

# **TURNOVER AND MARKET VALUE IN CAPITAL MARKETS IN THE EUROPEAN UNION**

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**A***bstract\**: This paper seeks to see if there is a relationship between market liquidity, proxied by turnover and size, measured by market capitalization and the number of listed companies for European Union countries. We employ a panel data structure with unobserved characteristics for each country modeled as fixed effects for all 27 European Union (EU) countries over the period 2001-2011. Our results prove that market capitalization, as a size variable is significant for capital market liquidity. As policy recommendation, we suggest for these countries to enhance their market capitalization in order to attain a greater liquidity.

**Keywords:** capital market, turnover, market capitalization, EU

**JEL Classification:** G15, G30

## **1. Introduction**

In this paper, we intend to contribute to the literature on EU countries in terms of determinants of capital market liquidity. Since capital market liquidity plays an essential role in economic growth of these countries, it becomes essential to see if their market size (measured by market capitalization and number of listed

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companies) helps them to attain a greater turnover as a percentage of their gross domestic product. The objective of the present paper is to establish if there exists such a relationship.

Despite the apparent connections between them, some of the reviewed studies (Dey M.K., 2005; Vo and Batten, 2011) reveal a weak connection among different proxies of these indicators. Despite these outcomes, our study shows that market capitalization is significant for turnover. We employ a panel data structure for EU countries using turnover as dependent variable and market capitalization and number of listed companies as independent variables. While turnover measures market liquidity and it is used as an indicator for market development, market capitalization is a variable that measures market size. Turnover doesn't reflect only stock market liquidity, but also its interaction with market size. For this reason Choong *et al.* (2010) consider that trading value may be considered a better indicator of stock market growth than market capitalization ratio alone. Also, stocks traded (turnover) depends on market capitalization because a market may be large, but it may have little trading. Taken together, the relation between market capitalization and turnover provides information about a nation's stock market and the feed-back effect that can be depicted.

Market capitalization is considered the biggest macro indicator for doing a country analysis. Although market capitalization is not a universal indicator of predicting economic performance, it offers a clue about the effect of the financial development on economic growth (Kumar N., 2010).

According to Robins *et al.* (1999), the market capitalization effect is the observation that the shares of companies with low market capitalization outperform shares with a high market capitalization. Market capitalization effect can be interpreted as an investment strategy and some researchers have used market size as an indicator for market development (Kai Li, 2007).

The paper is organized as it follows: section 2 comprises the literature review, section 3 presents the patterns of EU countries in terms of market performance, section 4 describes the methodology and presents the results, while section 5 concludes.

## **2. Literature Review**

Chung and Hrazdil (2010 a);b)) and Chordia *et al.* (2008) define liquidity as an important indicator of capital market which determines efficiency and

performance of the stock market. According to these authors, an increased liquidity will also enhance market efficiency, especially during periods that contain new information. They focus on NYSE largest market capitalization firms, all NYSE firms and all NASDAQ firms. They control for trading frequency, market capitalization and trading volume for portfolios of firms in a multiple regression analysis. The sample includes firms which traded daily, during 1993- 2004.

As investors are attracted by higher liquidity a lot of effort is made in order to increase the level of liquidity. Local market liquidity may be enhanced by the opening of domestic financial markets through disclosure and more active trading according to Stulz (1999 a,b). Rhee and Wang (2009) reveal that investors prefer higher liquidity stocks especially when they search for emerging market opportunities. A poor liquidity in these countries is a reason of avoiding them (see Chuhan 1992). Daouk *et al.* (2006) highlight that increases in market liquidity (trading volume, market depth and US foreign investments) are positive related to an improvement in capital market governance. They focus their research on the link between CMG index and the key measure of market performance in 22 developed and 10 emerging countries. Here, liquidity is considered as a component of market performance.

In many studies, it has been used as a proxy for liquidity the turnover measured as: trading volume (Daouk *et al.*, 2006); turnover ratio (Dey M.K., 2005) or turnover rate as percentage of GDP (Bekaert *et al.* 2002; Kai Li, 2007). In our study we use as a measure of stock market liquidity the turnover rate expressed as a percentage of GDP. It shows the total value of shares traded during the period. Due to data availability this indicator has a theoretical appeal and it is the only reliable measure with sufficient data (Vo and Batten 2011). To mitigate the effect of outliers, the natural logarithm of this indicator is useful (see also Daouk *et al.* (2006)).

Our model relates to Dey M.K. (2005) paper which focuses upon a relation between turnover ratio, age, size computed as log (market capitalization) and the log of the number of listed companies. Dey M.K. (2005) uses a multiple regression model for 47 stock exchanges during 1995-2001, to determine the relationship between liquidity and other several important factors for the capital markets. They used as determinants: age, size computed as log market capitalization and log number of listed companies, type of exchange and competition, included in the number of firms and growth rates also computed as a function of market capitalization. The model proposed by Dey M.K. (2005) suggests a linear relationship between turnover and size,

measured in the first model by market capitalization and in the second model by the number of companies. His result shows that size denoted by market value is not a significant determinant of turnover but the number of firms and growth rates are significant.

Vo and Batten (2011) found that size had no significant pricing role in most of the regression they employed in the attempt to determine the relationship between liquidity (proxied by turnover) and stocks return on Vietnam stock exchange.

A weak link between size and liquidity is also observed by Lischewski and Voronkova (2010). They find also a negative relation between size and illiquidity specifying that size factor is not responsible for the lack of liquidity effect. Their results confirm that size and book-to-market are significant for Polish stock market and liquidity is not a priced factor for it. To obtain these results, they create a pooled cross-section time series, applying the three-factor Fama and French (1993) model. They create portfolios based on size and book-to-market and use several measures of liquidity including turnover measure. The dataset consists of the domestic stocks traded from 1996 to 2009, on one of the largest markets in terms of market capitalization in Central and Eastern Europe. (Liquidity measured as turnover has a negative risk premium, and the rest of the measures are positive.) Therefore results are in line with the findings of Rouwenhorst (1999) with regard to the importance and the expected signs of the size and book-to-market effects for stock returns in the emerging markets. Contrary to the results mentioned above (Dey M.K. (2005), Vo and Batten (2011) and Lischewski and Voronkova (2010)), Brown J.H. *et al.* (2007) find evidence that turnover, as a measure of liquidity is related to market capitalization and price-to-book, at an individual stock level. The authors employ a regression analysis based on well-known Fama-French factors, using historical data of S&P500 and Russell 1000 stock prices for 1991-2006 period.

Kai Li (2007) concludes that market capitalization, total value traded to GDP ratio and turnover ratio, as measures for the equity market size and trading activity, influence the development of financial intermediaries and trade openness. The last two measures complement each other, the first is related to the size of economy and the second to the size of market. He employs a panel data on 33 countries from Europe, Asia, Australia, USA and Africa between 1978 and 1997. The methodology used involves adopting a stochastic frontier model that capture cross-sectional as well as temporal variation in size and trading.

Little work has been done for EU countries and our paper is meant to bridge a gap in this respect. Including all new members of the EU in our sample, we offer

a global analysis for all countries as a group and the results of our study can be useful to describe some policy implications.

### **3. Patterns of market performance in European Union countries**

Our data are from World Development Indicators and Global Development Finance, both found on the World Databank (2012) and we use a sample of all 27 European Union countries.

Our variables measure size, defined as the number of listed companies and market capitalization, as percentage of GDP while for liquidity we use turnover as percentage of GDP. The listed companies are the domestically incorporated companies listed at the country's stock exchange at the end of the year. Market capitalization (% of GDP) (also known as market value) is the share price times the number of shares outstanding. Turnover (% of GDP) refers to the total value of shares traded during the period. Looking at the rough data<sup>1</sup>, we observe that the highest number of listed companies is found in Spain, followed by Great Britain, France, Poland, Germany, Bulgaria and Sweden. Other countries show no big fluctuations of the number of listed companies during the analyzed period (for example Belgium, Estonia, Hungary and Italy). An interesting pattern has Poland, which doubles its number of listed companies from 349 in 2008 to 757 in 2011. Its turnover value has started to increase recently (see Appendix A). This is interesting while, in general, in most European Union countries, we notice a decrease both in number of listed companies, in market capitalization and in turnover value especially starting in the year 2008, due to the world financial crisis. There are only a few countries which begin to rise up their market capitalization in the last year (2011). These countries are: Austria, Finland, Italy and Malta (see Appendix B).

In Great Britain there are large values of the turnover indicators that could be attributed to the highest number of listed companies (see Appendix A). The same intuition may be true for the cases of Spain and Sweden. Other countries which exhibit large values for turnover are the Netherlands, Finland and Germany for the year 2011. Also, this indicator records some increases in the last year for Germany, Italy, Finland and a slowly growth for Poland. The smallest turnover values are in Bulgaria, the Slovak Republic, Luxembourg, Romania and Slovenia. The case of Luxembourg is an interesting one given that it has the

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<sup>1</sup>The table with the number of listed companies could be provided upon request.

greatest values for market capitalization but a small number of listed companies. Still, Bulgaria and Poland have small turnover values even if they have a large number of listed companies. They also record small market capitalization values, even if Poland has surprised Europe by starting to show increases in these values.

Luxembourg, the Netherland and Sweden have the highest value for market capitalization in 2011. Finland has an interesting pattern regarding market capitalization, while it holds positions 3 and 4 between 2001 and 2008, it faces a sharp decline in 2009. Starting with the year 2010 it can be noticed a slowly increase. Besides Finland, also Austria, Italy and Malta have started to rise up their market capitalization. The countries with the lowest market value are Estonia, Latvia and Slovak Republic, under 10 % of the GDP. Luxembourg, Finland and Cyprus faced the most dramatically collapses in 2008 (see Appendices A and B).

For all three indicators, we can observe a continuous increase before 2008 followed, in general, by a decreasing trend starting in the same year. Several countries began to recover in 2011 (e.g. Germany, Italy, Finland, Austria and Poland).

#### 4. Methodology and results

We employ a panel data structure which combines time series and cross sections, which proves to be a better methodology. The unobserved characteristics for each country are modeled as fixed effects. Our data set comprises all 27 EU countries over the period 2001-2011 with a total of 297 observations. The assumption of fixed effects means that we impose for each country under our study time independent effects. These may be possibly correlated with the regressors. Thus, we control for the unobserved heterogeneity when this heterogeneity is constant over time and correlated with the regressor (see Baltagi 2005). The basic framework is a regression of the form:

$$y_{it} = X_{it}\beta + \alpha_i + u_{it} \text{ for } t=1, \dots, T, \text{ and } i=1, \dots, N \quad (1)$$

Where  $y_{it}$  is the dependent variable observed for individual  $i$  at time  $t$

$X_{it}$  is the independent variable that is time-variant

$\alpha_i$  is the unobserved time-invariant individual effect

$u_{it}$  is the error term

Turnover as percent of GDP is the dependent variable, while the number of listed companies and market capitalization as percentage of GDP, defined in the previous section are the independent variables. All variables are expressed in natural logarithms. The fixed effect model allows that  $\alpha_i$  is correlated with the regressor matrix  $X_{it}$ . By demeaning the variables, the fixed individual effect is eliminated. The estimator is thus obtained by an OLS regression of variable Y on X. By employing this model we try to see whether there is indeed a relation between the selected variables. Results are shown below, in Table 1.

**Table 1: Results for Turnover/GDP as a dependent variable**

Variable	Coefficient	Std. Err.	T	P> t	[95% Conf. Interval]	
Ln(MkCap)	.8881561***	.082115	10.82	0.000	.7264836	1.049829
LDC	.0000446	.0001181	0.38	0.706	-.000188	.0002771
Cons	-.7816669	.3066452	-2.55	0.011	-1.385407	-.177927
F test	F(26, 269)= 56.41		Prob>F=0.0000			
R-sq	Within = 0.3044 Between = 0.4925 Overall = 0.4495					
Observations	297					

Note: MkCap is market capitalization as percent of GDP, LDC is the number of listed companies. We used Stata 11 for estimations.

\*\*\* denotes significance at 1% level

We find a significant coefficient for market capitalization (0.88) and non-significance in the case of listed companies (see Table 1). We could explain the non-significance in the case of listed companies by the fact that in our group of countries, there are many countries where the number of listed companies may be higher than the number of companies that activate for real in the exchange stock platform. This is, for example, the case of Romania. If we look at in appendix A, the value of stocks traded decreased for some countries (see also section 3 of the present paper) and this decrease could be attributed to the world financial crisis which affected the activity of the listed companies. Both variables (market capitalization and listed companies) decreased but their impact on the dependent variable is different. While the number of listed companies does not

matter for the turnover, market capitalization has a significant impact. A reason of these findings may rely on the fact that the market power of the listed companies is different in developed vs. developing countries of the EU and this may be reflected in the overall outcome we obtained for the whole group.

## **5. Conclusions**

Liquidity can be considered as a mirror for the efficiency and performance of the capital market. When the liquidity is higher, the market becomes more attractive to investors. The need for an increased liquidity was the reason of our motivation in assessing the liquidity dependence in this paper. Our results prove that market capitalization, as a size variable, is significant at 1% level for capital market liquidity. This implies, as a policy recommendation for these countries, to enhance their market capitalization in order to attain a greater turnover. The number of listed companies did not have an impact on turnover for the EU countries during the analyzed period. Thus, an important hint, based on our results, is that countries could be better evaluated by their market value rather than by the listed companies. As we notice in the patterns, a country may have a small number of listed companies but at the same time a strong market capitalization which may enhance the value of turnover (for example Luxembourg). This fact is not valid for developing countries of the EU (such as Romania) where the large number of listed companies is accompanied by a small market capitalization. The companies from these countries certainly need to find ways to increase their market capitalization and to assure the feed-back effect with turnover. The financial crisis had an impact on the entry data we used in our estimations, with a decrease in both listed companies and market capitalization in 2007 and due to an extended economic impact, also in 2008 and 2009. Starting in the years 2010 and 2011, there was a slowly increase in the variables, which could be a sign that in a few years these countries may exhibit same patterns in terms of financial indicators such as before the crisis. The case of Romania is still a difficult one since the Romanian capital market has been severely affected by the financial crisis. The efforts in overcoming this difficulty may become visible by increasing the market power of the listed companies on Bucharest Stock Exchange, cumulated with the efforts in increasing the transparency of financial reporting that is a considerable reason for attracting new investors. Since capital market liquidity plays an obvious role in both the investment and the economic growth processes of countries, there is a certain need to enhance it by encouraging large companies to invest in our country. Further research is needed to assess their impact on economic growth in EU countries while endogeneity that might exist between these financial development indicators is taken into account.



## References:

- Baltagi, B. (2005) *Econometric Analysis of Panel Data*, Wiley, 3<sup>rd</sup> Edition.
- Bekaert, G., Harvey, C.R. and Lundblad, C. (2002) "Dating the integration of world equity markets" *Journal of Financial Economics*, no. 65, pp. 203–247.
- Brown, J., Crocker, D.K. and Foerster, S.R. (2007), "Trading Volume Liquidity and Investment Styles", available at SSRN: [<http://ssrn.com/abstract=1077824>], working paper series
- Choong, C.K., Baharumshah, A.Z., Yusop, Z.&Habibullah M.S. (2010) "Private capital flows, stock market and economic growth in developed and developing countries: A comparative analysis", *Japan and the World Economy*, no. 22, pp. 107–117.
- Chordia, T., Roll, R. and Subrahmanyam, A. (2008) "Liquidity and market efficiency" *Journal of Financial Economics*, no. 87, pp. 249–268.
- Chuhan, P. (1992) "Are Institutional Investors an important source of portfolio investment in emerging markets?" *World Bank Working Paper*, No. 1243.
- Chung, D. and Hrazdil, K. (2010a) "Liquidity and market efficiency: A large sample study" *Journal of Banking&Finance*, no. 34, pp. 2346-2357
- Chung, D. and Hrazdil, K. (2010b) "Liquidity and market efficiency: Analysis of NASDAQ firms" *Global Finance Journal*, no. 21, pp. 262–274
- Daouk, H., MC Lea, C. and Ng, D. (2006) "Capital market governance: How do securities laws affect market performance?", *Journal of Corporate Finance*, no. 12, pp. 560-593.
- Dey, M.K. (2005) "Turnover and return in global stock markets", *Emerging Markets Review*, no. 6, pp. 45-67.
- Fama, E. and French, K. (1993), "Common risk factors in the returns on stocks and bonds" *Journal of Financial Economics*, no. 33, pp. 3–56.
- Kai Li (2007), "The growth in equity market size and trading activity: An international study", *Journal of Empirical Finance*, no. 14, pp. 59–90.
- Kumar, N. (2010) "Estimation of market capitalization and economic growth in India, Available online at: <http://ssrn.com.abstract=1610082> or <http://dx.doi.org/10/2139/ssrn.1610082>.
- Lischewski, J. and Voronkova, S. (2010) "Size, Value and Liquidity. Do They Really Matter on an Emerging Stock Market?" *Discussion Paper*, 10-070, <ftp://ftp.zew.de/pub/zew-docs/dp/dp10070.pdf>.
- Rhee, G. S. and Wang, J. (2009) "Foreign institutional ownership and stock market liquidity: Evidence from Indonesia", *Journal of Banking&Finance*, no. 33, pp. 1312-1324.
- Robins, E.M., Sandler, M. and Durand, F. (1999) "Inter-relationships between the January effect, market capitalisation and value investment strategies on the JSE" *Investment Analysts Journal*, no. 50, pp. 53-64.
- Rouwenhorst, G. (1999) "Local factors and turnover in emerging markets" *Journal of Finance*, no. 54, pp. 1439-1464.
- Stulz, R. (1999a) "International portfolio flows and security markets." In: *International Capital Flows, NBER Conference Report Series*, pp. 257–293.
- Stulz, R. (1999b) "Globalization of equity markets and the cost of capital" In: *NBER Working Paper*, 7021.
- Vo, X. V and Batten, J. (2011) "An Empirical Investigation of Liquidity and Stock Returns Relationship in Vietnam Stock Markets during Financial Crisis" MPRA Paper no. 29862, Available online at: [<http://mpra.ub.uni-muenchen.de/29862/>]. World Databank, 2012.

## Appendix A: Stocks traded, total value (% of GDP)

Development stage	Country/Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	
Developed	Austria	3.78	2.80	4.26	8.18	15.05	24.49	32.38	25.24	6.69	12.78	9.25	
	Belgium	17.68	13.37	13.69	22.14	33.32	41.48	55.63	41.74	26.99	23.88	20.96	
	Denmark	43.98	29.66	31.51	39.82	59.01	64.39	77.76	61.90	47.67	46.31	45.23	
	Finland	143.65	130.54	99.52	116.39	139.69	171.58	220.76	143.55	38.04	43.08	65.53	
	France	80.50	64.38	61.58	68.87	71.43	111.04	132.39	115.32	52.14	57.55	53.16	
	Germany	75.47	61.45	47.33	51.57	63.74	85.67	101.18	85.69	39.07	43.11	49.24	
	Greece	28.79	17.03	20.01	19.08	27.18	41.01	49.70	14.12	16.07	14.41	8.27	
	Ireland	21.32	26.62	27.66	23.69	31.83	35.73	52.55	14.11	8.28	8.19	7.20	
	Italy	49.14	44.07	43.79	46.35	62.43	72.94	108.76	28.99	21.78	26.39	40.44	
	Luxembourg	2.14	1.19	0.89	1.07	0.64	0.54	0.45	0.45	2.87	0.52	0.33	0.21
	United Kingdom	126.56	118.49	118.88	168.40	182.72	173.53	367.04	246.10	156.70	133.52	122.22	
	Netherlands	257.95	105.60	98.44	122.55	130.90	161.74	230.45	131.26	76.15	76.47	66.28	
	Portugal	22.67	15.37	13.41	20.32	21.70	34.80	62.35	32.77	19.56	13.74	15.22	
	Spain	137.73	147.75	105.81	114.36	137.71	156.15	205.50	153.15	109.87	98.38	95.20	
	Sweden	132.65	87.07	83.82	113.90	125.20	169.67	209.47	132.00	96.19	95.17	93.96	
	Bulgaria	0.51	1.08	0.95	2.02	4.80	4.54	13.05	3.19	0.82	0.41	0.49	
Cyprus	35.49	5.89	2.30	1.11	2.40	23.34	24.44	8.96	4.02	2.73	1.96		
Estonia	3.52	3.30	5.73	6.88	17.82	5.78	9.53	3.28	1.95	1.71	1.10		
Latvia	1.98	1.33	1.30	0.80	0.60	0.56	0.49	0.13	0.08	0.11	0.18		
Lithuania	1.73	1.29	1.06	2.06	2.85	6.96	2.62	1.04	0.82	0.82	0.57		
Malta	1.20	1.23	0.83	1.66	2.52	3.99	1.19	0.86	0.23	0.33	0.55		
Romania	0.64	0.88	0.74	1.25	3.44	3.47	4.78	1.84	1.17	1.05	1.78		
Slovak Republic	3.18	2.28	1.45	1.17	0.11	0.13	0.04	0.02	0.20	0.20	0.47		
Slovenia	3.87	4.34	2.51	3.46	2.21	2.62	5.74	2.58	2.08	0.58	1.03		
Czech Republic	5.20	7.76	9.23	15.50	31.56	22.16	23.23	19.09	10.50	7.12	7.19		
Hungary	9.14	8.95	9.94	12.76	21.67	27.71	34.90	19.97	20.48	20.58	13.92		
Poland	3.90	2.95	3.92	6.55	9.86	16.11	19.88	12.84	12.95	16.49	18.64		

Source: World Development Indicators

## Appendix B. Market capitalization (% of GDP)

Development status	Country/Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Developed	Austria	12.79	15.37	21.69	29.63	40.79	58.87	60.98	17.46	14.03	17.97	19.88
	Belgium	71.33	50.46	55.68	75.55	76.46	99.06	84.06	33.00	55.22	57.71	44.94
	Denmark	55.07	44.16	57.20	61.84	69.09	84.20	89.19	38.25	60.06	74.23	53.96
	Finland	152.80	102.70	103.67	97.20	107.01	127.66	149.99	56.76	37.98	49.97	53.78
	France	87.76	66.59	75.66	75.84	82.32	107.66	107.31	52.70	75.28	75.58	56.57
	Germany	56.98	34.44	44.52	43.81	44.15	56.42	63.35	30.58	39.34	43.87	33.17
	Greece	66.65	47.07	55.40	54.94	60.40	79.48	86.89	26.49	17.00	24.29	11.26
	Ireland	71.24	48.86	53.46	61.03	56.15	73.03	55.40	18.74	13.39	16.43	16.28
	Italy	46.93	39.23	40.60	45.49	44.88	54.81	50.43	22.57	15.03	15.57	19.66
	Luxembourg	117.74	109.54	128.04	147.09	136.10	186.89	323.71	115.04	203.21	190.87	113.70
	United Kingdom	147.20	115.67	132.24	127.91	134.10	155.21	137.17	70.26	128.79	137.97	49.43
	Netherlands	114.37	91.70	90.77	88.32	92.86	115.04	122.22	44.55	66.38	85.40	71.12
	Portugal	38.51	32.39	35.99	37.89	34.91	51.64	57.07	27.28	42.14	36.09	25.97
	Spain	76.90	67.75	82.17	90.05	84.90	107.02	124.88	59.38	89.12	84.69	69.15
	Sweden	104.03	71.46	92.11	104.06	109.00	143.64	132.43	51.95	106.53	125.61	87.36
	Bulgaria	3.64	4.59	8.49	11.09	17.60	31.09	51.75	17.09	14.63	15.24	15.42
Developing	Cyprus	63.92	47.27	36.07	30.85	38.73	86.25	134.96	31.41	21.21	29.54	11.56
	Estonia	23.77	33.20	36.52	51.58	25.13	35.50	27.45	8.17	13.80	12.01	7.26
	Latvia	8.38	7.67	10.20	12.03	15.75	13.57	10.82	4.78	7.05	5.21	3.81
	Lithuania	9.86	10.33	18.86	28.66	31.52	33.87	25.92	7.67	12.15	15.59	9.54
	Malta	35.11	32.19	35.74	50.34	68.51	70.48	74.97	41.76	24.47	29.38	38.53
	Romania	5.29	9.95	9.38	15.61	20.81	26.73	26.54	9.96	18.82	20.04	11.79
	Slovak Republic	5.14	5.50	6.06	7.87	7.16	8.08	8.29	5.19	5.36	4.77	4.93
	Slovenia	13.85	19.91	24.47	28.60	22.11	38.98	61.22	21.56	23.99	20.10	12.77
	Czech Republic	14.49	20.26	18.54	27.08	29.48	32.76	40.67	21.67	26.86	21.78	17.82
	Hungary	19.66	19.75	20.03	28.17	29.53	37.26	35.01	12.05	22.34	21.54	13.41
Poland	13.66	14.51	17.14	28.13	30.89	43.63	48.74	17.04	31.40	40.49	26.87	
Emerging												

Source: World Development Indicators

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