

**ERSTE GROUP** 

# **Special Report** – March 5, 2009 The real picture of CEE debt

Market valuation based on misinterpreted data

CEE economies differ considerably

External financing needs lower than generally perceived

Debt levels generally low in CEE

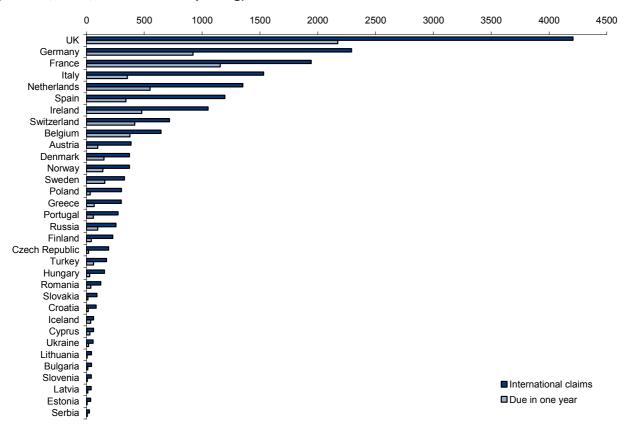
### Special Report – The real picture of CEE debt

CEE epicenter of crisis?	Recent weeks have brought a huge number of negative stories on CEE, calling the region a hotspot of problems for the Eurozone or the epicenter of a much bigger financial crisis across Europe.									
	Recent headlines in influential newspapers									
	<ul> <li><i>"Eastern crisis that could wreck the eurozone"</i></li> <li>Financial Times - Feb 23<sup>rd</sup> 2009</li> <li><i>"Failure to save East Europe will lead to worldwide meltdown"</i></li> <li>Daily Telegraph - Feb 15th 2009</li> </ul>									
	<b>"Argentina on the Danube"</b> The Economist - Feb 20th 2009									
Misinterpretation often sold	We understand that the story has to sell and that it has become fashionable to have the gloomiest view at present. However, to build a story on misinterpreted data is very misleading. This is what happened to many influential newspapers and sound research sources as well in recent weeks.									
	The biggest blow for CEE markets was the misinterpretation of BIS statistics <sup>1</sup> , which contain data about cross-border positions of banks surveyed in about 40 countries. Data is collected using two different methodologies – based on geographic reporting (unconsolidated) and consolidated reporting.									
	Quotes of misunderstood and misinterpreted data									
	"Eastern Europe has borrowed \$1.7 trillion abroad, much on short-term maturities. It must repay – or roll over – \$400bn this year, equal to a third of the region's GDP. Good luck." Telegraph Feb 15th 2009									
	<b>"Today, Austria's loans to the east amount to 70 percent of its gross domestic product."</b> The New York Times – Feb 23rd 2009)									
	"Austria's lending to eastern Europe is equivalent to about 80% of its GDP." The Economist" - Feb 19th 2009									
Comparison unveils that indebtedness of CEE is negligible compared to Western Europe	The alarming news that Eastern Europe has borrowed USD 1.7trn abroad and has to repay or roll over USD 400bn in 2009 was circulating in many research reports and the media in past weeks. Before going into details on what is wrong with those two figures, we have to say that, according to the same datasets/methodology/logic, some European countries "have borrowed abroad" more (Germany USD 2.3trn, the Netherlands USD 1.9trn, the UK USD 4.5trn) than the entire Eastern Europe region, consisting of 20 countries <sup>2</sup> , including Ukraine, Turkey and Russia. Similarly, we can see that, using the same logic, even mid-size Western Europe countries "have to repay or roll over this year" a higher amount of debt due this year (Belgium USD									

 <sup>&</sup>lt;sup>1</sup> Bank for International Settlements <u>http://www.bis.org/statistics/provbstats.pdf</u>
 <sup>2</sup> List of countries: Albania, Belarus, Bosnia, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Moldova, Montenegro, Poland, Romania, Russia, Serbia, Slovakia, Turkey, Ukraine Erste Group – Special Report March 2009

375bn, Ireland USD 477bn and the Netherlands USD 550bn) than the whole of Eastern Europe (again including Ukraine, Turkey and Russia). However, such a comparison would reveal that the indebtedness of Eastern Europe and its dependence on foreign funding is negligible compared to Western Europe.

### Total foreign claims according to BIS (USD bn, 3Q08, consolidated reporting)



Source: BIS, Erste Group Research

## Misleading interpretation of data

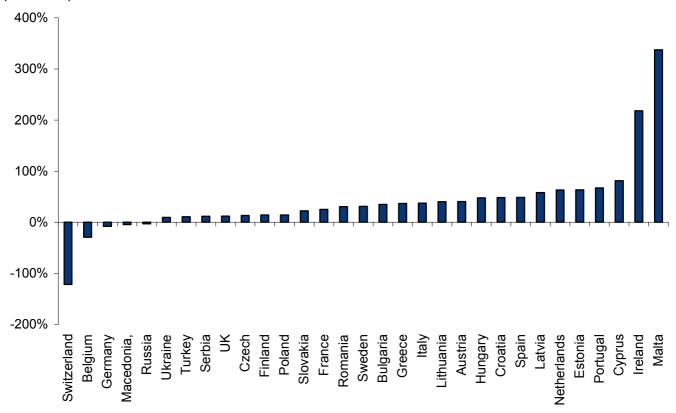
In any case, the bigger problem than the above-mentioned selective approach was the completely misleading interpretation of data. The figure of USD 1.7tm taken from the consolidated datasets does not refer to borrowed money from abroad, because it also includes loans provided (and funded) by local subsidiaries of foreign banks on local markets. Given the high share of foreign ownership of banks in CEE, this represents a significant proportion of the above-mentioned figure.

We can illustrate the wrong interpretation of the BIS data with two striking examples. The first one is the Czech Republic, where total foreign claims according to BIS consolidated reporting were USD 191bn as of 3Q08, which exceeds the overall external debt of the Czech Republic (USD 88bn). How is that possible? Because the consolidated data includes all loans provided by local subsidiaries of foreign-owned banks (Ceska sporitelna owned by Erste, Komercni banka owned by SocGen, CSOB owned by KBC, etc.), which inflated the foreign figure claim. If we look at geographic data provided by the BIS (which is compatible with IMF/World Bank/OECD data on external debt), the Czech economy has borrowed from BIS reporting banks only USD 55bn, while it lent them USD 26bn.<sup>3</sup> Thus, the net borrowing is only USD 29bn, which is 1/7 of the above-mentioned misinterpreted figure.

<sup>&</sup>lt;sup>3</sup> Also, the Czech National Bank complained about misleading information published in international media: <u>http://www.cnb.cz/en/public/media service/press releases cnb/2009/090224 statement FT.html</u> Erste Group – Special Report March 2009

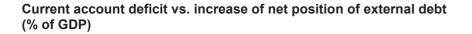
	The second example of a misleading interpretation of BIS data is "Austria's lending" to Eastern Europe at 70-80% of GDP. Again, this ratio has been derived from consolidated BIS data, meaning that the vast majority of claims included in this figure are assets booked locally and funded locally (at least 2/3 on average for countries where Austrian banks are present). This is often misinterpreted as cross-border financing or funding the region, but the ratio does not say too much about funding of the CEE region.
	To sum up the story about funding, we recommend using IMF/World Bank statistics about gross external debt <sup>4</sup> or BIS geographic data (a subset of the IMF's data on external debt), which shows that gross external debt in most Eastern European countries is in general far below Western Europe - in strong contradiction with the current perception of "heavily indebted Eastern Europe".
Inter-company loans have little funding risk	To be more accurate when talking about funding issues, we should concentrate on net external debt, rather than gross. For instance, Hungarian external debt totaled about USD 209bn (127% of GDP) in 3Q08, but the net external debt was less than half of the above-mentioned headline figure (55% of GDP). Subtracting inter-company loans, which are treated in the Balance of Payments as part of FDIs, we would come to an even lower share of 45% of GDP. Unfortunately, cross-country compatible data on net external debt is not available for all relevant countries, so we use net position against BIS reporting banks (geographic data) as a proxy for the net external debt less intercompany loans. The data again shows that the net external debt of Hungary is not a big issue in the international context and that it is lower than in six Euro Area countries.

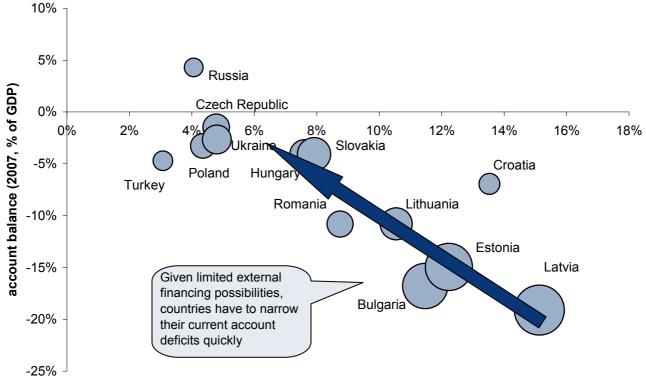
### Net position vis-à-vis BIS banks (assets less liabilities) (% of GDP)



Source: BIS, Erste Group Research

Adjustment of current account deficits has already started While the level is nothing alarming, the real challenge for Eastern Europe is that the region cannot count on such strong capital inflows as in the past years, due to the squeeze from the global savings glut. Eastern Europe attracted about USD 210bn in net debt in 2007 (according to the BIS), which enabled some countries to run relatively large current account deficits. In the first three quarters of 2008, it was just half of that number, which was also reflected in improved current account deficits in many countries. In the Baltic countries and Bulgaria, net external borrowing from BIS banks increased by 10-20% of GDP in 2007, allowing these economies to run debt-fuelled double-digit current account deficits. Given the slowdown of capital inflows, we should see a significant improvement of current account deficits over this year and the next. That is what is happening right now.<sup>5</sup>





increase of net position vis BIS banks (2007, % of GDP)

Source: BIS, Erste Group Research

Putting CEE in one bag is misleading Putting all Eastern and Central European countries into one bag and generalizing on the impact of the crisis on this region would be very misleading. Eastern and Central Europe is neither economically nor geographically one common region. The Czech economy has almost nothing in common with the Baltic economies or Bulgaria (except for being an EU member), nor the Slovak economy with Turkey, Albania or Moldova, nor Croatia with Russia. Geographically and trade-wise, Berlin is closer to Prague than Kiev or Moscow. These countries and their economies differ considerably structurally, in the size of current account deficits, currency regimes and currency movements and the quality of institutions.

<sup>&</sup>lt;sup>5</sup> This is happening not only in Eastern Europe, but more painfully in some Western Economies (Greece, Spain, Portugal, Malta), which had been running debt-fuelled current account deficits close to 10% of GDP and which do not have auto-stabilizers like currency depreciation (the same is valid for the Baltic states), which would soften the negative impact of the adjustment process on local producers. Indeed, given the substantial downward rigidity of nominal wages in Europe, producers in Eastern European countries that witnessed currency depreciation have a big advantage in terms of low labor costs, allowing them to compete aggressively in price mainly on the domestic market, but also partially on subdued international markets.

#### **CEE highly indebted?**

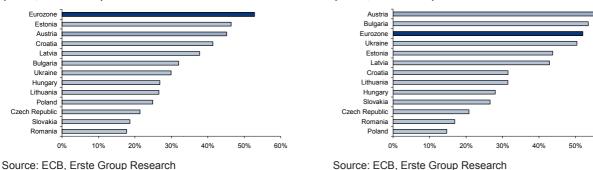
The root of all of the concerns about Eastern Europe seems related to the premise that it is a region where growth relies heavily on debt. The macro and political picture differs vastly among the countries in the region, according to the amount to which debt contributed to past economic growth. Now, with financing becoming scarce, a severe economic downturn is ahead, with lenders being hit hard, according to these views.

(2008,% of GDP)

Loans to non-financial corporate institutions

60%

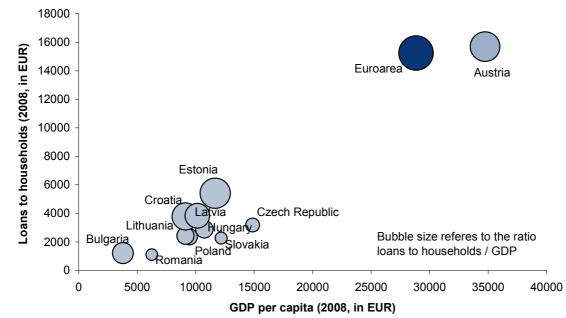
### Loans to households (2008,% of GDP)



#### **Opposite is true**

The impression one might get from recent reports is that CEE is a highly indebted region. Indeed, the very opposite is true. The countries with the highest debt levels are around the EMU average. The low level of indebtedness is key, as it increases the likelihood of the debt to be serviced. With loans having a low portion of GDP, monthly fixed payments also have a relatively low proportion of household budgets. This makes CEE households more flexible in adjusting to the economic slowdown than countries where fixed costs make up a high portion of household budgets.

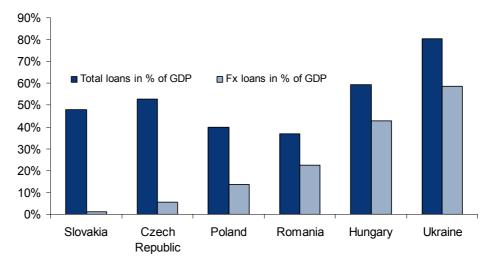
#### Loans to households per capita vs. GDP per capita (2008, in EUR)



Source: ECB, Erste Group Research

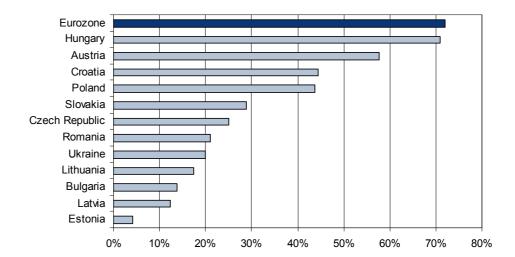
On the other side, a true concern is the high level of foreign currency loans in some countries. Recent currency weakening has increased the risks for foreign currency loans, but not equally throughout the region. Some Eastern European nations have a high proportion of FX loans, while some have almost zero exposure to FX lending to households (the Czech Republic, Slovakia). When assessing the risks of the FX loans, one should not take into account the recent currency weakening alone. We think that the past growth of wages since the origination of loans is an offsetting factor. This

should give households some latitude in absorbing higher monthly payments. Furthermore, the manner in which FX has developed since the origination of the loan also helps to assess the risks involved.



#### Total loans – Fx loans to GDP

Highest CEE public debt around EMU average Public debt is substantially lower in CEE than in Western European countries, where it will increase substantially, due to financing of rescue packages and bailouts of financial institutions. So far, CEE governments have been keeping tight fiscal discipline. In the current circumstances, financing will remain tight. But again, the overall low level of indebtedness reduces the risks. So, under normal circumstances Governments would sufficient latitude on their debt side.



Public debt (% of GDP)

Source: Eurostat, Erste Group Research

Source: ECB, national banks, Erste Group Research

#### Conclusion

We can conclude that it is not fair to say that Eastern Europe is highly indebted - either when generalizing about the region or in relative terms when benchmarking countries in the European context. The same is valid for external debt and when looking at separate sectors - households, governments and companies. We have pointed out that the current gloomy picture presented relies on wrong data or data taken out of context.

Nonetheless, there is no doubt that the CEE region will face a significant slowdown of capital inflow in the coming period, putting pressure on countries with high and debt-fueled current account deficits, high levels of short-term external debt and pegged currencies (like the Baltics and Bulgaria). These economies might have to adjust sharply through a painful reduction of domestic demand, given the fact that external demand has evaporated. Abrupt devaluation represents the biggest risk for the financial sector in these countries, which would bear the highest losses if it materialized. Countries with flexible exchange rates that have already experienced gradual currency depreciation will be able to deal more smoothly with adjustments of their current account deficits and reduce their need for external financing (the process has already started in Romania).

The biggest mistake would be to judge countries based on their geographic position, rather than their economic parameters and structural indicators. That is what is happening right now. We have to differentiate between countries that are part of the EU (providing an implicit vision of EMU membership, common actions), countries with pegged currencies that face the risk of abrupt devaluations, countries with high shares of FX lending and those with almost no FX lending, countries with external and internal imbalances and countries with growth in line with potential output. We feel that, at present, many investors are assessing the countries with a regional approach and using misleading data. On the other hand, this provides opportunities for the future.

Juraj Kotian, juraj.kotian@erstegroup.com

Rainer Singer, rainer.singer@erstegroup.com

This research report was prepared by Erste Group Bank AG ("Erste Group") or its affiliate named herein. The information herein has been obtained from, and any opinions herein are based upon, sources believed reliable, but we do not represent that it is accurate or complete and it should not be relied upon as such. All opinions, forecasts and estimates herein reflect our judgement on the date of this report and are subject to change without notice. The report is not intended to be an offer, or the solicitation of any offer, to buy or sell the securities referred to herein. From time to time, Erste Group or its affiliates or the principals or employees of Erste Group or its affiliates may have a position in the securities referred to herein or hold options, warrants or rights with respect thereto or other securities of such issuers and may make a market or otherwise act as principal in transactions in any of these securities. Erste Group or its affiliates or the principals or employees of Erste Group or its affiliates may from time to time provide investment banking or consulting services to or serve as a director of a company being reported on herein. Further information on the securities referred to herein may be obtained from Erste Group purequest. Past performance is not necessarily indicative for future results and transactions in securities, options or futures can be considered risky. Not all transaction are suitable for every investor. Investors should consult their advisor, to make sure that the planned investment fits into their needs and preferences and that the involved risks are fully understood. This document may not be reproduced, distributed or published without the prior consent of Erste Group. Erste Group Bank AG confirms that it has approved any investment advertisements contained in this material. Erste Group Bank AG is regulated by the Financial Services Authority for the conduct of investment business in the UK. Please refer to www.erstegroup.com for the current list of specific disclosures a

## Appendix

Indicator / Country	Gross External Debt 3Q2008		Short-term gross external debt 3Q2008		Long-term external debt - securities 3Q2008		Intercompany lending 3Q2008		Other long-term debt 3Q2008		International reserves (ex-gold)	
, , , , , , , , , , , , , , , , , , , ,											3Q2008	
Austria	USD bn 862	% GDP 199%	USD bn 302	% GDP 70%	USD bn 411	% GDP 95%	USD bn 54	% GD P 12%	USD bn 95	% GDP 22%	USD bn *	% s-t debt
Belgium	1619	305%	1206	227%	266	50%	82	15%	65	12%	*	*
Cyprus	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	*	*
Denmark	589	159%	287	78%	182	49%	56	15%	64	17%	29	10%
Finland	345	120%	121	42%	121	42%	61	21%	42	15%	*	*
France	5135	172%	2251	76%	1747	59%	518	17%	619	21%	*	*
Germany	5441	142%	1973	52%	2287	60%	575	15%	606	16%	*	*
Greece	500	134%	130	35%	267	71%	5	1%	98	26%	*	*
Ireland	2391	839%	1082	380%	669	235%	285	100%	355	125%	*	*
Italy	2551	106%	944	39%	1256	52%	87	4%	264	11%	*	*
Malta	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	*	*
Netherlands	2683	295%	1263	139%	831	91%	315	35%	274	30%	*	*
Norway	5 59	116%	302	63%	190	39%	23	5%	44	9%	44	15%
Portugal	500	196%	192	75%	161	63%	21	8%	126	49%	*	*
Slovenia	57	100%	18	32%	6	11%	7	12%	26	46%	*	*
Spain	2411	143%	715	42%	1094	65%	220	13%	382	23%	*	*
Sweden	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	34	n/a
Switzerland	1426	290%	1000	203%	76	15%	134	27%	216	44%	45	5%
UK	10746	386%	8065	289%	1870	67%	776	28%	35	1%	42	1%
Bulgaria	51	98%	19	37%	2	4%	18	35%	12	23%	20	105%
Croatia	52	81%	5	8%	7	11%	7	11%	33	52%	14	280%
Czech Republic	88	41%	28	13%	21	10%	10	5%	29	13%	36	129%
Estonia	27	107%	10	40%	2	8%	5	20%	10	40%	4	40%
Hungary	209	127%	26	16%	56	34%	76	46%	51	31%	25	96%
Latvia	42	124%	15	44%	1	3%	4	12%	22	65%	6	40%
Lithuania	33	68%	9	18%	4	8%	4	8%	16	33%	6	67%
Poland	265	47%	62	11%	70	12%	53	9%	80	14%	71	115%
Romania	99	46%	26	12%	5	2%	15	7%	53	25%	37	142%
Russia	540	30%	114	6%	34	2%	32	2%	360	20%	542	475%
Serbia	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	14	n/a
Slovakia	53	53%	20	20%	10	10%	14	14%	9	9%	18	90%
Turkey	289	36 %	56	7%	40	5%	3	0%	190	24%	77	138%
Ukraine	105	53%	30	15%	16	8%	5	3%	54	27%	37	123%

### Special Report – The real picture of CEE debt

Indicator /	Assets vis BIS banks		Liabilities vis BIS banks 3Q2008		Net position vis BIS banks 3Q2008		Change of net position				Current account balance	
Country 3Q2008							1-3Q2008		2007		2007	
	USD bn	% GDP	USD bn		USD bn	% GDP	USD bn		USD bn	% GDP		
Austria	318	73%	143	33%	175	40%	27	6%	46	11%	12	3%
Belgium	648	122%	803	151%	-156	-29%	-117	-22%	-62	-12%	7	1%
Cyprus	68	266%	47	185%	21	81%	14	53%	5	21%	-3	-10%
Denmark	302	82%	176	48%	126	34%	18	5%	-5	-1%	3	1%
Finland	157	54%	116	40%	41	14%	9	3%	-7	-3%	10	3%
France	1940	65%	1189	40%	751	25%	-38	-1%	81	3%	-31	-1%
Germany	1850	48%	2158	57%	-308	-8%	-22	-1%	-41	-1%	256	7%
Greece	212	57%	74	20%	137	37%	25	7%	4	1%	-45	-12%
Ireland	1278	448%	657	230%	621	218%	38	13%	161	57%	-13	-4%
Italy	1305	54%	410	17%	895	37%	38	2%	84	4%	-51	-2%
Malta	47	547%	18	210%	29	337%	8	97%	3	30%	-0.5	-6%
Netherlands	1553	171%	980	108%	573	63%	185	20%	101	11%	47	5%
Norway	307	64%	131	27%	177	37%	54	11%	6	1%	60	13%
Portugal	296	116%	125	49%	171	67%	5	2%	13	5%	-21	-8%
Slovenia	35	62%	5	9%	30	53%	5	9%	5	8%	-2	-4%
Spain	1192	71%	373	22%	819	49%	93	6%	93	6%	-145	-9%
Sweden	339	66%	180	35%	160	31%	24	5%	12	2%	38	7%
Switzerland	849	172%	1450	294%	-601	-122%	21	4%	4	1%	58	12%
UK	5373	193%	5043	181%	331	12%	-165	-6%	159	6%	-119	-4%
Bulgaria	24	46%	6	12%	18	35%	10	20%	6	11%	-9	-17%
Croatia	43	67%	12	18%	31	48%	4	6%	9	14%	-4	-7%
Czech Republic	55	25%	26	12%	29	13%	1	1%	10	5%	-3	-1%
Estonia	19	76%	3	13%	16	63%	1	6%	3	12%	-4	-15%
Hungary	94	57%	16	10%	78	48%	14	9%	13	8%	-7	-4%
Latvia	23	69%	4	11%	20	58%	4	12%	5	15%	-6	-19%
Lithuania	22	46%	3	5%	20	40%	5	9%	5	11%	-5	-11%
Poland	129	23%	48	8%	81	14%	19	3%	25	4%	-19	-3%
Romania	70	33%	5	2%	65	30%	19	9%	19	9%	-23	-11%
Russia	211	12%	263	15%	-53	-3%	-9	0%	72	4%	76	4%
Serbia	10	20%	4	8%	6	12%	4	7%	-1	-3%	-6	-12%
Slovakia	27	27%	4	4%	22	22%	5	5%	8	8%	-4	-4%
Turkey	153	19%	66	8%	87	11%	11	1%	25	3%	-38	-5%
Ukraine	38	19%	20	10%	19	9%	10	5%	10	5%	-5	-3%

Source: BIS, IMF, Erste Group Research

### Contacts

**Group Research** Head of Group Research Friedrich Mostböck, CEFA **CEE Equity Research** Co-Head: Günther Artner, CFA Co-Head: Henning Eßkuchen Günter Hohberger (Banks) Franz Hörl, CFA (Steel, Construction) Gernot Jany (Banks, Real Estate) Daniel Lion (IT) Martina Valenta, MBA (Transp., Paper) Christoph Schultes, CIIA (Ins., Util.) Thomas Unger (Telecom) Vladimira Urbankova (Pharma) Gerald Walek, CFA (Machinery) International Equities Hans Engel (Market strategist) Ronald Stöferle (Asia) Macro/Fixed Income Research Head: Gudrun Egger (Euroland) Alihan Karadagoglu (Corporates) Rainer Singer (US) Elena Statelov, CIIA (Corporates) Mildred Hager (SW, Japan) Macro/Fixed Income Research CEE Co-Head CEE: Juraj Kotian (Macro/FI) Co-Head CEE: Rainer Singer (Macro/FI) Editor Research CEE Brett Aarons Research, Croatia/Serbia Head: Mladen Dodig Damir Cukman (Equity) Alen Kovac (Fixed income) Davor Spoljar (Equity) Research, Czech Republic Head: David Navratil (Fixed income) Petr Bartek (Equity) Jana Krajcova (Fixed income) Radim Kramule (Equity) Martin Lobotka (Fixed income) Lubos Mokras (Fixed income) David Navratil (Fixed income) Jakub Zidon (Equity) Research, Hungary Head: József Miró (Equity) Zoltan Arokszallasi (Equity) György Zalányi (Equity) Gergely Gabler (Equity) Orsolya Nyeste (Fixed income) Research, Poland Head: Artur Iwanski (Equity) Magda Jagodzinska (Equity) Marcelina Hawryluk (Equity) Tomasz Kasowicz (Equity) Piotr Lopaciuk (Equity) Marek Czachor (Equity) Research, Romania Head: Lucian Claudiu Anghel Mihai Caruntu (Equity)

#### **Treasury - Erste Bank Vienna** Sales Retail & Sparkassen

calles inclair a opainaceen	
Head: Manfred Neuwirth	+43 (0)5 0100 - 84250
Equity Retail Sales	
Head: Kurt Gerhold	+43 (0)5 0100 - 84232
Domestic Sales Fixed Income	
Head: Thomas Schaufler	+43 (0)5 0100 - 84225
Treasury Domestic Sales	
Head: Gottfried Huscava	+43 (0)5 0100 - 84130
Corporate Desk	
Head: Leopold Sokolicek	+43 (0)5 0100 - 84601
Alexandra Blach	+43 (0)5 0100 - 84141
Markus Pistracher	+43 (0)5 0100 - 84100
	. ,

+43 (0)5 0100 - 11902 +43 (0)5 0100 - 11523 +43 (0)5 0100 - 19634 +43 (0)5 0100 - 17354 +43 (0)5 0100 - 18506 +43 (0)5 0100 - 11903 +43 (0)5 0100 - 17420 +43 (0)5 0100 - 11913 +43 (0)5 0100 - 16314 +43 (0)5 0100 - 17344 +43 (0)5 0100 - 17343 +43 (0)5 0100 - 16360 +43 (0)5 0100 - 19835 +43 (0)5 0100-11723 +43 (0)5 0100 - 11909 +43 (0)5 0100 - 19633 +43 (0)5 0100 - 11185 +43 (0)5 0100 - 19641 +43 (0)5 0100 - 17331 +43 (0)5 0100 - 17357 +43 (0)5 0100 - 11185 +420 223 005 904 +381 11 22 00 866 +385 62 37 28 12 +385 62 37 13 83 +385 (62) 372 825 +420 224 995 439 +420 224 995 227 +420 224 995 232 +420 224 995 213 +420 224 995 192 +420 224 995 456 +420 224 995 439 +420 224 995 340 +361 235-5131 +361 235-5135 +361 235-5134 +361 253-5133 +361 373-2830 +48 22 3306253 +48 22 3306250 +48 22 3306255 +48 22 3306251 +48 22 3306252 +48 22 3306254 +4021 312 6773 +4021 311 27 54

Dumitru Dulgheru (Fixed income) Cristian Mladin (Fixed income) Loredana Oancea (Equity) Eugen Sinca (Fixed income) Raluca Ungureanu (Equity) Research, Slovakia Head: Juraj Barta (Fixed income) Michal Musak (Fixed income) Maria Valachyova (Fixed income) Research, Ukraine Viktor Stefanyshyn (Equity) Maryan Zablotskyy (Fixed income) Institutional Sales Head of Sales Equities & Derivatives Michal Rizek Brigitte Zeitlberger-Schmid Equity Sales Vienna XETRA & CEE Hind Al Jassani Werner Fuerst Josef Kerekes Cormac Lyden Stefan Raidl Simone Rentschler Sales Derivatives Christian Luig Manuel Kessler Sabine Kircher Christian Klikovich Armin Pfingstl Roman Rafeiner Equity Sales, London Dieter Benesch Tatyana Dachyshyn Jarek Dudko, CFA Federica Gessi-Castelli Declan Wooloughan Sales, Croatia Zeljka Kajkut (Equity) Damir Eror (Equity) Sales, Czech Republic Michal Brezna (Equity) Ondrej Cech (Fixed income) Michal Rizek Jiri Smehlik (Equity) Pavel Zdichynec (Fixed income) Sales, Hungary Gregor Glatzer (Equity) Krisztián Kandik (Equity) Istvan Kovacs (Fixed income) Sales, Poland Head: Andrzej Tabor Pawel Czuprynski (Equity) Lukasz Mitan (Equity) Jacek Krysinski (Equity) Sales, Slovakia Head: Dusan Svitek Rado Stopiak (Derivatives) Andrea Slesarova (Client sales) Roman Friesacher Helmut Kirchner

Christian Skopek **Fixed Income Institutional Desk** Head: Thomas Almen Martina Fux Michael Konczer +43 (0)5 0100 - 84121 Ingo Lusch +43 (0)5 0100 - 84111 Lukas Linsbichler +43 (0)5 0100 - 84345 +43 (0)5 0100 - 84112 Karin Rauscher +43 (0)5 0100 - 84114 Michael Schmotz

+40 2 1312 6773 - 1028 +4021 311 27 54 +421 2 4862 4166 +421 2 4862 4512 +421 2 4862 4185 +38 044 593 - 1784 +38 044 593 - 9188 +4420 7623-4154 +43 (0)5 0100 - 83123 +43 (0)5 0100 - 83111 +43 (0)5 0100 - 83114 +43 (0)5 0100 - 83125 +43 (0)5 0100 - 83127 +43 (0)5 0100 - 83113 +43 (0)5 0100 - 83124 +43 (0)5 0100 - 83181 +43 (0)5 0100 - 83182 +43 (0)5 0100 - 83161 +43 (0)5 0100 - 83162 +43 (0)5 0100 - 83171 +43 (0)5 0100 - 83172 +4420 7623-4154 +4420 7623 4154 +4420 7623 4154 +4420 7623-4154 +4420 7623-4154

+4021 312 6773 1028

+4021 312 6773 1028

+4021 311 27 54

+385 62 37 28 11 +385 62 37 28 13 +420 224 995-523

+420 224 995-577 +420 2 2499 5537 +420 224 995-510 +420 224 995-590

+361 235-5144 +361 235 - 5140+361 235-5846 +4822 330 62 03

+4822 330 62 12 +4822 330 62 13 +4822 330 62 18 +421 2 4862 5620

+421 2 4862 5601 +421 2 4862 5627

+43 (0)5 0100 - 84143 +43 (0)5 0100 - 84144 +43 (0)5 0100 - 84146 +43 (0)5 0100 - 84323 +43 (0)5 0100 - 84113

Page 11