-listings, World Bank, etc., push countries toward improved quality.

The forces are not all in this direction. Laws are reflections of national cultures and values (Deakin et al. 2017, 189). They are generally resistant to change. Even when the written law changes, unless attitudes, practices and mechanisms support those new laws, there may be no improvement in outcomes. In these countries, where the law was held in low regard under communism, improved accounting quality faced a very large hurdle, as the trust scores in table 1 show. The whole infrastructure also affects results—capable, motivated regulators, skillful and honest auditors, competent educators, and robust budgets. The factors that resist convergence could in practice defeat improved accounting quality. Although these forces retard change, we nevertheless expect, based on the sample countries' determination to accede to the EU, that upon meeting the same standards met by the western EU countries, accounting quality will not differ between eastern and western EU countries. Stated in null form:

H1a: Accounting quality in the eastern EU had reached the level in the western EU once the countries met legal standards for EU accession.

This historical development of legal quality throughout the whole central and eastern Europe (CEE) region shows a major improvement from the fall of communism to the present day. If the theoretical proposition about a strong relationship between legal culture and fair reporting are true, then it is of interest to study the time series of accounting quality. If data were available, the time series from the time of the fall of communism could be studied, but data are sparse.[7] Nevertheless, the period from 2005 to 2010 is particularly interesting. If the anticipation of IFRS and EU membership had brought countries to a good state of accounting quality as a condition of their accession, then the pressure would have relaxed upon accession. In that case there would be no further improvement between 2005 and 2010. Alternatively it might be that the adoption of IFRS and acceptance for EU membership were the antecedents of improvement. Then the membership in the EU, share trading on major exchanges, and potential reductions in cost of equity capital would stimulate further improvement in accounting quality. We expect that, facing many other developmental tasks, the forces for improvement weakened and no further improvements were made. Stated in null form:

H1b: Accounting quality improved over that five-year period when legal quality improved.

Clusters

There is, and has been, considerable variation in legal conditions in eastern Europe. There is a continuing debate in legal scholarship over whether legal systems are converging or diverging (e.g., Cabrelli and Siems 2015). We believe our test contributes to the answer, by analyzing whether cross-sectional variation is reflected in differences in reporting quality, and whether that variation changes over time.

It would be ideal to make country-by-country comparisons. However, the nature of this study is the evolution of publicly traded companies that have an obligation to make accounting reports to investors. At the beginning of the period there were no traded companies. The growth of private companies and the development of stock exchanges produced the data that we study. Because the time series starts at zero, this unavoidably limits the sample size available for research (see footnote 8). To preserve precious degrees of freedom without losing sight of all variation within the eastern EU, we use groups of countries with similar legal histories and traditions, assuming that path dependence results in observable differences today.

This section describes clusters of countries that are largely similar in regard to the legal and economic factors that influence financial reporting to investors. It builds on important differences among the clusters that affect the quality of financial reporting. Our maintained hypothesis is that "within-cluster" differences are small relative to "between-cluster" differences.

A finding that accounting quality improvements accompany improvements in legal quality is logically supported, and on that basis would be convincing. But it is possible that earnings quality improvements might be unrelated to the law; perhaps market forces cause the improvement. By separating the 11 countries into groups where the level and rate of change of law and corporate governance differ between groups, a stronger test is possible than considering the eastern EU as a whole.

<u>Cross-sectional</u> differences in accounting quality can be expected because of the different historical and cultural traditions within eastern Europe. For testing legal hypotheses, the countries are grouped by legal similarities, in order to measure the laws' effects and abstract somewhat from idiosyncratic national factors.

Table 3 depicts the clusters. Next, the categories are explained.

Insert table 3 about here

<u>Baltic Republics</u> These three countries (Estonia, Latvia, Lithuania) were the only ones that were part of the USSR, and accordingly most firmly under the thumb of Stalinist communist law.[8] Second, as a result, they had no national legal systems whatsoever once they removed from the USSR. Third, they share a similar history as northern European countries; they are all maritime nations that were historically commercially engaged in trade.[9] Trading with other counties necessitated adjustment to other countries' legal systems. They are heavily influenced by German, and in the more distant past, Swedish domination and culture (Klinge 1995). Fourth, all of the nations are in the Eurozone. No other eastern group of countries has this package of characteristics.

<u>Visegrád group</u> These four countries (Hungary, Poland, Czech Republic and Slovak Republic) have the common attributes of being the most highly developed under communism, having the most sophisticated manufacturing capability (Bruszt and

Greskovits 2009). Second, during the socialist era, they made the most serious deviations from "pure" communism (Ajani 1995).[10] Thirdly, they are contiguous and share a heritage of the German legal family. Fourth, they are linked in the Visegrád group, sharing policies and integration activities (Wikipedia 2014).

Table 4 shows that Poland dominates in number of firms. To the extent that the countries in this cluster are similar in their traditions and levels of development, conclusions can be broadly generalized. The greater the differences between Poland and the others (which cannot be tested because of insufficient data), the more limited the generalization to the rest of the cluster.

Insert table 4 about here

<u>Southern countries</u> This is the group of countries (Slovenia, Croatia, Romania, Bulgaria) with the lowest GDPs. They have been influenced by the German legal tradition, but have also been affected by Eastern Christian, Ottoman and French influence (Sacco 1988).[11] Second, the attitudes toward the law are less trusting (see table 1). Küpper (2003, p.229) attributes low trust in law to communism, but also to centuries of Ottoman rule with a "parasitic domestic elite." Third, they were the latest countries to join the EU, evidence that their legal institutions lagged those of their northern neighbors.[12]

Based on the hypothesis that the rule of law is an important determinant of firms creating honest, compliant, comprehensive accounting reports from managers to owners, the southern sample will have the lowest earnings quality. First, the perceived quality of the legal systems is lowest in these countries (table 1). Secondly, they were all (except Slovenia) occupied in their history by Ottomans, so their laws were not as deeply embedded in the western, German legal tradition as were the other groups. Third, they had not strayed far from communist principles at the time of the fall of the communist system, and had few precedents for a market system.

The Baltic republics will be in the middle. Because they were a part of the Soviet Union, they had little opportunity to adopt capitalist practices prior to the end of communism. They did have legal traditions that were formed by their Swedish and German histories, so the adoption of western laws was less of a historical departure than the southern group. Table 1 shows that their attitudes toward the law were more trusting than the southern group.

The Visegràd group was the most economically advanced during communism and significantly had a smattering of western-style laws (Hungary's bankruptcy law was adopted in 1968, Poland's agriculture was not thoroughly collectivized, etc.).

Based on the hypothesized linkage between the legal systems that form the foundation of corporate governance, the hypotheses about accounting quality are (in null form):

H2a: Accounting quality is not better in the Baltic cluster than in the southern cluster.

H2b: Accounting quality is not better in the Visegràd cluster than in the Baltic cluster.

H2c: (transitivity) Accounting quality is not better in the Visegràd cluster than in the southern cluster.

STATISTICAL METHODS

Earnings are regarded in financial markets as the best summary measure of firm performance;[13] whether the previous year has been profitable or not. Comparison among multinational firms uses earnings. Negative sign earnings are bad news (value destruction) and positive sign earnings are good news (value creation). The direction of earnings thus has effects on share prices, as well as on managers' remuneration and cost of capital. This importance of earnings creates incentive for managers to manipulate earnings so that a positive sign is achieved, even in situations when a firm's true performance is a loss. A wide variety of outcomes depends on whether earnings contains good news (i.e., positive sign earnings) or bad news (i.e., negative sign earnings). The dividing line between gain and loss is important; it is more than simply "a little bit better." A gain firm is growing but a loss firm is declining. It is effectively impossible for external analysts to detect small earnings management, since the alterations are based on (unobserved) internal estimates of future events.

To detect, within a sample, a pattern of manipulation, there is a wide array of metrics of accounting quality (see, for example, Dechow, Ge and Schrand 2010). Many are based on accrual accounting, which allows estimates of future costs and revenues. These accrual metrics are problematic when—as is the case here—the various countries have different accrual rules. Our test begins with 2000, before IFRS. Even in 2005, when IFRS was adopted uniformly, it is likely that this first year was still a transition from older standards. If any differences were detected, it would be impossible to know whether they be due to the quality, or to the differences in IFRS compliance (see Lindahl and Schadéwitz

2016). A number of other quality metrics use stock returns. The reliability of stock returns depends on market efficiency with synchronous trading.[14] This is very unlikely in a period when stock markets were just emerging. A third method avoids these problems.

Burgstahler and Dichev (1997) method

One measure that is neutral with respect to the accounting accrual rules and stock prices is the "small gain, small loss" method developed by Burgstahler and Dichev (1997) (BD). They showed that accounting earnings exhibit a smooth, bell-shaped distribution across its range, except for a sharp downward spike just left of zero and a large positive spike to the right. This implies that managers were "managing" small losses to make them into small gains, by manipulating accounting; thereby reducing accounting quality. They showed that these spikes were significant. Observing a disproportionate number of "small" gains relative to "small" losses cannot be a consequence of accounting rules or market efficiency.[15] What it <u>can</u> be is that managers wish to avoid losses and if their "unmanaged" earnings are just below zero, small unnoticeable adjustments can push the earnings into positive territory. Although this is undetectable at the firm level, in the aggregate the pattern will show disproportionately many small gains and disproportionately few small losses. It is in that sense a suitable measurement when the research question addresses countries or groups of countries. The observations are susceptible to statistical tests.

BD defined "small" as a gain or loss that falls into a bin between 0 and 0.25% of return on assets, and between -0.25% and 0, respectively. They used a very large dataset. There are so few listed firms in the eastern EU that we expand the bins on which we draw inferences to -0.5% to 0, and 0 to 0.5%. We standardize the earnings by beginning of period assets.

Sample

The sample of firms is drawn from the Orbis (Bureau van Dijk) database. We perform tests at five-year intervals. Corporate governance is assumed to change slowly, and would not warrant year-by-year analysis. We think five years is long enough to detect our phenomenon of interest. The year 2000 yields sparse data, but justifies some tentative conclusions. Since this is a time series evolution, we want to start as early as possible. As shown in table 4, there are few listed firms in 2000. It is remarkable, however, to observe the growth in numbers in the decade after communism, a span when the countries were dealing with the whole array of nation-building and institution-building activities. There is an adequate sample from the later periods to analyze the clusters. We eliminate the smallest firms, those with sales less than $10 million. The criterion that firms be listed also eliminates small firms. The final number of sample firms is in table 4. Table 5 shows descriptive statistics (outliers excluded).

Insert table 5 about here

Hyp 1a: The test of hypothesis H1a is performed with data from 2005. The question is whether the eastern EU countries, having met the legal requirements of the EU, have also reached the accounting quality of the western EU. The benchmark against which to compare the quality of financial reporting in the eastern EU is a sample of 2,045 firms from western EU civil law countries.[16] These data are summarized in table 5.

The first set of tests shows whether there are detectable weaknesses in corporate governance (i.e., accounting quality) in the form of a statistically significant excess of “small gains” over “small losses” that is consistent with earnings management around zero. The second set of tests asks whether the degree of this earnings management differs from the benchmark sample of western EU firms in civil law countries. This test is motivated because earnings management, in the form of “too many” small gains, has been detected in western EU and US companies. The question we address here is not “whether?” but “how much?”

Confounding and control variables

In testing for an association between the legal factor and earnings management, one must not overlook the possibility of correlated omitted variables, and the resulting need to treat confounding bias (Hernán and Robins 2016). The threat to inference arises when the omitted variable is correlated both with the legal factor and earnings management. In a regression context, let the hypothesized causal variable be denoted by X_1. Suppose there is another variable, possibly a determinant of Y; call it X_2. Then:

$$\text{Cov}(Y, X_1) \,/\, \text{Var}(X_1) = \beta_1 + P_{1,2}\beta_2$$

$$\text{where } P_{1,2} = (X_1'X_1)^{-1} X_1'X_2$$

This makes clear that as long as X_1 and X_2 are uncorrelated, $E[b_1|X] = \beta_1$. As Angrist and Pischke (2009, 170) state, "the variable [X_2] is not a confounder because there will be no bias." (This is analogous to the omitted variable formula in Greene (2003, 148-149).) Making the same point by means of graph theory, Hernán and Robins (2017}: "[T]here are no common causes of treatment [X_1 above] and outcome [Y], and hence no backdoor paths that need to be blocked, we say that there is no confounding."

We review the literature on earnings management in an international context, and find no variables that are correlated <u>both</u> with a legal factor (such as legal family) <u>and</u> with accounting quality. Although the method used here is not regression, it would be possible through stratification methods to control for correlated variables; however, we find no need to do so.

To be rigorous, we nonetheless test for the correlation between potential confounders and the earnings management measure (using an indicator variable of 1 indicator for small gain or small loss (SGSL), and 0 otherwise). We find low correlations between SGSL and size, sales growth and cash flow (0.06, -0.015, and -0.055 respectively).

RESULTS

Convergence of eastern EU firms to western standard

Year 2000

As explained in the methods section, the test looks for a disproportionate number of small gains relative to small losses. The statistical test uses the standard deviation of all the bins and compares the magnitude of the small gains (and losses) to create a "Z-score." Figure 1a shows the "small gain, small loss" pattern for year 2000. There are too few observations for reliable statistical testing, but there is at least visual evidence of no apparent tendency to push small losses into small gain territory.

Insert figure 1 about here; 1a, 1b, 1c, 1d, 1e, 1f

One possible explanation for this apparent absence of earnings management in 2000 (when, as shown below, there is evidence of earnings management in 2005 and 2010) is that <u>these firms</u> from 2000 did not manage earnings in 2005 or 2010 either. The increase observed in the growing samples could be the result of new firms, particularly from the southern cluster, engaging in earnings management.

This explanation is supported by the data. The firms from 2000 were followed into 2005 and 2010 (not all firms continued: 10% shrinkage). Earnings management—disproportionately many small gains and disproportionately few small losses—was not detectable in this "year 2000" subsample of firms in 2005 and 2010. There is weak evidence that the older firms reported with good accounting quality.

Year 2005

H1a conjectures that by 2005, the approximate time when eastern countries acceded to the EU and were required to use the western reporting system [IFRS] firms were issuing reliable financial reports on firm performance. That is, the question is whether the eastern countries had moved all the way to mandated accounting quality, or whether a residual of socialist rule with its lower respect for the law might have kept firms in these countries at a lower accounting quality.

Figure 1b shows the Burgstahler and Dichev (1997) test of small gains compared with small losses for the year 2005. The visual evidence of the figure, depicting a discontinuity at zero earnings (the upward spike in small gains and downward spike in small losses), is confirmed in table 6, panel A. "East" shows that the small gain and small loss frequencies are statistically significantly different from the expected value based on the neighboring bins. (These are not independent tests, since a company that creates a small gain from a small loss contributes to disproportionate size of each bin.) There is no plausible alternative explanation besides managers manipulating the accounting earnings to move them into the positive range when a larger frequency would have been below zero without such manipulation. The null hypothesis is rejected for 2005.

Insert table 6 about here

The question that this finding raises is, "How does this pattern of earnings management (lower accounting quality) compare with the west?" Small gains earnings management has been detected among western companies (e.g., Gilliam, Heflin and Paterson 2014). The more comprehensive test of H1a compares the east firms with the west. Figure 1c shows that the west EU firms also have a disproportionate number of small gains, relative to small losses, and table 6, panel A, “West” confirms the statistical significance.

We test the hypothesis that accounting quality, as measure of the quality of corporate governance, is not different between east countries and west. Taking “managed earnings” as small gain, we compare the relative frequencies of managed vs. non-managed earnings in east compared with west. The contingency table in panel C of table 6 rejects the hypothesis of equal quality in east and west. As is the case for the first test, the evidence is that accounting quality in the east had not reached western EU standards.

Year 2010

Hypothesis H1b extends the analysis to time series, testing the theoretical proposition that several years of membership in the EU has resulted in convergence of eastern toward western EU countries in their reporting quality. Figures 1d, 1e, and table 6 (panel B) show that earnings management, i.e., too many small gains relative to small losses, continues in 2010 for both east and west.

There is some reason to worry that once the east countries joined the EU, there might be some back-sliding since the “accession pressure” was gone. There is some suggestion that in a non-financial aspect this occurred in Slovenia (Boduszynski 2010, p.216) so it could have occurred in corporate governance, too. The recession that began in 2008 (reflected in 2010 market valuations in table 1) would have increased pressure on managers to report better-than-actual results (i.e., earnings). Panel D of Table 6 shows that the hypothesis of an equal level of earnings management in east and west can be rejected at p=0.10 for 2010. The chi-square statistic is less significant, indicating progress in corporate governance. Nevertheless the evidence is that east countries still lagged their west counterparts.

In summary, the eastern EU companies, with their long association with communism and the resulting damage to a healthy legal culture, are approaching the average of 15 western, civil law, EU countries. This is despite the fact that the path from communism to free market democracies entailed monumental changes in not just institutions, but in attitudes and citizens’ trust in the law.

Cluster analysis within eastern EU

Having shown that legal differences between east and west appear to matter in corporate governance, the analysis now addresses the question of whether legal differences *within* the formerly-communist EU are reflected in our corporate governance measure.

The cluster analysis is exploratory. We encounter the small-N challenge. The phenomenon we study, the emergence of publicly traded firms, is understandably not rapid. This is fairly obvious considering the many pre-conditions, in the forms of securities markets, company law, human capital and financing sources. The challenge is to preserve the quantitative analysis, since it is objective evidence. While argumentation can be insightful, in the absence of supporting data, one argument may be difficult to accept in lieu of another. Although the quantitative aspect has this advantage, the "small-N" aspect weakens it, if the comparison is to data from western firms, the number of which can easily exceed 10^5. Ours is a topic that has never previously been studied, so any learning is new learning.

In the cluster analysis, we seek to gain insight into the primary finding, recognizing that the small samples result in low power.[17]

Figure 2 divides the analysis of the east sample into its three clusters. Note in figure 2c that the small gains are significant in 2005 for the southern cluster, evidence of the greatest earnings management in the cluster with the weakest legal climate. Furthermore, there is only one small loss, but furthermore almost no losses *at all.* Figure 2f shows no improvement in 2010.

Insert figure 2 about here; 2a, 2b, 2c, 2d, 2e ,2f

In contrast to the southern countries, the Baltic cluster (figure 2a) has not a single small loss in 2005 (that changes in 2010: figure 2d). The Visegràd countries look slightly less "clean" than the Baltics, contrary to hypotheses. The small loss measure indicates earnings management (failure to deliver accounting quality).

Overall, the lower legal quality in the southern cluster, as shown in table 1, is reflected in the accounting quality measure. The firms in the southern cluster appear to drive the results in figures 1b and 1d, where aggregate earnings management in the east countries is evident.

DISCUSSION

The histories of eleven countries in the eastern EU would make EU membership unlikely. For forty or more years they were under communist law. Not only did this mean that free market enterprise was mostly lacking, but also that the whole structure of the society in which commerce operated was not functional. Human rights were limited, citizen participation in government was mostly absent, and laws were instruments of the political aims of the rulers. Business management was aimed not at efficiency but at quantitative output goals. In many ways nations' whole structures were unsuited for capitalism.

Despite the poor initial conditions, there were strong forces that acted to promote a shift toward western principles. The success of the EU was a demonstration that countries with similar histories (before communism) could achieve high levels of economic growth. With the rapid growth of globalization, all countries could compete for foreign investment (Kuzel 2017), to the benefit of their citizens.

This paper "takes the temperature" of the progress from very unpromising beginnings to recent times. It uses a robust and widely applied method to estimate the state of corporate governance; corporate governance in the form of company managers' reporting to their dispersed investors. It is based on the premise that shifts around zero are undetectable if kept to a small range, but can turn a slightly unprofitable firm into a "profitable" one. The method is quantitative, and hence objective. This is often lacking in verbal literature of changing condition in eastern Europe. The over-representation of small gains is not open to any interpretation other than a deliberate pattern of misstatement by corporate managers.

There are limitations to this study. One that has been discussed is the small sample size. Also, the analysis is limited to publicly traded firms, which is a size bias. It may be that results do not hold for the whole economy. Nevertheless, larger firms play the central role in national economies.

The results show that eastern firms, in the aggregate, have not yet reached the state of corporate governance of their western counterparts. However, the differences do not seem extreme, and indicate that in this area convergence is close.

CONCLUSIONS

The remarkable history of the recovery of eastern members of the EU since the fall of communism has been well documented in economic statistics, political rights and individual freedom. In this study we peel back a layer to study an important aspect of economic development. Free markets with dispersed investors depend on timely, complete, and honest reporting by the hired managers of private enterprises to their owners and lenders. This study makes use of a widely accepted measure, the relationship of small gains to small losses, which should be close to 1:1 in "unmanaged" computations of earnings. Managing earnings will erode the usefulness of earnings and misguide investors in their decision making. This, in turn, increases frictions to capital markets and decreases firms' attractiveness as investment targets.

The results show clearly that in 2005 and 2010, when adequate data are available for testing, the earnings quality is not good: far more companies show small gains than small losses. There is a great deal of managerial discretion in arriving at accounting numbers, since many amounts depend on forecasts of future events. A significant number of firms use that latitude to show positive earnings. Extending the testing of accounting quality to three clusters of countries, the small number of firms generally prevents strong statistically supported evidence of management within the clusters. Nevertheless, the whole is the sum of the parts, and the parts (clusters) shows graphically the clusters most responsible for the overall result. There is little evidence of small gains exceeding small losses in the Baltics, greater differences in the Visegràd countries, and big differences in the south. Based on both (a) the historical background of legal systems and (b) attitudes about legal quality measured at the same time as the earnings measures, the accounting results are consistent with the prediction of strong legal culture driving effective corporate governance.

Notes

[1] Of the eleven eastern countries now in the EU, eight (Poland, Hungary, Czech Republic, Slovakia, Slovenia, Croatia, Romania, Bulgaria) were satellites of the USSR and were ruled by communist governments. Three (Latvia, Lithuania, Estonia) were republics within the USSR.

[2] It was 2005 in which the accounting rules studied in this paper were applied in the EU.

[3] Their other three "main theoretical paradigms" are economics and management, culture and sociology, and political.

[4] It is most important for firms with dispersed ownership, which rely on a standardized format of "generally accepted accounting principles" (Coffee 2001).

[5] Priban (2009) makes the more general point that there was in general strong distrust of the state.

[6] Ten of the eleven countries are most influenced by the German legal tradition. Only Romania has a stronger flavor of French law (Sacco 1988).

[7] High earnings management is low earnings quality. We use the first term to describe the process and the second to describe the result.

[8] Compustat Global contains only four listed firms from these 11 countries for the year 1995, and they are all in Poland.

[9] Socialist legal systems did contain characteristics of civil law; there is some disagreement over whether socialist law is a separate legal family (Quigley 1989).

[10] As we have learnt from Plato, maritime nations have more laws (cited in Boorstin 1958).

[11] Even their legal systems did not become entirely socialist. Peczenik (2003) points out that the German legal tradition was not lost during the communist era. Greskovits (1999) points out aspects of Hungary's legal system that looked western even under the communists.

[12] Slovenia and the northern Serbian region of Vojvodina were part of the Habsburg empire and that would link them more closely to the Visegrád countries (Boduszynski 2010). However, they never had systems of national laws before communism. (They were part of the Kingdom of Croats, Serbs and Slovenes.) They were part of Yugoslavia from 1948. Upon independence they adopted Yugoslavian law (Küpper 2003), though that law has been modified by German influence. Only Slovenia joined at the time of the northern countries in the eastern EU, in 2004. Bulgarian and Romania joined in 2007 and Croatia in 2013.

[13] There are equivalent, commonly used terms such as: "net income" and "profit and loss." The term "accounting quality" as used in this paper is the quality—i.e., reliability—of earnings.

[14] Clark (2003) describes several other aspects in which the markets were behind western standards.

[15] It has also been shown to be robust to various criticisms that suggest it might be unreliable (see Gilliam et al 2014).

[16] Only civil law countries are used to avoid any uncertainty about whether differences may be caused by including common law firms in the west sample.

[17] It is not the number of firms per se that results in low power. One of the most cited works in finance (La Porta et al. 1998) had 49 units of analysis. It is the small number of reports that fall into the small gain and small loss intervals that limits statistical power.

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TABLE 1

Indicators of legal and corporate governance quality

Country (EU accession year)	Trust in legal system			Market capitalization of listed companies as percent of GDP			
	2002	2005	2010	1995	2000	2005	2010
Eastern EU average	21	31	32	4.8	14.0	23.5	19.9
Bulgaria (07)	na	20	16	0.5	4.8	17.6	15.2
Croatia (13)	12	25	20	2.6	12.7	28.8	42.3
Czech Rep (04)	20	32	34	27.1	18.7	29.5	21.7
Estonia (04)	na	49	55	[a]	32.5	25.1	11.9
Hungary (04)	27	44	53	5.3	25.9	29.5	21.7
Latvia (04)	na	32	36	0.2	7.2	15.8	5.2
Lithuania (04)	na	27	22	2.0	13.9	31.5	15.6
Poland (04)	20	22	38	3.3	18.3	30.9	40.5
Romania (07)	16	31	23	0.3	2.9	20.8	19.7
Slovak Rep (04)	na	31	32	4.9	4.2	7.2	4.8
Slovenia (04)	30	34	22	1.5	12.7	22.1	20.1

The trust averages for 2005	The trust averages for 2010
Baltic, 36.0	Baltic, 37.7
Visegrád, 32.2	Visegrád, 39.2
Southern, 27.5	Southern, 20.2

Note:

This survey began only in 2003. Figures for year 2002 are derived from Brown, Preiato, & Tarca (2014, Table 5). Specifically Total score (max 56) containing auditing and enforcement dimension is divided by 56 resulting the figure for each country. For Estonia, Latvia and Lithuania a qualitative characterization for the development of their legal system can be found in Ding & Schadewitz (2016). Na = information not available.

Sources:

"Trust in the legal system" is the percentage of people who answer that they "tend to trust" the legal system. Source: Eurobarometer Interactive Search System. URL: http://ec.europa.eu/public_opinion/archives_en.htm

"Market capitalization of listed companies as percentage of GDP." Market capitalization (also known as market value) is the share price times the number of shares outstanding. Listed domestic companies are the domestically incorporated companies listed on the country's stock exchanges at the end of the year. Listed companies does not include investment companies, mutual funds, or other collective investment vehicles. Source: The World Bank Data, Financial Sector Indicator.

URL: http://data.worldbank.org/indicator/CM.MKT.LCAP.GD.ZS

[a] Founding of the Tallinn Stock Exchange in April 1995, opened for trading on May 1996.

TABLE 2

Development of financial reporting maturity in the eastern EU

	1990	1995	2000	2005	2010
Conditions	Abandon communism. Begin capitalism.	Private sector growth. Adaptation to civil law.	Adapt to EU laws. Prepare for IFRS.	Maturing laws. Use IFRS.	Maturity of law and financial reporting.
Hypothesis			Improve	Improve	No improve

TABLE 3

Portrait of legal conditions

Cluster	*Legal heritage*	*Country status during communism*	*Other*
Baltic	Mixed German/Russian/Polish/Swedish	Soviet Socialist Republics	
Visegrád	German	Communist bloc countries	
Southern	Mixed German/Ottoman/French/eastern Christian	Mixed: some Yugoslav, some bloc countries	Late joiners (weak legal systems)

TABLE 4

Sample firms

	Number of firms		
Country	2000	2005	2010
Estonia	5	7	13
Latvia	1	10	13
Lithuania	1	29	17
Total Baltic cluster	*7*	*46*	*43*
Czech Republic	2	16	4
Hungary	6	14	11
Poland	39	52	205
Slovakia	2	36	17
Total Visegrád cluster	*49*	*118*	*237*
Bulgaria	0	34	15
Croatia	3	113	29
Romania	1	23	74
Slovenia	6	43	16
Total southern cluster	*10*	*213*	*134*
Total	66	377	414

Notes: The sample is limited to listed firms with sales greater than $10,000,000 on the Orbis database.

If assets change by more than +/- 25% they are deleted because of the presumption of an acquisition or divestment.

TABLE 5

Descriptive statistics for standardized earnings for the sample

	N	Mean Assets (million US$)	Mean standardized earnings	Median standardized earnings	Standard deviation, standardized earnings
2005					
East sample	377	281	0.054	0.042	0.147
West sample	2045	3,247	0.050	0.041	0.258
2010					
East sample	414	681	0	0	0.054
West sample	1873	4,635	0.025	0.027	0.094

Source: Orbis (Bureau van Dijk) database

TABLE 6
Small gains vs. small losses

Panel A Frequency, 2005

sample	number	standard errors from the mean [2]
East		
Small losses	2	1.9
Small gains	35	5.2
Total firms	349	
This		
West		
Small losses	19	2.4
Small gains	79	1.7
Total firms	1790	

Panel B Frequency, 2010

Sample	number	standard errors from the mean [2]
East		
Small losses	6	5.7
Small gains	39	2.3
Total firms	413	
West		
Small losses	41	1.6
Small gains	117	5.9
Total firms	1758	

Panel C: Test of equality of west with east, 2005

	Management	No management	Chi-square (probability)
East	35	314	
West	79	1711	
			X^2=17 (p=.0001)

Panel D: Test of equality of west with east, 2010

	Management	No management	Chi-square (probability)
East	39	374	

West	117	1641	
			X^2=3.5 (p=.06)

Notes:

1. Firms are deleted from the sample if their standardized earnings are less than -15% or more than 15%. If assets change by more than +/- 25% they are deleted because of the presumption of an acquisition or divestment.
2. The test is performed following Burgstahler & Dichev (1997). “Small losses” are from -0.5% to 0% (earnings divided by beginning assets), and “small gains” are those from 0% to 0.5%.
3. The number of standard errors the small gain or small loss deviates from expectation, where the expectation is average gap between bin above and the bin below. We avoid calling them “t-statistics” since the distribution of deviations from neighboring intervals may not be normal.
4. Earnings “Management” refers to observations in the small gain interval.

FIGURE 1
Small gains and losses, full sample

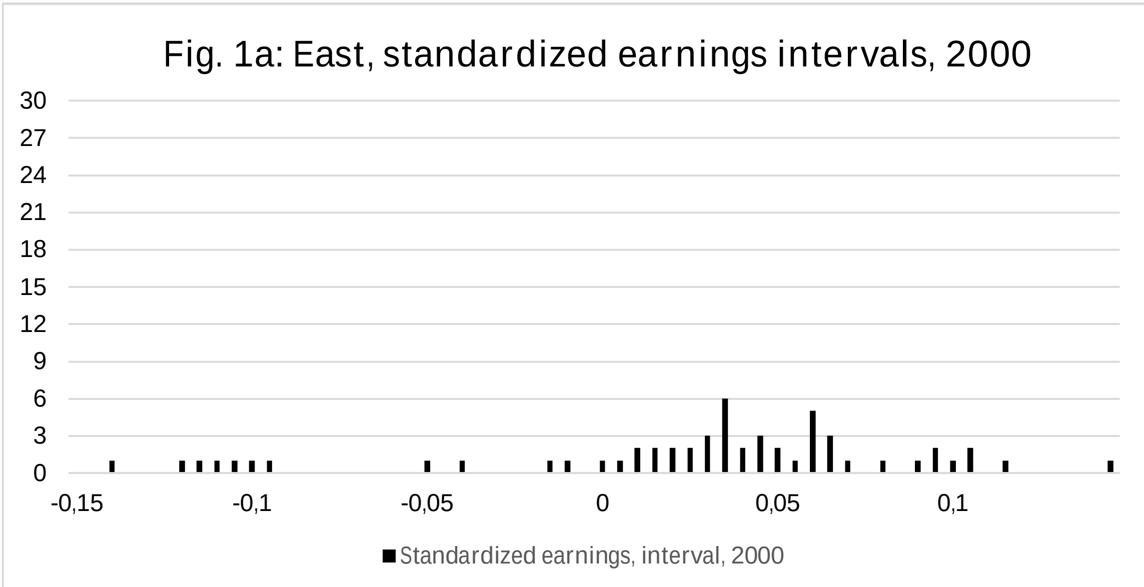


Fig. 1b: East, standardized earnings intervals, 2005

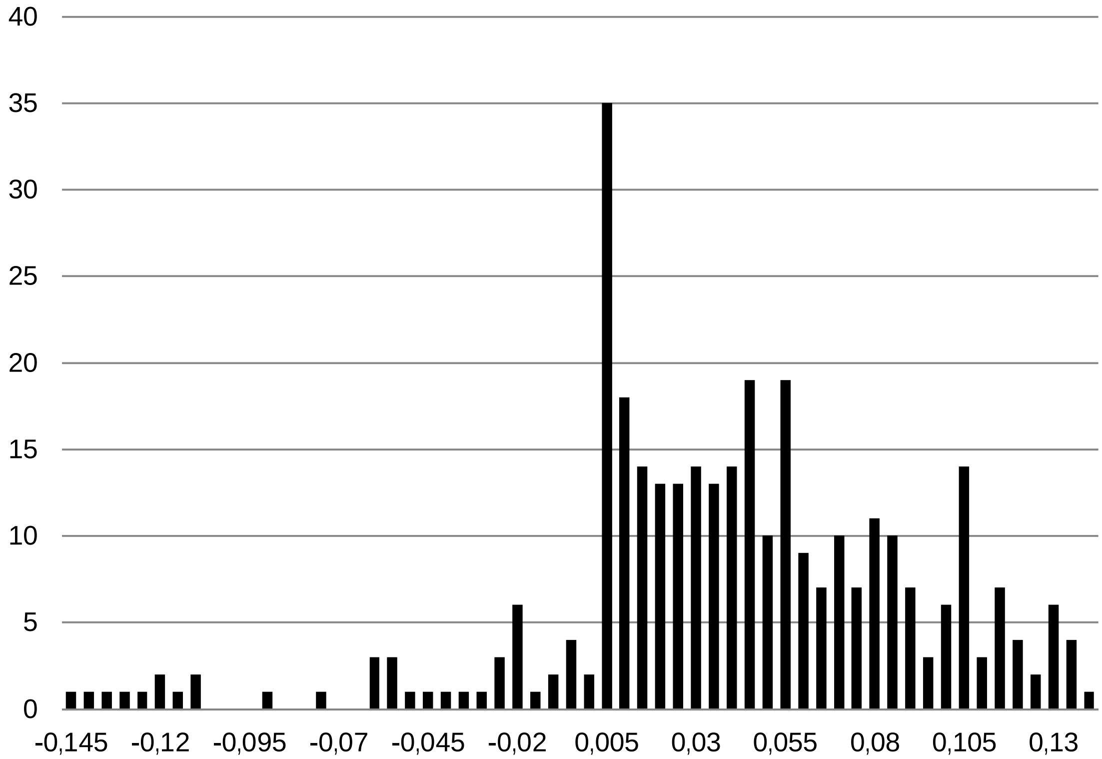


Fig. 1c: West, standardized earnings intervals, 2005

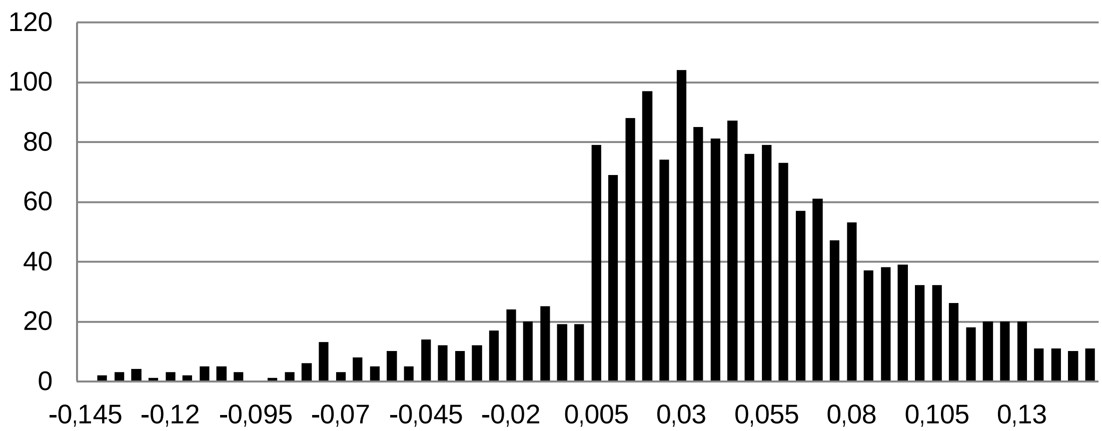
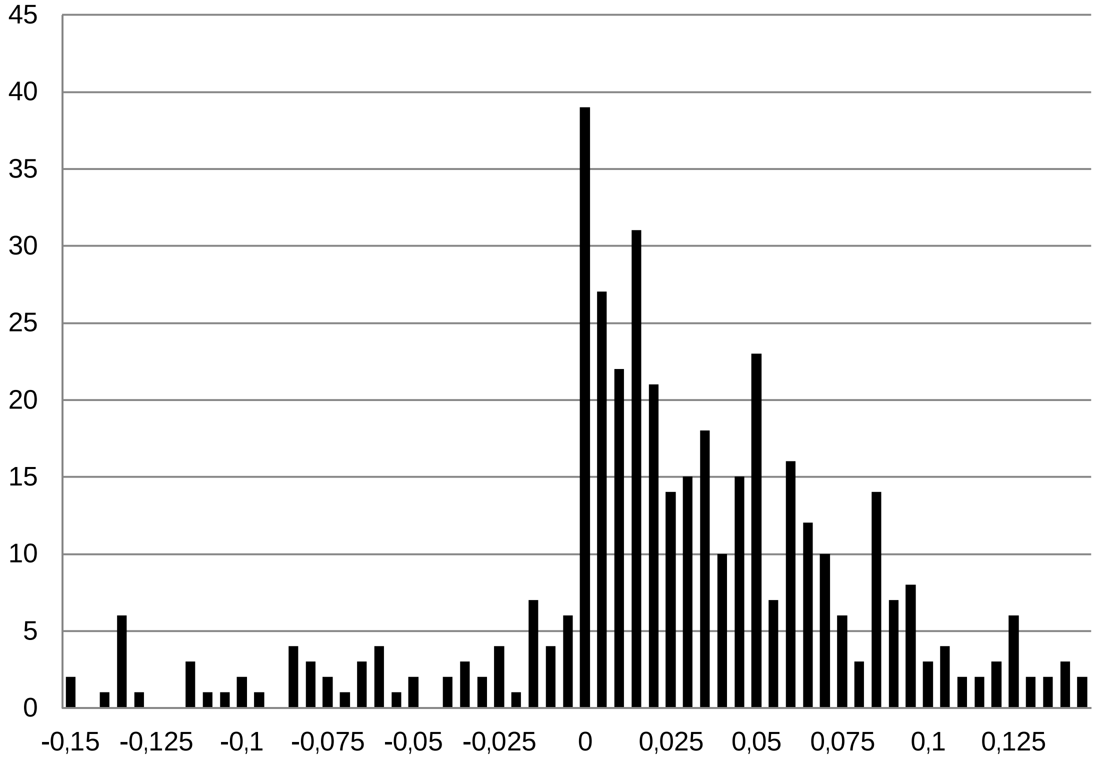


Fig. 1d: East, standardized earnings intervals, 2010



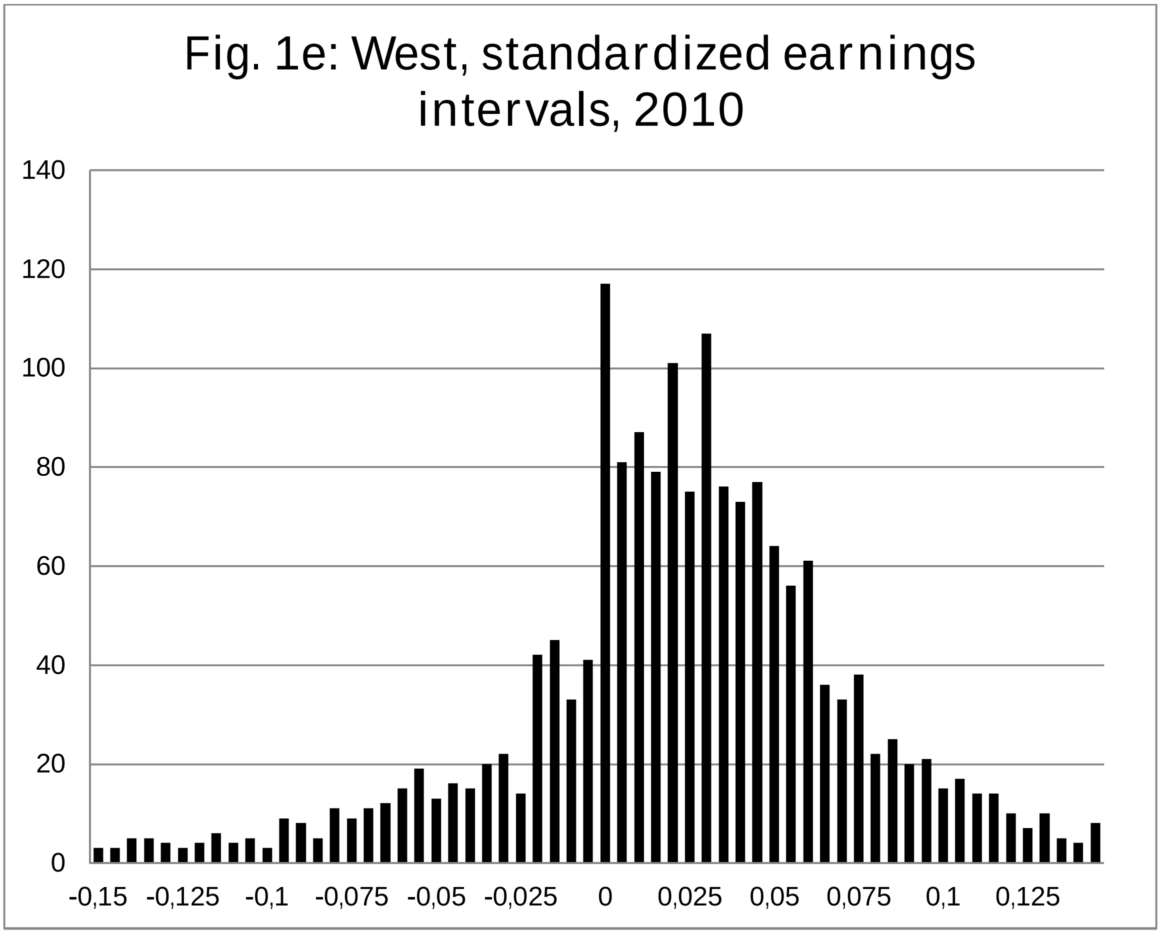
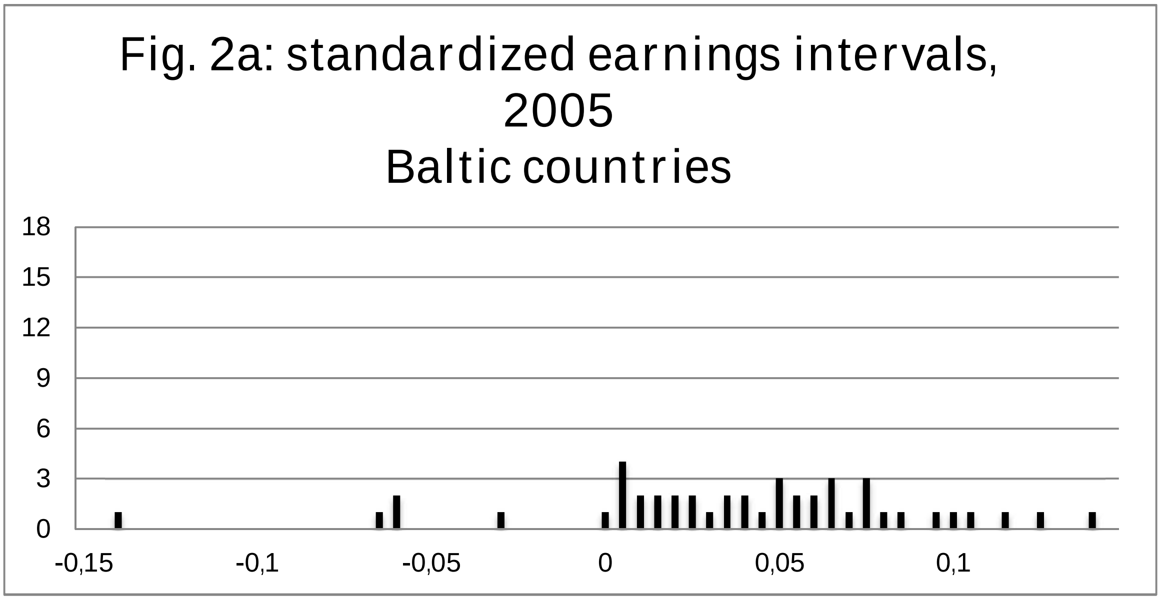


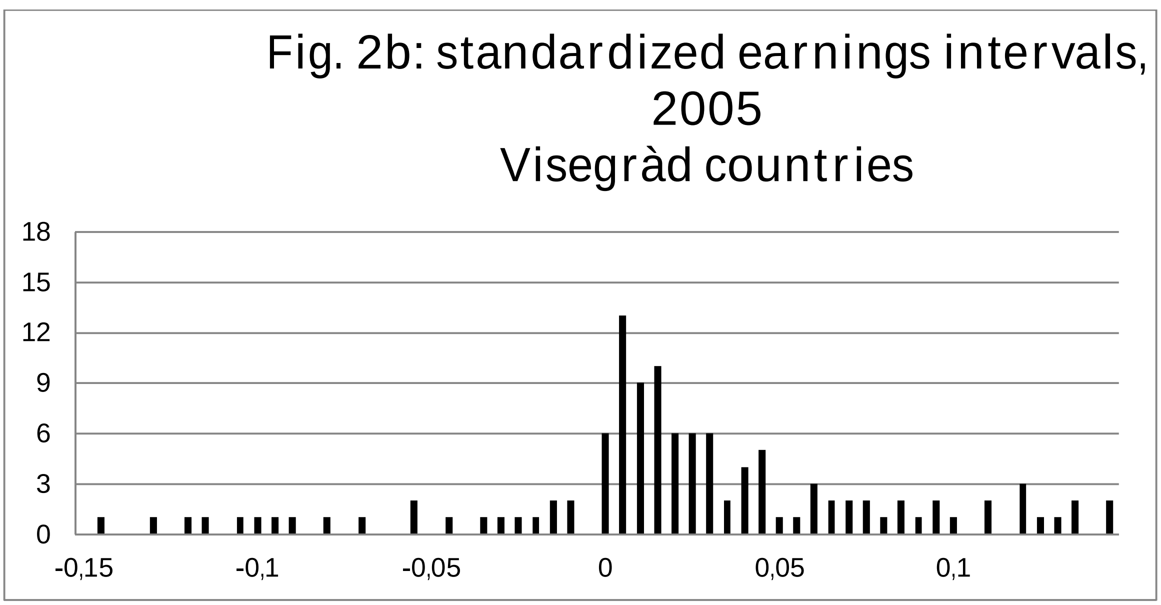
Fig. 1e: West, standardized earnings intervals, 2010
140
120
100
80
60
40
20
0
-0,15
-0,125
-0,1
-0,075
-0,05
-0,025
0
0,025
0,05
0,075
0,1
0,125

FIGURE 2

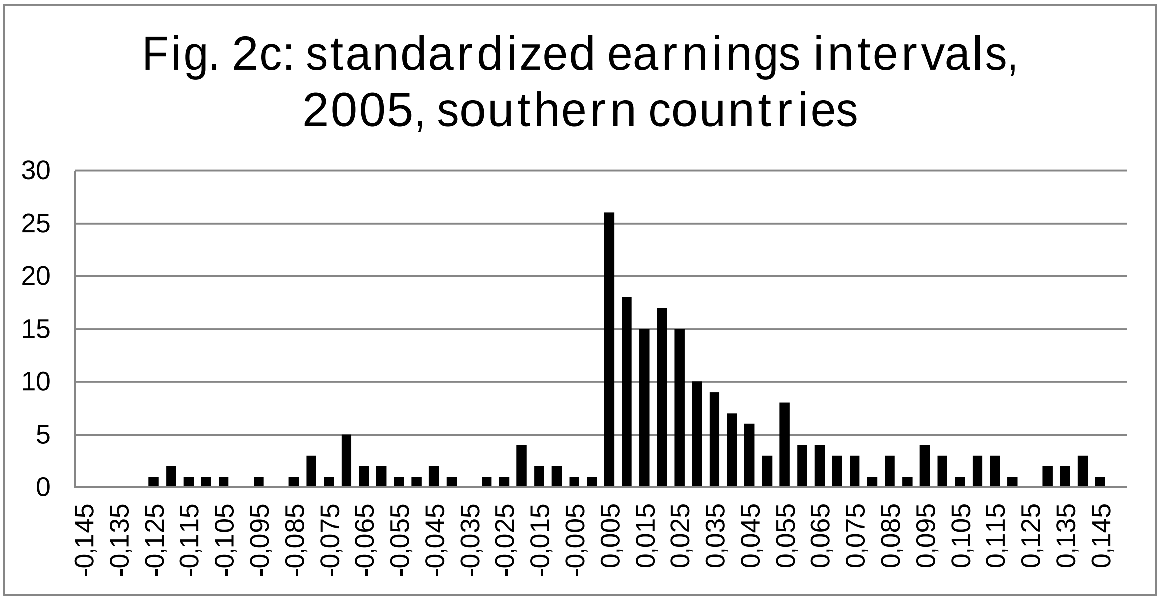
Small gains and losses, eastern EU clusters



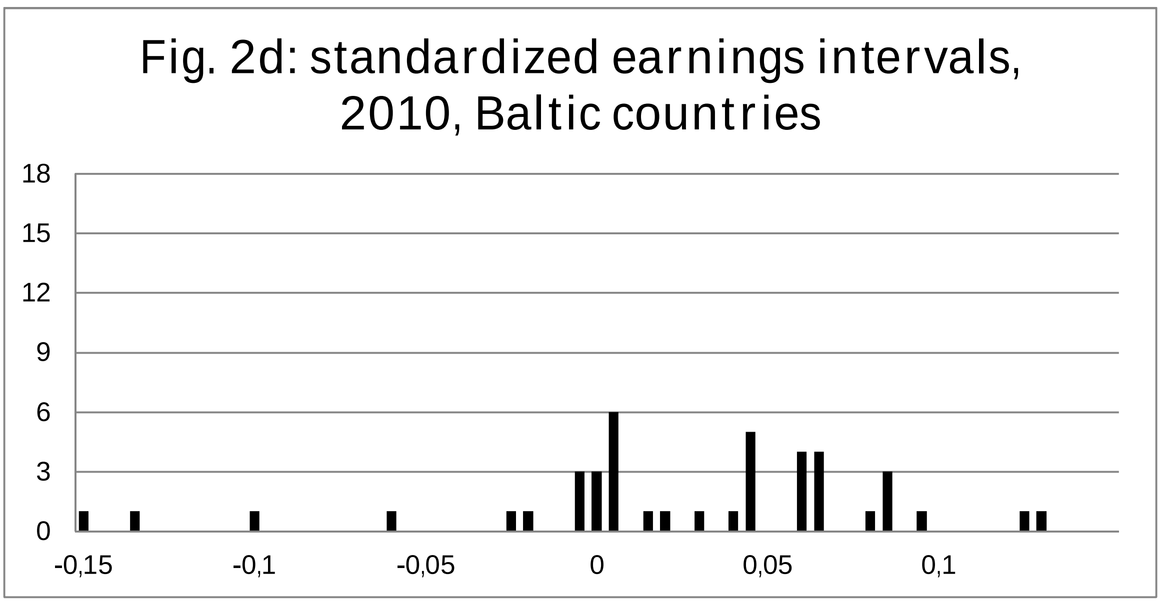
Note: Small gains not significant at p=0.05



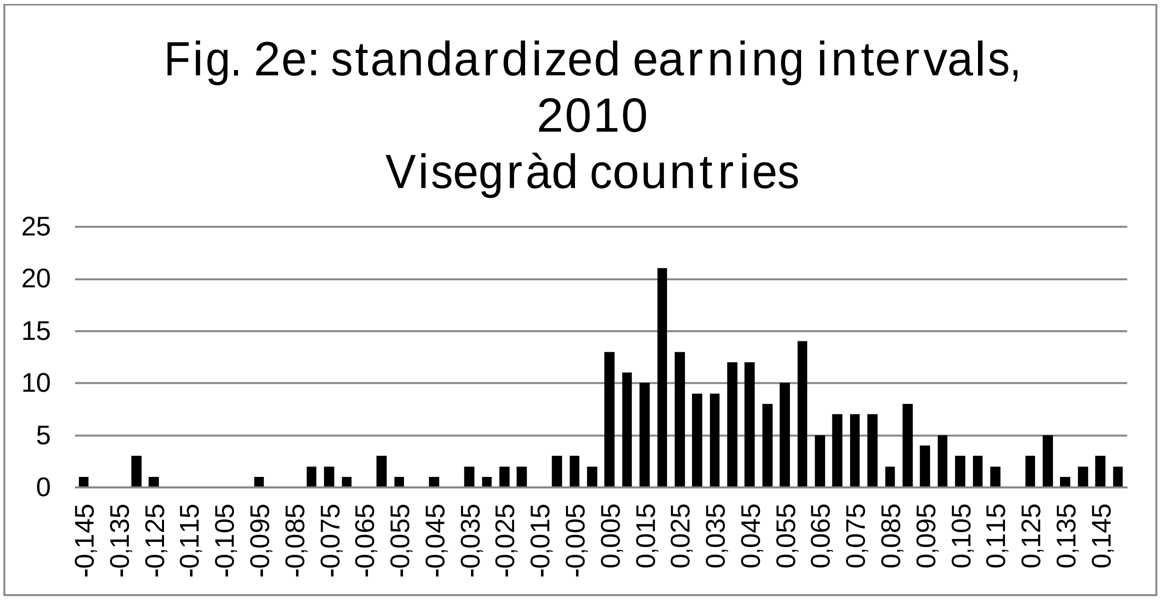
Note: Small gains not significant at p=0.05



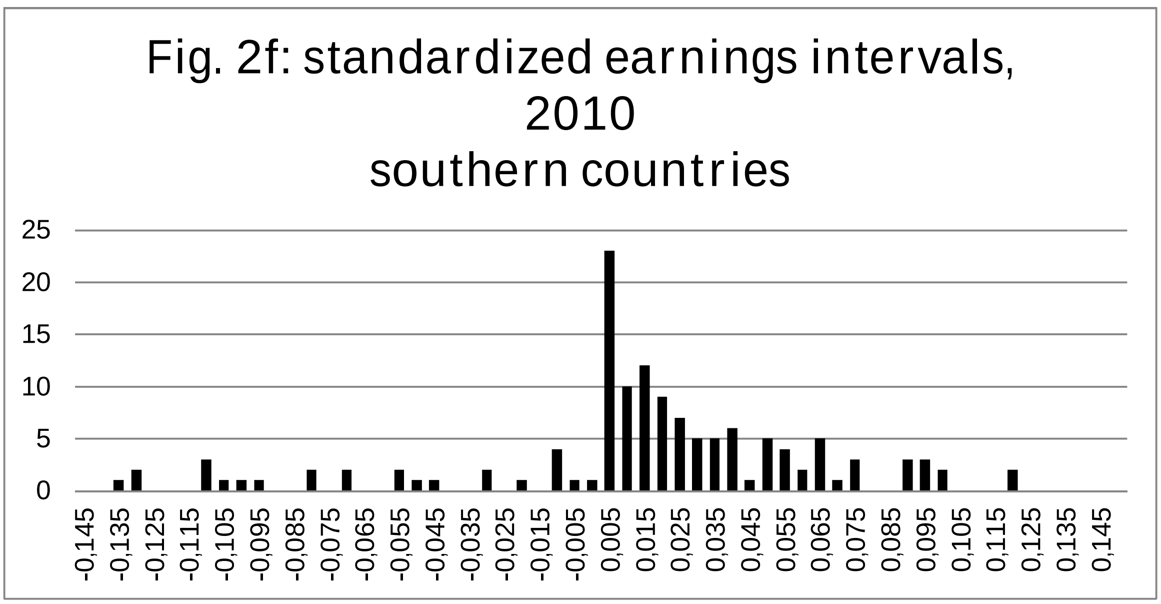
Note: Small gains significant at p=0.01.



Note: Small gains not significant at p=0.05



Note: small gains significant at p=0.05



Note: Small gains significant at p=0.01.