Growth Resumption in the CIS Countries: the Effects of the Russian Federation and of the European Union.[1]

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Section 1: Introduction

The aim of this paper is to assess the different effects on growth in the Commonwealth of Independent States (CIS)[4] exerted by countries of the Enlarged European Union (EU) and by the Russian Federation, especially in the growth resumption phase observed in the CIS region after 1999, using a modified "growth regression" framework. Several different *demand-side* channels[5] for the transmission of growth –trade, FDI and remittances- are considered, as are the different regional dimensions of the enlarged EU (the EU 15 and EU 25, expected soon to be EU-27). We find a positive significant role for the Enlarged EU in the CIS regional growth dynamics (larger than Russia's), via imports, FDI and remittances.

Section 2: Recent Growth Performance in the CIS

After the so-called initial "transitional recession" (see Bakanova et al., 2004), most of the CIS countries had already returned to growth by 1996, albeit in the largest CIS economy, Russia, that was achieved only in 1997[6]. This growth resumption was only briefly interrupted by the sharp downturn caused by the 1998 Russian crisis (see Esanov, Merkl and Vinhas de Souza, 2005): average CIS growth fell from 3.2 percent in 1997 to 1.4 percent in 1998, but growth rebounded again as soon as 1999 (see Figure I), reaching an average of 5.1 percent. The CIS economies continued to grow strongly through 2005, with a rather impressive yearly average of almost 7 percent since 1999, clearly indicating the regional recovery both from the "transitional recession" and from the 1998 Russian crisis. The whole CIS region, including its largest economy, Russia (roughly responsible for three quarters of the CIS GDP, in current USD), continues to benefit from the strong increase in world commodity prices, particularly oil and natural gas, coupled with a more robust macro policy framework.

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[4]The CIS countries are Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

[5]Supply-side affects are not considered here (except implicitly through the FDI variable), chiefly due to data considerations. Those are briefly mentioned in Annex III.

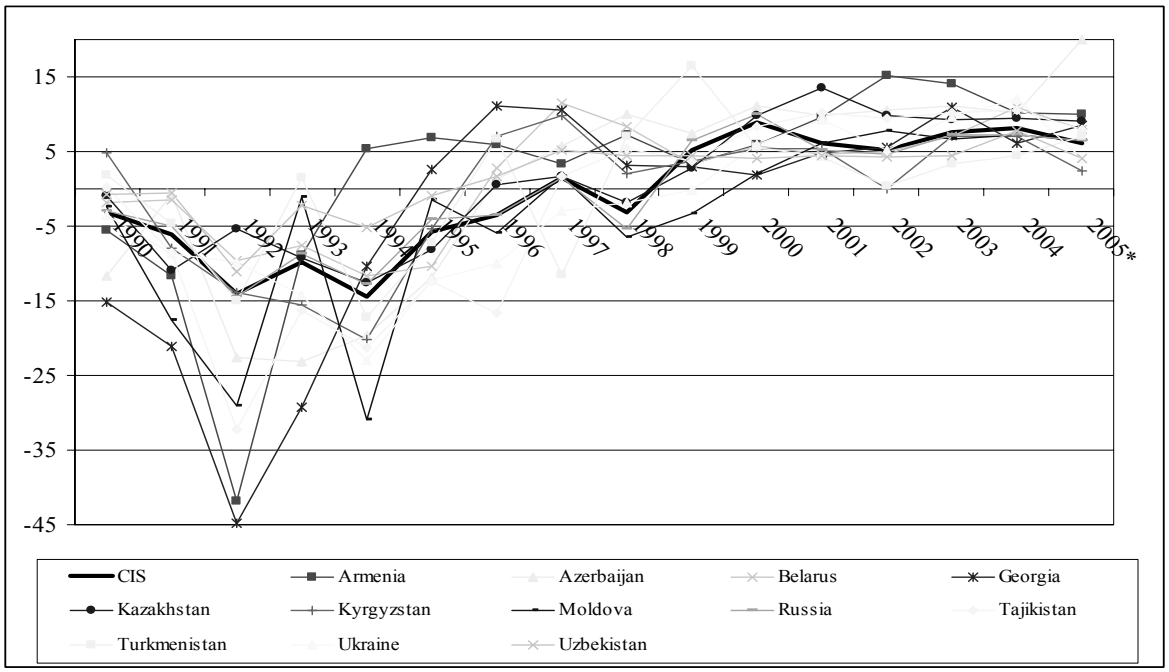
[6]The laggard in terms of growth resumption was the second largest CIS economy, Ukraine, which only returned to positive growth in 2000. In 2005, Ukraine hit again the lower ranks of CIS growth.

At the same time, several years of strong output growth have been associated with a surge in domestic demand, especially private consumption. In many countries, fixed investment has also recovered, most of it in extractive industries. Macroeconomic policy in many CIS economies has also been and is expected to continue to be somewhat expansionary, especially on the fiscal side, leading in some cases to a deterioration of fiscal balances and to a reduction of the speed of disinflation.

The currencies of most commodity exporting economies are also under growing pressure to appreciate, as a result of their surging exports revenues. The symptoms of the "Dutch Disease" seem to be beginning to appear in some economies, putting monetary management under considerable strain (albeit Vinhas de Souza, 2006c, does not find signs of "Dutch Disease" in Russia).

Growth in the CIS is forecasted to continue in 2006 and 2007, if at a somewhat slower rate of around 6% for Russia, and above 7% for the other CIS countries (European Commission forecasts). Decelerating growth rates are expected in all the large CIS economies –Belarus, Kazakhstan, the Russian Federation and specially Ukraine– due to external factors such as the reduction in commodity prices' growth rate, the negative energy price shock (gas) experienced by some CIS economies[7] and slackening demand in the region's main markets (including continued sluggish growth in the EU and slower growth in the US and China), albeit domestic demand should generally remain strong, aided by supportive fiscal policies (here, one must remember the approaching political cycle in Russia, with elections both in 2007 and 2008).

Figure I: Growth in the CIS countries, 1990-2005



Source: UNECE, EBRD.

[7]Vinhas de Souza, 2006d, estimates the effects of the early 2005 gas price shock in Ukraine.

Section 3: Relations between the EU, Russia, and other CIS Countries[8]

The channels for transmission of growth from the EU and Russia to the CIS can be broadly defined as (i) trade, (ii) FDI[9] and (iii) remittances. [10] We will start by describing in greater detail the relations on the trade front, as later analysis will show this to be the likely most important channel of growth transmission. The stronger emphasis on trade is also due to limits encountered in collecting disaggregated FDI and remittance data (see Annex II for a detailed description), which impeded a more in-depth analysis of these channels.

A Brief Overview of Trade Liberalization in CIS Countries.

Following the disintegration of the Soviet Union, the Commonwealth of Independent States (CIS) was created to attempt to preserve the previously existing economic linkages between these new countries. The organization was created on 8 December 1991 in Viskuli, the residence of the Belarusian Government in the Belovezhskaya national park, by the leaders of the Belarus, Russia and Ukraine.[11] On 21 December 1991 in Alma-Ata the heads of 11 of the 15 independent states that resulted from the break-up of the Soviet Union (all except the Baltic States and Georgia) signed the Protocol to the CIS Treaty. Georgia joined the CIS in December 1993. The CIS Charter, which regulates relation among CIS members, was adopted on 22 January 1993.

The first attempt to create a free trade area (FTA) on the CIS space was made already in 1994, with the CIS Economic Union Agreement, signed on April 15, 1994. The agreement was signed by nine CIS countries: Azerbaijan, Armenia, Belarus, Kazakhstan, Kyrgyz Republic, Moldova, Russia, Tajikistan, and Uzbekistan. Ukraine has joined the agreement as an Associate Member, while Georgia and Turkmenistan did not sign it (Tajikistan became a member in 1996). The agreement commits the signatories to undertake a variety of measures intended to foster economic integration, including the creation of a customs union, of a monetary union, of a FTA for goods and services and a common market for capital and labour. It also commits the signatories to formulate and implement a uniform foreign economic policy. This plan was, nevertheless, never fulfilled, since the Russian Parliament, the Duma, did not ratify the treaty. So, instead of one framework FTA for all CIS countries, a number of bilateral FTAs sprung-up in this region. For instance, Russia has FTAs with all CIS countries (see Table I).[12] These agreements, as a rule, permit

[8]This section is largely based in Tochitskaya and Vinhas de Souza, 2005 and Vinhas de Souza. 2006b.

[9]We abstain here from dealing with the question of the eventual complementarily or substitutability of trade and FDI.

[10]Another potential channel, financial markets, is not considered here, due both to data limitations and to the assumption that is was not a substantially relevant channel for the countries in our sample during the period in question..

[11]As a result of this, the CIS Secretariat is headquartered in Minsk, Belarus.

[12]The other CIS members have several trade agreements among the Community countries: Azerbaijan has signed bilateral free trade agreements with the Russian Federation (1992), Moldova (1995), Ukraine (1995), Turkmenistan (1996), Uzbekistan (1996), Georgia (1996) and Kazakhstan (1997). Similarly, Georgia has agreements with the Russian Federation (1994) –only ratified by the Georgian Parliament on 11 February

unspecified potential exemptions and contingent protection. The most typical exemptions include sugar, tobacco, cigarettes, alcohol and some non-alcoholic beverages. Russia frequently uses contingent different measures of protection: temporary protection, anti-dumping measures and safeguard measures (as the series of Russian-Ukrainian trade disputes between 1999 and 2003 show, or the anti-dumping duties on Kazakh steel imposed by Russia in 2002).

Also, as there is of yet no Customs Union (CU) among the CIS members, some sub-regional groupings have been established to try to create those. A CU incorporating Russia, Belarus, Kazakhstan, the Kyrgyz Republic and Tajikistan was formally established in 1995. In 2000 it was transformed into the Eurasian Economic Community. Following the CIS tradition, its members have so far failed to harmonize their tariffs and customs regimes and the Union exists only on paper. Also, one of its members – the Kyrgyz Republic – joined the WTO in 1998 while others are still outside WTO[13], which means that the Kyrgyz Republic *cannot* harmonize its tariffs within the grouping due to its tariff commitments to the WTO. It is unlikely that a CU incorporating the above countries will function soon.

A new effort to establish a Single Economic Space – SES - among the largest CIS economies (Russia, Ukraine, Kazakhstan and Belarus) was introduced at the end of 2003, but its ratification has run into difficulties, especially concerning Ukraine. Partially as a response to this, the Euroasian Economic Community (EurAsSec, involving Belarus, Kazakhstan, Kyrgyzstan, Russia and Tajikistan) was reinforced in October 2005, by its merger with the CACO (Central Asian Cooperation Organization).

Georgia, Ukraine, Azerbaijan and Moldova have also formed a new sub-regional grouping, called GUUAM (after the initials of its country members) on 10 October 1997.[14] In September 2000, members agreed on institutionalisation of GUUAM and in 2001 began negotiations toward creating FTA among them. A GUUAM FTA would not necessarily complicate WTO negotiations for the sub-regional group members, even if Georgia and Moldova are already WTO members, as a FTA, as apposed to a CU, does not require its members to harmonize external tariffs.

The general conclusion is that the attempts of CIS members to establish a coherent group-wide integrated trade area have so far failed, and have collapsed into –some eventually mutually inconsistent, both among themselves and towards their multilateral commitments- sub-groupings or even bilateral initiatives.[15]

2000, Uzbekistan (1995), Ukraine (1996), Armenia (1998), Kazakhstan (1999), Turkmenistan (2000) and Moldova. The Kyrgyz Republic has also freed its trade with the Russian Federation (1993), Armenia (1995), Kazakhstan (1995), Moldova (1996), Ukraine and Uzbekistan (1998). In addition both Tajikistan and Turkmenistan have concluded free trade agreements with Uzbekistan in 1996, and Uzbekistan with Belarus, Moldova and the Russian Federation. Ukraine has signed free trade agreements with each of the former Soviet republics except Tajikistan.

[13]Russia applied for WTO membership back in 1993, almost 12 years ago. Negotiations on the terms of Accession are still ongoing, in spite of an apparent breakthrough in dealings with the EU in mid-2004.

[14] In 1999, Uzbekistan also joined GUUAM, but it left the grouping in May 2005.

[15]Some regional conflicts are also responsible for this situation. Those are more pronounced in the Caucasus region, where the conflict between Armenian and Azerbaijan –a conflict that started already in 1988, when the Soviet Union still existed, leading to open war during 1992-1994 (even after the ceasefire, tensions persist,

Table I: Free Trade Agreements among CIS Countries.

	Arm	Aze	Geo	Kyr	Mol	Taj	Uzb	Bel	Kaz	Rus	Tur	Ukr
Armenia	X	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes, w/ exe.	Yes, w/ exe.	No	Yes
Azerbaijan	No	X	Yes	No	Yes	No	No	No	Yes, w/ exe.	Yes, w/ exe.	No	Yes
Georgia	Yes	Yes	X	No	Yes	No	Yes	No	No	Yes, w/ exe.	Yes	Yes
Kyrgyzstan	Yes	No	No	X	Yes	No	Yes	No	Yes, w/ exe.	Yes, w/ exe.	No	Yes
Moldova	Yes	No	No	Yes	X	No	Yes	Yes	Yes	Yes, w/ exe.	Yes ?	Yes
Tajikistan	Yes	No	No	No	Yes	X	No	No	Yes, w/ exe.	Yes, w/ exe.	No	No
Uzbekistan	Yes	No	Yes	Yes	Yes	No	X	No	No	Yes, w/ exe.	No	No
Belarus	Yes	No	No	No	Yes, w/ exe.	No	No	X	No	Yes, w/ exe.	No	Yes, w/ exe.
Kazakhstan	Yes, w/ exe.	Yes, w/ exe.	Yes, w/ exe.	Yes, w/ exe.	Yes	Yes , w/ exe.	No	No	X	Yes, w/ exe.	No	Yes, w/ exe.
Russia	Yes, w/ exe.	Yes, w/ exe.	Yes, w/ exe.	Yes, w/ exe.	Yes, w/ exe.	Yes	Yes, w/ exe.	Yes , w/ exe.	Yes, w/ exe.	X	Yes, w/ exe.	Yes, w/ exe.
Turkmenistan	No	No	Yes	No	Yes	No	No	No	No	Yes, w/ exe.	X	Yes, w/ exe.
Ukraine	Yes	Yes	Yes	Yes	Yes, w/ exe.	Yes	Yes	Yes , w/ exe.	Yes, w/ exe.	Yes, w/ exe.	Yes, w/ exe.	X

Source: Freikman, Polyakov and Revenco, 2004, modified by the authors.

Beyond those sub-regional initiatives and attempts at WTO membership[16], some direct CIS-EU linkages have also been muted, mostly at the country level. The most famous one

and land-locked Armenia is still affected by a Turkish and Azerbaijani blockade: see Freikman, Polyakov and Revenco, 2003) was arguably the most serious. Georgia has suffered since independence of Russian-backed separatism movements that support *three* different statelets within its territory, and experienced recent problems with Islamic fundamentalists in its borders. Moldova, currently the poorest country in Europe, experienced too its own Russian-backed separatism movement in the Transdniestrian region. Central Asia, while lacking open conflicts, is a region plagued by intermittent Islamic fundamentalist movements.

[16]So far, only four CIS members belong to the WTO: Armenia, in February 2003, Georgia, in June 2000, Kyrgyz Republic, in December 1998, and Moldova, in July 2001. All of those are small, peripheral economies -even on CIS terms- that saw WTO membership as a way to reduce this peripheral status.

is the "Common European Space" EU project, within which some sort of free trade agreement (FTA) with the Russia is envisaged at some point in the future.[17]

One must also note that *no* CIS country has, so far, an "Association Agreement" (AA) with the EU. These AA, as the ones signed between the EU and the New EU Members States (NMS) from Eastern Europe and between the EU and the countries from Northern Africa and the Middle East (the so-called MED countries), as part of the so-called "Barcelona Process", incorporate sweeping, mostly unilateral trade liberalization measures. Therefore, beyond sheer MFN liberalization, the CIS are relatively disadvantaged in its trade relations with the EU, as compared with other neighbouring regions, which also explains their still incomplete trade diversification away from the CIS markets.

Trade Patterns of CIS Countries.

Since the early 1990s, CIS countries have noticeably deepened their degree of integration into the world economy. The ratio of the sum of their exports and imports to GDP presented in Table II reveals the moderate increase in the ratio, and indicates the relatively high trade openness, ranging from 48% in the case of the Russian Federation to 119-120% in the case of Belarus and Tajikistan. Moreover, as Table III shows, *most* of the CIS countries have been able to change their previous regional patterns of trade, showing a decline in the share of intra-regional trade, and a consequent increase in the share of extra-CIS markets. On the other hand, Belarus, Uzbekistan and Moldova still oriented their trade flows more towards CIS market than to the rest of the world, and to the EU in particular.

Table II: Trade Openness (in % GDP)

	1998	1999	2000	2001	2002
Armenia	59	56	62	57	63
Azerbaijan	51	43	55	66	63
Belarus	102	104	125	126	119
Georgia	30	30	32	31	31
Kazakhstan	44	55	78	68	66
Kyrgyz Republic	82	84	77	62	67
Moldova	97	90	97	99	106
Russian Federation	49	59	58	51	48
Tajikistan	99	125	147	127	120
Turkmenistan	55	81	97	82	70
Ukraine	65	74	91	84	84
Uzbekistan	64	73	79	83	80

Source: World Development Indicators database

What led to this decrease in intra-CIS regional integration? First, as indicated in the previous section, the CIS experienced an initial GDP fall that forced the successor countries of the USSR to shift their trade towards other markets. Second, and more importantly in the

[17]As agreed at the St. Petersburg Summit in June 2003. The basis for EU-Russia relations is the Partnership and Cooperation Agreement (PCA), which established a liberalisation of trade based on MFN treatment for most of the bilateral trade in goods (more precisely, most of the EU-Russia trade in goods benefits from the EU's General System of Preferences -GSP). A number of specific trade agreements have also been concluded (namely, steel and textiles are the main industry sectors covered by bilateral trade agreements: the steel agreement entered into force in July 2002 and a textiles agreement was concluded in 1998).

long-run, trade linkages in the former Soviet Union were built on artificial pricing, central planning mechanisms and state trading arrangements, which did not take into consideration economic factors, e.g. high transportation costs and comparative advantages.

In order to establish how the direction of the regional trade was changed the 1995 and 2003 bilateral regional matrix of exports and imports shares for each CIS country were calculated (see Tables III below, and Tables IVa and IVb in Annex 1). They clearly show Russia's importance as a destination for regional exports and as a source of imports. Both in 1995 and 2003 the Russian Federation was the main trading partner for all CIS countries except Turkmenistan. In 2003 it had a share of about 90% in Belarus' CIS exports, 72% in Moldova, Ukraine's, Armenia's, and from 35% to 50% in other countries. The share of the Russian Federation in CIS countries imports for the same period was an astonishing 94% for Belarus, 84% for Uzbekistan and 75% for Ukraine. In contrast, trade between other CIS countries has declined and became negligible.

Such asymmetry in trade linkage creates a so-called "hub and spoke" problem, when in intra-regional trade countries became satellite economies orbiting around the Russian Federation. This kind of dependence on one country makes many CIS countries very vulnerable to any adverse shocks from Russia. Aiming to intensify intra-regional relations, the CIS countries made several attempts to develop RTAs (see previous section). Yet, despite all the agreements, due to large numbers of exceptions from free trade and customs regulations, the CIS is not a single market. Moreover, empirical evidence seems to indicate that CIS trade arrangements have no increase effects on intra-regional trade (see Tochitskaya and Vinhas de Souza, 2005 and Vinhas de Souza 2006b).

Table III: Direction of Trade Flows of the CIS countries, 1995, 1999, 2003 (%)

	1995				1999				2003			
	Total	CIS	RoW		Total	CIS	RoW		Total	CIS	RoW	
			EU	others			EU	others			EU	others
Exports												
Armenia	100	63	*22*	15	100	24	*45*	31	100	18	*47*	35
Azerbaijan	100	45	*17*	39	100	23	*46*	31	100	13	*57*	30
Belarus	100	63	*12*	25	100	61	*9*	30	100	55	*14*	31
Georgia	100	62	*5*	33	100	45	*30*	25	100	49	*33*	18
Kazakhstan	100	55	*21*	24	100	26	*23*	51	100	23	*24*	53
Kyrgyz Republic	100	66	*12*	22	100	40	*38*	22	100	34	*3*	63
Moldova	100	63	*12*	25	100	55	*21*	24	100	54	*22*	24
Russian Federation	100	19	*34*	47	100	15	*33*	52	100	15	*36*	49
Tajikistan	100	34	*46*	20	100	46	*36*	18	100	18	*13*	69
Turkmenistan	100	49	*8*	43	100	56	*15*	29	100	30	*8*	62
Ukraine	100	39	*12*	49	100	28	*18*	54	100	26	*12*	62
Uzbekistan	100	53	*22*	25	100	57	*20*	23	100	54	*14*	32

	1995				1999				2003			
	Total	**CIS**	**RoW**		**Total**	**CIS**	**RoW**		**Total**	**CIS**	**RoW**	
			EU	**others**			**EU**	**others**			**EU**	**others**
Imports												
Azerbaijan	100	34	*13*	53	100	22	*18*	60	100	33	*33*	34
Armenia	100	50	*15*	35	100	31	*30*	39	100	25	*32*	43
Belarus	100	66	*16*	18	100	64	*20*	16	100	70	*16*	14
Georgia	100	40	*16*	34	100	37	*23*	40	100	34	*30*	36
Kazakhstan	100	70	*14*	16	100	43	*25*	32	100	47	*25*	28
Kyrgyz Republic	100	68	*2*	30	100	43	*18*	39	100	57	*13*	20
Moldova	100	68	*14*	19	100	40	*27*	33	100	43	*29*	28
Russian Federation	100	29	*39*	32	100	28	*37*	35	100	23	*43*	34
Tajikistan	100	59	*26*	15	100	78	*13*	9	100	69	*6*	25
Turkmenistan	100	55	*14*	31	100	53	*15*	32	100	52	*21*	27
Ukraine	100	41	*16*	43	100	57	*20*	23	100	51	*32*	17
Uzbekistan	100	65	*19*	16	100	38	*23*	39	100	46	*19*	35

Source: DOTS/IFS, calculations by the authors.

The asymmetric intra-CIS trade relations that was indicated above can be explained by several factors, such as large size of the Russian market, the strong –against the weaker currencies in other CIS countries– Russian currency, regional conflicts (e.g. Caucasus), high transportation costs due to geographical distance, and also due to the not yet fully liberalized trade relations with the EU (see Box I).[18]

Box I: Trade Relations between the EU and the CIS Countries (bar Russia).

Most of the trade relations of the EU with CIS countries are regulated in the so-called "Partnership and Cooperation Agreements" (PCA), which establish trade based on MFN treatment (or EU's General System of Preferences –GSP- or GSP+) for most of the bilateral trade in goods (but excluding agricultural products). Quite frequently, those agreements exist parallel to specific sector trade agreements (being steel and textiles the most usual ones):

Armenia: The PCA signed in April 1996, entered into force in July 1999. Both sides undertook to eliminate any quantitative restrictions in bilateral trade and grant each other MFN treatment. In addition, Armenia benefits from the EU GSP preferences. Trade with the EU is very concentrated in precious stones (which are imported, polished, and subsequently re-exported to the EU). These account for 63% of EU imports from Armenia, and 34% of EU exports to the country. The EU also imports base metals, while its exports are dominated by machinery, equipment, and vehicles. Armenia has been a WTO member since 2003.

[18]For instance, as said before, when compared to other regions neighbouring the EU, namely the Mediterranean countries included in the so-called "Barcelona Process", which benefit of FTAs with the EU. Dodini and Vinhas de Souza (2006) show that these association agreements with the EU are much more effective in increasing openness (measured by imports plus exports as a GDP share) and reducing tariffs in the MED partner countries than multilateral liberalization (proxied by WTO membership).

Azerbaijan: The PCA entered into force in July 1999. Both sides undertook to eliminate any quantitative restrictions in bilateral trade and grant each other MFN treatment. In addition, Azerbaijan benefits from the EU GSP preferences.. Azerbaijan is the EU's largest trading partner in the Caucasus, albeit its exports are very concentrated in energy products (oil and gas), while EU exports are dominated by manufactured goods.

Belarus: Without a PCA or an Interim Agreement, bilateral EU-Belarus trade is still covered by the provisions of the 1989 Agreement between the EU and the FSU. Parties grant each other MFN treatment. Belarus is also a beneficiary of the GSP, but in 2003, the EU initiated an investigation into violation of freedom of association in Belarus as the first step towards a possible temporary withdrawal of the GSP preferences from Belarus: a decision is expected by mid-2006. Textiles trade is regulated by an Agreement dating from 1993, which was extended 5 times (1995, 1999, 2003, 2004 and 2005), the last prolongation covering 2006. The agreement signed in 2005 increases Belarus quotas within a limit of the annual growth rate set in the original Agreement. The EU is Belarus' main trading partner outside the CIS (43% of total exports, compared with Russia's 36%). The structure of bilateral trade has remained largely unchanged, with Belarusian exports consisting mainly of agricultural products, textiles and clothing (with a recent increase of processed oil products), while the EU exports primarily machinery and transport material.

Georgia: The PCA entered into force on 1 July 1999. Both sides undertook to eliminate any quantitative restrictions in bilateral trade and grant each other MFN treatment. In addition, Georgia benefits from the EU GSP+ preferences**.**(zero duties on all products covered by GSP). Trade with the EU amounted to about 26% of Georgia's imports and 43% of Georgia's exports. Georgia joined the WTO in 2000.

Kazakhstan: The PCA is in force since 1995. The country benefits from MFN and GSP status. There are separate agreements for textiles and steel (a new EU-Kazakhstan agreement on trade in certain steel products was signed on 19 July 2005, it sets larger quantitative limits for some flat steel products and will remain in force until the end of 2006: the earlier quantitative limits were increased by 70% for 2005 (to 200.000 tons) and will reach a level of 205.000 tons in 2006). EU imports are concentrated on energy and primary products**,** while its exports are dominated by machinery, equipment, and vehicles.

Kyrgyz Republic: It is the only Central Asian CIS country that is a member of the WTO. The PCA, initially signed on February 1995, has provided the legal framework for EU-Kyrgyz bilateral trade relations since it entered into force in July 1999, which includes MFN and GSP status. The only separate trade agreement between the EU and the Kyrgyz Republic was a Textiles Agreement that expired on the 31st December of 2004. EU-Kyrgyz Republic trade relations are limited at present. In spite of this, the EU still remains a relatively important trading partner, representing the second largest exporter to the Kyrgyz Republic outside the CIS (after China). 13.1% of total imports into the Kyrgyz Republic in 2004 came from the EU, although only 5.4% of Kyrgyz exports were EU-bound. The pattern and level of Kyrgyz exports to the EU (textiles and mineral products mainly, plus some agricultural products) means that it gains limited benefits from the GSP scheme in absolute terms, although a high proportion of eligible products do receive preferential rates.

Moldova: The PCA between Moldova and the EU was signed in 1994 and entered into force on 1 July 1998, for an initial period of ten years. An agreement regarding trade in textiles has already been in place since 1993. GSP+ preferences are granted by the EU to Moldova, with exports of clothing and footwear playing an important role (nevertheless, some products which are important exports for Moldova, like wine and related products, are classified as "sensitive" products, and therefore do not benefit from the GSP full elimination of customs tariff duties). In 2000, Moldova was the first country to be granted additional reductions of customs duties under the special protection scheme for the promotion of labour rights.

Tajikistan: The EU-Tajikistan PCA was signed on 11 October 2004 but the ratification process has not been completed yet Therefore the EU-Tajikistan bilateral relations remain based on the Trade

and Cooperation Agreement (TCA), which was signed with the then Soviet Union in 1989 and subsequently endorsed by Tajikistan by exchange of letters in 1994. However, at the same time as the PCA an EC-Tajikistan Interim Agreement on Trade and Trade-related matters was signed and entered into force in January 2005, after the ratification by Tajikistan. This Agreement, pending the ratification of the PCA, provides for the implementation of the basic trade and trade related provisions of the PCA (notably mutual application of most-favoured nation (MFN) status with respect to tariffs and elimination of all quantitative restrictions in the EC-Tajikistan bilateral trade). Tajikistan benefits from the EU GSP system. EU-Tajikistan trade relations are extremely limited. Over 60% of the EU imports were of raw materials, and over a third of EU exports were of agricultural products; machinery and transport materials accounted for around a quarter of the total. Around one third of total Tajik imports to the EU are eligible for GSP benefits and 90% of these goods actually benefit from preferential rates.

Turkmenistan: A PCA was signed in May 1998, but is still under ratification by Member States and the European Parliament (ratification process has been "frozen" as an EU response to the political situation in Turkmenistan). An Interim Agreement was signed on November 1998, but has not been ratified by the EU either. Therefore bilateral EU-Turkmenistan trade relations are still covered by the provisions of the 1989 Agreement between the EU and the former Soviet Union. In 2005, the EU was the largest source of imports to Turkmenistan, while in terms of exports, the EU was the third largest trading partner of Turkmenistan after Ukraine and Iran. Mineral fuels account for over 90% of EU imports, while EU exports to the country consist primarily of machinery, transport equipment, and manufactured goods. The country benefits from the EU's GSP scheme.

Ukraine: EU relations with Ukraine are based on the PCA, which entered into force in 1998 (for an initial ten year period, renewable by consent of the parties). Following the 2004 Enlargement, the EU has become Ukraine's largest trading partner, accounting for about 35% of Ukraine's total trade. Trade with Ukraine is on a MFN treatment basis under the PCA, which allows for trade in goods without quantitative restrictions, except for trade in the steel sector (very important for Ukraine exports), which is governed by a separate Agreement. Trade in textile products has been liberalised following the implementation of the bilateral agreement signed on 19 December 2000. A perspective for a future FTA with the EU is contained in the PCA. Ukraine has been graduated as a market economy for trade defence investigations as of end 2005.

Uzbekistan: The PCA with Uzbekistan, signed in April 1996, has been the basis for EU-Uzbek bilateral relations since it entered into force on 1 July 1999. Regarding bilateral trade, both sides undertook to eliminate any quantitative restrictions and grant each other MFN treatment. In addition, Uzbekistan benefits from the EU GSP preferences Uzbekistan is the EU's second largest trading partner in the region, after Kazakhstan: in 2004, the EU was second only to Russia in terms of the total volume of bilateral trade. Uzbekistan's primary exports to the EU are precious stones and metals, agricultural products, textiles and clothing, while it primarily imports machinery, electrical equipment and chemicals.

Source: Authors' compilation, based on EU internal documents.

In addition to the considerations above, the concentrated product composition of CIS exports and imports limits the potential expansion of intra-regional trade flows. Mineral products, non-precious metals, chemical products have increasingly dominated CIS exports (see Table Va in Annex I). For example, in Russia's exports these groups of products accounted for 64.8%, in Kazakhstan's – 78%, Ukraine's – 63.2%, Tajikistan's – 67.3%, whereas the share of machinery and transport equipment, instrument and apparatus in intra-CIS export did not increased or even declined over the period 1995-2003.

A similar tendency can be observed with regard to intra-regional imports, where mineral fuel, crude materials and prepared foodstuffs accounted for more than one half of all goods

that imported within the CIS (see Table VIa in Annex I). The product composition of the CIS exports to the rest of the world did not experience any substantial changes, and appeared to be concentrated on mineral products, non-precious metals and textile. The share of machinery and transport equipment decreased for nearly all CIS, ranging from 14.3% for Ukraine to a negligible 0.5% for Uzbekistan. This fact indicates that most CIS countries did not manage to change their export profile, which is still concentrated in primary commodities and raw materials (see Table Vb in Annex I).

Table VIb in Annex I provides the product composition of each CIS country's regional imports from the rest of the world in 1995 and 2003. The most striking point was the increase in the importance of machinery and transport equipment imports for almost all of the CIS. For example, these goods share in Azerbaijan imports rose from 19.2% to 40.3%, in Georgia from 7.6% to 34%, in Kazakhstan from 39% to 50%. This may imply the possibility of an improved competitive position of these countries in the mid run, as empirical evaluations show that capital imports, as they incorporate technology transfer, might have a positive effect on a country's economic development (see Tochitskaya, 2003). As the EU tends to be an important exporter of such capital goods to the CIS countries, this might be a factor thorough which the EU influences growth positively in those countries.

Concerning the role of FDI, as one might see in Table VII below, values have been growing at the considerable rates: when compared with 1993, total FDI increased almost *13-fold*, and there are indications that the increase was maintained also in 2005.

Table VII: FDI, 1993-2004 (in million of USD)

	1993	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
Armenia	1	8	25	18	52	232	122	104	70	111	121	218
Azerbaijan	60	22	330	627	1115	1023	510	130	227	1392	3285	3556
Belarus	18	11	15	105	352	203	444	119	96	247	172	169
Georgia		8			243	265	82	131	110	167	339	499
Kazakhstan	228	635	964	1137	1321	1151	1472	1283	2835	2590	2088	4269
Kyrgyzstan	10	38	96	47	83	109	44	-2	5	5	46	35
Moldova		12	67	23	79	76	38	127	102	132	71	148
Russia	1211	690	2066	2579	4865	2761	3309	2714	2748	3461	7958	11672
Tajikistan	9	12	20	18	18	25	21	24	9	36	32	272
Turkmenistan	79	103	233	108	108	62						
Ukraine		159	267	521	623	743	496	595	792	693	1424	1715
Uzbekistan	48	73	-24	90	167	140	121	75	83			
Total CIS	1664	1771	4059	5273	9026	6790	6659	5300	7077	8834	15536	22553
	72.78	38.96	50.90	48.91	53.90	40.66	49.69	51.21	38.83	39.18	51.22	51.75

Source: UNECE.

The relatively reduced share of Russia – far below its GDP share in the CIS, which, as indicated previously, is around three quarters - reflects the deficient framework for investment and the legal limits for foreign participation in key sectors of the Russian economy, specially the energy one (on a per capita basis, Russia has the second *lowest* FDI per capita in the CIS). When one compares this with the FDI inflows *per capita* received by the NMS (2.223 USD

per capita, 1989-2004), the difference is even more apparent: the corresponding figure for the CIS is around 203 USD (or *9 percent* of the total received by new member states). This limited amount of FDI inflows will naturally limit the effects of this variable in growth terms for the CIS.

Concerning the EU share on these FDI inflows, the limited data available indicates that this share is significant, and in many instances, higher than the share of Russia[19]. For instance, FDI inflows from EU-15 countries were higher –and, as a rule, *substantially higher*- than from Russia in seven of the 11 CIS countries in the last year of available data (see table VIII below). The only clear exception to this was Belarus, where Russian FDI inflows clearly outstripped EU ones.

Table VIII: FDI by Source of Origin in the CIS Countries

Country	Year	FDI Inflow from Russia	FDI Inflow From EU-15	Total FDI Inflow	EU-15 Share of Total	Russia Share of Total
Armenia	2003	7,650,000	31,000,000	121,000,000	0.26	0.06
Azerbaijan	2002	64,400,000	467,500,000	1,390,000,000	0.34	0.05
Belarus	2003	144,444,800	29,411,200	172,000,000	0.17	0.84
Georgia	2002	0	7,564,800	167,000,000	0.05	0.00
Kazakhstan	2004	84,104,000	2,314,000,000	4,270,000,000	0.54	0.02
Kyrgyz Republic	2004	628,000	0	77,000,000	0.00	0.01
Moldova	2003	372,000	2,262,400	58,500,000	0.04	0.01
Tajikistan	2004	3,067,000	0	272,000,000	0.00	0.01
Turkmenistan	2004	1,865,000	0	354,000,000	0.00	0.01
Ukraine	2004	194,316,000	577,900,000	1,720,000,000	0.34	0.11
Uzbekistan	2003	582,000	29,411,200	70,000,000	0.42	0.01

Source: EUROSTAT, UNCTAD, Russian Central Bank, Belarus Ministry of Statistics, WDI.

Beyond questions of sheer scale, one most note that EU FDI goes into different sectors than Russian FDI. As data on the sector destination of FDI is even more difficult to obtain, we will present below only a country example: Ukraine.

FDI coming to Ukraine from the EU and from Russia differs not only by volume[20], but also by investment motives and distribution of funds across industries (see Vinhas de Souza et al., 2005). According to the survey results, the main motive for EU companies to invest in Ukraine was the possibility to access a large domestic market. With its 48 million inhabitants, Ukraine represents one of the biggest potential markets in Europe, which, in addition, has a good prospective for growth. Relatively low labour costs are also reported as

[19]Our data series for FDI inflows were built using data from the EUROSTAT, UNCTAD and from national sources. Not always the information provided by those different sources was consistent with each other.

[20]The European Union is by far the largest investor in Ukraine, with more than one-third of total FDI inflow just for the EU-15 in 2003. The figure of full FDI flows from the EU-25 would be closer to 55 percent, but since the enlarged EU includes two very large offshore zone, Cyprus and the British Virgin Islands, and it is difficult to identify the true origin of capital coming from offshore zones, as, potentially, investors of all countries (including Russians and Ukrainians) may use these regions for tax optimisation schemes, it is safer to assume the lower figure.

one of the motives for investment; however, this advantage is diminished by low productivity. On the contrary, investors from Russia and CIS come to Ukraine to regain lost markets and re-establish production links that had been formed during the Soviet era.

FDI originated from those different regions goes into different industries. As shown in Table IX, recipients of funds from Europe are mostly companies operating in food, chemical, and machine building industries. The wholesale and retail trade sectors have also received a significant part of the funds from the EU. At the same time, Russian capital is concentrated in the fuel and energy sector. To take a practical example, Russian oil companies have acquired almost all Ukrainian oil refineries, which in Soviet Union times were constructed specifically for processing Russian oil.

Stronger production links between Ukrainian and Russian enterprises in certain sectors would certainly be beneficial for both countries. However, capital from the more advanced economies of the EU can bring benefits that are more relevant for the long-run growth and development of the Ukrainian economy, and the same applies to other CIS countries. Factors such as new production, management and marketing technologies, better labour skills, improvement in risk management, etc., are linked to EU FDI and make domestic firms in the recipient country more competitive and productive.

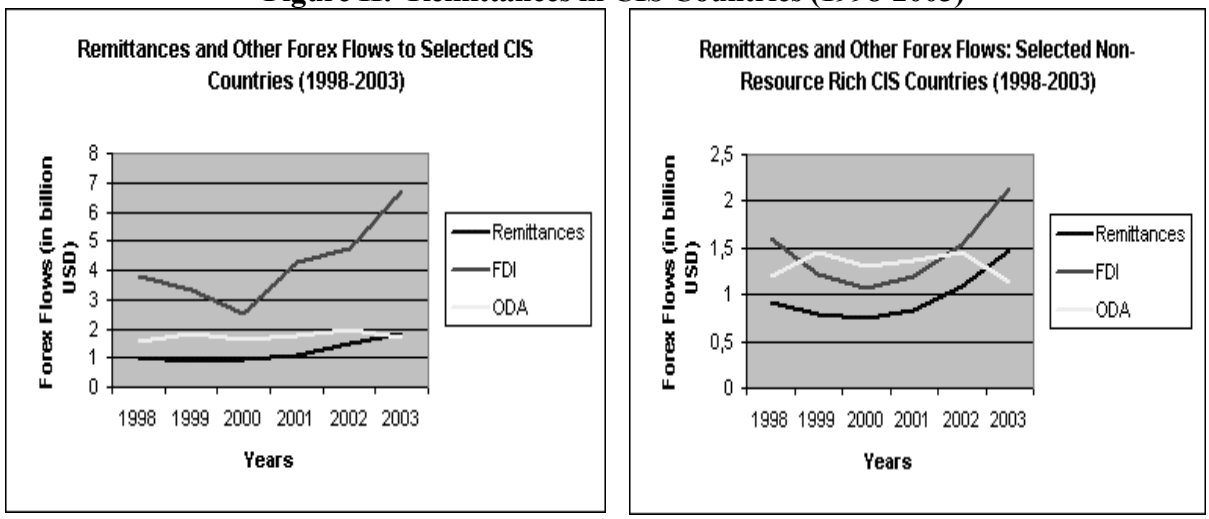
Table IX: Sectoral Distribution of FDI from EU-15 and Russia, 2003

	EU-15		Russia	
	USD m	%	USD m	%
All sectors	2,383.4	100.0	377.7	100.0
Agriculture	61.6	2.6	5.9	1.6
Industry (A+B+C)	1,340.2	56.2	159.4	42.2
(A)Mining	32.7	1.4	1.1	0.3
(B)Manufacturing	1,297.0	54.4	158.3	41.9
Food industry	581.0	24.4	10.6	2.8
Light industry	55.0	2.3	0.1	0.0
Wood-processing	45.2	1.9	0.5	0.1
Publishing	73.0	3.1	0.8	0.2
Coke and refined oil products	10.2	0.4	103.7	27.5
Chemical industry	141.1	*5.9*	0.6	*0.2*
Other non-metallic mineral products	109.4	4.6	2.3	0.6
Metallurgy and metal processing	46.0	1.9	20.0	5.3
Machine building	205.0	8.6	8.5	2.3
Other	29.5	1.2	11.1	2.9
(C) Production & distribution of electricity, gas and water	10.1	0.4	0.0	0.0
Construction	50.3	2.1	14.7	3.9
Wholesale & retail trade	373.3	15.7	26.9	7.1
Hotels and restaurants	24.9	1.0	6.3	1.7
Transport and telecommunications	174.9	7.3	39.4	10.4
Finance	186.1	7.8	28.5	7.5
Real estate	108.1	4.5	17.3	4.6
Education	1.2	0.1	0.0	0.0
Healthcare	5.2	0.2	77.9	20.6
Other community, social, and personal service	57.6	2.4	1.4	0.4

Source: State Statistics Committee of Ukraine.

Migration from and within CIS countries and remittances resulting from international migrants' transfers have surged since the early 1990s. If in the early years of transition, migration was fuelled largely by ethnic considerations, in the last several years, migration has been increasingly driven by economic factors and remittances have gradually become the second most important source of external financing after FDI. Remittances are particularly important for countries that do not boast rich natural resources (see Figure II), and several countries in the region are among the largest recipients of remittances in terms of GDP – even considering the underestimated official estimations[21], remittances constituted 23% of GDP in Moldova, and 9% of GDP in Tajikistan (Table X).

Figure II: Remittances in CIS Countries (1998-2003)



Source: WDI Data, authors' calculations. Countries included in the sample are: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, and Ukraine. Non-resource rich CIS countries include all of the above less Azerbaijan and Kazakhstan. Tajikistan, Turkmenistan, and Uzbekistan were omitted due to lack of data.

Empirical literature on the effect of remittances on economic growth has produced highly mixed results. Even abstracting from the effect of the underlying migration, remittances can, on one hand, contribute to alleviation of poverty and provide capital for investment and savings, but can also, on the other hand, fuel inflation, disadvantage the tradable sector, and reduce remittance-receiving households' work effort. It seems that, at least for CIS countries, remittances have been an important source of growth, mostly by increasing national disposable income.[22]

Although considerable heterogeneity exists in the region, Russia and the EU are the two most important destination of migrants and sources of remittances for CIS countries. Country-level migrant surveys indicate, however, that important differences exist in the profile of

[21]Official data on remittances and employee compensation collected from WDI. For more information on remittance data limitations, see Taylor (1999).
[22]See, for example, IMF 2004 Article IV Consultations for Moldova, http://www.imf.org/external/pubs/ft/scr/2005/cr0548.pdf

migrants travelling to these two major poles and the resulting typology of remittance flows. Migrants going to Russia are typically less educated, stay for a relatively short period of time (seasonal workers), earn less, and consequently remit less per migrant, than migrants travelling to other regions, particularly to the EU. At the same time, Russia generally attracts more migrants from CIS countries, due to a facilitated visa regime, and historical, linguistic, and cultural ties.[23]

Table X: Remittances in CIS Countries in % of GDP (2000-2003)

Country	2000	2001	2002	2003
Armenia	5%	4%	6%	6%
Azerbaijan	1%	2%	3%	2%
Belarus	1%	1%	1%	1%
Georgia	9%	6%	7%	6%
Kazakhstan	1%	1%	1%	0%
Kyrgyz Republic	4%	2%	4%	6%
Moldova	13%	16%	19%	24%
Tajikistan	NA	NA	6%	9%
Turkmenistan	NA	NA	NA	NA
Ukraine	0%	0%	0%	1%
Uzbekistan	NA	NA	NA	NA

Source: WDI

If we consider the share of remittance inflows by source (Table XI), we can see that Russia, as expected, is an important source of remittances for all CIS countries, the most important source for many of them. However, the proportion of remittances received from EU-15 countries is even higher for Armenia, Georgia, Tajikistan, and Turkmenistan, and in Belarus, almost half of remittance inflows is generated in EU-10 countries.[24]

Although to our knowledge, no such empirical investigations exist, considering that households will choose to save and invest (including in human capital) only after their income exceeds the needs of basic subsistence, as well as the different average educational level of migrants, amount, and periodicity of remittances from Russia and various EU countries, it is possible that remittances from different regions have a different economic effect on recipient country. A detailed migrant survey carried out by CBS-AXA in Moldova in 2004[25], for example, found that migrants with higher levels of education are more likely to migrate to a European country than Russia, have a much higher average wage per month[26], remit more, and are more likely to use remittances on special expenses such as education, health, and

[23]See, for example, CBS-AXA (2005) "Migration and Remittances in Moldova", IOM (2001), "Away from Azerbaijan, Destination Europe: Study of Migration Motives, Routes and Methods", World Bank (2006), "Enhancing Gains Through International Labour Migration in Europe and Central Asia", forthcoming. One of the co-authors of this paper was involved in the preparation of this study.

[24]The authors are aware of other estimates that put a far larger share of remittances from Russia in some countries (for instance, Kireyev, 2006, puts the figure for Tajikistan at a remarkably high *92%* for 2004, using survey data). Nevertheless, the matrix above provides, to our knowledge, the only homogeneous estimate of the shares for all CIS countries, and therefore is the one used by us.

[25] CBS-AXA (2005) "Migration and Remittances in Moldova".

[26]For example, the average monthly wage of migrants with high education or incomplete high education is USD 699.5, compared to USD 524.8 received by the next highest educational group – migrants with vocational training.

investments in business. Moreover, in the medium to long run, the different set of skills and knowledge acquired by the migrants might have a widely-varying effect on the country's human, social capital and institutions.

Table XI: Share of Remittance Inflows to CIS by Region of Origin (2004)

Countries	Remittances from EU-15	Remittances from EU-10	Remittances from Romania and Bulgaria	Remittances from Russia	Remittances from Rest of the World
Armenia	43%	3%	0%	6%	48%
Azerbaijan	0%	0%	0%	76%	24%
Belarus	4%	47%	0%	43%	6%
Georgia	35%	1%	0%	13%	52%
Kazakhstan	40%	2%	0%	46%	13%
Kyrgyz Republic	16%	1%	0%	22%	61%
Moldova	19%	1%	4%	41%	35%
Tajikistan	14%	1%	0%	10%	75%
Turkmenistan	28%	2%	0%	14%	56%
Ukraine	13%	5%	0%	64%	17%
Uzbekistan	34%	2%	0%	14%	50%

Source: Remittance Matrix developed by Terrie L. Walmsley, S. Amer Ahmed, and Christopher R. Parsons (2005)[27]

Section 4: "Augmented" Growth Equations Estimations[28].

By the late nineties, less than a full decade after the so called "transition" process began, there were already over a dozen econometric cross-country studies of growth and recovery in the transition, surveyed by Havrylyshyn (2001), Campos and Coricelli (2002), and Bakanova et al. (2004). They showed a surprising degree of consensus: the standard factor input variables are not important; prior financial stabilization is virtually a *sine qua non*; liberalization and structural reforms are key explanatory variables; unfavourable initial conditions negatively affect growth prospects but this effect declines with time; and good institutions are important but complement, rather than substitute for, liberalizing policies. For a detailed consideration of these conclusions and literature review, see Annex III.

For the CIS countries, one of the most relevant unexplored questions to ask in view of earlier econometric studies is which of the regional integration options available to them – deeper integration with the EU, or a re-integration of sorts with Russia - would yield greater growth benefits. Vinhas de Souza, 2003, had indicated that trade relations with the EU were apparently more beneficial than with Russia, albeit his sample integrated all so-called "transition countries", including those countries that joined the EU in May 2004, and mostly missed the recent growth resumption period[29]. On the other hand, Shiells, Pani. and Jafarov, 2005, find that Russia played a role in driving growth in the CIS pre-1998, but that this role was considerable weakened after the 1998 crisis. To assess the more recent developments, this paper will use "cross-country growth regressions".

[27]For information on the methodology, see https://www.gtap.agecon.purdue.edu/resources/download/2339.pdf
[28]This section and Annex III are largely based in Vinhas de Souza and Havrylyshy, forthcoming, 2006, and Vinhas de Souza, 2003.
[29]One must remember that the integration with the EU works not only via "real channels (trade, FDI, etc.), but also via an "institutions export" process, which affects long-run growth potential.

Cross-country growth regressions are, as a rule, generated by variations of a "classical" Barro specification (see Barro, 1991), with what amounts to a simple traditional Cobb-Douglas production function, in the form $Y_t = A L_i^{\alpha} K_i^{1-\alpha}$[30], plus a set of conditional indicators – institutional set-up, initial conditions, macro stabilization, etc- which are assumed as relevant. There are, of course, several problems with that[31], including questions of causality and correlation among the variables used, interpretation of the results, validity of the estimation procedures, and the sometimes reduced theoretical justification for the inclusion of certain variables.[32] We abstain from this debate and will estimate here such a modified "augmented" growth equation. The data used is described in Annex II, and our basic equation is given by

$$\dot{\Delta Y}_{i,t} = \alpha_1 Ypc_{i,t} + \alpha_2 G_{i,t,EU15,EU12,RU} + \alpha_3 IMP_{i,t,EU15,EU12,RU} + \alpha_4 R_{i,t,EU15,EU12,RU} + \alpha_5 FDI_{i,t,EU15,EU12,RU} + \alpha_6 P_{i,t} + \mu_{i,t} \quad (1)$$

where the growth rates of the individual *i* CIS countries (bar Russia) in time *t* where regressed on their GDP per capita level -*Ypc*- observed in time t, as a control for the level of development, on the inflation level -*P*- observed on time *t* as a control for macro stabilization, on the growth rates of the EU subgroups (the "old" EU Member States -OMS, the NMS, including Romania and Bulgaria) and of Russia -*G*, on the imports or exports from those sub-groups -*IMP or EXP*, depending on the specification, on the FDI -*FDI*- and remittances -*R*- flows from those sub-groups. μ is the error term.

This is a deliberate parsimonious specification, and for demand side effects only[33], which also does not include neither proxies for the factor endowments nor proxies for institutional quality or investment climate. We deem such a parsimonious specification as necessary given the very limited number of observations available (in total, only 72 observations, in the *best* case, using panel yearly data, 1990-2004).

[30]As a remark, it must be noted that, on the long run, such a neoclassical formulation, by definition, *has to hold*: you can only grow, in the long run, through improved technology and/or additions to the stock of factors of production: one-shot, static efficiency gains towards the PPF will take you only so far, and temporary distortions will eventually melt away. As a result of this, any notion of "transition-specific growth estimations" can only pertain to the short run, and, therefore, "transition economics" is better seen as a sub-sector of the Development Economics field, which deals, in general terms, with the theoretical and empirical aspects of the adjustment path towards the long run equilibrium.

[31]Starting with the peculiar fact that this so-called "Barro specification", in this form, is actually *not* found on his original paper.

[32]Sala-i-Martin, 1997, is nevertheless, rather upbeat about the general robustness of such estimations, after claiming to have run 4.000.000 of them.

[33]Another reason not to model supply-side effects explicitly, beyond data considerations, is that those reflect micro reforms, and by the late 1990s, most of the CIS countries had already reached a reasonable "threshold" level of such reforms.

The model was estimated using an unbalanced panel technique. We perform a "random effects" panel estimation (capturing the cross-sectional information reflected in the changes between cross sections) and a "fixed effects" panel estimation (where each data cross section or individual is estimated with specific constant terms, capturing the time changes within individuals). Those two alternative specifications are tested against each other with a simple Hausman test. Random effects specification was the preferred one in some cases, and fixed effects in others – we considered and reported the specification indicated to be appropriate by the Hausman test.

As some earlier estimations (see Shiells, Pani. and Jafarov, 2005) failed to find a significant role for the EU in terms of regional growth dynamics in the CIS, one of the aims of this paper was to test the robustness of this find, through an inclusion of the Enlarged EU and of *different types of channels* (trade – both exports and imports[34], FDI flows and remittances) in our growth regressions. Specifically, one of the hypotheses to be tested was that the NMS would potentially be *more relevant* in terms of regional growth dynamics in the CIS than the OMS, in spite of the OMS far larger GDP size.

Both of these hypotheses turned out to be supported, to some degree, by our results. Several specifications were estimated[35], but we will only show below the final ones, which incorporate separate terms for growth rates, imports, exports, FDI and remittances for the different regions: EU-15 (the OMS), the EU-12 (the NMS plus Bulgaria and Romania, expected to enter the EU already in 2007) and Russia.

The Results are presented in Table XII (below). Starting with a "levels" regression (columns 1-4, Table XII), as one might see, EU-15 growth is indeed negatively associated with growth in the CIS (eu15growth: see all variable codes in Annex II). On the other hand, growth in the EU-12 (eu12growth) is *positively and significantly associated with growth in the CIS*, and with a far larger coefficient than the equally positive significant variable for Russian growth (rusgrwoth: the other Russian variables, on the other hand, are either *non-significant, negative or of no economic significance, due to the very small coefficients*). *Imports* from the EU-15 are positively and significantly associated with growth, albeit exports to the EU-12 (expeu12) are negative and significant (but with a far smaller coefficient). On the other potential channels, the EU-15 FDI is positively significantly associated with growth (the previously referred to data limitations may explain the lack of significance of most other variables). The negative significant value for inflation points to the pre-eminent role of macro stabilization in growth resumption.

The results from the "shares" regression (where the variables now represent the regional shares of the total values of trade, FDI and remittances) mostly support those results (columns 5-8, table XII). Additionally, remittances from the EU-15 are positive significant for CIS growth, while FDI from the EU-12 and Russia are significant negative for growth.

[34]Given that the CIS imports from the EU –and especially from the EU-15- tend to be of capital goods, which would be growth-enhancing in the long run.

[35]Some including proxies for the factor endowments and for institutional quality or investment climate, with broadly similar results to the ones show here: see Annex IV. Others are available from the authors upon request.

Table XII

Levels	Coef.	Std. Err.	P >|t|	Shares	Coef.	Std. Err.	P>|z|
rgdppc	-0.0105263	0.01	0.32	**rgdppc**	0.00628	0.00604	0.31
eu15growth	-0.5916671	0.58	0.32	**eu15growth**	-0.3915	0.54448	0.48
eu12growth		0.66	0.03	**eu12growth**		0.67899	0.01
rusgrowth		0.11	0.03	**rusgrowth**		0.10866	0.03
expeu15	0.0015317	0.00	0.47	**expeu15share**		4.63369	0.08
impeu15		0.01	0.02	**impeu15share**	18.6976	14.526	0.21
expeu12		0.00	0.08	**expeu12share**	7.73835	27.45	0.78
impeu12	-0.0138251	0.01	0.16	**impeu12share**	-3.6812	24.6648	0.88
exprus							

Section 5: Conclusions

This paper aimed to assess the growth effects of the EU and of Russia in the CIS region, taking into consideration a) the new, post-Enlargement regional dimension of the EU and b) the different channels of transmission that the can affect growth.

Our estimations support, to a degree, our underlying hypothesis: *growth dynamics in the CIS, to some extent, is driven by the new EU member states, not the old EU 15,* in spite of its far larger economic dimension. Also, when one disaggregates imports and exports, *imports from the EU 15 are positively associated with growth, likely due to its large capital goods contents*.[36] *Remittances and FDI flows from the EU-15 are also positively associated with growth*. Here the results are weaker, likely due to the serious data limitations encountered in the construction of those variables. FDI inflows from the EU (and specially EU-15) go to different sectors than flows from Russia, and into sectors that are more relevant for sustainable, long-run growth. The results also indicate that the economic effects of migration and remittances might depend on the preferred migration destinations and, consequently, on the origin (and scale) of the individual remittance flows.[37]

In all cases, the regional role of Russia as growth driver is substantially reduced, or even negative, when compared to the enlarged EU, even when including the recent period of strong growth resumption in Russia.

We must stress the *serious* data limitations faced in this exercise, which put many provisos on the conclusions above: some of the statements above are not robust to alternative model specifications. On a more positive note, this also indicates a wide area for substantial future research. Nevertheless, given the scope for the potential increase in the EU economic relations with the CIS –for instance, in the trade area, given the likely eventual removal of remaining limitations, not to mention the expected effects of the final entry of Bulgaria and Romania (and later, eventually Croatia and Turkey) into the EU, it is foreseeable that the EU regional role in the CIS will increase further.

On a practical level, this also demonstrates that there may be important benefits to be at1(u)byhe CIencourieows from (encraginines)TJ11.04 0 TD221308 Twase furthto Nevsifi1(catits of tra

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Annex I. Trade Flows and Trade Composition in CIS Countries: Selected Years

Table IVa. The Origins and Destination of the CIS of Intra-Trade in 1995,1999, 2003

Exporter	year	Share of Exports Destined For (%)											
		Azerbaijan	Armenia	Belarus	Georgia	Kazakhstan	Kyrgyz Republic	Moldova	Russian Federation	Tajikistan	Turkmenistan	Ukraine	Uzbekistan
Azerbaijan	1995	-	0.0	1.0	15.9	7.2	0.3	1.3	35.2	1.2	24.8	11.8	1.4
	1999	-	0.0	1.8	34.0	1.9	1.8	0.1	39.3	5.1	4.2	0.4	11.4
	2003	-	0.0	0.4	32.8	3.8	0.1	0.0	42.0	11.9	2.0	6.5	0.5
Armenia	1995	0.0	-	0.5	1.6	1.0	0.0	0.0	53.5	0.1	40.5	2.6	0.2
	1999	0.0	-	1.9	19.9	0.9	0.1	0.4	59.8	0.0	10.9	3.7	0.4
	2003	0.0	-	2.0	13.8	1.1	0.0	0.2	72.5	0.0	4.0	6.3	0.4
Belarus	1995	0.2	0.1	-	0.1	2.5	0.2	2.3	72.2	0.2	0.1	20.1	2.0
	1999	0.2	0.0	-	0.0	0.8	0.2	0.8	89.0	0.1	0.6	7.7	0.6
	2003	0.2	0.2	-	1.2	1.7	0.1	0.1	89.7	0.1	0.8	6.3	0.4
Georgia	1995	13.4	18.7	2.2	-	1.9	0.5	0.2	49.6	0.3	6.7	6.0	0.7
	1999	17.9	14.0	0.5	-	1.6	0.1	0.1	41.6	1.0	12.0	10.2	0.9
	2003	7.8	13.9	0.7	-	1.7	0.3	1.2	35.0	0.2	27.8	12.1	0.5
Kazakhstan	1995	0.8	0.0	1.9	0.0	-	2.6	0.1	82.0	1.4	1.6	4.2	5.3
	1999	2.1	0.5	0.8	0.2	-	4.1	0.0	75.8	3.2	0.9	7.9	4.5
	2003	3.3	0.1	0.4	0.3	-	5.4	1.2	69.2	2.5	1.0	12.4	4.3
Kyrgyz Republic	1995	0.8	0.0	1.9	0.3	24.8	-	0.4	38.9	3.1	0.8	3.1	26.0
	1999	0.8	0.0	2.7	0.2	24.5	-	0.3	38.6	5.2	1.5	0.8	25.4
	2003	0.6	-	1.0	0.1	31.0	-	0.2	43.8	9.6	1.2	2.4	9.9
Moldova	1995	1.1	0.6	5.7	0.0	1.8	0.1	-	77.1	0.0	0.3	12.6	0.6
	1999	0.2	0.0	8.6	0.0	1.3	0.1	-	75.5	0.1	0.2	12.9	1.2
	2003	0.3	0.5	9.6	0.2	2.1	0.3	-	72.1	0.0	0.4	14.1	0.4
Russian Federation	1995	0.6	0.9	20.4	0.3	17.6	0.7	2.8	-	1.3	0.6	49.1	5.7
	1999	1.1	0.5	34.8	0.5	11.3	0.8	2.2	-	0.6	0.6	45.3	2.3
	2003	2.0	0.7	37.6	0.7	15.5	0.7	1.4	-	0.6	1.1	37.4	2.4
Tajikistan	1995	0.4	0.0	0.9	0.0	2.8	1.1	0.0	37.9	-	0.9	3.7	52.5
	1999	0.0	0.0	1.0	0.0	1.1	1.2	0.0	36.5	-	0.4	2.2	57.5
	2003	0.4	0.0	0.7	0.0	3.5	2.9	0.2	37.0	-	1.4	4.8	49.1
Turkmenistan	1995	5.4	14.3	0.2	5.7	13.7	0.7	0.3	7.2	0.6	-	49.5	2.3
	1999	9.9	0.3	0.1	7.3	2.4	1.6	0.2	8.9	2.4	-	65.8	1.2
	2003	0.6	0.1	0.0	0.7	0.1	0.1	0.0	2.4	2.3	-	93.8	0.8
Ukraine	1995	0.6	0.1	7.8	0.3	1.4	0.1	2.2	81.9	0.2	3.9	-	1.6
	1999	0.9	0.4	10.6	1.3	1.5	0.4	3.8	73.7	1.9	3.1	-	2.4
	2003	2.4	0.9	5.7	1.5	4.5	0.2	8.0	72.0	0.6	2.9	-	1.4
Uzbekistan	1995	0.4	0.0	2.9	0.1	20.5	6.1	0.3	49.5	14.0	2.4	3.9	-
	1999	0.0	0.0	2.4	0.1	8.4	4.9	0.0	45.3	25.7	4.8	8.2	-
	2003	0.2	0.2	2.3	1.1	11.8	8.2	0.1	49.4	18.0	5.1	3.8	-

Source: DOTS/IFS, calculations by the authors.

Table IVb. The Origins and Destination of the CIS of Intra-Trade in 1995,1999, 2003

Importer		Share of Imports From (%)

Table Va. The Export Structure of the CIS Trade by Major Product Categories: 1995 and 2003

	year	Share of Product Group in Total Exports to the CIS (%)											
		Live animals; Vegetable products	Animals or vegetable fats and oils	Prepared foodstuffs	Mineral Products	Chemicals	Wood and Articles of Wood	Textile and textile articles	Non-precious metals	Machinery	Transport	Instruments and apparatus	Other
Azerbaijan	1995	4.4	0.1	6.5	61.2	9.4	0.1	3.8	1.1	11.3	0.9	0.6	0.6
	2003	7.6	11.1	6.0	45.9	17.4	0.0	5.7	1.2	3.9	1.3	0.4	1.7
Armenia	1995	0.3	0.0	7.2	1.1	14.5	0.4	10.9	7.0	21.3	4.0	2.9	30.6
	2003*	1.3	0.0	9.2	6.7	0.8	0.4	4.1	12.6	2.9	2.2	4.7	55.2
Belarus	1995	5.1	0.1	2.9	15.0	11.9	2.6	10.0	4.8	18.2	19.4	0.8	9.2
	2003	7.9	0.2	5.4	2.5	10.8	4.0	10.0	9.4	19.4	17.3	1.3	11.8
Georgia	1995	18.6	0.1	17.7	12.9	10.0	2.6	4.0	23.9	6.3	1.6	0.2	2.1
	2003	8.0	0.0	43.5	8.7	6.4	0.6	0.1	4.3	2.4	25.0	0.1	0.8
Kazakhstan	1995	15.0	0.1	1.9	35.1	14.7	0.2	1.5	23.5	4.6	1.9	0.2	1.4
	2003	11.6	0.3	2.7	54.2	10.3	0.2	1.7	13.5	3.4	1.5	0.3	0.3
Kyrgyz	1995	11.5	0.3	30.0	17.9	2.8	0.3	9.6	7.2	10.1	2.6	0.5	7.1
Republic	2003	7.7	0.0	13.4	18.2	5.3	0.7	19.6	2.6	13.8	5.9	0.4	12.3
Moldova	1995	17.3	1.3	58.6	0.2	1.5	0.9	2.5	0.8	7.7	2.3	0.3	6.5
	2003	13.7	2.3	68.6	4.0	1.8	1.7	1.7	0.7	4.7	1.9	1.3	3.0
Russian	1995	1.2	0.2	1.4	52.4	10.8	3.3	2.0	8.4	11.9	5.2	0.6	2.6
Federation	2003	2.7	0.6	4.3	43.0	10.5	3.4	1.7	11.3	12.1	6.2	1.0	3.3
Tajikistan	1995	0.1	0.0	1.6	50.1	0.1	0.0	29.7	15.4	1.4	1.1	0.0	0.5
	2003*	2.5	0.0	1.1	8.4	0.6	0.0	24.3	58.3	0.4	1.1	0.0	3.4
Turkmenistan	1995*	0.3	0.1	0.2	72.6	0.7	0.0	25.4	0.2	0.1	0.0	0.0	0.4
	2003	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Ukraine	1995*	10.1	1.3	9.7	8.6	14.4	1.4	2.7	33.1	9.8	4.4	0.4	4.1
	2003*	4.9	2.4	3.7	16.0	9.9	3.2	3.4	37.2	10.0	4.3	1.2	3.9
Uzbekistan	1995	1.8	0.8	2.5	38.3	4.0	0.1	38.9	4.9	3.2	2.8	0.1	1.6
	2003	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a

Source: Statcommittee of the CIS

Table Vb. The Export Structure of the CIS Trade by Major Product Categories: 1995 and 2003

	year	Share of Product Group in Total Exports to the Rest of the World (%)											
		Live animals; Vegetable products	Animals or vegetable fats and oils	Prepared foodstuffs	Mineral Products	Chemicals	Wood and Articles of Wood	Textile and textile articles	Non-precious metals	Machinery	Transport	Instruments and apparatus	Other
Azerbaijan	1995	0.4	0.0	1.7	56.4	1.9	0.2	32.6	4.1	2.0	0.5	0.0	0.5
	2003	0.7	0.0	0.2	98.2	1.7	0.1	0.6	2.5	1.1	0.2	0.0	0.1
Armenia	1995	0.5	0.0	0.5	26.6	1.4	0.5	0.8	18.8	1.4	0.1	0.1	49.4
	2003*	1.3	0.0	9.2	6.7	0.8	0.4	4.1	12.6	2.9	2.2	4.7	55.2
Belarus	1995	2.9	0.0	1.2	8.2	31.2	4.2	20.4	8.5	5.6	9.2	2.5	6.3
	2003	0.8	0.0	1.1	47.5	17.1	4.8	7.5	7.9	2.5	4.1	2.0	4.7
Georgia	1995	3.3	0.1	2.2	15.8	9.5	0.9	2.3	58.2	2.9	2.5	0.0	2.3
	2003	2.4	0.0	8.1	16.3	4.9	4.4	1.0	44.4	3.0	2.0	0.8	12.6
Kazakhstan	1995	1.7	0.0	0.4	22.0	5.7	0.0	3.8	62.8	0.5	0.2	0.2	2.8
	2003	2.7	0.0	0.0	69.0	1.6	0.0	0.8	23.3	0.4	0.1	0.1	2.8
Kyrgyz	1995	2.3	0.1	2.6	0.0	14.0	0.3	37.8	35.6	2.0	0.3	0.0	5.0
Republic	2003	2.6	0.0	0.8	11.9	1.4	0.1	3.6	4.8	1.0	1.6	0.1	72.1
Moldova	1995	22.7	1.8	39.0	2.6	2.0	1.8	8.4	10.2	3.7	0.6	0.1	7.1
	2003	11.9	5.3	11.3	1.2	2.0	1.8	36.3	4.5	4.2	0.7	0.5	20.3
Russian	1995	0.9	0.0	0.6	40.4	9.9	6.1	1.2	22.5	3.0	5.2	0.3	10.0
Federation	2003	1.3	0.0	0.2	61.2	6.3	4.5	0.5	14.3	2.6	3.4	0.4	5.3
Tajikistan	1995	0.0	0.0	0.0	0.0	0.0	0.0	28.9	70.9	0.0	0.0	0.0	0.2
	2003*	2.5	0.0	1.1	8.4	0.6	0.0	24.3	58.3	0.4	1.1	0.0	3.4
Turkmenistan	1995	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
	2003	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Ukraine	1995*	7.0	0.9	4.8	9.0	13.2	1.4	3.2	41.5	9.6	3.8	0.4	5.2
	2003*	4.9	2.4	3.7	16.0	9.9	3.2	3.4	37.2	10.0	4.3	1.2	3.9
Uzbekistan	1995	0.7	0.3	0.3	0.9	2.5	0.0	87.9	7.1	0.4	0.1	0.0	0.1
	2003	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a

Source: Statcommittee of the CIS

Table VIa. The Import Structure of the CIS Trade by Major Product Categories: 1995 and 2003

	year	Share of Product Group in Total Imports from the CIS (%)											
		Live animals; Vegetable products	Animals or vegetable fats and oils	Prepared foodstuffs	Mineral Products	Chemicals	Wood and Articles of Wood	Textile and textile articles	Non-precious metals	Machinery	Transport	Instruments and apparatus	Other
Azerbaijan	1995	13.7	0.3	6.2	32.2	9.6	5.0	1.5	12.9	12.3	3.2	0.7	2.6
	2003	11.3	0.8	5.3	35.9	6.4	4.1	0.6	8.9	11.4	13.1	0.3	2.1
Armenia	1995	5.5	0.2	1.9	59.4	3.5	1.4	1.2	1.8	10.9	1.1	0.4	12.7
	2003*	8.0	1.8	6.7	13.7	9.1	2.1	2.9	6.5	9.9	5.9	2.6	30.7
Belarus	1995	2.6	1.0	4.3	52.5	12.8	1.3	2.0	12.2	7.4	2.3	0.4	1.2
	2003	3.0	1.2	5.9	38.0	10.3	3.0	3.0	15.1	11.8	2.7	1.0	5.0
Georgia	1995	2.5	0.1	3.6	81.8	3.3	0.7	0.5	1.2	2.8	1.2	0.1	2.3
	2003	7.1	0.5	11.0	50.9	7.8	2.4	0.5	8.4	3.9	4.8	0.5	2.2
Kazakhstan	1995	1.4	0.4	4.8	38.8	12.9	3.7	2.0	10.6	14.0	7.4	0.7	3.3
	2003	2.1	0.9	5.2	22.3	15.6	4.6	1.1	15.7	14.5	12.8	1.1	4.1
Kyrgyz Republic	1995	1.7	0.4	4.8	54.5	6.9	3.0	4.9	9.0	6.9	4.3	0.2	3.4
	2003	2.6	1.6	11.8	44.4	13.4	4.9	1.1	8.0	6.0	3.7	0.5	2.0
Moldova	1995	3.0	0.1	2.3	64.5	6.4	5.2	2.3	4.8	5.6	2.7	0.5	2.5
	2003	3.5	0.2	7.8	45.5	9.7	6.4	0.7	5.6	6.7	3.8	0.4	9.7
Russian Federation	1995	9.0	0.9	15.3	15.0	9.6	0.8	7.2	16.0	12.2	9.1	0.5	4.4
	2003	9.3	1.1	8.5	13.7	11.8	3.3	6.5	14.4	14.8	9.6	0.8	6.1
Tajikistan	1995	7.6	0.1	0.5	83.0	2.0	1.8	0.4	1.4	1.0	1.9	0.0	0.3
	2003*	4.2	1.1	3.6	25.6	33.8	6.6	1.5	2.7	10.2	5.9	0.5	4.2
Turkmenistan	1995*	12.2	0.3	13.9	6.2	11.3	1.3	6.4	12.0	26.1	4.3	1.0	5.0
	2003	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Ukraine	1995*	3.2	0.2	4.8	49.9	10.2	2.9	2.8	4.5	13.7	3.2	1.2	3.4
	2003*	2.8	0.5	5.0	38.4	12.2	4.0	3.7	5.2	15.2	7.9	1.5	3.7
Uzbekistan	1995	11.1	0.0	3.2	6.9	13.4	3.6	2.0	14.9	22.4	9.7	0.6	12.1
	2003	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a

Source: Statcommittee of the CIS

Table VIb. The Import Structure of the CIS Trade by Major Product Categories: 1995 and 2003

	year	Share of Product Group in Total Imports from the Rest of the World (%)											
		Live animals; Vegetable products	Animals or vegetable fats and oils	Prepared foodstuffs	Mineral Products	Chemicals	Wood and Articles of Wood	Textile and textile articles	Non-precious metals	Machinery	Transport	Instruments and apparatus	Other
Azerbaijan	1995	21.5	12.3	18.8	6.2	11.6	2.0	1.8	2.9	12.5	6.7	0.5	3.1
	2003	3.9	1.0	3.3	4.1	7.6	1.6	1.8	27.6	31.9	8.4	3.0	5.7
Armenia	1995	38.4	7.1	13.3	7.7	14.1	1.2	1.1	3.0	3.9	0.8	1.3	8.1
	2003*	8.0	1.8	6.7	13.7	9.1	2.1	2.9	6.5	9.9	5.9	2.6	30.7
Belarus	1995	9.3	1.6	7.9	2.8	18.6	2.9	8.4	3.9	18.4	12.7	5.9	7.5
	2003	7.3	0.5	9.1	2.8	18.8	3.8	6.4	4.6	25.0	13.2	3.5	5.0
Georgia	1995	13.4	4.4	31.2	33.1	4.3	0.6	1.7	0.8	6.8	0.8	0.3	2.6
	2003	5.0	0.8	10.2	3.0	14.2	3.7	2.0	19.2	21.5	12.5	1.5	6.3
Kazakhstan	1995	4.8	1.0	13.9	10.1	9.3	4.6	3.6	2.7	33.3	6.0	4.7	6.1
	2003	2.9	0.5	5.4	2.7	15.3	3.2	2.3	9.2	36.8	13.2	3.5	5.1
Kyrgyz	1995	15.4	2.7	25.7	1.6	8.5	0.8	3.7	2.5	23.2	8.9	2.0	5.0
Republic	2003	3.5	2.0	4.3	2.2	19.3	2.9	14.0	4.0	24.8	12.3	4.4	6.2
Moldova	1995	9.4	0.4	7.9	8.7	18.5	4.3	10.4	2.3	26.7	2.5	1.5	7.5
	2003	8.2	0.5	7.0	4.4	19.1	5.5	14.6	5.4	20.2	5.3	2.2	7.5
Russian	1995	13.0	1.7	14.7	2.9	11.4	3.0	3.5	4.0	28.4	4.5	5.9	7.1
Federation	2003	11.6	1.1	9.4	1.2	18.4	4.5	3.5	4.8	26.4	9.6	3.8	5.6
Tajikistan	1995	3.7	0.3	0.9	59.2	5.2	0.3	1.1	1.5	22.9	1.0	0.0	3.9
	2003*	4.2	1.1	3.6	25.6	33.8	6.6	1.5	2.7	10.2	5.9	0.5	4.2
Turkmenistan	1995*	12.2	0.3	13.9	6.2	11.3	1.3	6.4	12.0	26.1	4.3	1.0	5.0
	2003	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Ukraine	1995*	3.2	0.2	4.8	49.9	10.2	2.9	2.8	4.5	13.7	3.2	1.2	3.4
	2003*	2.8	0.5	5.0	38.4	12.2	4.0	3.7	5.2	15.2	7.9	1.5	3.7
Uzbekistan	1995	12.9	0.7	8.8	0.1	6.8	0.4	3.8	1.0	47.7	6.8	8.2	2.9
	2003	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a

Source: Statcommittee of the CIS

Annex II. Data Description and Definitions

Our dataset comprises a sample of eleven CIS countries - Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan – spanning over a period of 15 years (1990-2004). It includes data on variables generally used to explain economic growth, with a particular focus on explanatory variables used in studies of growth and recovery in transition (see Annex III for rationale behind model selection, and table below for data definitions, sources, and measurement units). Most of the data for traditional growth model control variables has been collected from the World Development Indicators database.

In additional, eleven Transition Indicators spanning over the entire period considered have been collected from the European Bank of Reconstruction and Development (EBRD). Institutional variables comprise eight International Country Risk Guide (ICRG) indicators, and a composite index for assessing political risk. ICRG data span over the 1998-2004 period and is available only for six CIS countries: Armenia, Azerbaijan, Belarus, Kazakhstan, Moldova, and Ukraine. Despite this serious data limitation, the ICRG data represents the longest and most comprehensive time-series on institutional development that we are aware of. [39] Those proxies for institutional quality and investment climate were used in alternative estimations, closer to the original "Barro" ones, some of which are show on Annex IV.

Data limitations are much more significant when it comes to disaggregated data on the possible growth transmission channels considered in this paper – trade, FDI, and remittances. Data on trade is readily available from IMF Direction of Trade Statistics (DOTS) database, and composites have been calculated for both imports from and exports to EU-15, EU-10 countries plus Romania and Bulgaria, and Russia. Data on the origins of FDI and remittance flows, however, is much scarcer. Most of the FDI data has been collected from EUROSTAT, UNCTAD, the Belarus Ministry of Statistics and Central Bank of the Russian Federation. Regarding remittance flows, *no disaggregated time-series exists,* to the best of our knowledge. We have used a bilateral matrix of remittance flows constructed by Terrie Walmsley, Amer Ahmed, and Christopher Parsons (2005) to estimate the share of remittance inflow to CIS countries from the different regions under consideration, and used it as a proxy to derive yearly inflows from the data on total remittances.

It might be possible to obtain better FDI data by source of origin and sectors directly from national authorities.[40] Historic disaggregated data on remittances, however, does not exist.

[39]The governance indicators developed by D. Kaufmann, A. Kraay, and M. Mastruzzi (2005) in "Governance Matters IV: Governance Indicators for 1996-2004" do comprise all CIS countries, but are available only every other year.

[40]We have researched national statistical authorities' websites, but for most countries, such data is not posted online.

Variable	Definition and Source
grgdppc	Growth Rate of GDP per Capita - annual real GDP per capita growth rate (y/y %) (WDI).
rgdppc	Real GDP per Capita - GDP per capita (constant 2000 US$) (WDI)
eu15growth	Growth in EU-15 Countries – Average Growth Rate of Real GDP per Capita in EU-15 Countries (% annual) (WDI, authors' calculations)
eu12growth	Growth in EU-12 Countries (eu12growth) – Average Growth Rate of Real GDP per Capita in EU-12 Countries (% annual) (WDI, authors' calculations)
rusgrowth	Growth in Russia – Growth Rate of Real GDP per Capita in Russia (% annual) (WDI, authors' calculations)
impeu15	Imports from EU-15 Countries – Imports CIF from EU-15 Countries (in millions US$) (DOTS, authors' calculations)
impeu12	Imports from EU-10 Countries – Imports CIF from EU-12 Countries (in millions US$) (DOTS, authors' calculations)
imprus	Imports from Russia - Imports CIF from Russia (in millions US$) (DOTS, authors' calculations)
imptotal	Total Imports – Imports CIF from the World (in millions US$) (DOTS, authors' calculations)
expeu15	Exports to EU-15 – Exports FOB to EU-15 Countries (in millions US$) (DOTS, authors' calculations)
expeu12	Exports to EU-12 – Exports FOB to EU-12 Countries (in millions US$) (DOTS, authors' calculations)
exprus	Exports to Russia – Exports FOB to Russia (in millions US$) (DOTS, authors' calculations)
exptotal	Total Exports – Exports FOB to the World (in millions US$) (DOTS, authors' calculations)
inflation	Inflation – Inflation, CPI (annual %) (WDI, UNECE, EBRD)
wreu15	Workers Remittances and Compensation of Employees from EU-15 Countries – Calculated as share of remittance inflows from EU-15 countries derived from matrix developed by Walmsley et al. (2005) out of total flows of remittances and compensation of employees (current US$) (WDI, authors' calculations)
wreu12	Workers Remittances and Compensation of Employees from EU-12 Countries – Calculated as share of remittance inflows from EU-12 countries derived from matrix developed by Walmsley et al. (2005) out of total flows of remittances and compensation of employees (current US$) (WDI, authors' calculations)
wrrus	Workers Remittances and Compensation of Employees from Russia – Calculated as share of remittance inflows from EU-15 countries derived from matrix developed by Walmsley et al. (2005) out of total flows of remittances and compensation of employees (current US$) (WDI, authors' calculations)
fdieu15	FDI Inflows from EU-15 Countries – Calculated as the value from total FDI flows (current US$) (EUROSTAT, UNCTAD, WDI, national sources, authors' calculations)
fdieu12	FDI Inflows from EU-12 Countries – Calculated as the value from total FDI flows (current US$) (EUROSTAT, UNCTAD, WDI, national sources, authors' calculations)
fdirus	FDI Inflows from Russia – Data for Armenia (1998-2002), Azerbaijan (1995-2002), Kazakhstan (1993-2002), and Kyrgyz Republic (1995-2002) was collected from UNCTAD Country Profiles. Data for Armenia, Azerbaijan, Kazakhstan, Kyrgyz Republic for 2003 and 2004 and for Georgia, Moldova, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan (2000, and 2002-2004) was collected from Central Bank of Russia. Data for Belarus (2000-2004) was collected from the Ministry of Statistics of Belarus (current US$) (UNCTAD, Central Bank of Russia, Ministry of Statistics of Belarus)
gcfgdp	Gross Capital Formation in Percent of GDP (annual %) (WDI)
npcfgdp	Private Capital Flows in Percent of GDP (annual %) (WDI)
govexpgdp	General Government Final Consumption Expenditure in Percent of GDP (annual %)
tereduc	Gross tertiary education enrolment rate, total. The number of pupils enrolled in tertiary

	education, regardless of age, expressed as a percentage of the population in the theoretical age group for tertiary education (%) (UNESCO Institute for Statistics).
popul	Population, total (WDI)
popgrowth	Population growth (annual %) (WDI)

Variables with the postfix "share" are merely the regional shares of the above variables on total values (for instance, "impeu15share" will be the percentage share of EU imports on total imports for any given CIS partner country).

Annex III: Literature Review

In the nineties, there has been a renewed interest by economists in explaining growth by going beyond the *role of factor inputs* — land, natural resources, labour, and physical and human capital — which were central to earlier Solow-type models. Factor inputs continue to play a large role, though other explanatory variables have been added. But transition economies' growth is not analogous to the long-term equilibrium growth path that is usually modeled in growth studies. As Havrylyshyn et al. (1999) noted, the dynamics in this period were not a matter of moving the economy to a higher production-possibility-frontier (PPF) through expansion of factor inputs or technological change. Rather, they were a matter of correcting the large inefficiencies of the communist period, including moving from inside the PPF to the PPF, and shifting resource allocation along the PPF to an international comparative advantage position. Therefore, it is not surprising that all efforts to include capital, usually proxied by the investment to GDP ratio, show insignificant, and often negative, results.

This does not imply that no investment is needed in the process of reallocating resources. To the contrary, at the enterprise level, a lot of new (but often small) investment is taking place. But in the aggregate, the amount of new investment in early phases of the transition may not — and need not — exceed replacement levels for the pre-existing capital stock. Indeed, Campos and Coricelli (2002) list as one of seven stylized facts of growth in the transition that, in the aggregate, "capital shrank." If old industries are inefficient, a shift to more efficient ones, or—as was also often the case—a shift within firms to more profitable product lines can take place in an environment of negative or aggregate net investment, as long as gross new investment is going into more efficient production.

The primacy of *financial stabilization* as a prerequisite for growth recovery is not a surprising result, nor indeed was it controversial. Some observers argued for the use of exchange rate anchors as the centrepiece of any stabilization strategy. The econometric evidence does not give a clear-cut answer on their effectiveness, because, in fact, several categories of cases emerged historically. Some did indeed achieve successful stabilization while using an anchor, but a large number of CIS countries achieved stabilization without this anchor. Russia arguably had a peg of sorts until 1998 (see Esanov, Merkl, and Vinhas de Souza, 2005), with demonstrably limited success in stabilization.

Another unresolved detail in the econometric literature is whether budget tightness or inflation control, or both, are the determinant variables. The attempts to sort this out have been mixed: there is a strong consensus that lower inflation stimulates growth, but separate effects of inflation compared with those of budget deficits are not easily established. This may be due to two factors. First, almost all these models are *ad hoc* and not derived from structural equations, including, for example, simultaneous determination of inflation and growth. In cases where inflation is separately determined, deficits do show positive and significant correlations with both inflation and growth. Second, fiscal deficits may have been too narrowly measured, excluding off-budget transfers, central bank—directed lending etc. Since stabilization cannot be narrowly defined, a typically

good proxy for the entire strategy may, indeed, be inflation reduction; hence the results one observes: inflation control is highly significant in growth regressions.

Liberalization of markets and related structural reforms also show up as one of the main determinants of growth during the transition (see Bakanova et al., 2004, and Vinhas de Souza, 2006a), though this is true for the aggregated synthetic measures, such as the EBRD transition index, but less so for individual components. Thus, price liberalization alone is significant in only a few studies; privatisation also comes out insignificant in most but significant in a few specifications. This suggests that it is the combined effect of several policies that matters in creating new opportunities for private sector activity, not a surprising or controversial result. More controversial is the role of privatisation relative to market institutions. Quantitative analyses of the effects of privatisation have come to a clear consensus: transfer of ownership alone has some small positive effects, but significant benefits come only with the complementary development of competitive market institutions. What this means precisely is not easy to define, because all studies use a broad synthetic index of institutions, covering the competitive environment, security of property rights, rule of law, and government corruption. But it does strongly confirm the view that some minimum degree of institutional development is needed alongside private sector development.[41]

It is widely agreed that *institutions* are important for sustained growth, though there remains a critical unanswered question: *is there any way one can effectively promote good institutions?* There are many writings on the role of institutions in non-transition economies. We note only a few points most pertinent to transition. Only a handful of the writings analysing growth in transition include institutional quality as a variable. Havrylyshyn and van Rooden (2003) conclude that institutions contribute significantly to growth in transition, and especially in the later phase of sustained growth, while liberalization, stabilization, and initial conditions are more important in the early recovery. Beck and Laeven (2005) show econometric results that attribute almost all the explanatory power to institutional quality alone, a puzzling result for the short term, though consistent with the 'deep explanation' school of thought, as Johnson and Subramanian (2005) labelled it, which postulates that since good institutions lead to good policies in the long run, they alone fully explain growth. Despite some differences, the few econometric studies relating growth and institutions in transition agree that there is a strong and important link.

It is important to note that market liberalization, privatisation, or institutions alone do not have overwhelming explanatory power, but rather all of them matter, as they act in a complementary fashion.

[41]The use of synthetic indices for institutions may not be such a big shortcoming, because objective measures generally cannot capture the implementation quality, which is, after all, what matters. Most objective measures show the quantity of legislation, judicial resources devoted to commercial issues, etc. It is possible that some measures such as the time taken for bankruptcy cases to be concluded begin to capture quality, but so far the best measure of quality may, indeed, be ex post perceptions of market actors.

Concerning the importance of *initial conditions* relative to reform policies such as stabilization, liberalization, and institutional development, there is no clear-cut result in the econometric studies or in qualitative analyses. In the econometric ones, these have been measured as the degree of over-industrialization, share of defence industry, years under communism (a proxy for market memory or "mental" distance from capitalism), distance from European markets, incidence or non-incidence of war or civil conflict, etc. Because the possible number of measures of initial conditions is so large, the results vary according to the choice of variable, choice of period, and econometric specification. A strong role of initial conditions is found by DeMelo, Denizer, and Gelb et al. (1996). Later, Havrylyshyn et al. (1999), using the same measures with additional years of data, point out that even if this was true in the early years, the statistical significance of initial conditions declined over time (Bakanova et al., 2004, finds the same results).

Perhaps the strongest argument against the path-determining effect of initial conditions has not been tested in the literature, namely that some of them may have either negative or positive effects on growth. Thus, for example, the share of the defence industry in GDP in some countries (high in Ukraine and Russia, very low in the Baltic republics) can be not only a drag on the reallocation of resources to new industries but also, given that this industry contained the highest level of human capital and technology, an opportunity for generating a lot of new growth *under the proper incentives*. This is analogous to the common arguments about *natural resources*, which, in principle, should be a benefit to the country under good policies, but, in practice, may lead to complacency and bad policies and turn out, historically, to have had a negative influence on growth. That defence industries were often strong lobbies for slow adjustment is hardly debatable.

Endogeneity amongst initial conditions, policy choices, and growth is the strongest argument for the importance of initial conditions. It cannot be disputed that policy choices are not made in an abstract textbook vacuum and must be influenced by the economic and political circumstances facing governments.

The econometric studies of growth generally cover only the nineties, given the time lag between data availability and publication of research papers. They miss a key turning point in the recovery, which is the surge in growth rates after 1999 for CIS countries. The simplest and most popular explanation has been the sharp increase in oil and gas prices, which directly benefited Azerbaijan, Kazakhstan, Russia, and Turkmenistan and was thought to indirectly benefit others in the region through the spillover effect of increased imports. The spill-over argument is not enough to explain the equally high or even higher growth rates for major energy importers such as Ukraine — as terms of trade loss should have kept their rates lower, even considering the gains from the re-export of processed oil and the revenues from transit fees, which are indexed to the prices of oil and gas.[42] Furthermore, the imports effect was declining over time, as the diversification of trade away from intra-CIS trade continued and for many countries in the region the share of

[42]Albeit this may not be case for Belarus, as this country *does* has terms of trade gains from increased energy prices, given that it receives crude from Russia at effectively below world market prices (due to a waiver of VAT by Russia, what amounts to a *direct* fiscal transfer), which it them processes and sell at world market prices.

exports to Russia had fallen from well over 50% in the nineties to a third or less by 2002. The first alternative explanation is the achievement of macro stability, and particularly the control of inflation. Ahrend (2006) demonstrates that even for Russia oil was not the whole story — at least as important was the beneficial side-effect of the 1998 financial crisis of a real exchange rate adjustment of initially about a 50% devaluation, plus some limited but significant degree of structural reform.

Annex IV: Alternative Regressions

	Shares		Levels	
Dependent Variable: Growth Rate of Real GDP Per Capita				
Real GDP per Capita	-0.061***	-0.009	-0.084	-0.011
	(0.019)	(0.006)	(0.015)	(0.015)
EU-15 Average Growth of Real GDP per Capita	-5.251***	-1.200**	-4.904	-1.503*
	(1.370)	(0.610)	(0.827)	(0.752)
EU-12 Average Growth of Real GDP per Capita	3.753***	1.878**	2.412	1.662**
	(0.955)	(0.740)	(0.475)	(0.742)
Russia's Growth of Real GDP per Capita	0.430**	0.381***	0.840*	0.324**
	(0.187)	(0.130)	(0.083)	(0.154)
Exports to EU-15 Countries as Share of Total Exports	-23.248***	-4.594		
	(6.964)	(6.345)		
Imports from EU-15 Countries as Share of Total Imports	-44.914	-15.473		
	(44.492)	(17.002)		
Exports to EU-12 Countries as Share of Total Exports	-76.408**	-29.416		
	(32.670)	(21.004)		
Imports from EU-12 Countries as Share of Total Imports	49.805	35.713*		
	(30.981)	(20.883)		
Exports to Russia as Share of Total Exports	-71.921***	-29.869***		
	(25.528)	(11.113)		
Imports from Russia as Share of Total Imports	27.924	3.228		
	(23.694)	(13.889)		
Workers Remittances from EU-15 as Share of Total Remittances	184.634***	32.401*		
	(60.383)	(17.138)		
Workers Remittances from EU-12 as Share of Total Remittances	145.871***	52.404***		
	(41.132)	(16.356)		
Workers Remittances from Russia as Share of Total Remittances	127.389***	17.485*		
	(41.798)	(9.379)		
FDI Originating from EU-15 as Share of Total FDI	-1.536	1.458*		
	(3.351)	(0.785)		
FDI Originating from EU-12 as Share of Total FDI	-8.201	-20.452		
	(15.903)	(14.126)		
FDI Originating from Russia as Share of Total FDI	-12.771*	-3.376*		
	(6.954)	(1.740)		
Inflation (CPI)	-0.013	-0.036***	-0.013	-0.056***
	(0.015)	(0.005)	(0.014)	(0.013)
Gross Secondary Enrollment Rate	0.811**	0.267**	1.347	-0.196
	(0.405)	(0.132)	(0.575)	(0.211)
Population	-0.000**	-0.000**	-0.000	-0.000*
	(0.000)	(0.000)	(0.000)	(0.000)
Gross Capital Formation/GDP	0.494**	0.282*	1.064	0.044

	(0.206)	(0.159)	(0.268)	(0.301)
ICRG Investment Profile	-2.205**		-0.316	
	(1.092)		(0.736)	
EBRD		0.937		-9.077
		(2.859)		(5.686)
Exports FOB to EU-15 Countries (in Millions USD)			0.006	0.005
			(0.002)	(0.003)
Imports CIF from EU-15 Countries (in Millions USD)			-0.006	-0.002
			(0.007)	(0.010)
Exports FOB to EU-12 Countries (in Millions USD)			0.002	-0.011**
			(0.004)	(0.005)
Imports CIF from EU-12 Countries (in Millions USD)			0.009	0.019
			(0.018)	(0.018)
Exports FOB to Russia (in Millions USD)			-0.005	0.003
			(0.003)	(0.003)
Imports CIF from Russia (in Millions USD)			0.006	-0.006
			(0.003)	(0.004)
Workers Remittances from EU-15			0.000	0.000
			(0.000)	(0.000)
Workers Remittances from EU-12 Countries			0.000	-0.000*
			(0.000)	(0.000)
Workers Remittances from Russia (in USD)			-0.000	-0.000
			(0.000)	(0.000)
Total EU-15 FDi inflows in USDs			0.000	0.000**
			(0.000)	(0.000)
Total FDI inflows form EU-12 in USDs			-0.000	-0.000
			(0.000)	(0.000)
Foreign Direct Investment Inflows from Russia (in USD)			-0.000	-0.000
			(0.000)	(0.000)
Constant	-79.088**	-28.607**	94.083	166.573**
	(35.508)	(13.826)	(86.549)	(63.822)
Observations	28	55	28	53
Number of idcode	6	11	6	11
R-squared			1.00	0.87

Standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%