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ДАННЫЕ ОБ АВТОРЕ
ТУРБАН ГАЛИНА ВЛАДИМИРОВНА, К.Э.Н., ДОЦЕНТ, ЗАВ. КАФЕДРОЙ МЕЖДУНАРОДНОГО БИЗНЕСА, БЕЛОРУССКИЙ ГОСУДАРСТВЕННЫЙ ЭКОНОМИЧЕСКИЙ УНИВЕРСИТЕТ
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ЧИ СПРИЯЄ ВІДКРИТІСТЬ ЕКОНОМІКИ ЕКОНОМІЧНОМУ РОЗВИТКУ П'ЯТИ КРАЇН ЦЕНТРАЛЬНОЇ АЗІЇ? – АНАЛІЗ, ЗАСНОВАНИЙ НА ДАНИХ 1992-2011 РР.

Шисонг Чжу,
Чжо Чжан

Всі п'ять країн Центральної Азії проводили політику економічних реформ і відкритості більш ніж 20 років, але це дало геть різні результати в означених країнах. Тоді, якою саме є роль відкритості економіки в економічному розвитку? В такому разі корисним є проведення систематичного порівняльного дослідження п'яти країн Центральної Азії з цього питання, що також може забезпечити надання теоретичних та практичних рекомендацій щодо подальшої відкритості економіки в цих країнах. В даній статті, що базується на статистичних даних за 1992-2011 рр, проведено порівняльне дослідження ефекту від відкритості економіки в п'яти країнах Центральної Азії. Факти свідчать про те, що є значні відмінності у співвідношенні між відкритістю економіки та економічним зростанням в цих країнах. Наприклад, відкритість економіки відіграє значну роль в сприянні економічному зростанню Киргизстану, в той час як вона має дуже великий вплив на стримування економічного зростання Таджикистану. Крім того, прямі іноземні інвестиції є провідною рушійною силою в сприянні економічному зростанню в Узбекистані й Туркменістані. Тим не менш, зовнішня торгівля та прямі іноземні інвестиції мають незначний вплив на економічне зростання Казахстану.

Ключові слова: відкритість економіки, п'ять країн Центральної Азії, економічний розвиток.

DOES THE ECONOMIC OPENNESS PROMOTE THE FIVE CENTRAL ASIAN COUNTRIES' ECONOMIC DEVELOPMENT? — THE ANALYSIS BASED ON THE DATA OF 1992-2011

Shisong Zhu,
Zhuo Zhang

All of the five Central Asian countries have carried out the policy of economic reform and openness for more than 20 years, but it did get quite different results in the five coutries. Then, what is exactly the role of economic openness in economic developping? As for this, it is useful to make systematic comparative study of the five Central Asian countries on this issue, which can also provide theoretical and practical reference to the five Central Asian countries' further openness in economic. And in this paper, based on the 1992-2011 statistics, we have made the comparative studies about the effect of the economic openness in the five Central Asian countries. The facts have told us that: there is a big difference about the relationships between economic openness and economic growth in the five Central Asian countrys. For example, economic openness has a strong role in promoting the economic growth in Kyrgyzstan while it does have a very strong role in inhibiting the economic growth in Tajikistan; Besides, FDI is the main driving force to promote economic growth in Uzbekistan and Turkmenistan. However, the foreign trading and FDI have little impact on the Kazakhstan's economic growth.

Keywords: Economic openness; The five Central Asian countries; Economic development

Introduction. Since its independence the five Central Asian countries have implemented the policy of reform and opening for 20 years to different degrees and have made remarkable achievements in the process of limited integration into the regional and global economy. However, there are still many issues needed to investigate urgently, such as: can the futher developping of the economic openness in both of the depth and breadth in the five Central Asian countries bring in bonuses to Central Asia, how to choose the path and fields of economic openness, and can the economic openness promote the economic development in the five Central Asian countries, and so on. And at present, there is little literature available having made the systematic comparative studies on the relationship between the economic openness and economic development in the Central Asian countries since their independence 20

years ago. Therefore, this paper has made an empirical research on the relationship between the economic openness and economic growth based on the data for the five Central Asian countries during the years of 1992-- 2011 , which has a very important comparative meaning both in academic and practice.

For the research on the economic openness's function that whether it can promote to the economic growth, neoclassicism assumes that it mainly depends on the scale economies which are brought about by trading (Krugman, 1985) to promote capital formation (Rodrik, 1988), as well as to increase the resource allocation's efficiency. While a new growth theory assumes that the endogenous technological progress is the important factor for a country 's economic growth. And the opening up nations have more capacity to absorb foreign advanced technology, then they can enhance the country's technological level and promote the country's economic growth (Grossman and helpman, 1991; Barro and Sala-i-Martin, 1995). Therefore, some people believe that if a country implemented the policy of economic openness it will develop faster in economic than that insisting on the economic closed policy. In other words they accept in faith that the expand of opening up to the world would promote the economic growth. Many scholars also have proved this point using empirical analysis (Barro, 1991; Edwards , 1998; Sachs and Warner, 1995; Frankel and Romer, 1999). However, some other scholars' (eg Levine and Renelt, 1992; Harrison, 1996; Harrison and Hanson, 1999, etc.) empirical studies have found that opening up has no apparent effect in promoting a country's economic growth.

Since their independence, the five Central Asian countries' economic development and economic restructuring road is not flat. And although after the economic transformation in 1991 all of them adopted the policy of economic openness, every country chose its own ways and degrees to do this, also achieving different results. Specifically speaking, the five Central Asian States actively joined the international and regional organizations, used the advantages of regional economic integration, eliminated some of the external inhibiting factors for the economic growth (Либман А. М., 2005, Малышева Д.Б., 2010, Iskandar Yuldashev, 2011), and made relatively effective trade policies to promote the economic development of their countries. For example the effective foreign trade policy made in Kazakhstan has brought in a rapid development in economy there.(Jung-Wan Lee, 2008; Salykova, LN, 2012). The changes in the structure of foreign trade market, especially increasingly trading with China, have greatly contributed to the economic development in the five Central Asian countries, especially in Kyrgyzstan (Bartłomiej Kaminski and Gaël Raballand, 2009). In addition to that, some scholars also study the economic development in the five Central Asian countries from the perspective of the resource sectors which attract the FDI and whether Kazakhstan's economic openness caused the abnormal development of the industry (Kutan AM and Wyzan ML, 2005; Balazs Egert & Carol S. Leonard, 2008). Now there is little research or literature paying attention and making comparative studies on whether economic openness can promote the economic development in Central Asia and if it can, whether it is different in the degrees in the five Central Asian countries, ect. Then, to answer the questions above, this article has made an empirical analysis of the relationship between economic openness, its sub-index and GDP growth in the five Central Asian countries.

Economic openness connotation and the selection of its indicators

Usually the degrees of economic openness can reflect the level of openness to a country or region, from which we can get the degree of its economy's integration into the international economy and the degree of its dependence on the international economy. And there are many indexes available to measure the economic openness. But considering the data accessibility and accuracy, in this paper we will use the foreign trade and foreign dependence to tell the economic openness degrees in the five Central Asian countries. Namely, we will take the sum of dependence on foreign trade and dependence on foreign investment as the evaluation criteria on the economic openness, and the formula is as follows:

Economic openness = Dependence on Foreign Trade + Dependence on Foreign Investment (1)

Where: dependence on foreign trade = export dependence + import dependence (2)

Export dependence = Total Exports/GDP× 100% (3)

Import dependence = Tatal Imports/GDP× 100% (4)

Dependence on Foreign Investment = FDI/GDP× 100% (5)

The analysis on the status quo of the five Central Asian countrys' economic development and economic openness
1. The analysis on the status of economic development

Since the five Central Asian countries got independence in 1991, their economic developping trend seemingly to be a wavelike developping fettle, which can be divided into four stages, and the GDP data each year can be found in Table 1.

Phase I (1991-1995): In this phase the whole trend of the Central Asian economies was downward. At the end of 1995, compared with 1991, GDP reduced 6% in Uzbekistan, 18% in Kazakhstan, 35% in Kyrgyzstan, 48% in Tajikistan and 26% in Turkmenistan. And the reasons for that are: on one hand the existing producing model was destroyed due to the breaking up of the former Soviet Union and decreased the output. On the other hand, the pervious intimate economic cooperation partner--the former Soviet had a serious economic crisis and shrinked its demands for the products of the five Central Asian countries, and beleaguered Central Asian countrys' domestic and foreign economy.

Phase II: (1996-2000), the five Central Asian countrys' economy began to bottom out gradually and the economy started to develop upward. However, due to the inflence of the global financial crisis among the emerging economies in1998, especially that of Russia's economic crisis in 1998, all of the five Central Asian countries devastated the economy except Uzbekistan, with stock market crashing, the financial system paralysing, and the purchasing power of residents decreasing, so in 1999 GDP there began to grow negatively. And the reasons for Uzbekistan's successful surviving in this crisis is that the degree of its economic openness is lower than that in other countries, in particular the economic ties with Russia which is much lower than other four countries (Бешимов Аскар, 2011).

Phase III(2001-2008): at this stage the five Central Asian countries began to develop rapidly and stably. Compared with 2001, in 2008 GDP grew by nearly 500% in Kazakhstan, 445% in Turkmenistan, 145% in Uzbekistan, 377% in Tajikistan and 220% in Kyrgyzstan. And the whole trend of the economy in Central Asian at this stage was upward which mainly benefited from the strong demands for the raw materials of Central Asia in the world market. Besides, the rising of the international energy and mineral prices also promoted the rapid development of their economy. At the same time at this stage the five Central Asian countrys' economic opening up deepened gradually, especially attracted more foreign investment stocks and flows. And foreign investment not only focused on the energy, ore and other raw material industrial sectors, but also expanded to other areas in depth and width.

Phase IV(2008 – present): the five Central Asian countries' economy is largely influenced by the global financial economic crisis as their economic openness carried on, because the degree of integration into the world economy deepen. Especially the falling of the prices of international energy, ore and other raw materials and the decreasing of demands for raw materials in the world market have resulted in a decline in exports of the five Central Asian countries and affected the energy, ore and other raw materials exports and their primary processing-based economies in Kazakhstan, Kyrgyzstan and Tajikistan. However, compared to them, the level of Uzbekistan's and Turkmenistan's economic openness is lower, so the impact of the international crisis for them is relatively limited. Besides, the influence of the global financial crisis is greater than that of the crises in emerging economies 10 years ago in both of the breadth and depth, but the former's influencial time on the economic development in the five Central Asian countries is shorter than that in1998. In fact through the economic downturn and adjustment in 2009, the Central Asian countries' economy began to get rid of the negative

effect from the former and grow upword while 10 years ago, it took three years of time for the five Central Asian countries' economy to adjust and recover. And the main reason for that are: after 20 years of development, the geographical structure of foreign trade has become more diversified and they have got rid of the control of the Russian completely. At present the five Central Asian countries trade with 192 countries and regions, including the EU-27, Russia and China, with respectively nearly 60%, 18% and 13% in the total foreign trade in the Central Asian countries (Iskandar Yuldashev, 2011). What is more, the strengthened economic tying with China and the highlights of the function of the regional economic integration with the help of the Shanghai Cooperation Organization in the Central Asian countries have made the five Central Asian countries stifle economic decline quickly in the global financial crisis.

Table 1.Dynamics of GDP, FDI and Dependence on Foreign Investment (DFI) in the countries of central Asia during the years 1992-2011. Unit: For FDI, GDP in million U.S. dollars. For Dependence on Foreign Investment (DFI) in %

Year	Kazakhstan			Uzbekistan			Turkmenistan			Kyrgyzstan			Tajikistan		
	FDI	GDP	DFI	FDI	GDP	DFI	FDI	GDP	DFI	FDI	GDP	DFI	FDI	GDP	DFI
1992	100	24907	0.4	9	12954	0.1	0	3201	0	0	2317	0	9	1909	0.5
1993	1271	23409	5.4	48	13100	0.4	79	3179	2.5	10	2029	0.5	9	1647	0.5
1994	660	21251	3.1	33	12899	0.3	103	2561	4	38	1681	2.3	12	1346	0.9
1995	964	20374	4.7	24	13350	0.2	233	2482	9.4	96	1661	5.8	10	1232	0.8
1996	1137	21035	5.4	90	13949	0.6	108	2379	4.5	47	1828	2.6	18	1044	1.7
1997	1322	22166	6	167	14745	1.1	108	2450	4.4	83	1768	4.7	18	922	2
1998	1161	22135	5.2	140	14989	0.9	62	2606	2.4	109	1646	6.6	30	1320	2.3
1999	1438	16871	8.5	121	17078	0.7	125	2451	5.1	44	1249	3.5	7	1087	0.6
2000	1283	18292	7	75	13760	0.5	131	2905	4.5	0	1370	0	24	861	2.8
2001	2835	22153	12.8	83	11401	0.7	170	3535	4.8	5	1525	0.3	10	1081	0.9
2002	2590	24637	10.5	65	9688	0.7	276	4462	6.2	5	1606	0.3	36	1221	2.1
2003	2092	30834	6.8	83	10134	0.8	226	5977	3.8	46	1919	2.4	32	1554	13.1
2004	4157	43152	9.6	177	12030	1.5	354	6838	5.2	176	2212	8	272	2076	2.4
2005	1971	57124	3.5	192	14308	1.3	418	8104	5.2	43	2460	1.7	55	2312	12
2006	6278	81004	7.8	174	17031	1	731	10278	7.1	182	2834	6.4	339	2830	9.7
2007	11119	104500	10.6	705	22311	3.2	856	12664	6.8	208	3803	5.5	360	3719	7.3
2008	14322	133442	10.7	711	27918	2.5	1277	19272	6.6	377	5140	7.3	376	5161	0.3
2009	13243	115309	11.5	842	32817	2.6	4553	20214	22.5	189	4690	4	16	4978	0.3
2010	10768	148052	7.3	1628	39333	4.1	3631	22148	16.4	438	4794	9.1	14	5642	0.2
2011	12911	188050	6.9	1403	45,359	3.1	3186	28062	11.4	694	6198	11.2	11	6522	0.2

2. The analysis on the status quo of economic openness

The five Central Asian countries, as the export-oriented economy, their foreign trade has become an important driving force for the economic growth there. At the same time economic growth has promoted the development of foreign trade in turn.

1. Dependence on foreign trade

According to the data of GDP, imports and exports trade from1992 to 2011 in the five Central Asian countries, we can get the value of the export dependence on foreign trade, import dependence on foreign trade and foreign trade dependence by calculating based on the formula (2) - (4) each year since their independence 20 years ago, and the results have been listed in Table2.

As can be seen from Table 2, the five Central Asian countrys' economy depends on the foreign trade highly and has a close link with the outside world, showing us a typical export-oriented economy. Besides, we can find that the changes in the value of dependence on foreign trade is very similar to the changes of GDP value in the five Central Asian countries, which appears to be a wavy change rather than show the U-shaped state inverted by Kuznets. Obviously economy is highly export-oriented economy in the five Central Asian countries where the economic growth and restructuring largely depend on the external market. During the 20 years of independence, the overall trend of the foreign trade volume in the five Central Asian countries is upward. In 1992 Uzbekistan's foreign trade amounted to $ 9.07 billion, Kazakhstan $ 37.11 billion, Turkmenistan $ 3.37 billion, Kyrgyzstan $ 1.94 billion, Tajikistan $ 440 million, and in 2011, respectively, have grown to $ 26.76 billion, $ 156.08 billion, $ 34.52 billion, $ 8.12 billion and $ 4.76 billion, with an increase of nearly 2-fold, 3-fold, 9-fold, 3-fold and 10-fold, respectively. (Figure 2)

Among the five countries in Central Asia, only Uzbekistan have basically achieved a relatively balanced and smoothy deveolpment in import and export trade, with little change in dependence on foreign trade while in the other four countries economy appears polarized trend. In 1998 and 1999, Kazakhstan experienced a turning point the export dependence that the volumn of the export exceeded that of imports for the first time. And in the recent 10 years the volume of trade surplus continues to increase, for instance: in Kazakhstan, it rose from $ 340 million in 1999 to $ 50.78 billion in 2011, with an increase of nearly 148 times; in Turkmenistan it rose from $ 440 million in 2000 to $ 9.26 billion in 2011, with an increase of nearly 20 times and continuely remained surplus except the time from 1997 to 1999. However, Kyrgyzstan's foreign trade are always on the trade deficit on the whole except in 2001 when the trade balanced in export and import. What is more, the deficit has been increasing and in 2011 it reached $ 2.04 billion when Kyrgyzstan joined the WTO and its foreign trade dependence increased from 74 to 131. Clearly, joining the World Trade Organization promoted its foreign trade developing and strenghtened its ties with the externals.

About the main reasons for the features presented above, I think there are five points as follows:

(1) In recent years the international energy and raw material prices have entred into the era of high prices and the international energy and raw material are also the major exports in the Central Asian countries, such as minerals, energy, as well as finished products, ect, thus greatly enhancing the merchandise trade (Balazs Egert & Carol S. Leonard, 2008).

(2) During the 20 years of the independence in Central Asian states, they have got rid of the dependence on Russian trade, improved the structure of foreign trade market and become more reliable on more other coutries, such as: the European Union, China, Japan, India, Turkey, ect, than on Russia on which the trade dependence decreased (Роман Могилевский, 2012).

(3) The development of Bazaar trade made it difficult in collecting export statistics and expanding the trade deficit each year, especially the re-export trade in Kyrgyzstan, which used the Bazaar as the main channel. But the development of Bazaar trade in Kyrgyzstan also brought in huge economic spillover benefits (Bartlomiej Kaminski and Gaël Raballand, 2009).

(4) The progress of the international regional integration in the five Central Asian countries has further advanced. And joining the regional economic organizations has eliminated some of the limitations of foreign trade and promoted the increasing of foreign trade to some extent. (Либман А. М., 2005, Малышева Д.Б , 2010).
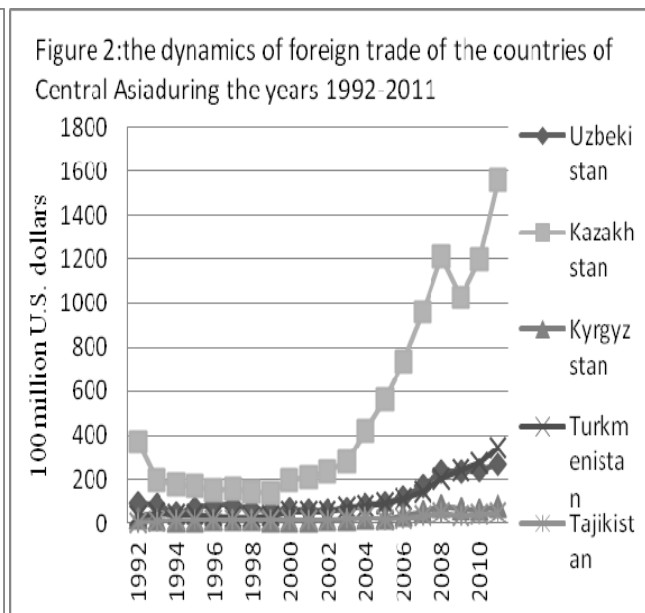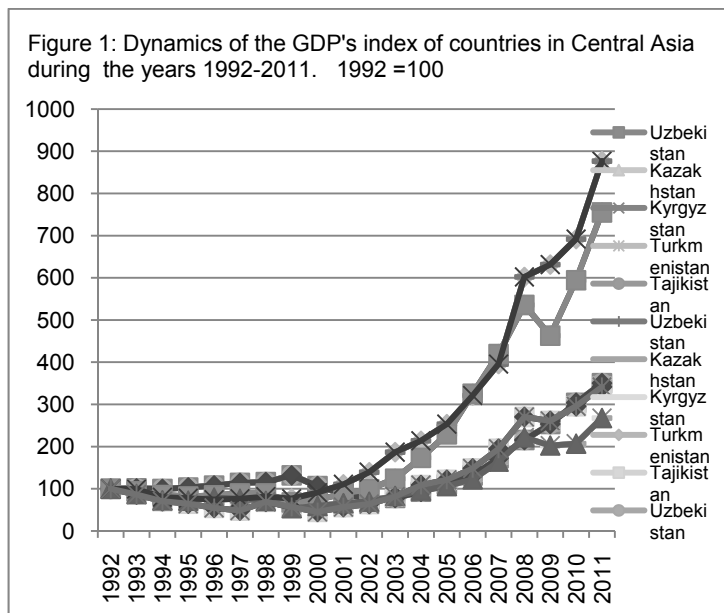
(5) China's economic development, especially the development of western China not only benefited the economies of Central Asia but also promoted the development of the trade and investment in Central Asia and China. In addition, Shanghai Cooperation Organization promoted the cooperation within its member states in the economic field and reduced trade costs. What is more, the construction and using of the oil pipeline in Kazakhstan further promoted the economic and trade development in Central Asia and China (Gaël Raballand & Agnès Andrésy, 2007).

Table 2. Dynamics of Export dependence (DE), Import dependence (DI) and Dependence on Foreign Trade (DFT) in the countries of central Asia during the years 1992-2011. Unit: %

Year	Kazakhstan			Uzbekistan			Turkmenistan			Kyrgyzstan			Tajikistan		
	DE	DI	DFT	DE	DI	DFT	DE	DI	DFT	DE	DI	DFT	DE	DI	DFT
1992	74	75	149	27	43	70	67	38	105	36	48	84	10	13	23
1993	38	47	85	34	31	65	85	61	146	34	41	75	29	42	71
1994	37	47	84	17	21	38	85	85	170	34	40	74	43	55	98
1995	39	44	83	28	28	56	84	84	168	29	42	71	66	72	138
1996	35	36	71	28	34	62	75	75	150	31	57	88	77	80	157
1997	35	37	72	27	30	57	43	69	112	38	46	84	87	94	181
1998	30	35	65	22	23	45	33	71	104	36	58	94	49	71	120
1999	42	40	82	18	18	36	56	83	139	42	57	99	66	83	149
2000	57	49	106	25	22	47	96	81	177	42	48	90	99	81	180
2001	46	47	93	28	28	56	81	77	158	37	37	74	68	77	145
2002	47	47	94	31	29	60	69	53	122	40	43	83	65	53	118
2003	48	43	91	37	31	68	62	57	119	39	45	84	63	73	136
2004	53	44	97	40	33	73	62	60	122	43	51	94	58	70	128
2005	54	45	99	38	29	67	65	48	113	39	58	97	26	53	79
2006	51	40	91	37	31	68	73	35	108	42	79	121	23	57	80
2007	49	43	92	40	37	77	75	39	114	53	84	137	21	69	90
2008	54	37	91	44	41	85	64	40	104	57	93	150	17	72	89
2009	55	34	89	36	36	72	75	45	120	42	79	121	13	56	69
2010	52	29	81	31	31	62	78	45	123	44	82	126	15	61	76
2011	55	28	83	32	27	59	78	45	123	49	82	131	15	58	73

2. Dependence on Foreign Investment

According to the five Central Asian countries' FDI and GDP data and using the formula (5), we can calculate the value of foreign dependence each of the years from 1992 to 2011. As shown in Table 1, its statistical results tell us that the Central Asian States have made significant achievements in attracting FDI since their independence 20 years ago. In 1992, the foreign investment the five Central Asian countries attracted were respectively: $ 100 million in Kazakhstan, $ 9 million in Uzbekistan, zero in Turkmenistan and Kyrgyzstan, and $ 9,000,000 in Tajikistan. Then in 2011 they respectively reached 12.91 billion, 1.4 billion, 3.19 billion, 690 million and $ 010 million, with increasing by nearly 128 times in Kazakhstan, 155 times in Uzbekistan, springing up in Turkmenistan and Kyrgyzstan.

Figure 1: Dynamics of the GDP's index of countries in Central Asia during the years 1992-2011. 1992 =100

Figure 2: the dynamics of foreign trade of the countries of Central Asia during the years 1992-2011

Of course, similar to the economic growth, the increment of the foreign investment the five Central Asian countries have attracted also appears to be a wave-like development, and shows no stability in increasing, having experienced a cycle of increase and decrease. For example: the degrees of economic contraction in the five Central Asian countries are very different in both of the two economic crisises in the years of 1998-2000 and 2008-2011. Besides, the FDI countries try to attract have begun to shrink and the growth rate to attract it also has become slower than before. This shows the strong correlation between FDI and the the economies of the five Central Asian countries.

Among the five Central Asian countries, Turkmenistan's dependence on foreign capital is relatively high. In 2009 it had reached 22.5 there while in 2011 it dropped to 11.2. Compared with that Uzbekistan's dependence on foreign capital has been low, with its highest 4.1 in 2011. In fact,
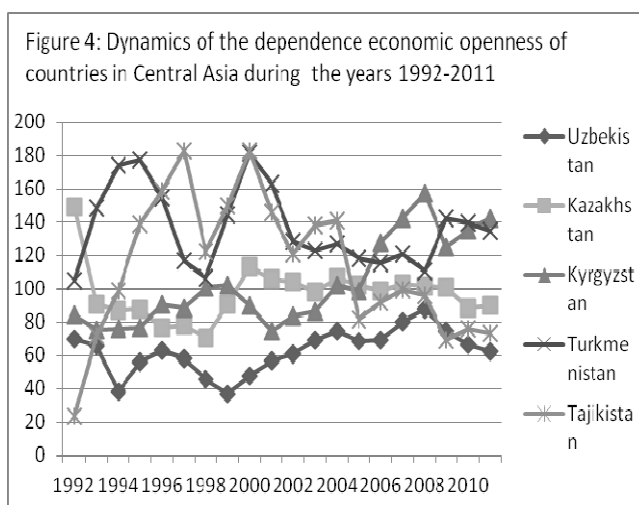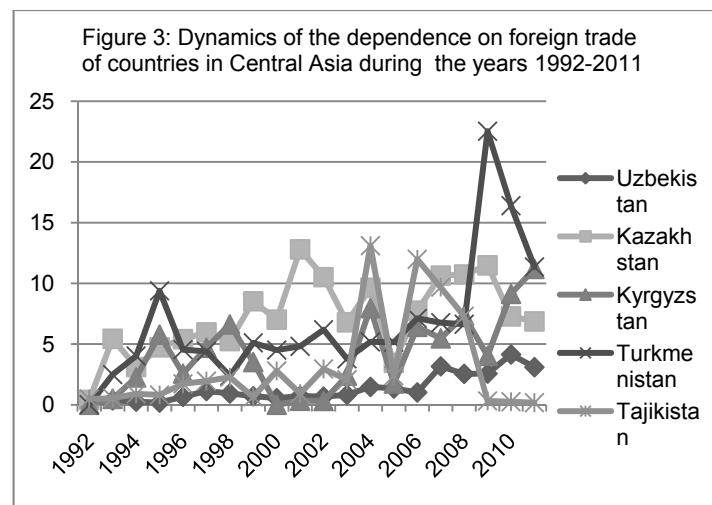
during the first decade in the 20 years of Uzbekistan's independence, the foreign dependence has been hovering between 0-1, and not begin to rise until the recent 10 years there. In particular, in the nearest 10 years after 2001, in the five Central Asian countries the increment of its foreign dependence was higher than that in the previous 10 years, which was mainly due to the high price's operation in international energy and mineral resources in the recent 10 years. At the same time the five Central Asian countries have released their restrictions for the foreign capital to invest into the energy, mineral and raw material sectors, giving birth to the rapid growing of FDI investment and a sharp rising in dependence on foreign capital. Since the financial crisis in 2008, the demand for the international energy drop sharply, especially that for the mineral resources, thus reducing the driving force to invest in those fields and the volumn of the FDI the related sectors try to get in the five Central Asian countries. However, the five Central Asian countries, particularly Kazakhstan and Kyrgyzstan, not only encourage FDI to invest in traditional sectors such as energy, ore, material, ect, but also do their best to lead the international capital to invest in transportation, financial services, agriculture, infrastructure improvements and other fields, ect, aslo having achieved good results (Salykova, LN, 2012). So after this worldwide financial and economic crisis, in attracting foreign investment, Kazakhstan has bottomed out only after a year, while Kyrgyzstan is almost not affected at all.

3. Economic openness

According to the data from table 1 and table 2 and using the formula (1), we can calculated the values of the economic openness during the years of 1992-2011 in the five Central Asian countries, and the results can be seen in Table 3. As Table 3 and table 4 shows, similar to the trends of the dependence on foreign trade, the opening degree is also wavily changing in the five Central Asian countries. According to the figures in table 3, after 20 years of economic policy adjustment, economic reconstruction have achieved remarkable success in the five Central Asian countries. Although compared with 1992, economic openness values did not change much in 2011, the content and form of economic openness changed a lot: in 1992 they decided to transform the planned economy into the market economy when the economy was only open for the CIS, especially Russia. While in 2011 the Central Asian countries' economic openness has spreaded to the whole world, especially the European Union, as well as China and other emerging economies where the opening degree has become much bigger than that in Russia on the whole. Specifically speaking, the value of economic openness to Russia in the five Central Asian countries has become less than 20 and they have got rid of the excessive dependence on Russia, so in this global financial crisis the five Central Asian countries can resist it better than before.

Table 3. Dynamics of the dependence economic openness of countries in Central Asia during the years 1992-2011. (Unit:%)

Year	Kazakhstan	Uzbekistan	Turkmenistan	Kyrgyzstan	Tajikistan
1992	149.4	70.1	105	84	23.5
1993	90.4	65.4	148.5	75.5	71.5
1994	87.1	38.3	174	76.3	98.9
1995	87.7	56.2	177.4	76.8	138.8
1996	76.4	62.6	154.5	90.6	158.7
1997	78	58.1	116.4	88.7	183
1998	70.2	45.9	106.4	100.6	122.3
1999	90.5	36.7	144.1	102.5	149.6
2000	113	47.5	181.5	90	182.8
2001	105.8	56.7	162.8	74.3	145.9
2002	104.5	60.7	128.2	83.3	120.9
2003	97.8	68.8	122.8	86.4	138.1
2004	106.6	74.5	127.2	102	141.1
2005	102.5	68.3	118.2	98.7	81.4
2006	98.8	69	115.1	127.4	92
2007	102.6	80.2	120.8	142.5	99.7
2008	101.7	87.5	110.6	157.3	96.3
2009	100.5	74.6	142.5	125	69.3
2010	88.3	66.1	139.4	135.1	76.2
2011	89.9	62.1	134.4	142.2	73.2

Figure 3: Dynamics of the dependence on foreign trade of countries in Central Asia during the years 1992-2011

Figure 4: Dynamics of the dependence economic openness of countries in Central Asia during the years 1992-2011

The empirical analysis on the influence of the five Central Asian countries' economic openness on economic growth
Data sources and variable design
As the above statistical information and analysis has initially indicated, there is a correlation between economic openness and economic growth in the five Central Asian countries. As shown in Table 1, Table 2 and Table 3, this article will use the statistics from UNCTAD, State Statistics Committee in the five Central Asian countries for further empirical study on the influence of economic

opening on their economic growth using the following six time series: the GDP of the five Central Asian countries during 1992-2012, economic openness and its four sub-indicators: dependence on foreign trade, foreign dependence, export dependence and import dependence in the five Central Asian countries.

Empirical Analysis

1. Correlation analysis

In this paper, we will use GDP as the dependent variable and use economic openness, dependence on foreign trade, foreign dependence, export dependence, import dependence as independent variables. Then with the help of Eviews 6.0 software we will make an analysis on the correlations between the independent variables and the dependent variable of the five Central Asian countries during the years of 1992-2011. The results have been shown in Table 4 below: on the whole, the independent variables and the dependent variable have little relevance in the five Central Asian countries except in Kyrgyzstan. Among the independent variables, in Uzbekistan and Turkmenistan foreign dependence has the closest relationship with GDP. So we can get that foreign investment plays a very important role in promoting economic development in the five Central Asian countries (except Tajikistan), that there is a big difference about the correlation between exports and economic growth in different countries in Central Asia, and that there is a strong positive correlation between import dependence and GDP in Kyrgyzstan.

2. Regression Analysis

For the further comparison of the independent variables' inflence on the dependent variables, for further regression analysis based on the correlation, and in order to make the comparison easier, in this paper we put the regression equation of the independent variable and the dependent variable of the five Central Asian countries in Table 5. As the Table 5 shows, we can get the conclusions that:

Table 4. Correlation coefficient during the five Central Asian country's GDP and its economic openness, dependence on foreign trade, dependence on foreign investment, export dependence, import dependence

	Kazakhstan GDP	Uzbekistan GDP	Kyrgyzstan GDP	Turkmenistan GDP	Tajikistan GDP
Economic openness	-0.02	0.29	-0.23	0.87	-0.58
Dependence on Foreign Trade	-0.07	0.22	-0.39	0.86	-0.59
Dependence on Foreign Investment	0.31	0.87	0.73	0.68	-0.12
Export dependence	0.38	0.24	0.15	0.71	-0.76
Import dependence	-0.54	0.16	-0.66	0.86	-0.21

First, the impacts of economic openness on the economic is different in diffferent coutries in the Central Asia. In Kazakhstan and Turkmenistan, that impact is not obvious; In Uzbekistan and Tajikistan the index of that impact is respectively less than 5% and1% by testing, but the square of the revising is relatively low, so the impact is not obvious, too; In Kyrgyzstan that impact is obvious when the index of that is less than 1%, also with a relatively high Adj.R^2 that reachs 0.737, displaying a high goodness of fit of the regression equation so the impact is positive and obvious there, with a growing of 48.931 million dollars in GDP once increasing 1% in the economic openness. Second, the impact of foreign trade dependence on economic is not obvious in the five Central Asian countries except in Kyrgyzstan and Tajikistan. And the flexible index of that impact is 53.027 in Kyrgyz, while it is -25.246 in Tajikistan. Third, the impact of foreign dependence on economic is obvious in Uzbekistan, Turkmenistan and Kyrgyzstan, with the index of 7559.781, 1136.305, and 298.171, respectively. Fourth, the impact of export dependence on economic is obvious in Kyrgyzstan and Tajikistan. And in Kyrgyzstan the flexible index of that impact is positive: 150.121 while in Tajikistan it is negative: -48.676. Fifth, the impact of import dependence on economic is not obvious in Tajikistan and Uzbekistan. In Kazakhstan and Turkmenistan, the flexible index of that impact is negative, and they are -2897.459, -300.525 respectively. But in line with expectations it is positive in Kyrgyzstan, which means imports have contributed to the economic growing there.

CONCLUSIONS AND Suggestions

1. Conclusions

After 20 years of economic transformation and development since independence, compared with 1991, the five Central Asian countries have made great achievements in economic growth, especially in recent years despite of a wave-like undulating changing. But after entering into the new millennium they begin to develop stabilizedly in economy, especially in the past 10 years, having obtained a qualitative change in many aspects, such as in FDI flowing scale, imports, exports and so on. However, the impact of economic openness, dependence on foreign trade, foreign dependence, export dependence and import dependence on the five Central Asian countries' economic development is not the same: 1. Kazakhstan economic openness and its sub-indicators: the impacts of trade dependence, foreign dependence, export dependence, import dependence on the economic growth have little linear correlation.

Table 5. Regression results of economic openness and its sub-index impact on economic growth

Regression equation	Kazakhstan	Uzbekistan	Turkmenistan	Kyrgyzstan	Tajikistan
Economic openness	-64.912 (-0.087)	221.778** (2.592)	-77.212 (-1.008)	48.931*** (7.377)	-24.707*** (-3.021)
Constant	63236.86 (0.862)	4604.288 (0.947)	18827.13* (1.775)	-2401.442*** (-3.415)	5219.142*** (5.307)
Adj. R^2	0.055	0.03	0	0.737	0.299
F-statistic	0.007	1.653	1.016	54.426	9.13
Dependence on Foreign Trade	-240.627 (-0.332)	178.284 (0.972)	-131.896* (-1.805)	53.027*** (7.035)	-25.246*** (-3.107)
Constant	78567.24 (1.187)	7555.61 (0.661)	25415.14** (2.638)	-2605.286*** (-3.406)	5200.301*** (5.459)
Adj. R^2	0.049	-0.003	0.106	0.718	0.313
F-statistic	0.11	0.946	3.261	49.504	9.658
Dependence on Foreign Investment	5264.581 (1.409)	7559.781*** (7.328)	1136.305*** (4.55)	298.171*** (3.881)	-52.591 (-0.512)
Constant	19108.83 (0.655)	8516.588*** (4.78)	743.334 (0.358)	1411.016*** (3.517)	2582.553*** (5.049)
Adj. R^2	0.049	0.735	0.509	0.425	0.04
F-statistic	1.987	53.701	20.71	15.068	0.262

Export dependence	2003.883* (1.796)	327.758 (1.050)	78.314 (0.625)	150.121*** (4.244)	-48.676*** (-4.903)
Constant	-38349.77 (-0.707)	8297.179 (0.835)	2782.873 (0.309)	-3422.107** (-2.364)	4637.966*** (8.835)
Adj. R^2	0.104	0.005	0.033	0.472	0.548
F-statistic	3.225	1.102	0.39	18.0139	24.047
Import dependence	-2897.459** (-2.733)	261.764 (0.710)	-300.525*** (-3.692)	70.523*** (7.164)	-21.411 (-0.916)
Constant	179642.2*** (3.902)	10565.50 (0.931)	26184.71*** (5.197)	-1489.152** (-2.479)	3804.260** (2.44)
Adj. R^2	0.254	-0.026	0.399	0.725	0.008
F-statistic	7.469	0.504	13.636	51.332	0.839

Notes: t-statistics in parentheses. ***: the 1 percent significance level. **: the 5 percent significance level. *: the 10 percent significance level.

Namely, based on the degree of economic openness and its sub-index, economic liberalization has not promoted the economic growth largely in Kazakhstan; 2. Among the economic openness and its sub-indices in Uzbekistan, FDI inflowing has the most significant impact on economic growth, with an increasing of $ 7.559 billion in the GDP if the dependence on foreign capital increase 1%, indicating that economic liberalization promoted Uzbekistan Stan's economic growth; 3. Economic liberalization has promoted the economic growth in Turkmenistan, particularly the inflows of FDI, which is the most important factor in contributing to the economic growth when dealing with foreign economic relations in Turkmenistan. 4 Among the five Central Asian countries Kyrgyzstan has got the most benefit from the economic opening up, in which economic openness has greatly contributed to its economic development, showing the most clear linear correlation between economic openness and its economic growth, and imports also have contributed to its economic development; 5. The enhancing of economic openness in the level, not only did not promote the economic growth in Tajikistan, but hindered its economic development.

2. Suggestions

Based on the analysis of the relationship between economic openness and economic development, to make the five Central Asian States benefit more from the process of regional economic integration and international economic integration, we have made the following advices:

(1) The five Central Asian countries should intensify efforts to expand the economic opening-up and improve the quality of it, especially Uzbekistan, which should insist further opening up, more participate into the process of the world economy integration in-depth, and abandon the relatively closed economic development policy. But in Tajikistan the excessive opening also did harm to the healthy and orderly development of its economy. Therefore, the five Central Asian countries should make the appropriate opening up strategy to get the economic welfare as much as possible according to its own national conditions.

(2) The five Central Asian countries should adjust the import substitution policies, not to curb imports and promote exports any more. But the export dependence and the import dependence do not have a linear relationship with economic growth and also do not have an ideal effect on economic growth in the five Central Asian countries, especially in Kyrgyzstan where that linear correlation is positive and the import substitution policies have made great damages to the economic development. Therefore, the five Central Asian countries should make appropriate adjustments in the import substitution policy.

(3) The five Central Asian countries should improve the domestic business environment, the operational efficiency of the administrative system and the policy transparency, increase the efforts to fight against terrorism, promote the developping efficiency and fairness under the domestic economic environment (James M. Roberts and Ariel Cohen, 2012), increase the efforts to attract foreign investment, adjust the industrial structure, and guide the domestic and foreign capital to flow to the different departments rationally in case that it would gather in the resource sector, lead to the abnormal development of the domestic industry, and thus get «Dutch disease». Especially in Tajikistan there is a negative correlation between economic openness, its sub-index and economic growth. So economic openness had a negative effect on the economy there, and it should adjust the industrial structure as soon as possible, increase openness in human capital investment, introduce advanced technology, improve the industry chain layout of resource sectors and avoid becoming the raw materials appendage and commodity markets in the process of regional economic integration.

(4) The five Central Asian countries should further adjust the structure of foreign trade in the market to rationalize the structure of FDI sources. The 20 years of economic restructuring process in the five Central Asian countries since their independence, is not only a process of domestic industries restructuring, but also a process of adjusting the market structure of foreign trade and the structure of FDI sources to make them diversified. By doing the above things, they have got rid of the single dependency on Russian and CIS coutries. Now they have increased the proportion of foreign trade and FDI with many other coutries in the world, forexample EU, especially China, India and other emerging countries, promoted the diversification of the foreign trade market, and accessed to the benefits of economic globalization.

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