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The Impact of Capital Market Players' Exit, Voice and Loyalty on Economic Growth

SUMMARY: In analyses of the global money and capital markets, economic discourse is mostly focussed on the movement and flow of capital, giving less emphasis to its role in influencing the formation of institutional frameworks as well as national and international rules, particularly in terms of the impact on economic growth. Based on the concept of exit, voice and loyalty developed by Albert O. Hirschman, this paper examines the effect of capital movement and investors' voice on economic growth, making use of both macroeconomic tools and linear regression based on the data of European countries and Post-Soviet states. Our results indicate that the de facto exit of capital has a negative effect on economic growth, while the de jure exit of capital to the shadow economy and investors' voice result in a higher growth rate.¹

KEYWORDS: exit, voice, capital movement, credit rating, economic growth

JEL CODES: B21, B59, D01, D03, D53, E23, E26, F21, O16, O17

Essentially, the roots of today's world economic crisis are to be sought in the globalisation of the flows of international money and capital markets, inadequate international and national regulation, and economic agents' increasing hunger for profit. The dimension of money and capital markets is central to explanations giving varying degrees of emphasis to specific factors (e.g. Móczár, 2010; Bánfi et al., 2011); however, questions arise as to how strong the factors are that drive capital exit and motivate capital owners to soften the rules, and what impact capital movement and capital owners' lobbying have on economic performance.

Applying the concept of *exit, voice and loyalty* developed by *Albert O. Hirschman* to

money and capital markets, this article aims to help clarify whether it is the mobility of capital or a more direct expression of capital owners' opinion that has a greater impact on economic growth, which may, indirectly, facilitate a better understanding of the recent crisis and preparations for those to come.

The first part of this paper provides a summary of Hirschman's core concept, followed in the second part by an overview of literature on its relevance to money and capital markets. The third part seeks answers to the questions raised by incorporating Hirschman's framework into growth theory, which is examined empirically in the fourth part through an analysis of European and post-Soviet states. Finally, in addition to summary findings, the paper explains the limits of its approach and offers implications for further study.

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THE PRINCIPAL FOUNDATIONS OF THE HIRSCHMAN TRILEMMA

The theory of *exit, voice and loyalty*, referred to in this paper as the Hirschman trilemma² or EVL paradigm, is best understood using the basic example offered by the book of the same title, where a manufacturer, after a certain time, brings goods to the market of a lower quality than what consumers are used to. In a microeconomic approach assuming a competitive market, consumers of the product concerned would either stop purchasing the product (referred to by Hirschman as the exit option), or choose a similar (i.e. alternative) product, or persevere and remain loyal consumers of the product despite its declining quality, while the firm would perceive consumer dissatisfaction through changes in demand and respond accordingly.

To add novelty, Hirschman points out that, supposing they wish to continue consuming the product, consumers may also voice their dissatisfaction with its quality, and may raise their complaints with the management of the firm using a variety of channels (e.g. by making a complaint book entry, contacting a consumer interest group or consumer protection authority, giving a negative response in an opinion poll, commenting on an Internet forum, lobbying to influence management, etc.). By strongly voicing their dissatisfaction, consumers may try to force the firm to stop lowering quality and produce a better product.

The examination of issues that may be associated with the assertion of interests and protesting is a classic area of political science (e.g. Almond, 1990); however, Hirschman gives the voice option equal weight to that of the other two options of microeconomic decision-making, and considers them together in problematic situations. One of the methodological novelties in Hirschman's approach is that it offers three simultaneous options for

consumer decision-making (exit, voice or loyalty), making it possible to interpret microeconomic issues from a new perspective by means of a new method.

Consumers opting to voice or exit use different methods to try to force the firm to improve quality, while loyal consumers provide the consumption, financial reserves and trust required for the firm to respond constructively. In a given case, the paradox may arise that quality fails to improve despite the firm's best intentions if the number of consumers loyal to the firm's products even in hard times falls below a level that is critical to the firm, preventing the firm from the planned quality improvement.

Returning to the original example, the consumer's eventual decision will depend on its preferences, but the choice will be influenced by the structure of the market. Hirschman himself points out the importance of determining whether there is a firm in the market that offers a product of similar quality. In the case of a competitive market, competing firms, and identical or similar products, choosing an alternative product (exit) may be the more common and more successful form of consumer reaction, since firms compete to acquire and retain consumers, whereas in monopolistic conditions, voice is the most effective way to influence a firm, given the absence of a firm in the market that could offer an alternative to the original product (Hirschman, 1995).

It is also worth considering the relationship of exit and voice. The efficiency of the latter could be impaired to the extent that the market offers products which are similar to the original one, providing an opportunity to meet consumer objectives by means of using alternative products. The more alternatives, the fewer players will protest, which will consequently weaken the social base of voice. However, this is only true from the consumer's perspective; namely, the increasing number of alternative

products may prompt a manufacturer to improve the quality of its product for fear of losing its customers, in recognition of which conscious customers may force quality improvement by voicing threats of exit.³

Barry (1974) and Kassing (1997) pointed out that the model allowed a much broader interpretation than the consumer's dilemma over the deteriorating quality of a product. According to Barry's (1974) critique, the following cases allow an enhanced interpretation:

- the quality of the product concerned is low to begin with; or
- a firm enters the market with a product whose quality is better than that of the product originally consumed; or
- a change occurs on the demand side rather than on the supply side, such as when a consumer assumes a product to be of better quality than it really is, and is then confronted with reality after purchasing it.

Kassing (1997) further enhanced this by observing that the Hirschman trilemma also offered a reference point for analysis in cases of differences of opinion or disputes over the interpretation of the problem at hand. The proposition by Barry and Kassing is of key importance in that they pointed out the possibility of using Hirschman's model much more flexibly than originally intended, whereby possible applications are multiplied and, overall, the model offers a tool with which to analyse virtually any situation of economic and social conflict.

CAPITAL MARKETS AND THE HIRSCHMAN TRILEMMA FROM THE PERSPECTIVE OF THEORETICAL HISTORY

One of the fastest and deepest channels of globalisation is that of money and capital markets (e.g. Magas, 2002). Capital⁴, on the one hand, being the most mobile production factor

(in the form of flowing in and out of countries), exploits the profit opportunities provided by its own flexibility and global differences in capital distribution, while on the other hand, it actively influences (through lobbying, i.e. voice) the national and international regulation of money and capital markets, thus affecting the barriers to global capital movement as well. The two characteristics (mobility and the ability to influence), combined with the association of the investment climate and the business environment with Hirschman's sales, provide the conditions to examine capital in Hirschman's terms.

The treatment of the political power of capital, i.e. capital owners, and their ability to exert pressure, has mainly appeared since the mid-20th century in theories belonging to the post-Keynesian and neo-Marxist schools, and in institutional approaches.⁵ The approach of post-Keynesian thinkers (e.g. Perroux, 1972; Furtado, 1970) and neo-Marxist economists (e.g. Amin, 1976) was characterised by an assumption of the centrifugal role of capital, i.e. its impact in driving the economy away from its equilibrium. Since capital owners in developed economies control less developed economies coming under their influence through investments in those economies, they essentially become a factor of power, driving tendencies towards global imbalance owing to their interest in sustained inequality. Amin (1976) pinpoints a possible move by states resulting from this asymmetric relationship; given the limited ability of countries exploited by capital to exert political influence (i.e. that voice is essentially irrelevant), he suggested withdrawal, *delinking* from the capitalist world, a response which, in essence, is close to Hirschman's exit.

In the mid-1970s, Williamson (1976) of the neo-institutionalist school felt an absence of research into capital markets in literature inspired by Hirschman, despite the serious

opportunities he saw, even then, in such applications. The literature applying Hirschman's tools to institutional research into money and capital markets emerged a decade later, in the 1980s. One of the forerunners was *Zysman* (1983), who distinguished between capitalist models based on voice and built on bank systems and credit markets, and those of the exit type organised around capital markets.⁶ The former allows banks to control firms directly by means of their influence gained through lending, while the latter allows shareholders to express their opinions by selling and buying shares (in addition to the shareholders' general meeting, which is the forum for voice). In contrast with the post-Keynesian concept, *Zysman* posits that capital flows tip economic systems towards equilibrium through positive feedback, i.e. the direction of feedback is described with centripetal forces rather than centrifugal mechanisms.

The combination of research into money and capital markets with elements of Hirschman's model has developed in a number of directions since the 1990s. Overall, it has made an impact across a wide range of areas; however, a consistent, systematic and structured literature has not evolved on such research. Consequently, a number of papers have been produced on the mechanisms of equity markets (*Gillan – Starks, 1998; King – Soule, 2007; Pagoulatos, 2005*), the operations of commercial banks (*Stewart, 1998; Colgate – Hedge, 2001; White – Yanamandram, 2004*), international capital movements (*Ahlquist, 2006; Wildasin, 2005*), foreign direct investments (*Witt – Lewin, 2007; Drahokoupil, 2007; Tsai, 2011*), the acquisition of control over firms (*Bolton et al., 1998*), the acquisition of control over states (*Hiscox, 2004; Yakovlev, 2006*), and privatisation (*Anderson et al., 1999; Frydman et al., 1996; Pagoulatos 2005*), the approaches of which all incorporate the EVL paradigm. Strikingly, however, the enhancement of the analysis of

capital market processes in Hirschman's terms towards economic growth appears to be an unbeaten path in literature. Before making an attempt to enter that path, a review is provided of the circumstances influencing capital owners' responses in Hirschman's model.

FACTORS INFLUENCING THE BEHAVIOUR OF PLAYERS IN MONEY AND CAPITAL MARKETS

The types of behaviour (exit, voice, loyalty) expected under the Hirschman trilemma in money and capital markets can be captured in at least four dimensions irrespective of individual schools, as follows:

- ① types of capital;
- ② strategies employed by investors;
- ③ historical changes; and
- ④ the share of each shareholder in the firm (at the level of national economy, the market share of each capital owner).

Types of capital

Types of capital are distinguished by mobility. According to *Dailami (1999), Brune – Guisinger (2006), Wildasin (2005) and Ahlquist (2006)*, the difference between the behaviour of portfolio capital and foreign direct investment (FDI) is that it is more difficult for the latter to use the exit option due to its lower mobility, which, based on Hirschman's model, allows the inference that FDI is more responsive to the use of tools associated with voice. In general terms, *Drahokoupil (2007)* observes that more mobility would involve a preference for exit, while less mobility would provide incentives to influence through voice.

Altinoglu (2009) proposes a distinction by industry; in the heavy industry, which requires more capital assets and investment, firms are

more inclined to use the weapon of voice, whereas in deteriorating economic conditions, investors in the light industry will more frequently recourse to exit. The point he makes is essentially the same as the findings of *Marceau* and *Smart* (2003), who observe that the less opportunity an industry has to avoid state taxation by means of exit, the more energy it will spend on persuading the government and on lobbying.

Strategies employed by investors

Lakshmi's (2004) research, concerned with Indian money markets but applicable across a wider range of fields, finds that loyalty is primarily specific to players seeking investment targets for family capital, and, to a lesser extent, to individual investors, whereas voice gives institutional investors bargaining power that is significant but ought not to be overrated. The fact that family-owned firms are losing ground bears out *Hardie's* (2008) observation that as money markets develop and become liberalised, loyalty is increasingly replaced by exit, which fits into the activity of capital seeking to maximise profit, and is gaining prevalence.

Looking at the ownership structures of the nine largest firms in the British FTSE 100, *Hardie* (2008) identified investor groups with marked differences in shareholder behaviours. Small shareholders tend to be immobile and reluctant to dispose of their securities, and, owing to their low share of equity, opportunity is rare for them to use voice at the shareholders' general assembly. Owing to their long-term investment strategies, pension funds and insurers have been extremely loyal, usually with a preference for domestic shares on account of their low exchange risk, and with a wider range of opportunities for voice. However, the easing of investment regulations and the international liberalisation of capital

markets are reducing this loyalty. Given their short-term strategies aimed at maximised profit, voice is a low-priority strategy for *hedge funds*; however, despite their weight in the market, they play a major role in shaping prices by means of intensive portfolio restructuring (frequent exits). *Private equity funds* can exert an influence on share prices through voice, whereas international investors are not concerned with national identity; what is more, their decisions are free of emotion, which makes them less loyal than domestic investors.

Resulting from its mobility, it is a specific feature of capital that it will try to secure more beneficial positions by making decisions between exit, voice and loyalty not only in the recipient economy (e.g. *Drahokoupil*, 2007), but also in the donor country (e.g. *Witt – Lewin*, 2007). For example, foreign direct investment originating in Germany may be engaged in simultaneous negotiations with players in the German economy (choosing between the strategies of exit, voice and loyalty), and those controlling its intended target, i.e. Hungarian economic policy (considering the options of entry, voice and absence). The following two specific features could be added:

① the capital owner may pressure the potential new recipient country even before entry, as the donor party has less to lose while its capital is still outside the recipient's borders;

② in addition to the targeted economy, the capital owner may force other countries capable of receiving the capital to offer more favourable terms, putting those countries under even more pressure (using the previous example, other CEE countries would become competitors of Hungarian economy). As a result, for certain countries relatively short of capital, action to liberalise capital will not be a matter of autonomous choice, but will largely depend on the actions of other countries (e.g. *Brune – Guisinger*, 2006).

Mobility also means that not only do capital movements occur smoothly and swiftly, but also easily circumventing and often ahead of regulations (e.g. by means of transfer prices, assistance to subsidiaries, etc.), which exponentially increases the profit available to capital through voice (Goodman, 1993).

Changes resulting from globalisation

According to Mundell's (1957) equivalence theorem, the liberalisation of trade and factor mobility in distortion-free markets points to an equilibrium characterised by the equalisation of factor prices; that is, in addition to the lifting of customs duties and other obstacles to trade, the international flow of production factors (i.e. the movement of capital, or its loyalty or exit in Hirschman's terms) will also lead to equilibrium. In the same spirit, Hardie (2008) and Cerny (2001) observe that globalisation devalue voice-type reactions, orienting capital owners towards decisions between loyalty and exit due to the lifting of borders and an increase in the number of potential recipient markets.

However, in the past decades a number of analyses (e.g. Bhagwati et al., 1987; Hiscox, 2004) have pointed out a tendency in the opposite direction. In that tendency, capital does not simply jump over obstacles to its movement, but exerts political pressure on the restrictions that curb movement in an attempt to neutralise those restrictions before actual exit would take place; that is, the role of voice is reinforced in addition to exit.⁷ Several authors including Armijo (1998) and Tsai (2011) cite Hirschman in their argument that threats of exit improve the efficiency of investors' voice.

The threat from the mobility of capital, i.e. from its exit or postponed entry prompts countries in need of foreign capital to create the most investor-friendly environment possi-

ble (Bergman, 2009). This is further intensified by competition between capital-scarce countries (e.g. Brune – Guisinger, 2006). As the tendency at hand is global, it will ultimately lead to diminishing distances between the investment environments of countries. It should be remembered, however, that the relatively rapid convergence (at least relative to other factor markets) stems from both capital mobility and bargaining power increased by the voice potential of capital.

The ownership stake of individual shareholders

It was Lee (2009) who pointed out that an increase in an individual investor's holding will not only lead to a linear increase in its influence on the operations of the firm or industry concerned, but that influence will be multiplied by a bargaining position reinforced by potential exit. The potential threat of exit and influence on management or industry leaders resulting from voting power will thus exponentially increase the investor's bargaining power in comparison with the increase in market share. However, this capacity may be weakened by an opposite effect pointed out by Hawley (1995); owing to the intensified concentration seen in the American equity market it is becoming increasingly difficult for investors, diminishing in number but operating larger portfolios, to buy and sell shares, i.e. to diversify the risks stemming from holding various shares and spread them through exit and loyalty, as a result of which the role of voice is increased, especially where the direction of market processes takes an overall negative turn.

Looking at the influence of organisations dealing with corporate holdings on Russian corporate management during Russia's coupon privatisation, Frydman et al. (1996) produced similar findings to those of Lee; funds dealing

with corporate holdings were found to be employing the typical strategy of swapping or selling shares among each other in the case of individual firms with a low share of equity (a classic exit-loyalty strategy), i.e. that of cleaning and concentrating fragmented equity portfolios, whereas funds that had achieved a higher share of equity were shown by statistics to be making more frequent decisions with personal implications in the management of the firms under their supervision, i.e. to be making use of voice.

EXIT, VOICE, LOYALTY AND ECONOMIC GROWTH

Following our overview of the circumstances that determine the responses of capital, we will now consider how to broaden the connections of growth theory using Hirschman's concept, as we are not aware of any analyses of this type carried out to date. Our research is based on two different concepts. One is a theoretical approach wherein the production function is considered from Hirschman's perspective, and the adjusted growth model is used to derive the theoretical impact of exit and voice on economic growth. The other direction involves an empirical study, where reliance is made on the theoretical findings for an analysis of how the exit, voice and loyalty of capital influenced the dynamics of economy in European and post-Soviet states between the turn of the millennium and the crisis.

MACROECONOMIC RELATIONSHIPS

Our analysis aims to use the growth model to mathematically infer the relationship of the exit and voice of capital to economic growth. To start with, the production function is modified to accommodate the application of the

EVL paradigm. Using the Cobb–Douglas formula adjusted by a subdivision of capital, the production function is as follows:

$$Y = K^\alpha L^{1-\alpha} = (C + FDI)^\alpha L^{1-\alpha} \quad (1)$$

where

Y = income generated (output);

K = capital;

L = labour;

α = production elasticity of capital, $0 < \alpha < 1$,

C = capital produced in the economy;

FDI = foreign direct investment incorporated into production.

The marginal product of capital, i.e. interest (r), is obtained by derivation:

$$r = \delta Y / \delta K \quad (2)$$

$$r = \alpha \times K^{\alpha-1} \times L^{1-\alpha} = \alpha \times (L/K)^{1-\alpha} \quad (3)$$

$$r = \alpha \times \left(\frac{L}{K}\right)^{1-\alpha} \quad (4)$$

$$r = \alpha \times \left(\frac{L}{C-FDI}\right)^{1-\alpha} \quad (5)$$

Since using equation (1)

$$\frac{Y}{K} = K^{\alpha-1} \times L^{1-\alpha} = \frac{L^{1-\alpha}}{K^{1-\alpha}} = \left(\frac{L}{K}\right)^{1-\alpha} \quad (6)$$

(4) and (6) will produce:

$$r = \alpha \times \frac{Y}{K} = \alpha \times \frac{Y}{C-FDI} \quad (7)$$

In the next step, we look at the impact of capital exit on economic growth, that is, in the case of working capital, the impact of lower incoming FDI or an acceleration of outgoing FDI in pursuit of other markets, and an improvement in the balance of the two.

To start with, the relationship in (7) is rearranged:

$$C + FDI = \alpha \times \frac{Y}{K} \quad (8)$$

Partial derivation of the same will produce:

$$\frac{\partial Y}{\partial FDI} > 0 \quad (9)$$

Based on the relationship in (9), we may formulate our hypothesis that an increase in capital

influx will accelerate, while an increase in capital outflow will decelerate economic growth.

After capital exit, let us now consider the impact of voice on economic performance. Capital owners use voice with a given government to obtain additional returns, that is, to realise a higher profit compared to the income generated without voice. Returns generated through voice can be described as follows:

$$r_v = \eta \times r \tag{10}$$

where

r = returns before voice;

r_v = returns after voice;

η = efficiency of capital owners' and investors' voice, which is assumed to generate an income for capital owners that is higher but at least equal to the returns obtained without voice (i.e. $\eta \geq 1$).

We also assume that the profit available to capital owners would be increased by the liberalisation and development of the financial system and the adoption of legislation to clarify conditions, and decreased where the financial environment and rules are unregulated and unclear. The efficiency of investors' voice (i.e. the volume of their profit) will depend on the financial system approximated through financial liberalisation, so that we assume the volume of available profit to increase with liberalisation and decrease with de-liberalisation.

$$\eta = f(INT_{lib.}), \frac{\partial \eta}{\partial INT_{lib}} > 0 \tag{11}$$

where

$INT_{lib.}$ = intensity of economic liberalisation

Relationships (7) and (10) will produce:

$$r_v = \eta \times r = \eta \times \alpha \times \frac{Y}{K} = \eta \times \alpha \times \frac{Y}{C+FDI} \tag{12}$$

Rearrangement of the same will produce:

$$\eta = \frac{r_v}{\alpha} \times \frac{C+FDI}{Y} \tag{13}$$

The following is obtained by partial derivation:

$$\frac{\partial FDI}{\partial \eta} > 0 \text{ and} \tag{14}$$

$$\frac{\partial Y}{\partial \eta} < 0 \tag{15}$$

A comparison of the results of (11) with those of (14) and (15) will produce the following relationship:

$$\frac{\partial FDI}{\partial INT_{lib}} > 0 \text{ and} \tag{16}$$

$$\frac{\partial Y}{\partial INT_{lib}} < 0 \tag{17}$$

Consequently, (16) and (17) may be used to formulate our assertions; progress in economic liberalisation will slow economic growth on the one hand, while on the other it will increase the volume of foreign direct investment flowing into the economy concerned.

Overall, mathematical results suggest that Hirschman's methods are relevant to a comparison of analyses on capital markets and growth; however, empirical literature on the subject is virtually non-existent. What follows is an attempt to fill that space.

EMPIRICAL ANALYSIS

We will use the growth model to carry out an empirical analysis of the relationship of the exit, voice and loyalty of capital to economic growth. Our analysis captures exit through the relatively illustrative and classic form of foreign direct investment movements, and identifies exit as an increase in net capital outflows, a decrease in net capital inflows, and a deterioration of the net FDI balance. The reason for our preference for FDI over portfolio capital is the fact that the former also involves technology movements, whereas the latter does not. For the purposes of our analysis, the growth of the shadow and grey economies, i.e. the shrinking of the formal economy will also be considered exit as being an indication

of capital owners' withdrawal from orderly economic conditions.

While data is available on capital movements, voice by capital can, if at all, be measured indirectly, as we have no direct access to information on capital owners' lobbying with governments, only to guesses and leaks at best, which cannot be used for the purpose of international comparison. A questionnaire survey of capital owners' attitudes is technically prevented by the geographical and cultural distance between researchers and respondents, growing in connection with globalisation, as well as by the anonymity of capital owners. At the same time, we rely on *Hiscox's* (2004) proposition to make use of the fact that comparative opinions and ratings on the investment environment and business climate of individual countries are published regularly by international organisations and credit rating agencies, whose value judgement we suppose to be close to the views of capital owners. Indeed, the latter could, in a given case, exert pressure on credit and risk rating agencies, if only by virtue of the fact that with a number of institutional rankings, international organisations rate the institutional environment by processing the opinions of the economic agents operating in the market concerned. For the purposes of our analysis, we use the institutional variables published annually by Euromoney, which rates opinions on country risk on a scale of 0 to 100 (the higher values indicating lower risk).

Our cross-sectional empirical study focusses on European countries and post-Soviet states. The sample includes the following 50 economies: Albania, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kazakhstan, Kosovo, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Montenegro, Netherlands, Norway,

Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, Turkey, Turkmenistan, UK, Ukraine, Uzbekistan.

Due to fluctuations in economic growth data for specific years, the average of several years is taken into account. We have chosen the time horizon from 2001 to 2008 in an attempt to capture a relatively peaceful period, since the crisis has set off a new turbulent period that could distort our findings; nevertheless, subsequent research could also deal with an analysis of that period. *Table 1* includes the variables considered, as well as their contents and sources.

The following regression function was used to estimate economic growth:

$$\text{growth} = \beta_0 + \beta_1 \times \text{FDI_inflow} + \beta_2 \times \text{FDI_outflow} + \beta_3 \times \text{FDI_net} + \beta_4 \times \text{shadow} + \beta_5 \times \text{Euro-money} + \beta_6 \times \text{employment} \quad (18)$$

In addition to variables approximating capital exit and voice, our model also incorporates the employment ratio in the spirit of the growth model, which may be seen as an approximation to labour.

Table 2 shows the correlations between specific explanatory variables.⁸ There is a relatively strong correlation between the variables of capital flow (FDI outflows, FDI inflows, FDI net), especially between FDI outflows and inflows, which confirms our expectation that either of these last two variables will, in itself, distort the image of the exit-loyalty choice of capital, whereas the net balance of capital flows will be a better approximation, condensing the directions of capital flow into a single indicator. In connection with the size of the shadow economy, it is worth noting that, on the one hand, it is in an inverse correlation with country risk rating (a greying economy will result in a lower rating, in line with our expectations), while on the other hand, it correlates with net capital balance. This stems from the insignificant correlation, indicated in the table, that as

Table 1

VARIABLES USED FOR EMPIRICAL MEASUREMENT

Name	Contents	Abbreviation	Source
Growth	GDP growth (annual %)	growth	World Bank (2012)
FDI inflows	Foreign direct investment, net inflows (% of GDP)	FDI_inflow	World Bank (2012)
FDI outflows	Foreign direct investment, net inflows (% of GDP)	FDI_outflow	World Bank (2012)
FDI net	Balance of net outflows and net inflows of foreign direct investment (% of GDP)	FDI_net	World Bank (2012)
Shadow economy	Estimated size of the shadow economy as a percentage of GDP	shadow	Schneider (2012a), (2012b)
Country risk	Country risk survey, on a scale of 0 to 100	Euromoney	Euromoney
Employment	Employment to population ratio, 15+, total (%)	employment	World Bank (2012)

Source: own compilation

Table 2

CORRELATION MATRIX OF THE VARIABLES USED FOR REGRESSION ESTIMATION

	Shadow	Employment	FDI_out	FDI_inflow	FDI_net	Euromoney
Shadow	1.000	-0.179	-0.246	-0.190	0.564**	-0.883**
Employment		1.000	0.012	-0.032	-0.252	0.304*
FDI_out			1.000	.996**	-0.833	0.249
FDI_inflow				1.000	-0.783**	0.184
FDI_net					1.000	-0.586**
Euromoney						1.000

* $p = 0.1$, ** $p = 0.05$, *** $p = 0.01$

Source: own calculations

the shadow economy grows, the volume of FDI inflows decrease; however, the volume of FDI outflows from the country will decrease to a greater extent, which will result in an improved net balance.

To estimate economic growth, we carried out a regression analysis of the variables tested, the findings of which are presented in Table 3. The high correlation between the explanatory variables established above carries the risk of multicollinearity, a warning that our findings should be evaluated with care. Due to the risk of multicollinearity, we also ran single-variable regression analyses.

Based on the regression equation, the following relationships are inferred. As expected, an increase in employment, used as a control

variable, has a positive impact on economic performance, while adjusted determination coefficients suggest that it is highly synchronous with economic dynamics in comparison with single-variable models (4 to 5 and 7 to 9).

Among responses in the capital market, there is also a relatively strong correlation between the shadow economy and economic growth, robustness being indicated by the fact that the close and significant correlation remains even when additional explanatory variables are incorporated. However, relative to our expectations, the direction of the relationship is contradictory. While the findings suggest that the rate of economic growth is lower in countries where the weight of the shadow economy is smaller, it could be assumed on the

Table 3

	1	2	3	4	5	6	7	8	9
Constans	0,182 (0,052)	0,859 (0,239)	5,097** (2,023)	-0,298 (-0,410)	10,721*** (10,902)	4,399* (1,792)	5,055*** (10,111)	4,821*** (10,154)	4,501*** (10,118)
Shadow	0,124** (2,459)	0,128** (2,472)		0,185*** (7,7768)					
Euromoney	-0,046 (-1,603)	-0,047 (-1,592)	-0,103*** (-5,956)		-0,089*** (-6,228)	-0,106*** (-7,490)			
Employment	0,081 (1,652)	0,071 (1,415)	0,127** (2,566)			0,146** (2,934)			
FDI_inflow	0,009 (1,358)						-0,003 (-0,304)		
FDI_outflow								-0,005 (-0,535)	
FDI_net		-0,039 (-0,768)	-0,012 (-0,218)						0,152** (2,637)
R-squared	0,639	0,627	0,537	0,599	0,452	0,557	0,002	0,006	0,136
Adjusted									
R-squaredt	0,602	0,589	0,504	0,589	0,440	0,537	-0,019	-0,016	0,117
Number of observations (N)	44	44	46	44	49	48	49	46	46

Note: t-statistics in brackets

* $p = 0.1$, ** $p = 0.05$, *** $p = 0.01$

Source: own calculations

basis of *Baumol* (1990) that formalisation of the economy would lead to accelerated economic growth, which is also what Hirschman's logic would suggest, the shadow economy being essentially comprised of resources that have 'exited' from the formal economy, resulting in slower economic dynamics according to our mathematical deduction. Neither does the composition of the sample explain the surprising direction of the relationship, since models reduced to either former post-Soviet states or EU27 produce the same results. Consistent with the conclusions of *Adam – Ginsburgh* (1985), the resolution of the contradiction presumably lies in the fact that, while the mathematically deduced relationship suggests decelerating growth with the *de facto* exit of capital,

capital will remain in the given economy with the *de jure* exit of capital to the shadow economy, bringing resources into motion which conventional economic agents cannot. The spillover effects of this will subsequently be felt in official growth statistics.

► The negative impact of a deteriorated capital balance on growth could only be demonstrated by single-variable regression owing to the fact that the *de facto* movements of foreign direct investment are also strongly correlated with the other factors being considered, which distorted the results of multi-variable analyses.

► Finally, there is a negative correlation between economic liberalisation, better country rating (on the Euromoney scale, higher ratings correspond to better investor judgement)

and economic growth, which fits into the mathematical model deduced from Hirschman's principles. Louder investor voice and a downgraded country rating are important feedback to economic agents and leaders of economic policy on where the operations of the economy need 'fine tuning', which boosts economic growth. At the same time, the lack of correlation is contrary to the expectation (e.g. Eng – Habibullah, 2011) that a more developed institutional system would generate faster growth. Neither the direction of correlation, nor the power of regression is reduced significantly regardless of whether the subsample considered consists of developed countries (EU 27, Switzerland, Norway, and Iceland) or relatively underdeveloped countries (Balkan economies outside the EU, Post-Soviet states, Turkey). That is, the direction of the relationship is not only determined by the fact that countries with less developed institutional systems achieve faster growth due to convergence than countries with a more developed system of economic institutions which, at the same time, have a smaller growth potential and develop more slowly. According to recent research e.g. Ranjan – Agrawal (2011) and Walch – Wörz (2012), the explanation for the odd direction of the relationship is that in addition to the institutional environment, investors increasingly take into account the size, openness and growth potential of markets, the cost of labour and macroeconomic stability (not included in the Euromoney indicator), as a result of which even countries with a poorer institutional score may appear more valuable.

SUMMARY

Overall, our findings suggest that in analyses concerned with economic growth, Hirschman's framework of thought marks a relevant direction for research. According to our calcula-

tions, deduced using macroeconomic tools and analysed empirically, a fall in the volume of FDI in an economy would have a negative impact on economic growth, whereas a shift to the shadow economy and investors' criticism on the institutional environment (i.e. voice) would both benefit the growth rate. Our evaluation of the shadow economy is that capital *de jure* exiting to the shadow economy is more beneficial to economic performance than capital *de facto* exiting the country, which, in our analysis, has a negative impact on growth. Presumably, the positive growth impact of the shadow economy is explained by the fact that the grey economy achieves a degree and efficiency of combining resources that spills over through other channels such as income and technology to the formal economy, where its impact is already felt in official statistics.

Economies in increasingly intense competition with one another for capital are causing investor climate to converge internationally, while making exit increasingly appealing to investors through liberalisation (owing to the rent-oriented behaviour of capital owners), which, in itself, improves the bargaining position of capital in negotiations with the economic policy leadership of individual countries. Delinking from global money movements as proposed by Amin (1976) would presumably require excessive effort from participating states. Our findings also suggest that costs would outweigh benefits in the short term (with the decreasing amount of residual capital in the economy decelerating growth), thus the costs definitely incurred in the short term would probably be higher than the uncertain benefits gained in the long term. In our analysis, the role of the shadow economy highlights the fact that incentives to economic growth may be sought in removing the obstacles to the positive effects spilling over to the formal economy much rather than in a top-down, forced reduction of the grey economy.

Our analysis is limited in that its scope includes European countries and post-Soviet states only, as a result of which further research is needed to determine whether our findings would be valid in a broader regional context as well. Nevertheless, initial calculations for smaller groups of the sample have, encouragingly, confirmed our findings in both economically developed and less developed groups of the sample. Extending the time horizon of research to the 1990s and the period after 2008 could provide answers to further questions,

one of which is whether the relationship between exit, voice and economic growth changed, and if so, in what direction, the analysis of which is beyond the scope of this paper. Additional calculations are also needed to examine causality (which can be accomplished through analyses of time series rather than cross-sectional analysis), since accelerated economic growth and the level of economic development, not treated here in detail, also affect capital movements, the weight of the shadow economy, and investors' voice.

NOTES

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² The Hirschman-trilemma refers to the availability of three options and serves to simplify the use of terminology. Note that it is not the same as *impossible trinity*, a term appearing in various fields of economics.

³ In his book published in 1970, Hirschman considered exit and voice to be competing options; however, his 1993 analysis of the social background to the disintegration of the German Democratic Republic led him to the conclusion that applying the two options in small steps could mutually reinforce each other (Hirschman, 1993).

⁴ It needs to be said that in connection with capital, both portfolio and working capital, we consider owners and controllers of capital to be the real actors, as types of money and capital are obviously not seen as individuals in their own right.

⁵ These issues were also addressed superficially by Marx's theory in the 19th century, without incorporating the concepts of exit, voice and loyalty into a system, the key question being the exploitation of the working class by capital rather than capitalists' response amid deteriorating conditions, while the role of capitalists was explained primarily as that of rivals to the working class.

⁶ In fact, Zysman distinguished between three types by subdividing the model based on credit markets; however, for the purposes of this paper, it is a reference to the main division that bears relevance to Hirschman's approach. Zysman's idea was further developed by the literature on *varieties of capitalism*, emerging in the 1990s and becoming full fledged after the turn of the millennium; see e.g. Hall – Soskice (2001) for more details.

⁷ Capital may voice in a number of ways; for example, according to Hiscox (2004), it may warn leaders of the recipient economy about negative tendencies by means of paid advertising; it may lobby directly with policy-makers, and it may also become involved in party campaigns in the hope of assistance in return.

⁸ We used SPSS 17.0 for Windows for our work.

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