

## Journal Transition Studies Review

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# The “Impossible Trinity” in Monetary Policy of Armenia

Edward Sandoyan • Lidia Davoyan

**Abstract** This article reviews some of the key aspects of exchange rate and monetary policy choices with reference to developing countries. It analyses also the “the impossible trinity” in theory and practice of emerging markets, its specificity in the monetary policy of Armenia. The study finds that the floating exchange rate is optimal when combined with an active monetary policy in the case of emerging economies. Also the results suggest the necessity of a changing of orientation of the monetary policy of Armenia: it must contribute to economic growth rather than to be the means of a fight against inflation. The policy of maintaining a low level of inflation, aimed at squeezing the money supply and credit, impedes economic growth, export expansion and makes the system less resistant to external shocks. Then what monetary and exchange rate policy should follow Armenia in today’s realities, taking into account the integration processes within the framework of EAEC? Just to these problems this article is devoted.

**Keywords** Exchange rate - Monetary policy - “Impossible Trinity”/ “The Mundell-Fleming Trilemma” - Economic growth - Emerging economies - Inflation targeting

**JEL classification** E31 - E52 - E58 - F31 - G28

## Introduction

The range of local currency crises as well as global financial-economic crisis emphasizes the necessity of reviewing the approaches of monetary and exchange rate policy as well. The choice of a monetary and exchange rate policy framework is one of the most crucial decisions that economic policymakers (and ultimately politicians in many cases) are called upon to make. The choice is far-reaching, for several reasons. First, the policy framework has widespread implications for all economic agents and, second, it affects key macroeconomic outcomes (inflation, competitiveness, responsiveness to economic shocks). That’s why the questions of exchange rate and monetary policy choices are paramount and always in the sphere of scientific interests of many researchers.

Below we attempt to summarize the results of recent scientific findings what monetary and exchange rate policy emerging markets in contemporary states should adopt, to analyze the

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problems of current monetary and exchange rate policy in Armenia from viewpoint of creating compatibility advantages for economic growth and economic integration within EAEC as well, and finally, to introduce new approach of currency regulation to solve the disparity problem on the money market.

### **The theories of exchange rate and monetary policy choices in emerging markets**

According to Larrain (2001) the only realistic option for many emerging economies is exchange rate flexibility. A workable model involves the adoption of inflation targets as the main anchor for monetary policy, coupled with a monetary policy reaction function that, in addition to reacting to the output gap and other determinants of inflation rate, also reacts partly to movement in the nominal exchange rate<sup>1</sup>. Moreover, as concludes the author, there are no clean floats in the real world. Large industrial countries such as Canada and the United Kingdom, smaller OECD countries, such as Australia and New Zealand, and middle-income countries, such as Mexico and Peru, all practice floating with varying degrees of market intervention (so-called “dirt floating”). Even the United States, usually regarded as the cleanest of the floaters, intervenes occasionally in the foreign-exchange market. The main reason for intervention is clear. Clean floating means high volatility of nominal exchange rates that in its turn almost always means greater volatility of the real exchange rate, because prices move sluggishly. This volatility causes volatility in output and distorts financial system, thus the policymakers want to mitigate it<sup>2</sup>.

As noted by Svensson (2000), there are additional reasons for managing the exchange rate under inflation targeting. The exchange rate affects inflation through two channels. Through direct exchange-rate channel for the transmission of monetary policy to inflation, the exchange rate affects domestic currency prices of imported final goods, which enter the consumer price index (CPI) and hence CPI inflation. Any scheme to control the rate of inflation at a short horizon must thus control, to some extent, the behavior of the nominal exchange rate. This fact helps to explain the prevalence of managed or “dirty”, floats in the real world<sup>3</sup>.

Calvo and Reinhart (2001), analyze the behavior of exchange rates, reserves, monetary aggregates, interest rates, and commodity prices across 155 exchange-rate arrangements and find that nominal-exchange-rate volatility is lower in countries that have floating regimes<sup>4</sup>. Broda (2001) confirms that flexible-exchange-rate regimes are better able than fixed regimes to buffer the real shocks<sup>5</sup>. Chang and Velasco (2000c) model showed that currency-board makes balance-of-payments crises less likely only at the price of making bank crises more likely. The price of low inflation may be endemic financial instability. Flexible rates, by contrast, may help restore financial stability. Moreover, flexible exchange rates play an insulating role in the presence of real external shocks and, for some parameter values, fluctuations in home output and investment are larger and more persistent under fixed than under flexible exchange rates<sup>6</sup>. The results of some investigations found also strong relation between the choices of monetary and exchange rate

1 Larrain B. F. (2001) Exchange-rate policy in emerging- market economies: the case for floating.

Essays in international economics, Princeton N.J. no.224, p.36.

2 Larrain B. F. (2001) Exchange-rate policy in emerging- market economies: the case for floating.

Essays in international economics, Princeton N.J. no.224, p.39.

3 Svensson L (2000) Open-Economy Inflation Targeting. *Journal of International Economics*, 50, p. 158.

4 Calvo G, Reinhart C (2001) Fear of Floating. *National Bureau of Economic Research, Working Paper No.7993*, Cambridge, Mass., p. 41.

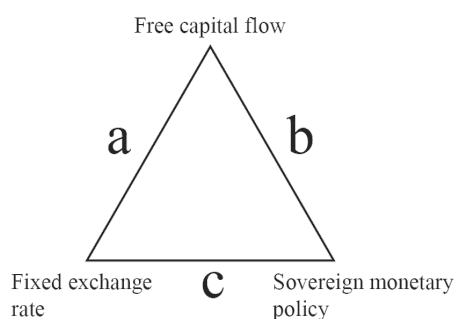
5 Broda Ch (2001) Coping with Terms of Trade Shocks: Pegs versus Floats, in Alberto Alesiana and Robert J. Barro, eds., *Currency Unions*, Stanford, Calif, Hoover Institution Press, p. 54.

6 Chang R, Velasco A (2000c) Financial Fragility and the Exchange Rate Regime. *Journal of Economic Theory*, 92, pp. 31-32.

policy and the level of financial development (M2/GDP). Thus, countries with less developed financial markets (M2/GDP average 0.3) tend to use monetary aggregate anchors; countries with more developed financial markets (M2/GDP average 0.6) tend to target inflation; economies with high levels of credibility such as the EU, USA and Japan use more other types of targets including output<sup>7</sup>.

To understand what monetary and exchange rate policy is optimal for the country it is necessary to present the Mundell-Fleming “Trilemma”. Countries have some choice over the combination of policies – monetary independence, exchange rate stability and financial integration – that they adopt but cannot have all three at once. The Mundell-Fleming “Trilemma” in Figure 1 below illustrates the impossibility to have all three options simultaneously: a country must choose two out of three<sup>8</sup>.

**Figure 1 The Mundell-Fleming Trilemma**



Source: Oxelheim Lars, “International Financial Integration”, Springer Berlin Heidelberg, 1990, pp. 389.

Option (a) - country can fix its exchange rate and conduct independent monetary policy, but only by maintaining controls on capital flows (like China);

Option (b) - it can leave capital movement free and retain monetary autonomy, but only by letting the exchange rate fluctuate (like Britain or Canada);

Option (c) - it can maintain free capital movement and stabilize the currency, but have no independent monetary policy, i.e. no ability to adjust interest rates to fight inflation or recession (like Argentina or most of Europe).

The combination of the three policies, Fixed Exchange Rate and Free Capital Flow and Independent Monetary Policy, is known to cause financial crisis (the Mexican peso crisis (1994–1995), the Asian financial crisis (1997–1998), the Argentinean financial collapse (2001–2002) and so on)<sup>9</sup>.

To understand the nature of the impossible trinity consider what happens to a country trying to combine tight monetary policy with an exchange rate target in the context of open financial markets. Tight monetary policy leads to high risk adjusted interest rates, this attracts capital inflows and put upwards pressure on the exchange rate. Stabilizing the exchange rate requires absorbing foreign exchange and accumulating reserves. This creates domestic liquidity which in turn lowers the interest rate and offsets the original purpose of monetary tightening. The excess

7 de Gregorio J (2010) Monetary Policy and Financial Stability: An Emerging Markets Perspective. *International Finance*, Vol 13, No.1, p. 150.

8 Aizenman J, Chinn M, Ito H (2008) Assessing the Emerging Global Financial Architecture: Measuring the Trilemma’s Configuration over Time. NBER Working Paper No. 14533, Cambridge, Mass., p. 23.

9 Disyatat P, Galati G (2005) The Effectiveness of Foreign Exchange Intervention in Emerging Market Countries. BIS Paper No. 24, pp. 97–113.

liquidity needs to be re-absorbed by the central bank at high cost through sterilization operations. The policy combination is unstable. The monetary policy either becomes ineffective, or leaves high and eventually unsustainable costs for the central bank. Effects of the “impossible trinity” are obviously considered at the example of Armenia presented below.

Aizenman, Hutchison & Noy (2011) estimates the monetary policy reaction function of the central banks of 16 inflation-targeting emerging economies and finds that unlike central banks of inflation-targeting industrialized economies, central banks of inflation-targeting emerging economies do not follow a “pure” inflation targeting strategy, but respond systematically to the real exchange rate shocks. The finding is even stronger for countries with high degree of dependence on commodity exports<sup>10</sup>.

As noted by Ostry, Ghosh & Chamon (2012), inflation targeting central banks in emerging markets do in practice target exchange rate stability in addition to using interest rate policy in accordance with the Taylor rule. The study concludes that foreign exchange market intervention under inflation-targeting monetary policy regimes can be effective in terms of increasing the credibility of the central banks and inhibiting speculative inflows<sup>11</sup>.

There is no “best” policy framework, which is suitable for every situation and can work in different circumstances. However, as experience suggests emerging markets should combine active monetary policy (monetary or inflation targeting) with flexibility in the exchange rate. This does not exclude the possibility of foreign exchange market interventions for stabilizing market shocks called by unpredictable fluctuations of exchange rates.

### **Review of exchange rate and monetary policy in Armenia in context of integration within EAEC**

It is obvious that small open economies such as Armenia in case of high exchange rate volatility of foreign currencies faced special difficulties in choosing the mechanisms and regimes of exchange rate regulation. In case of high exogenous dependence of money market of Armenia from Russian economy through export, foreign direct investments and private transfers, the central bank of Armenia faces a problem in maintaining the officially adopted floating exchange rate regime. Instead of following “inflation targeting”, CBA actually conducts “exchange rate targeting” aimed to hold back the devaluation of the national currency. This policy has its description. Free floating leads to devaluation of national currency and thus to inflation, that in case of high rates of poverty means an increase of social expenditures. On the other hand, the pegged exchange rate regime that is actually conducted by the CBA through the policy of obligatory reserves of the bank liabilities nominated in foreign currencies, leads to a decrease in export and profitability of the banking sector as well. Thus the monetary and exchange rate policies are used to solve first of all the problem of insuring macroeconomic stability. Moreover due to unavailability of an appropriate forecasting model, uncertainty of macroeconomic factors as well as high monopolization of economy, it is almost impossible for monetary authorities to implement really inflation targeting. Instead of this CBA intervenes and regulates exchange rate.

It is worth to mention that the exchange rate policy is essential from the viewpoint of integration processes within the Eurasian Economic Community (EAEC). This creates for

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10 Aizenman J, Hutchison M, Noy I (2011) Inflation Targeting and Real Exchange Rates in Emerging Markets. *World Development*, Vol. 39, No. 5, pp. 719–721.

11 Ostry G, Chamon S (2012) Two Targets, Two Instruments: Monetary and Exchange Rate Policies in Emerging Market Economies. *IMF Working Paper No 3564*, p. 57.

Armenia new opportunities to increase the export potential. But the actually conducted exchange rate policy of Armenia restrains the integration opportunities and, in contrast, slowed the economic development dynamic. Deepening of integration within EAEC means the creation of common markets and, particularly, a common financial market, that is essential for the enlargement of economic connections and trade between countries and the increase for mutual investments as well. At the same time the deepening of financial markets' integration implies the creation of institutional basics of monetary coordination through the development of common aims and approaches for conducting of monetary policy. In its turn successfully monetary coordination implies the necessity of integration and convergence of the economic structures and business-cycles of all the member countries. The very important challenge for synchronized macroeconomic policy and particularly monetary policy is the rate and the volatility of inflation and exchange rate. Special attention must be paid for such problems as dedollarization of economies, decrease of inflation rates, increase the efficiency of transmission channels of monetary poly and so on.

Some authors analyze the problems of monetary and exchange rate policy integration within EAEC. Thus, Dabrowski (2016) analyzes the detailed history of arising and solving of currency crises in post-soviet countries and emphasizes the importance of implementing “inflation targeting” and conducting structural and institutional reforms. At the same time he concludes that for small economies in the post-soviet area the pegged exchange rate regime should be more profitable because of low levels of trust of economic agents towards monetary authorities<sup>12</sup>. Knobel and Mironov (2015) analyze the actual readiness of CIS countries for creating a currency union on the base of criteria of optimal currency zones as well as pros and cons of such idea. The results of comparative analysis clearly showed the countries that will experience economic advantages from currency integration with Russia. The list of countries that meet at least half of the criteria (7 из 13) involves Moldova, Ukraine, Tajikistan, Belarus and Kazakhstan. Authors conclude that in case of more synchronized business-cycles in the above mentioned countries it is really possible to decrease the potential losses and increase the advantages of currency integration with Russia as well as to gain sustainable development of currency union in the future<sup>13</sup>. Unfortunately, the results of some researches evidence, financial integration within EAEC and the creation of currency union bring not so much advantages for Armenia. The main cause is insufficient development of mechanisms of monetary and exchange rate policies, lack of tight economic and trade relations with other union members except Russia and so on.

Monetary policy in Armenia is actually used as a mechanism for smoothing out the influence of exogenous and endogenous factors as well as for the provision of short-term macroeconomic and financial stability. Unfortunately, till now the monetary authorities of Armenia fail in implementing true inflation targeting because of institutional failures of the economy, especially the low level of financial sector development (extremely low level of market capitalization a little more than 1% of GDP, absence of long-term financial instruments and so on). In this case the instruments of monetary policy don't work efficiently for smoothing out of exogenous shocks. Thus, instead of “inflation targeting” CBA de facto implements traditional instruments of exchange rate targeting as currency interventions and since December 2014 also a new instrument for the provision of exchange rate stability -

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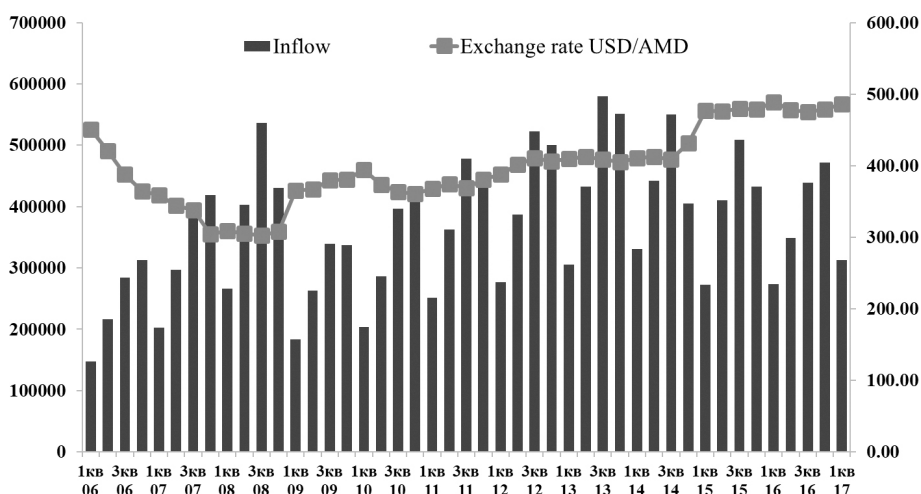
12 Dabrowski M (2016) Currency crises in post-Soviet economies - a never ending story?

Russian Journal of Economics, Vol. 2, No. 3, p. 318.

13 Knobel A, Mironov A (2015) Assessment of CIS countries readiness for the creation of a currency union. Zhurnal Novoy Ekonomicheskoy Assotsiatsii, No. 1, p. 94.

extremely high rate of banks' reserves against liabilities denominated in foreign currencies. This creates so-called "stagnation trap" and prevents high rates of economic growth. The investigation of the reasons of inflation present that the main factors affect the level of inflation in Armenia are high non-competitive prices because of high monopolization of commodity markets. On the contrary, the influence of monetary factors like money supply is insignificant<sup>14</sup>. In conditions of high monopolization and dollarization of the economy as well as insufficient development of financial intermediation CBA during last decades conducts inefficient exchange rate policy, first (2003-2007) allowing considerable evaluation of national currency then (2008-2017) providing stability of exchange rate (see Figure 2), thus creating macroeconomic distortions and reducing potential of economic growth.

**Figure 2 Private transfers' inflow in RA (mln. USD) and dynamic of exchange rate (2006-2017)**



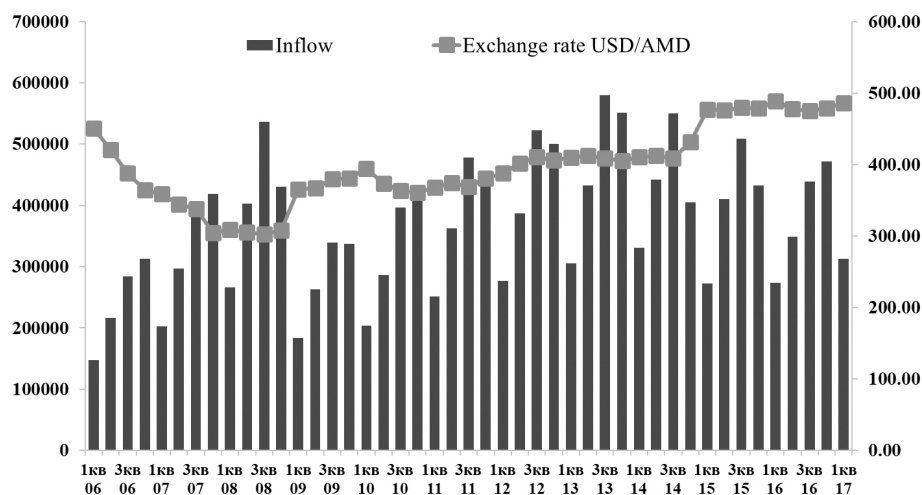
Source: Data of CBA – [www.cba.am](http://www.cba.am)

Since the beginning of adopting the inflation targeting regime CBA has faced problems with regulation of inflationary pressure because of the absence of open market operation instruments and high uncertainty of macroeconomic factors. In such cases it is almost impossible to implement efficient forecasting models. That's why during the last decade CBA failed quarterly to reach the target<sup>15</sup>. According to the official policy of CBA the main instrument of monetary regulation is the refinancing rate. However the experience of the last five and more years evidences that the policy of high interest rates has no positive effect in terms of reducing inflationary pressure. On the contrary, the strengthening of the interest rate policy leads to enhancing the inflationary pressure (see Figure 3). Due to the current exchange rate policy CBA succeeded in maintaining the stability of the exchange rate and avoiding inflationary pressure. But as the other post-soviet countries and the main trade partner of Armenia RF follow free floating policy, the Armenian economy faces the problem of export reduction in these countries as the result of the loss of compatibility of Armenian goods.

14 Sandoyan Ed, Voskanyan M (2017) Currency Regulation in the Republic of Armenia: Problems and Prospects. The Materials of Scientific Seminar, Publication of RAU, p. 30.

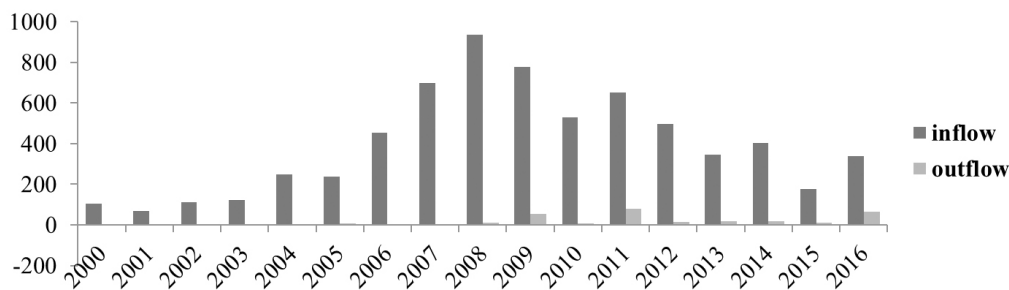
15 Sandoyan Ed, Voskanyan M (2017) Currency Regulation in the Republic of Armenia: Problems and Prospects. The Materials of Scientific Seminar, Publication of RAU, p. 34.



**Figure 3 Consumer Price Index (CPI), 1996-2017**

Source: Data of CBA – [www.cba.am](http://www.cba.am)

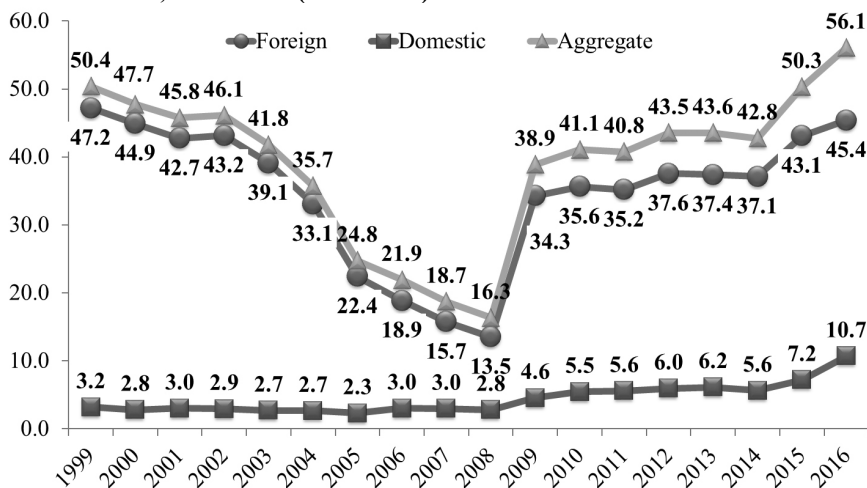
In December 2014 the devaluation of the Russian ruble as a result of west sanctions and falling oil prices reflected enormously the Armenian economy through the reduction of foreign currency inflow as a result of decreased volumes of FDI, private transfers and export of Armenian goods and services. Since October 2014 the private transfers have significantly reduced. (see Figure 2) Thus, in 2015 in comparison with 2014 they reduced at 30,2%, with 2013 – at 41%. Such tendencies continued in 2016 and led to a 40% decline of private transfers in comparison with the previous year. Over this period the private transfers from Russia has cut down on more than 91%. Over the last years FDI has also significantly reduced at 55% in 2015 comparing with 2014, and on 82% - comparing with 2008 (see Figure 4), which mainly depends on the financial welfare of Armenian diaspora in Russia, institutional restrictions such as monopolization of economy, insufficient business climate and so on.

**Figure 4 FDI inflow and outflow from Armenia, mln. USD (2000-2016)**

Source: UNCTAD, World Investment Report 2016

In such a situation CBA implemented the policy of exchange rate stability, which in its turn in parallel with the reduction of export leads to an increase in public debt and loss of profitability of the banking sector as a result of high rates of compulsory reserves against banks liabilities denominated in foreign currencies. Thus, the aggregate national debt of Armenia increased from 32% of the GDP in 2008 to 87% in 2016, and the public debt respectively from 16,3% to 54,5% (see Figure 5). The level of public debt in case of low tax collecting because of the continuing economic stagnation during the last 8 years (GDP in USD during the last 8 years concede the level reached in 2008), creates significant risks for a sustainable social and economic development as well.

**Figure 5 Public debt, % of GDP (1999-2016)**



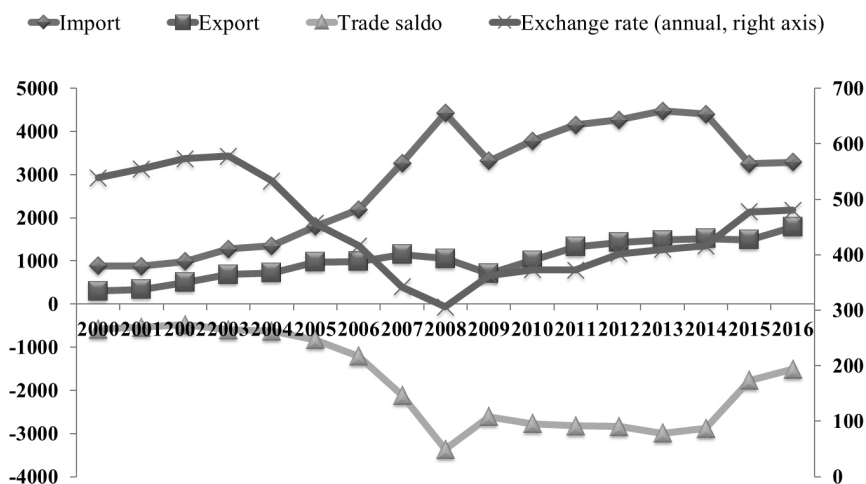
Source: Ministry of Finance of RA/ Public debt report - [www.minfin.am](http://www.minfin.am)

Devaluation processes in November 2014 encouraged CBA to make currency interventions amounted 93,84 mln. USD, which consisted approximately 98,3% of all market operations. At the end of November 2014 CBA also increased the price of short-term dram liquidity gradually increasing the rate of Lombard repo from 8,25% to 10,25% and to 21% in December continuing the intervention on the exchange market. Since 8<sup>th</sup> December the same year a new mechanism of sailing foreign currency via daily organized auctions in advance declared amounts was introduced. Thus, CBA insures the decrease in daily trades from 6 mln. USD to 2 mln. USD. For mitigating future inflationary pressures and insuring inflation target CB increased the prime rate up to 8,5% and in January 2015 – up to 9,5%. In parallel CBA introduced a new mechanism for insuring exchange rate stability – high rates of reserves. Thus, on December 17<sup>th</sup> 2014 CBA increased the rate of reserves covers banks' liabilities denominated in foreign currencies from 12% to 24% with the condition of accommodation reserves in the central bank only in national currency – the Armenian dram, which had simultaneous effect and led to a sharp evaluation of AMD next day. Formerly CBA claimed to put 6% of reserves in AMD, the last 6% - in currency of the deposit. The result of such a decision was a sharp decline on December 18<sup>th</sup> of USD exchange rate at 30,2 percentage points and fixed at the level 497 AMD for 1 USD. For deposits in AMD the rate of reserves remained at the level of 2%. Later on December 23, 2014 CBA revised newly the rate of reserves and decreased the rate from 24% to 20% that functioned till October 2016, when the rate was secondly declined to 18%, which acts till nowadays. So, the banking system of Armenia

has to additionally reserve approximately 170 bln. AMD, the overall level of reserves as of September 2016 amounted 532 mln. USD, which consists 5% GDP. It is worth to mention that in case of increased reserves’ rates, Armenian banks refused to sale foreign currencies and attracted expensive liquidity in drams at a 18% annually rate. This led to a significant increase of REPO agreements and REPO interest rates up to 20% in December 2014. Abovementioned situation led to additional demand for national currency and created following problems: significant reduction of issued credits, negative currency expectations, artificial increase of interest rates, worsening of the quality of banks assets, currency risk growth of banking sector and so on.

Such a policy of CBA, actually “exchange rate targeting” is considerably described with the necessity of serving enormous public debt, that in 2017 will reach the level of 60% of GDP, high level of depends of consumer market from import and so on. Thus, the maintenance of the macroeconomic stability in terms of low inflation as well as decision of budget problems, especially covering the payments for public debt, seems to be more crucial and is solved at the price of impeding the export. Considering the dynamic of export from Armenia in some CIS countries, including Russia – the main trade partner of Armenia, one can consider significant growth at 60% in 2016 (see Figure 6).

**Figure 6 Indicators of foreign trade and exchange rate, (2000–2016)**



Source: NSS RA – [www.armstat.am](http://www.armstat.am)

Armenian goods replaced foreign goods because of west sanctions and embargo. However, such a growth is considered on the basis of a significant reduction of exports from Armenia to the RF in 2014-2015 (the highest level was reached in 2013). According to NSS RA in 2015 comparing with the previous year’s exports from Armenia to Russia has reduced at 26,5%, comparing with 2013 – at 36,4%. Despite of integration as well as trade advantages within EAEC, the exchange rate policy conducted by CBA impedes the opportunities for enlargement of the export of Armenian goods on the Russian market. On the contrary the pegged exchange rate policy during the last 8-9 years has led to a significant loss of compatibility of Armenian goods also on west markets and strengthened the positions of importers. Continuing chronic deficit of trade balance sheet creates disadvantages for Armenian producers both on local and foreign markets as well. At the same time because of in practice conducted “exchange rate targeting” monetary authorities of Armenia couldn’t reached their main aim – a low level of

inflation. Uncertainty on the money market discouraged the economic agents and led to a loss of trust towards the actions of monetary authorities, thus enhancing inflationary expectations and inflation rates primarily in consumer sector.

The devaluation of USD led to a decline in real incomes of the population through the private transfers. The volume of transfers depends on the state of the Russian economy as well as on the exchange rate policy in Armenia. As they inflow mostly in USD, the policy of exchange rate stability aimed to strengthening Armenian dram, led to reduction of dram equivalent of transfers thus negatively influencing the level of national welfare.

## Conclusion

Resuming, the policy of maintaining the exchange rate stability creates very difficult problems for the economy. The Mundell-Fleming “Trilemma”, i.e. the impossibility to combine simultaneously the three policies - exchange rate stability, free capital flow and independent monetary policy – that obviously take place in monetary policy of Armenia, causes financial crisis as it was explained above. In other words, the monetary authorities of Armenia try to change the “impossible trinity” in a “possible” one. But as the experience evidences, countries, that follow such a policy, come anyway to financial collapse. Classically “The Mundell-Fleming Trilemma” can be described as follows: tight monetary policy leads to high adjusted interest rate, that attracts foreign investments’ inflow, thus influence the exchange rate. The monetary authorities intervene on the exchange market, stabilizing the exchange rate. This creates additional domestic liquidity that must be re-absorbed by the central bank. Eventually, the monetary policy becomes inefficient and leads to unsustainable losses. In the case of Armenia the same is considered with the only difference - the foreign currency inflow is not in form of investments, but in form of private transfers from the diaspora. In favor of floating exchange rate policy insist considerable part of modern economists, who examine emerging markets. Only free floating policy is able to restore the compatibility of the Armenian export and allows really to reap advantages of economic integration within EAEC. The monetary authorities of Armenia have to return to free floating only intervening in case of high volatility for smoothing out sharp fluctuations. Moreover, it is necessary legally to forbid the banks to conduct open market operations (i.e. currency speculations as well as trade with securities)<sup>16</sup>. It is necessary from the viewpoint of excluding currency risks from the banking sector. The reviewing of currency position standard is supposed to play an essential role in solving the current problems of the banking sector. Instead of the actually used standard of currency position introduce the standard of “by currency parity” that defend banks from high currency risks and helps banks to increase the creditability. Secondly, it is necessary to implement a new approach for creating of reserves that depend on the maturity of liabilities<sup>17</sup>. For example, implement 0% against long-term liabilities, and 100% - against short-term deposits and demand account. This approach allows to mitigate the artificial demand for national currency, to reduce significantly currency and interest rate risks as well as to solve liquidity provision problem for banking sector.

Concerning monetary policy, given the non-monetary nature of inflation in Armenia, it is pointless to fight it with the methods of monetary restraint. Achieving a low level of inflation is seen as the main goal of the current monetary policy of CBA. But, on the contrary, monetary policy should promote economic growth and not serve as a means of combating inflation. The reduction of inflation at any cost will lead to a limitation of the potential for economic growth. The current

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16 Sandoyan Ed (2017) The Prospects of Currency Regulation Policy Alternative Approaches in Armenia. Herald of Financial University, Vol. 21, N. 1, p. 90.

17 Sandoyan Ed (2017) The Prospects of Currency Regulation Policy Alternative Approaches in Armenia. Herald of Financial University, Vol. 21, N. 1, p. 90.

policy of monetary authorities, which took responsibility for itself only for inflation, can contribute to a decline in economic activity and employment, which, in turn, will lead to an increase in the long-term level of inflation. Therefore, it is necessary to expand and reduce the cost of lending, without fear of accelerating inflation.

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# INTERNATIONAL POLITICAL SCIENCE REVIEW



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# Supply Chain Practices in Asian Emerging Countries: A Measurement Tool of Relational Dimensions

Huu Tuyen Duong • Gilles Paché

**Abstract** The organisation and functioning of supply chains constitutes a major issue in contemporary management research. It is true that the way in which various companies will coordinate to supply consumption markets in the best possible way constitutes a key question. Even though the sources of competitive advantage usually refer to successful industrial, commercial and financial strategies, the efforts made by a company to conquer a market can be ruined by recurrent logistical failures. This paper particularly focuses on the relational integration process between supply chain members, whose objective is to improve the level of service quality and reduce the costs. It wishes to propose a measurement scale of relational integration applicable to the specific context of emerging countries, and therefore avoid the rashly use of measurement scales created in the context of Western countries. A research lead with 139 Vietnamese companies in the food industry enables to test and confirm the robustness of the retained measurement scale. Its use may be considered in other emerging countries of South East Asia, for cross-cultural research.

**Keywords** Emerging countries - Measurement scale - Relational integration - Supply chain

**JEL classification** L23 - M10 - P31

## Introduction

For the past thirty years, increasing attention has been paid to supply chain operations. Simply enter the words supply chain management on Google Scholar's search engine to see over two-million results appear. The question of the efficient supply of markets, in ideal conditions of costs, quality, service and responsiveness, becomes highly relevant. Nowadays, who would dare to state that a company that is indifferent to logistics performance could sustainably maintain its competitive status faced with fierce competition? As indicated by Li et al. (2006:107), "effective supply chain management has become a potentially valuable way of securing competitive advantage and improving organizational performance". In other words, logistics performance must not be a goal in itself; it is at the service of strategic choices otherwise made, for example regarding marketing, production or finance. Yet, ignoring the importance of logistics performance risks to lead to corporate collapses, as shown by certain

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website failures which were unable to offer a sufficient level of logistical service to their clients, in contrast with other websites, very efficient on that level (Chen et al., 2014).

To understand the issues linked to supply chain operations, the priority is to abandon a reasoning focused on a unique company, for example the manufacturer. Talking about L'Oréal's logistics performance would be meaningful only if we explore how this company is capable of establishing good relationships with its partners within one or several supply chains. In other words, L'Oréal's logistics performance will depend on that of its suppliers, upstream, and of its retailers, downstream, including potential logistics service providers involved in the management of transport and storage operations. Value creation in the framework of supply chains is, by nature, a collective process (Christopher, 2010; Ren et al., 2015), and the absence of coordination between supply chain members can lead to entropic effects that will harm everyone's profitability. That is why, in the years 2000, a major research stream underlined the centrality of an integrated approach of supply chains, each of the supply chain members having to act by taking into account its own individual interests, for example, the optimal remuneration of its shareholders, as well as the collective interests, such as to supply in the best possible manner to consumer markets.

Globalisation constitutes one of the reasons having led companies to integrate their supply chains more and more systematically. One advantage of this integration is its capacity to design products more rapidly, with equivalent qualities and inferior costs (Näslund and Hulthen, 2012). The importance of supply chain integration has been theoretically and empirically shown through the literature (Frohlich and Westbrook, 2001; Flynn et al., 2010; Chiarvesio et al., 2013; Yu et al., 2013; Ataseven and Nair, 2017). The benefits of integration between supply chain members have been acknowledged in several industries (Flynn et al., 2010); it is now considered as an essential performance improvement factor. In order to assess the maturity with which the supply chain members have assimilated the urgency of a supply chain integration, in particular a relational integration based on the implementation of joint processes in order to achieve a common goal, numerous North American and European authors have proposed different measurement scales. The robustness of these scales are not questionable, however, they are characterised by a strong cultural dimension. Thus, referring to the trust between supply chain members within a North American context may take on a different meaning in the context of an emerging country. Indeed, trust is based on a certain number of attributes that may vary from one country to another (Afandi and Kermani, 2015). When a supplier guarantees the delivery of components on a given date, but does not make any particular effort to achieve this result, this may be seen as a betrayal of trust for its partner in a country A, while one would consider it as being usual business hazards in a country B.

In other words, any measurement scale must be contextualised, which implies leading a robustness test with the decision makers of the countries where one intends to apply it. This is what this paper is focused on. The challenge is to formalise a measurement scale of relational integration between supply chain members that may be applied to Asian emerging countries as part of future research on the basis of logistics performance. According to us, the topic is extremely relevant as the new circumstances of globalised economies lead numerous companies of emerging countries to increasingly integrate into the flows of products at a global scale. It is therefore important to have the clearest perception possible on how top managers lead (or do not lead) relational integration policies. If a constant effort is done regarding relational integration, this will send a positive signal to other supply chain members, who will more easily accept to invest in the relationship-specific equipment, without unreasonably fearing the display of opportunistic behaviours. The paper is structured as follows. In section 1, the key concepts linked



to the integration of the supply chain will be clarified, before specifying in section 2 the process and dimensions involved. Section 3 will more specifically focus on the relational integration by proposing a measurement scale tested through a field research carried out in Vietnam.

## **1. Key concepts linked to supply chain integration**

According to Stank et al. (2001), the synchronisation of logistical activities between supply chain members creates value for end customers by reducing the costs of availability thanks to the removal of recurrences in transportation modes, storing, handling, etc. The integration of skills and logistical resources brought by each one is thus an important condition to improve the global performance of the supply chain. However, it should be noted that integration is not a new concept in the field of management, in particular in the framework of supply chain management (Shang, 2009; Gimenez et al., 2012; Danese et al., 2013; Huo et al., 2014; Dufy et al., 2015). According to Paché and Spalanzani (2007), this concept, very widely used by practitioners as well as researchers, nevertheless requires to be clarified. The supply chain integration refers to the configuration of company structures, mainly in the framework of inter-organisational relationships, in such a way for a sufficient alignment to emerge between the strategic targets of partners regarding the transporting of products. Indeed, the integration is supposed to facilitate the rapid flow of materials and goods thanks to an efficient management (Torbianelli and Mazzarino, 2010; Natour et al., 2011).

The concept of integration was formalised by Fayol (1916/2013), who identified the coordination as one of the five critical functions of management. Thereafter, Lawrence and Lorsch (1967) indicated that differentiation and integration were basic principles to understand organisational structures. This explains that integration is often mentioned as one of the key characteristics of supply chain management. Even so, most definitions regarding supply chain management explicitly refer to integration. The research led by Mentzer et al. (2001) thus shows that it constitutes one of the essential actions in order to efficiently manage logistical processes. Lambert et al. (1998) indicate that the aim of integration is to improve the efficiency of the processes linking supply chain members, by allowing the emergence of a rationale for collective action between them. Therefore, it is necessary to apprehend it on two levels: at a strategic level and at an operational level (Mentzer et al., 2001; Frohlich and Westbrook, 2001). This is confirmed by Bagchi et al. (2005) for whom supply chain integration is described as a global collaboration regarding strategy, tactics and operational decision making.

Supply chain integration can be defined as a formal process that associates both the process of an activity with those of companies of another field of activity and the company process with those of one or several other companies. This perspective raises, subsequent to Zhao et al. (2011), the following question: how do supply chain members integrate their unique and inimitable abilities, their expertise and their key skills? Pagell (2004) considers supply chain integration as a collaboration and interaction process where companies work together to obtain the best common results; this issue is particularly important in the context of fast evolving industries (Sabet et al., 2017). Cao and Zhang (2011) underline that the transaction cost theory can explain why a company collaborates with other companies, and how integration activities reduce transaction costs by leading to better performances. They indicate that supply chain integration represents a particularly efficient mechanism of resource and knowledge exchange. This mechanism is described as a standardised routine activity implemented in order to share information throughout departments, services or organisations.

According to Lee (2005), the concept of supply chain integration finds its justification in the fact that the amplitude of interactions in the seller-buyer dyad varies greatly at the mercy of

environmental circumstances surrounding the relationship. The integration has to go beyond a simple mutual adjustment between logistical activities; it should also include other functions of the company, such as product design. For Cagliano et al. (2006), supply chain integration is strictly linked to coordination mechanisms and it implies in particular that the business processes be rationalised and interconnected, both within and beyond the limits of the company (Alfalla-Luque et al., 2012). In a nutshell, literature is wordy regarding this subject, most likely because the manner of approaching supply chain integration strongly depends on the approaches retained by the researcher. Indeed, the questions relate to the integration process itself as well as the dimensions concerned.

## **2. Process and dimensions of supply chain integration**

Supply chain members most often achieve supply chain integration after a certain number of mutual efforts and learning. Indeed, the most natural approach for a company is to improve logistics performance, especially by improving intra-organisational interfaces (between production and marketing, between marketing and finance, etc.). Supply chain management seminal work thus underlines the difficulty and length of going from a compartmentalised vision, company by company, to a transversal vision, on a network's interconnected mode (Christopher, 2010). The dynamic vision of supply chain integration is also complicated by the fact that integration covers several possible dimensions, or several layers, to recall Fabbe-Costes and Jahre (2007). Consequently, it seems essential to clarify these various aspects to understand the stakes of a relational integration and, subsequently, propose a measurement scale of its intensity.

### **2.1. Process**

Supply chain integration is discussed from various perspectives, by evaluating the relationship between supply chain integration and competitive operational performance (Prajogo et al., 2016). Cagliano et al. (2006), for example, make a clear distinction between customer integration, informational integration, logistical and distribution integration, and supplier integration. Differences have also been brought to light based on process types. Simchi-Levi et al. (2007) class integration mechanisms with reference to design and logistical links. Romano (2003) identifies four streams within the literature, with particular emphasis, respectively, on functional integration, logistical integration, informational integration and process-based integration. Finally, at the operational level, integration can be made by inter-functional teams reporting to the manufacturer and the distributor, as raised in the works of Ellram and Cooper (1990) and Cooper et al. (1997).

Academic literature strongly stresses the fact that supply chain integration should be developed in a stepwise fashion (Halldórsson and Skjøtt-Larsen, 2004; Forslund and Jonsson, 2007; Alfalla-Luque and Medina-Lopez, 2009). In a reference article, widely quoted in numerous academic works, Stevens (1989) thus identifies a four-step process, that echoes the contribution of Halldórsson and Skjøtt-Larsen (2004). The four steps are as follows:

The first step is based on the functional independence between supply chain members. This step is characterised by independent management systems, through the recurring incompatibility between functional systems and between management processes, through organisational limits linked to the absence of coordinated flow control, from raw material to end products, and by short-term corporate planning.

The second step sees a functional integration emerge mainly emphasising the incoming flow of products. This step is characterised by distinct business functions, a lack of visibility of the final

demand, an inadequate planning and usually mediocre performances to the extent that we are focused on cost reduction rather than on the improvement of customer service.

The third step is favourable to activity integration concerning the control of the company's incoming and outgoing flows. The emphasis is put on the effectiveness rather than on the efficiency. This step is characterised, on the one hand, by the use of EDI to accelerate responsiveness, rather than to react in retrospect to the failures of the logistical system through a proactive customer management, and, on the other hand, by the formalisation of a medium-term planning focused on tactics rather than strategies.

Finally, the fourth step leads to the widening of the integration field towards suppliers and customers. Cooperation starts at an early stage of the design of a new product and then includes complex exchanges at all levels. This step is characterised by a sharing of information regarding products, processes and changes in specification, exchange of technology and assistance in design, with a focus on strategy rather than tactics.

## ***2.2. Dimensions***

Through an extensive literature review, Alfalla-Luque et al. (2012) finally indicate the presence of three essential dimensions to understand the stakes of supply chain integration. First of all, supply chain integration is based on the willingness demonstrated by all actors (Simatupang and Sridharan, 2005; Cagliano et al., 2006; Childerhouse and Towill, 2011; Ralston et al., 2015). Then, supply chain integration implies the implementation of collective processes (Lambert et al., 1998, Bagchi et al., 2005; Stevens and Johnson, 2016). Finally, supply chain integration cannot come true without a management data sharing, as well as human and material means, to improve resource orchestration between supply chain members (Liu et al., 2016). In order to clarify current reasoning, Fabbe-Costes and Jahre (2007) chose to refer to the notion of integration layers. The aim is to distinguish four levels for which integration is a major stake, that is to say the flows, the processes and activities, the systems and technologies, and the actors: The physical, informational and financial flows, taken on an individual basis, but also and mainly jointly: thus, information flows enable to manage physical flows, while financial flows bring the proof that supply chain creates value for the various stakeholders. The processes and activities, whether they are operational processes (from product design to waste disposal, as well as production, distribution, after-sales service and recycling), management processes (target definition, forecasting, planning, monitoring and evaluation), as well as support processes supporting the others.

Systems and technologies, components of the supply chain both for its management of physical and information flows (separately and jointly), the interconnectivity and interoperability of technologies and systems implemented being considered as necessary, in particular to reduce the availability delays. The actors, at the centre of multiple and varied interactions, with individuals and teams implied in the supply chain management, which implies to communicate, work together, develop shared structures, implement a certain strategic, organisational, structural and cultural compatibility.

According to Ireland and Webb (2007), agreeing with Fabbe-Costes and Jahre (2007), the dimensions of supply chain integration include three levels, that implicitly refer to precipitated layers. The strategic level is that of the company's intention to integrate their actions and adjust their interactive behaviours; this includes both short-term, for example, the total visibility of flows, and long-term targets, for example, the increase of collective adaptation abilities. The operational level concerns product integration and processes between companies, for example, by enabling suppliers to take responsibility for activities of product design, by helping them understand the

complexity and the impact of coordinated processes; the interpersonal relationships play here an essential role, because personal affection, individual communication and credibility have a positive influence on supply chain integration (Wang et al., 2016). Finally, the technological level is that of sharing knowledge and abilities within the supply chain, an important topic that is underlined by Leuschner et al. (2013).

The input of Forslund and Jonsson (2007) distinguishes informational integration and organisational integration within the supply chain integration approach. Informational integration refers to the scope of information and knowledge exchange in the design, processes management, planning, monitoring, exchange of technology, and the optimal coordination of resources. Organisational integration refers to the sharing of ideas, institutional culture, decision-making and skills, all things encouraging the spread of a climate of trust strengthening inter-organisational links. Thereafter, Kim and Lee (2010) propose to refer only to two dimensions: strategies and systems. Regarding strategy, it is the degree of common construction of a business plan regarding the demand to be served. Regarding systems, it is the common construction of compatible communication systems between them to facilitate the long-term planning of supply chain operations. Table 1 synthetises the main dimensions of supply chain integration.

**Table 1 Dimensions of supply chain integration**

<b>Authors</b>	<b>Dimensions</b>	<b>Description</b>
Lee (2000)	Informational	Sharing of information and knowledge between supply chain members
	Decisional	Changes in decision-making at the level of work and resources
	Organisational	Organisation of close relationships between supply chain members
Saeed <i>et al.</i> (2005)	Strategic	Sharing routines, knowledge and new ideas to improve the functioning of the supply chain
	Operational	Frequent coordination at the level of processes and activities through a regular sharing of information
	Financial	Joint investment in supply chain members' common projects
Ireland and Webb (2007)	Strategic	Intention of supply chain members to integrate their actions and adjust their behaviours
	Organisational	Product and process integration between supply chain members
	Technological	Knowledge and skill sharing through supply chain members
Van der Vaart and Van der Donk (2008)	Strategic	Tangible activities underlining the importance of collaboration between supply chain members
	Organisational	Positive attitude regarding partners to make a long-term joint planning
	Operational	Frequent face-to-face visits, with a formal regular assessment of partners
Kim and Lee (2010)	Strategic	Joint forecasting of demand and planning of operations between supply chain members
	Informational	Compatible communication systems between supply chain members for the forecasting and the planning

Source: Adapted from Leuschner et al. (2013).

### **3. Measurement scale of relational integration**

The development of measurement scales is an important step of most research in management that have chosen an approach of deductive nature. A measurement scale is a tool enabling to measure the judgement, opinion or perception of the people interviewed on a given subject. Even if the issue of bias in measurement scales remains important, the tool can be useful to approach the manner with which the respondents, in this case, top managers, will build their business reality and draw conclusions to take decisions. An important number of measurement scales have been developed and tested in the context of relationships between companies, in BtoB marketing, strategy, as well as in supply chain management. The aim is to propose a specific measurement scale of relational integration and then to test it from a research led in an emerging country: Vietnam.

#### ***3.1. Proposed scale***

Collaboration between supply chain members is usually admitted to increase the efficiency of operations, improve customer service and insure a decrease of the cost of making products available. This applies in particular to the collaboration on sales forecast, where companies spend their precious resources to guarantee a satisfying answer to unexpected environment evolutions. Collaborations in the logistical process refers to the joint actions taken by partners such as assortment planning, definition of joint promotion planning, stock management and automatic restocking from retail counter outputs (Simchi-Levi et al., 2007). As such, we can refer to relational integration, in other words, an integration based on the building and maintenance over time of a close and durable relationship between supply chain members to improve the value creation process.

Relational integration requires from supply chain members the will to create structures, frameworks and measurements that encourage a certain behaviour from organisations towards the achievement of a common goal. This includes the sharing of confidential information on strategies led and on operational information for the control of daily activities (Kasemsap, 2017), as well as the creation of financial links that make companies dependent in fine on mutual performances (Stank et al., 2001). According to Rodrigues et al. (2004), suppliers, manufacturers and distributors are thus encouraged to identify and establish partnerships with companies that share a common vision and pursue converging targets relative to the interdependence and collaboration. This collaborative perspective is essential to the development of efficient structures within the supply chain, aligning functional operations of several companies as part of an integrated system (Puigjaner and Láinez, 2008).

In previous research, relational integration was operationalised in different manners according to the authors' targets. For example, Hsu et al. (2008) adapt measures that have already been used by Svensson (2004), Corsten and Felde (2005), Kannan and Tan (2006), and Golicic and Mentzer (2006) for the operationalisation of the variable relative to the field of buyer-supplier relationships and their impact in terms of performance. Within the literature dedicated to the issue of relational integration between supply chain members, the variable is mainly seen as a unidimensional construct. The measurement scales developed by Hsu et al. (2008) and by Jayaram and Tan (2010) seem particularly relevant given their robustness; consequently, we retain them as part of our investigation (see Table 2). The general question asked to top managers is: Indicate your extent of agreement with the following propositions characterising the relational integration between your company and your partner. The scale ranges from "I strongly disagree" to "I strongly agree".

**Table 2 Indicators of the “relational integration” (RI) variable**

Code	Items	Type of scale	Authors
RI_01	My partner shows flexibility to answer unexpected changes in demand	5-point Likert	Hsu et al. (2008)
RI_02	My partner uses an assessment system to measure customer satisfaction	--	
RI_03	My partner shares confidential information with my company	--	Jayaram and Tan (2010)
RI_04	My company develops sincere and frequent communication with my partner	--	
RI_05	My partner conducts actions for the purpose of bringing answers to my company's complaints	--	
RI_06	My partner shows flexibility to answer my company's changing needs	--	

### 3.2. Selected sample

The sector selected for this investigation is that of manufacturers in Vietnam's food industry. This choice is due to two reasons. On the one hand, the sector represents 20% of the country's GDP, and the growth of the domestic food demand is estimated to 10% per year. It has therefore achieved to maintain a positive growth despite the difficult context (diseases, bad weather, global economic crisis, etc.). In addition, in upstream, the sector still employs nearly 70% of the active Vietnamese population, and that it is affected by a rapid modernisation of production and logistical techniques, including the increasing use of logistics service providers (Limbourg et al., 2016; Nguyen and Nguyen, 2017). On the other hand, as showed by Colin and Paché (1988), the food industries have developed innovative approaches in various Western countries regarding management flows to reduce the costs and improve customer service. This largely explains the low added value earned on the merchandising of food and agricultural products, and in particular, convenience products, that imposes on businesses a monitoring of logistical costs to improve profitability. The investigation was done in Vietnam in February and March 2014.

To compile a list of food manufacturers in Vietnam, we contacted the food industry department of the Ministry of Industry and Trade. The Ministry provided the contact information of 700 food manufacturers for which general information was available (name of transport or logistics manager, address, telephone number). A questionnaire was mailed to the transport or logistics manager identified, given the slow development of Internet communications. One week after the mailing, we contacted the businesses by telephone to confirm that they had received our questionnaire and invited them to complete it. We received 98 responses after one month, but four were eliminated because several values were missing. To improve the response rate, manufacturers were contacted again by telephone and the respondent was invited to participate. We consequently received an additional 45 responses. In total, we received 139 usable questionnaires, for a response rate of 19.8%, which is very



satisfactory compared with the studies usually conducted in Europe and North America in the supply chain context. In our survey, of the 139 business respondents, 68 were located in the south (48.9%), 42 in the north (30.2%), and 29 in the center (20.9%) of the country.

The size of our sample can be considered as fully acceptable on a methodological level. Indeed, the testing of the measurement scale of relational integration is based on the method of partial least squares (PLS). Two main estimation techniques of structural equation models are used in management sciences: techniques based on the co-variance and techniques based on the variance. Although the first approach remains the most popular in marketing (Hair et al., 2009; Reinartz et al., 2009), an increasing interest regarding the PLS regression method has appeared in the past few years, given the advantages it contains. On the one hand, it does not require the multivariate normality of data, unlike the method based on covariance. On the other hand, it is more appropriate for a small sample of less than 250 observations (Hair et al., 2009; Reinartz et al., 2009), which is the case here.

Company size was measured by several criteria. Our research uses the two criteria: (1) number of employees; and (2) sales turnover. Regarding the average level of number of employees of food manufacturing industries in Vietnam, the businesses in our sample are larger than average. As Table 3 shows, 20.9% of businesses surveyed have fewer than 100 employees, 38.8% of businesses surveyed have between 300 and 499 employees, 10.8% of businesses surveyed have between 500 and 999 employees, and only 4.3% have over 1,000 employees. The overrepresentation of large businesses may be a source of bias in the analysis, yet we can assume that their leading-edge supply chain management practices can provide valuable information on evolution underway in Vietnam since the liberalization of the national economy. Nonetheless, Vietnam has generally not yet seen the development of sophisticated supply chains, which is also the case in other emerging countries like Bangladesh and Pakistan (Schotter and My, 2013).

**Table 3 Characteristics of manufacturers in our sample**

Categories	Sub-categories	Number of firms	%
Number of employees	Less than 100	29	20.9
	101 to 299	35	25.2
	300 to 499	54	38.8
	500 to 999	15	10.8
	Over 1,000	6	4.3
	<b>Total</b>	<b>139</b>	<b>100</b>
<i>Sales turnover</i> (billions de VND, 1 US dollar = 22.000 VND)	Less than 1 billion VND	29	20.9
	1 to 10 billion VND	33	23.7
	10 to 200 billion VND	59	42.4
	200 to 500 billion VND	11	7.9
	Over 500 billion VND	7	5.0
	<b>Total</b>	<b>139</b>	<b>100</b>

### 3.3. Testing of the measurement scale

We begin with an analysis in principal components with six items. The KMO is equal to 0.8 indicating a good match of data with the factorial solution. The Bartlett's test of sphericity indicates a strong significance (Sig. 0.000). The MPE is entirely satisfactory with the value of 0.213. In addition, the result of the test of component matrix shows that this variable has two dimensions. The first dimension has five items, which are RI\_02, RI\_03, RI\_04, RI\_05 and RI\_06. However, the second dimension has only one item, which is the item RI\_01. We should therefore delete it. We continue with the second analysis in principal components. The Table 4 shows the final results of the analysis in principal components without RI\_01. A new extraction without the item RI\_01 shows an improvement of the total explained variance (58.7%). The KMO of 0.809 shows a good match of data with the factorial solution. Bartlett's test of sphericity shows a strong significance (Sig. 0.000). The MPE by item is 0.75. Consequently, the data can be factorised.

**Table 4 Analysis of the measurement scale of relational integration**

Items	Factorial contribution	R <sup>2</sup>
RI_02	0.747	0.559
RI_03	0.717	0.514
RI_04	0.866	0.750
RI_05	0.716	0.513
RI_06	0.774	0.599
Cronbach's alpha	0.822	
Unidimensionality	Yes	
Explained variance	58.7%	
Factorisation	KMO = 0.809; Bartlett's test $p < 0.00$ ; MPE > 0.75	

Regarding the issue linked to the identification of scale dimensionality, Kaiser's criterion suggests to retain only one dimension, explaining 58.7% of the total variance. The scree test indicates the presence of a dimension. The R<sup>2</sup> are all greater than 0.5. As planned, the items are, spread on a factor, the factorial contributions are greater than 0.716, which shows the good unidimensionality of the measures. Cronbach's alpha is equal to 0.822, which also shows the good reliability of the measures. Consequently, we selected this solution. It leads to a five-dimension measurement scale that can be used in an analysis of the level of relational integration between partners of a supply chain for emerging countries that are more or less similar to Vietnam, in particular in South-East Asia.

### Conclusion

To what extent are supply chain members capable of collaborating with each other in order to improve the functioning of the supply chain in which they are involved? The question is important for both clients and suppliers. Indeed, if supply chain members perceive an atmosphere of distrust, where each one tries to profit from its position without caring about other players, it is very likely that the supply chain will be taken over by entropic forces. In other words, each supply chain member seeks to value its own individual interest, even if it means resorting to opportunistic behaviours such as the withholding of data or being dishonest



about its real activities. It would obviously be unwise to deny the existence of a distrustful atmosphere in the operation of supply chains; furthermore, the works of Cox et al. (2003) on power regimes consider that the situation is common as soon as the sharing of the value created within the supply chain is perceived as unfair. It is important to admit that the absence of collaboration can, on the long run, have disastrous effects on the level of quality of service that is offered to clients, for example with an important number of stock-outs resulting in a loss in sales.

Consequently, having a robust measurement scale of relational integration between supply chain members is interesting, both for the researchers and the practitioners. For researchers, the measurement scale enables to assess the atmosphere within the supply chain and, therefore, offer crossed analysis. These analyses can compare supply chains linked to distinct products within the same country; they can also identify differences or similarities between countries in a cross-cultural perspective. For practitioners, a measurement scale enables to have a diagnostic and audit tool. Therefore, knowing if the current (or planned) partner leads activities in order to provide an answer to its client's complaints or accept to share confidential information with it will give a good idea of its will to commit to a collaboration strategy. A measurement scale can therefore constitute an excellent decision support tool regarding the choice and monitoring of partners. However, the retained measurement scale would need to be sufficiently relevant to adapt to the studied environment. Yet, we must admit that various works carelessly import measurement scales that are tested in a given context, for example, in Western countries, to a radically different context on the economic, social and cultural levels, for example, in emerging countries.

The goal of this paper was, very modestly, to propose a measurement scale of relational integration between supply chain members that could be correctly applied to emerging countries. To do so, we based our study on existing literature and then tested the measurement scale retained from a field study in Vietnam. This country was not randomly picked. Indeed, it has undergone radical transformation since 1986, with the Doi Moi [renovation] reform, to change its economic model, from a planned economy to a market economy. The result is the opening of borders to several foreign companies that actively participate in the modernisation of supply chains (Duong and Paché, 2015). From this point of view, the case of Vietnam is a symbol of rapid change that should interest all researchers studying other emerging countries in South-East Asia. We can therefore hope that the measurement scale retained and tested in the paper will be used in future research on relationships between supply chain members. This would enable progress to be made on cumulative knowledge on logistical strategies that become emancipated from dominant Western models.

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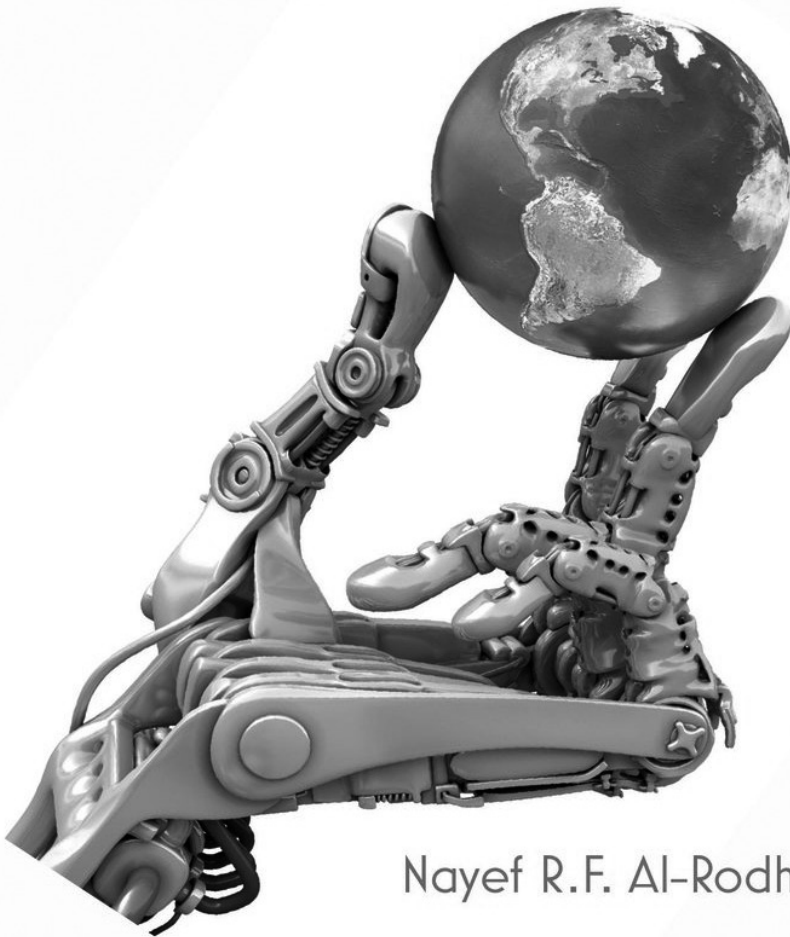
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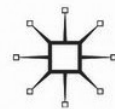
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# Exchange Rate Risks of International Portfolio Investments: Comparative Analysis of Ukrainian and Other Frontier Markets

Oleksandr I. Rogach • Pavlo V. Dziuba

**Abstract** The paper investigates the role of the exchange rate risk of investing in Ukrainian and other frontier equity markets during the period between 2006 and 2016. It argues that among frontier markets Ukraine has the largest relative exchange rate risk from euro and US dollar investors' perspective if measured by relative foreign exchange return differential. The market also shows the highest risks of USD, EUR and local currency returns.

Sharpe ratio for dollar, euro and local currency for all frontier markets is calculated. It also proves that the Ukrainian market does not provide relevant returns for high risks. The average Sharpe ratio for the period is -0.29 for USD and -0.40 for EUR making Ukraine the third least attractive market in the frontier group. Correlation matrix between Ukrainian total and equity international portfolio liabilities on the one hand and four groups of indicators associated with exchange rate risk (risk, return, Sharpe ratio and relative foreign exchange return differential – all for EUR, USD and local currencies) on the other is developed. Correlations are small and medium showing that these are not the only factors influencing portfolio inflows. It is detected that pairs with risk and relative foreign exchange return differentials have the strongest correlations while the latter affecting equity liabilities and almost not influencing total liabilities. It is proved that frontier markets group represents substantial exchange rate risk for foreign investors.

The relative differentials are -1.36 and -0.48 for USD and EUR investors respectively. Exchange rate risks from euro investors' perspective are much lower than from the perspective of an US dollar investor. The FM index has the lowest USD and EUR risks representing a more efficient investment when investors diversify.

**Keywords** International portfolio investments - exchange rate risk - frontier markets  
Ukraine - relative foreign exchange return differential - Sharpe ratio

**JEL classification** F21 - F31 - G11 - G15

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## 1. Introduction

Exchange rate risk is one of the most distinguishing features of international portfolio investments compared to domestic market investments. It is inevitable for investors who buy foreign securities either directly or indirectly. Direct purchases imply currency exchange to buy a security as well as to withdraw an investment back. Indirect investing like buying the shares of a country fund does not imply currency exchange but an investor is tied to it indirectly since the fund is engaged in this exchange. Eventually exchange rate risk generates certain portion of the total risk and is obviously a factor that affects investing decisions. In terms of investors' preferences it can be either acceptable or not. This actually depends on investors' risk tolerance, or risk aversion level. As behavioral idea implies, some investors just do not want to accept this type of risk and do not invest in foreign securities at all notwithstanding all existing advantages of such investments. This phenomenon became known as a home bias and is nowadays one of the most substantial barriers in the way of international portfolio investing. Sometimes this type of risk is really substantial and should be taken care of. In other cases it can be quite moderate and acceptable for most investors.

However, another important issue is to be considered. It is a return. Risk and return trade-off is the main determinant of international as well as domestic portfolio flows. High risks must be compensated by high returns or if one wants to get high returns high risks must be accepted. This relation is of an axiomatic character. It can also be used to deal with exchange rate risks. This risk brings about the increase in the total risk but gives an opportunity to get higher return. Thus if we agree that every investor has certain indifference level the question is not either to invest or not. The issue is what additional return would be sufficient for an exchange risk to become acceptable. Being an additional type of risk an exchange rate risk just requires additional premium. It thus can become rather an incentive than an obstacle for international portfolio investing. In many cases it's just a problem of an individual perception of investors and their basic financial education level.

Ukrainian equity market represents this group. It is a market with growing capitalization that offers investors high returns but encounters rather high risks. Among the most substantial risks of investing in Ukrainian market are exchange rate risk, political risk and the country risk, which actually includes the latter in terms of its constituting components. As to political and country risks, they are subjective substances and can be estimated rather than computed. Exchange rate risk is a purely financial issue that is related to unexpected changes in exchange rate between Ukrainian hryvna and an investor's currency. During the last couple of years, Ukrainian currency fell 3.5 times to USD and it is still depreciating. The question is whether or not this type of risk really turns international portfolio flows away from Ukrainian market or it provides additional opportunities for investors to earn higher returns. This is the question we are going to explore in our study particularly by the way of comparing investment characteristics of Ukrainian market and other frontier markets.

## 2. Literature review

The issues of international diversification of investment portfolios in general and of the exchange rate risk influence in particular have been widely studied in the literature. Solnik (1974-3) was one of the first who proved substantial benefits of international diversification compared to diversification in domestic markets. Internationally composed portfolio appeared to be the least risky among randomly composed portfolios of equities from seven European and the US market.



The basic concept of risk and reward was however introduced by Markowitz (1952). This concept implies among others that investors always select efficient portfolios i.e. such portfolios that have the highest return under a given risk or the lowest risk under a given return. This study became the basis for modern investment theory. Another most important implication of the latter is that portfolio risk depends significantly on the level of correlation between separate assets returns. The lower the correlation the lower the portfolio risk is. This is the idea that was developed by Solnik (1974-3) in international context. Solnik proved that correlation between different markets returns was much smaller than between separate securities in a domestic market and this allowed composing much more efficient portfolios internationally. Any investment decision actually depends on three factors: risk, return and risk aversion level. The latter is determined by the type of investor's indifference curve that is formalized by some utility function. One of the most widely used nowadays function was described by Levy and Markowitz (1979). Thereby, for any additional risk taken an investor requires additional premium but only to a certain extent which is defined by investor's limit of acceptable risk.

In terms of exchange rate risk the idea of additional reward for any additional risk was developed in international CAPM. Unlike traditional CAPM, international CAPM examines as many types of risks as many currencies are engaged in international investing process (Solnik, 1974-2). It was proved that an international equilibrium model was supposed to encompass exchange rate factor either in the form of exchange rate parity or exchange rate risk directly (Solnik, 1974-1). International CAPM stipulates that the total premium for a security should be estimated internationally considering the market portfolio of an international market. The premium itself consists of the world market risk (international systematic risk) premium and premiums for investing in different currencies – exchange risk premiums.

Roll & Solnik (1977) showed the significance of an exchange rate risk in asset pricing. International asset pricing model implies equilibrium among interest rates, exchange rates and inflation levels in different countries. According to their study, exchange rate risk is a result of taking a currency position that includes an interest for the currency and period considered and the expected exchange rate variation. The empirical part of the study included the plotting of a so-called exchange capital market line for six European and two North American markets. The result was not surprising from today's point of view – the weaker the currency, the higher the slope of the mentioned line. The similar idea was supported by Stulz (1984). He confirmed that in equilibrium the more risky the purchasing power of the domestic currency the larger the ratio of foreign money holdings to domestic money holdings. Thus, unlike traditional portfolio theory could assume, the share of foreign currency holdings does not depend on investors risk aversion level.

Black (1990) suggested a solution of one of the most substantial problems in the field of portfolio investing – determining risk tolerance that was basically considered unobservable. This was done in the context of international investing allowing for exchange rate risks. Assuming that a CAPM with many countries and many goods holds, investors in a country have identical utility functions and certainly defined future exchange rate. Black argued that if average risk tolerance is the same across countries all investors will bear identical market risks (world market portfolio) and exchange rate risks (foreign currencies portfolio). Investor's average risk tolerance equals to the relation of exchange rate risk to market risk. This relation is, on the other hand, the share of the market's exchange rate risk that is hedged by an investor. Black suggested a formula to compute the mentioned tolerance. It is a relation of the difference between the average world market risk premium and its variance to the difference between the

average world market risk premium and half of the average exchange rate variance.

Findings of Eun & Resnick (1994) testify the important meaning of exchange rate risks in international investment portfolios – the case was studied from the perspective of US and Japanese investors. In terms of our research goals, they showed that international portfolio risk and return incorporated exchange rate component. For instance, the dollar return of a security equals to the sum of local currency rate of return, the rate of appreciation of the local currency and the product of both. There is a respective share of risk for each of the mentioned components of return. The total risk equals to the sum of three mentioned components variance and their double covariance. They computed a share of exchange rate risk that is about 30 % of the total risk of dollar and yen stock portfolios. For bond portfolios, this figure equals about 77 % for dollar portfolio and about 65 % for yen portfolio. In case of mixed stock and bond portfolios, this share is about 59 % for dollar and 52 % for yen portfolio. Thus, the research showed that in international portfolios with exchange rate risks bonds that were riskless in domestic portfolios become risky while stocks that were risky in domestic portfolios then incorporated less exchange rate risks.

Evans & Lewis (1995) support the idea that foreign exchange returns can be hardly explained by traditional models of asset pricing. They argue that the shifts in exchange regimes (depreciating or appreciating) and the respective expectations can influence such returns. In periods of infrequent switches returns can be explained by small sample serial correlations. Another problem affecting foreign exchange returns is a so called ‘peso problem’ described generally by Milton Friedman and specified later by Rogoff (1980) and Fama (1984). This problem implies that premiums are affected by expectations of shifts in exchange rate regimes. The existence of the exchange rate risk was also supported by Dumas & Solnik (1995), who studied equity markets of Japan, the UK, the USA and Germany. They proved the significance of foreign exchange rate risk premiums in securities total risk and argued that respective estimations were better carried out by using international asset pricing models rather than domestic.

Important aspect of exchange rate risks in international portfolio investing is the one dealing with portfolio hedging. Research predominantly testifies that hedged international investment portfolios can result in even higher returns than unhedged. The general idea in these terms is that currencies should be treated as separate positions in a portfolio with respective strategies on them. For example, Jorion (1994) compared three methods of hedging international portfolios: separate optimization over the currencies, partial optimization and joint optimization over currencies and assets. He concluded that all mentioned methods produced more gains from international diversification than unhedged position, while the first method being the least superior and the last one being the most superior. Larsen and Resnick (2000) carry out some empirical tests on Jorion’s result and conclude that under parameter uncertainty ex post and ex ante results of hedge ration determination can differ. They compare different techniques of controlling the parameter estimation risk and suggest the optimal combination of the latter and the hedging strategy.

International portfolio flows together with the exchange rate regime can accelerate international financial contagion. As Hsiao & Hsiao (2001) showed, while having almost equal macroeconomic fundamentals, Korea and Taiwan had different characteristics of external and financial sectors. Those differences did cause that Korea was much severely affected by the crisis compared to Taiwan. It goes mostly about three crucial figures: high relation of external debt (uppermost short-term debt) to foreign reserves, high ratio of foreign portfolio liabilities to international reserves that were much higher in Korea. The third issue is an exchange rate

regime. In Taiwan it was a completely free float. The majority of case studies covering the problems of interrelation between exchange rates and international portfolio investment also considered emerging markets, e.g. Longin & Solnik (2001), Phylaktis & Ravazzolo (2005), Saez, Fratzscher & Thimann (2007) and others. A combined research in terms of the market type was carried out by Fernández-Izquierdo & Lafuente (2004). They studied international transmission of shocks during Asian currency crisis using the data on developed, emerging and frontier markets. The study showed that in periods of increased exchange rate and asset prices volatility there was no constant risk aversion and benefits from international diversification were reduced.

Using the case of Thai baht in 2005 and 2006, Gyntelberg, Loretan, Subhanij & Chan (2009) proved that its exchange rate was driven partially by international portfolio flows in Thai equities. They also showed that if Stock Exchange of Thailand index return exceeded S&P 500 return then foreign investors should be net sellers of Thai equities. This in turn should bring about the depreciation of Thai baht since by selling Thai equities foreign investors also sell the baht. Analyzing portfolio equity flows between the USA and Euro area and dollar-euro exchange rate, Heimonen (2009) empirically showed that unlike traditional view implying that dollar appreciation was caused by equity flows from Euro Area to the USA, another point was to be considered. It's an idea of composing a minimum variance portfolio. Trying to resume the structure of the minimum variance portfolio investors decrease their holdings of foreign equities and thus the equity outflows cause foreign exchange outflow and the respective currency depreciates.

Diermeier & Solnik (2001) examined the relation between two types of exposures. He found that foreign stock market risk was higher than a foreign currency risk. Among eight developed markets in question only the USA had the reverse case. The highest difference was for Switzerland and Italy. Fidora, Fratzscher & Thimann (2007) showed that exchange rate uncertainty was an important factor of home bias in international investment portfolios. They proved that home bias in assets with relatively high local currency return volatility responded less to real exchange rate volatility than home bias with relatively low local currency return volatility. It means that under exchange rate volatility home bias is higher for assets with lower local currency return volatility. This can be explained by the fact that when the local currency risk is low real exchange rate risk makes more considerable contribution to the total real return risk of an asset.

This inference also implies that home bias should be higher for bonds than for equities since bonds' returns are usually less volatile than stocks' returns and bonds, thus have higher portion of an exchange rate risk. The acceptance of this conclusion like that one of Eun & Resnick (1994) is conditioned by an assumption that international portfolio investors measure their returns in their domestic currencies. This assumption is one of the most fundamental for international portfolio investments analysis otherwise the existence of an exchange rate risk would be hardly practically considerable.

### **3. Hypothesis, methodology and data**

Notwithstanding the rich portion of literature devoted to various aspects of international portfolio investing and its interrelation with exchange rates and exchange rate risks, few studies explore frontier markets in general and Ukrainian market in part. This is quite clear considering the low level of these markets development and extremely little share of their global portfolio liabilities. Moreover, Ukrainian market is quite unstable, the currency is extremely volatile, general situation can be characterized as immensely risky

including respective military situation. However, Ukrainian market has substantial potential in attracting foreign portfolio investments. In our study we are going to explore the level of exchange rate risk of foreign portfolio investments into Ukrainian equity market and compare it with other frontier markets in order to find out practical implications for foreign holdings of frontier markets equities.

Methodologically we are to test three working hypotheses. First, there is a high exchange rate risk in Ukrainian equity market but the returns are not sufficient enough to compensate for substantial risk in terms of international portfolio investing. Second, the component of exchange rate risk in Ukrainian equity market is higher than in other frontier markets making it not attractive for foreign portfolio investors. Third, exchange rate risk factor does affect Ukrainian international portfolio liabilities but the level of this influence can be different depending on the indicator considered.

We are to test the mentioned hypothesis using the Morgan Stanley Capital International (MSCI) index data (MSCI, 2017). The basic issue of our analysis is the MSCI Frontier Market Index (FM) and its components. The FM includes the following frontier markets from five regions: Europe & CIS (Croatia, Estonia, Kazakhstan, Lithuania, Romania, Serbia, Slovenia, and Ukraine), Americas (Argentina), Africa (Kenya, Mauritius, Morocco, Nigeria, and Tunisia), Middle East (Bahrain, Kuwait, Oman, Saudi Arabia, Jordan, and Lebanon) and Asia (Bangladesh, Pakistan, Sri Lanka, and Vietnam). There are 24 markets in total. Besides the mentioned markets that participate in FM index calculation there are seven markets that are classified as frontier but are not included into the index (Bulgaria, Bosnia and Herzegovina, Botswana, Ghana, Jamaica, Trinidad and Tobago, and Zimbabwe). We are not going to analyze them. As a benchmark we shall use the FM index that reflects the frontier market group as a whole.

Using index values we calculate their monthly returns as a relation of the difference between the index value at the end of the current month and at the end of the previous month to the index value at the end of the previous month measured as a percentage. This is actually a standard methodology. The yearly returns are calculated by compounding the average of monthly returns for the respective year to the 12th degree. Standard deviations of monthly returns are converted into the yearly basis using a standard methodology. All indexes used are standard in terms of their market capitalization and include large, medium and small capitalization companies. Price index level is considered. Index returns are calculated using the respective values in USD, EUR and local currencies. Thus, comparisons of real returns for US & Euro area investors are relevant and appropriate.

As to the observation period, we would like it to be as long as possible but the data availability is different for different markets. So in fact, to make comparisons relevant we must select that period which will be the shortest available among markets in question. Ukraine is exactly such a market. The data is available since May 2006. Shorter periods are taken only for Bangladesh (since November 2009), Lithuania (since May 2008), Serbia (since May 2008) and Vietnam (November 2006). So we actually observe since May 2006 but the mentioned countries are excluded from earlier analysis. In order to carry out comparisons between Ukrainian and other frontier markets we use a well-known Sharpe ratio, computed using a well-known formula. In the present study, we are not going to examine the methodology of risk-free rate estimation but use a money market rate for a respective currency from the IMF International Financial Statistics database (IMF, 2017-1). However, the most typical version of a risk-free rate is the rate of government short-term securities like T-bills in the USA, not all frontier markets provide such data. Moreover,

in some frontier markets respective securities are not available as such. Money market rates are available for most markets and they typically represent the rates under the same risk category, which is one of the most important issues in this case. Technically the rates provided are the period (year) average values.

As to portfolio investments inflows to Ukraine we got this data from the IMF Coordinated Portfolio Investment Survey (IMF, 2017-2). We utilize the data on total portfolio liabilities, which is an investment position data which shows the total accumulated volume of inward international portfolio investments. Besides total portfolio liabilities, we also explore the data on liabilities in equity securities and fund shares.

## 4. Results

### 4.1. Analytical estimation of relative exchange rate risk

In order to estimate the level of an exchange rate risk we shall use some relative measure that can be a differential between foreign and local currency returns – a relative foreign exchange return differential. If this ratio is equal to zero then the relative exchange rate risk is formally absent. If the respective figure is not zero then relative foreign exchange rate risk does exist and its level can be described by respective difference. The exchange risk relative degree thereby can be characterized by the mentioned figure distance from zero. Actually, this is not the risk in a purely financial sense but a relative measure that characterizes the attractiveness of a market for a foreign investor ex post. Practically if this ratio is less than zero, then investing is not acceptable for a foreign investor.

The idea behind this is that the local currency is depreciating and is often followed by increase in local rates of return but the pace differs thus bringing about relative acceleration of local currency returns. Thereby, foreign investors get losses measured in foreign currencies and the respective market portfolio becomes less efficient. The key idea here lies in the mentioned pace. Under depreciation, investing can be profitable for foreign investors if the pace of rates of return growth is high enough to compensate depreciation. The opposite is true. Appreciation of the local currency usually makes local portfolios more efficient for foreign investors. Typically, their return in foreign currencies exceeds local currency returns and they get additional profits measured in a foreign currency. Consequently, the differential should exceed zero.

We must stress that the abovementioned method does not let us calculate the precise meaning of the exchange rate risk but allows estimating its relative value. The reason is that we consider the difference between foreign and local currency returns just like the differential between different countries interest rates. Moreover, such approach allows considering either negative or positive returns. If for example we utilized the dividing method and considered the relation of one return to another we would have hardly be able to deal with negative values. Such method would not be universal in these terms since we would have to make special estimations for negative values of the ratio. Technically, we would not be able to answer the question if the negative value resulted from negative values of foreign or local currency return.

Comparing this concept with a respective approach in traditional portfolio theory, we can match some points. For example dispersion and standard deviation as traditional risk measures can be decomposed into upside and downside dispersion (deviation) depending of the relation of observations to the average (see, for example, Markowitz, 1959, p. 188). In our case we can introduce a provisional term ‘upside relative foreign exchange return differential’ for values above the zero and ‘downside relative foreign exchange return differential’ for values below the unity. What is a real risk for foreign

investors is the downside risk since only in this case they have losses relative to the local currency return.

While examining differential zero values we should obviously consider values approaching zero since they imply small exchange rate risks. The matter is how to determine the tolerance level of these values. Actually, it can be set depending on the research goals and specific situations. Let us take it as 1 % of the whole range of differential values. The range for USD varies between 1.58 and -11.18 and for EUR it is between 3.76 and -10.55 (table 1). The value of 1 % is 0.1276 and 0.1432 respectively.

**Table 1 Grading of markets according to the relative differential value**

Panel A (USD)

#	Market	Value	#	Market	Value	#	Market	Value
1	Mauritius	1.58	10	Croatia	-0.28	19	Vietnam	-2.59
2	Slovenia	0.31	11	Bangladesh	-0.70	20	Serbia	-3.91
3	Kuwait	0.02	12	Estonia	-0.71	21	Pakistan	-4.25
4	Jordan	0.02	13	Morocco	-0.75	22	Kazakhstan	-4.32
5	Lebanon	0.00	14	FM	-1.36	23	Nigeria	-4.40
6	Oman	0.00	15	Argentina	-1.62	24	Tunisia	-4.91
7	Saudi Ar.	0.00	16	Kenya	-1.88	25	Ukraine	-11.18
8	Bahrain	-0.03	17	Lithuania	-2.12			
9	Romania	-0.11	18	Sri Lanka	-2.49			

Panel B (EUR)

#	Market	Value	#	Market	Value	#	Market	Value
1	Oman	3.76	10	Slovenia	0.02	19	Sri Lanka	-1.31
2	Bangladesh	3.52	11	Lithuania	-0.01	20	Pakistan	-3.09
3	Lebanon	1.65	12	Estonia	-0.01	21	Tunisia	-3.15
4	Jordan	1.65	13	Croatia	-0.24	22	Serbia	-3.16
5	Saudi Ar.	1.22	14	Argentina	-0.41	23	Nigeria	-4.53
6	Kuwait	1.20	15	FM	-0.48	24	Kazakhstan	-4.56
7	Mauritius	1.09	16	Kenya	-0.59	25	Ukraine	-10.55
8	Bahrain	0.82	17	Romania	-1.07			
9	Morocco	0.35	18	Vietnam	-1.13			

Notes:

1. Calculated and composed by the authors using (MSCI, 2017) data.
2. Markets with zero or close to zero differential values, Ukrainian market and the FM index are marked with grey filling.
3. Rounding is up to the second decimal order.



As we can see from table 1, Ukraine has the weakest position among all frontier markets for USD as well as for EUR investors. Its relative differential value is the smallest and deeply negative in both cases. It equals -11.18 from USD and -10.55 from EUR investor perspective. Furthermore, the second smallest value for Tunisia and Kazakhstan respectively are more than twice higher that underlines substantial exchange rate risk of Ukrainian market for foreign investors.

The general conclusion for frontier markets is that they imply substantial exchange rate risks for foreign investors. The value of the differential for the index is -1.36 and -0.48 for USD and EUR investors respectively. For USD investors only two markets have positive differential values: Mauritius (1.58) and Slovenia (0.31). Seven markets have zero or close to zero level of relative differential thus implying the absence of exchange rate risks. In some cases the precise zero values can be explained by the monetary policy regimes. Some countries anchor their local currencies to world currencies like USD or EUR thus having no exchange rate risks by definition. Certain countries have lately entered the Euro zone and their EUR differential is close to zero (Estonia in 2014 and Lithuania in 2015). Other 15 markets have negative relative differential values and have substantial exchange rate risks for USD investors.

The case is a bit different for EUR investors. Nine markets have positive return differentials and are therefore attractive for euro investors. Three markets are neutral in terms of euro foreign exchange rate risk. Other 11 markets and the FM index have high downside exchange rate risk and are not attractive for foreign euro investors. Frontier markets as a group is not attractive for USD and EUR investors considering their exchange rate risks, but the relative attractiveness level is much higher for EUR investors – respective differential values are -1.36 and -0.48 that makes almost three times difference. Euro highest differential value (3.76 for Oman) is more than twice larger than its highest dollar value (1.58 for Mauritius).

#### 4.2. Risks and risk-adjusted returns

Apart from more general analytical framework there are some objective statistical measures used to estimate the level of risk and return of an investment. We shall consider two of them in our study. The first one is the general risk measured as a standard deviation of returns. The second one is a more conventional measure – the mentioned Sharpe ratio that is a purely financial index to measure an investment's return adjusted for risk. Risk and Sharpe ratio calculations are presented in table 2.

**Table 2 Sharpe ratios and standard deviations of frontier markets**

Market	USD		EUR		Local Currency	
	Sharpe Ratio	$\sigma$	Sharpe Ratio	$\sigma$	Sharpe Ratio	$\sigma$
Mauritius	1.17	17.17	1.67	14.99	0.94	13.88
Kenya	1.05	21.47	1.71	20.77	1.58	18.70
Pakistan	0.69	23.40	0.79	23.79	0.44	22.48
Nigeria	0.54	28.85	0.69	28.78	0.37	26.38
Argentina	0.51	33.63	0.65	31.22	0.13	32.86
Saudi Ar.	0.43	23.24	0.49	23.85	0.58	23.24
Bangladesh	0.41	14.18	0.65	16.49	0.01	13.95

Market	USD		EUR		Local Currency	
	Sharpe Ratio	$\sigma$	Sharpe Ratio	$\sigma$	Sharpe Ratio	$\sigma$
Oman	0.26	16.72	0.24	15.04	0.61	16.02
Sri Lanka	0.24	24.78	0.69	24.08	-0.05	23.21
Slovenia	0.21	21.25	0.14	16.98	0.04	16.98
Estonia	0.18	27.95	0.09	25.25	0.25	25.25
FM	0.15	14.50	0.27	13.06	0.08	13.45
Croatia	0.06	21.60	-0.06	17.11	-0.03	16.83
Vietnam	0.01	27.75	0.17	27.62	-0.11	26.97
Kazakhstan	-0.01	27.74	0.04	26.03		27.76
Lithuania	-0.06	18.11	0.18	14.75	0.09	14.75
Kuwait	-0.16	18.48	-0.02	18.15	-0.22	17.89
Tunisia	-0.17	16.21	-0.02	15.92	-0.09	14.68
Serbia	-0.21	29.73	-0.13	25.24	-0.56	23.81
Lebanon	-0.27	18.69	-0.20	20.19	-0.58	18.69
Ukraine	-0.29	36.23	-0.40	34.78	-0.35	33.99
Jordan	-0.58	17.28	-0.60	17.99	-0.75	17.25
Bahrain	-0.79	19.88	-0.77	20.66	-0.59	19.85

## Notes:

1. Calculated and composed by the authors using the (MSCI, 2017) and (IMF, 2017-1) data.
2. Ukrainian market and the FM index are marked with grey filling.
3. Markets in the table are graded by their USD Sharpe ratio (first column).
4. Sharpe ratio is an average of respective ratios for 11 years.

As we can see from table 2, according to the USD Sharpe ratio Ukraine is the third worst market for investing. It is -0.29 while being -0.40 for EUR (3rd worst market again) and -0.35 for the local currency (5th worst market). In terms of our hypothesis it means that high risks are not compensated by high returns. Furthermore, the latter are often negative. Moreover, if we consider the frontier market group as a whole it has positive Sharpe ratios for all three currencies considered. Thus, Ukraine is doing much worse than the group as a whole. Unlike the case with relative differential, the Sharpe ratio shows that Ukrainian market is more attractive for USD than for EUR investors. The fact that local currency Sharpe ratio is lower than the USD Sharpe ratio proves that the market is rather risky even without an exchange rate risk. This is also true for the majority of other frontier markets.

Another issue that should be considered is the risk of the markets. Ukrainian market is the most risky among all markets considered either in terms of USD standard deviation as well as EUR and local currency risks. This also supports the idea that the market is rather risky even if exchange rate risk is ignored though the latter is rather high in Ukraine. The least USD and EUR standard deviation accounts for FM index, while in terms of local currency index is the second least. This is important since even considering high total risks and high exchange rate risks it is better to diversify frontier markets portfolios for USD as



well as for EUR and local currency investors. In this sense, we also provide a statistical support of the concept of diversification that is proved on the example of international diversification in frontier markets.

In terms of frontier markets attractiveness for USD and EUR investors, they are much more efficient from euro investor perspective. Euro Sharpe ratio (0.27) is almost twice larger than USD ratio (0.15) for the whole group. Euro return standard deviation is also lower. It equals to 13.06 compared to 14.50 dollar risk.

#### ***4.3. Sensitivity of Ukrainian international portfolio liabilities***

We have studied some prerequisites associated with exchange rate risks that promote or impede international portfolio inflows to Ukrainian and other frontier markets. However, we have not examined the issue of their real impact on international portfolio inflows to Ukrainian market. A conventional way to do this is to calculate the correlation ratio between indicators under question (table 3). In our case, we shall calculate correlations in pairs of total and equity investments on the one hand and other indicators on the other. Thus, we shall get 22 correlations – 11 for total and 11 for equity liabilities (table 4).

**Table 3 Selected indicators of Ukrainian market**

<b>Indicator</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
Investments – T	10.2	12.4	5.6	6.0	9.5	9.3	15.2	19.0	12.8	13.5	
Investments – E	0.6	2.0	0.7	0.5	1.1	1.0	1.1	1.8	0.6	0.5	
Local risk	14.9	24.9	37.9	47.5	45.0	43.9	28.6	30.8	-9.6	33.2	17.8
USD risk	15.2	25.0	43.9	57.0	45.5	44.0	29.2	30.5	47.7	37.8	22.7
EUR risk	15.5	26.5	37.5	50.3	44.4	41.0	26.9	33.4	47.8	39.4	19.9
Local return	-2.5	11.5	-73.1	48.8	64.4	-39.3	-46.3	-9.6	74.5	-9.6	20.4
USD return	-3.2	11.7	-81.5	49.3	65.6	-39.5	-46.5	-11.8	-7.7	-37.7	17.5
EUR return	-5.6	1.1	-81.3	40.1	75.1	-38.7	-47.8	-14.9	5.0	-30.3	20.4
USD differential	-0.7	0.2	-8.4	0.5	1.2	-0.2	-0.2	-2.2	-82.2	-28.1	-2.9
EUR differential	-3.1	-10.4	-8.2	-8.7	10.7	0.6	-1.5	-5.3	-69.5	-20.7	0
Local Sharpe ratio	-0.41	0.37	-2.29	0.76	1.36	-1.06	-2.04	-0.46	1.25	-0.95	
USD Sharpe ratio	-0.54	0.27	-1.90	0.86	1.44	-0.90	-1.60	-0.39	-0.16	-1.00	0.75
EUR Sharpe ratio	-0.56	-0.11	-2.27	0.78	1.68	-0.96	-1.78	-0.45	0.10		

Notes:

1. Calculated and composed by the authors using the (MSCI, 2017) and table 2 data.
2. ‘Investments’ is Ukrainian international portfolio liabilities derived from (IMF, 2017) investment position data. ‘T’ – total liabilities, ‘E’ – liabilities in equity in billion USD. The figures are as of the year-end.

**Table 4 Correlation matrix for selected indicators of Ukrainian market**

<b>Indicator</b>	<b>Investments – T</b>	<b>Investments – E</b>
Local risk	-0.37	0.07
USD risk	-0.49	-0.42
EUR risk	-0.32	-0.34
Local return	-0.02	-0.09
<b>Indicator</b>	<b>Investments – T</b>	<b>Investments – E</b>
USD return	-0.11	0.12
EUR return	-0.09	0.05
USD differential	-0.16	0.37
EUR differential	-0.16	0.30
Local Sharpe ratio	-0.04	0.06
USD Sharpe ratio	-0.13	0.16
EUR Sharpe ratio	-0.07	0.03

Notes:

1. Calculated and composed by the authors using table 3 data.
2. Different groups of indicators are marked with grey filling for visual convenience.

As we can see from table 4, there are no strong correlations. The largest ratios can be treated as low or medium. This can be quite clear since these factors are not the only affecting foreign portfolio investments inflows. In our study we do not actually analyze other factors but the exchange rate risk, although such important determinants as political risks, regulatory environment, military tension, macroeconomic situation undoubtedly exert their substantial influence. However, such values as -0.49 for example (the pair of total investments and dollar risk) is almost a half and can be considered as medium level correlation, but under the set of other factors can be regarded as substantial.

The strongest correlations are observed for risk and differential indicators groups. All others equal risks affect portfolio inflows adversely. Thus, the negative value of respective correlations looks natural. The only case in this group where the correlation is positive is the pair of local risk and equity investments though the ratio of 0.07 signifies almost absent correlation rather than its positive direction. These figures mean that with the increase in USD and EUR risks foreign portfolio inflows decrease while USD risks influence either total or equity inflows more than EUR risks. The differential group looks informationally attractive. Correlations with total investments are little and negative, while correlations with equity investments are relatively large (compared to group's risks) and positive. It means that relative foreign exchange differentials do affect the equity portfolio liabilities and do not almost influence the total liabilities. As it was discussed earlier positive differentials promote foreign portfolio investing, thus relatively high positive correlations are appropriate. Using the opposite sign of correlations in differential group, we can even assume that positive differential promotes foreign portfolio investments in equities and deters portfolio inflows in debt securities. This conclusion obviously needs additional discussion and testing but its

general idea keeps with that of Eun & Resnick (1994), who came up with relatively large portion of an exchange rate risk for bonds than for stocks.

Return and Sharpe ration groups show little correlations. Considering their signs, we can conclude that returns and Sharpe ratios can be used to explain equity rather than total investments. That is actually what we began with. Equity investments correlations are positive and it means that the higher the return (premium) the higher the liabilities figure. However, the values are extremely small to confirm substantial relationship. Sharpe ratio to the point is not the actual factor driving portfolio flows but an analytical investment analysis ratio that is used to characterize some investment quality and in taking investment decisions.

## 5. Conclusions

We have proved and quantitatively identified our three hypotheses. Ukraine has the largest relative foreign exchange rate risk among frontier markets in terms of foreign portfolio investing from euro as well as from American dollar perspective. The estimation of relative exchange rate risk was carried out using a relative foreign exchange return differential that is difference between foreign and local currency returns. For Ukrainian market it is deeply negative and equals -11.18 from USD and -10.55 from EUR investor perspective while the second smallest values are twice higher. The risk measured as a standard deviation is also the highest among all markets either considering local, EUR or USD currency returns.

Ukrainian market is not attractive for foreign investors in terms of a more conventional Sharpe ratio that reflects a risk-adjusted return of an investment. Ukraine has the third lowest USD Sharpe ratio (-0.29) and the third lowest EUR ratio (-0.40). This confirms that our first hypothesis is true: returns are not enough to compensate for high foreign exchange rate risks. Ukrainian Sharpe ratios are lower than those of the frontier markets group in general. Low average local currency Sharpe ratios show that Ukrainian market is risky even for local investors, i.e. not considering exchange rate risks. Unlike relative differential Sharpe ratio shows that Ukrainian market is relatively more attractive for USD than for EUR investors. Small and medium correlations between Ukrainian international total and equity liabilities on the one hand and risks, returns, Sharpe ratios and relative differentials (all measured in USD, EUR and local currencies) on the other can be explained by the fact that other factors also influence the inflows of portfolio investments to Ukrainian market. The highest correlations for standard deviations and relative differentials prove that these factors have the largest impact on Ukrainian international portfolio liabilities. Relative differentials have positive influence on equity liabilities while having almost no impact on total liabilities. Risks have an adverse effect, while USD risks influence more than EUR risks. Sharpe ratios and returns have little influence. These results show that the suggested relative differential measure can be used to estimate the relative foreign exchange rate risk of an investment.

In terms of our study results, it becomes evident that in order to attract foreign portfolio investments Ukraine needs to stabilize its currency and introduce relevant monetary policy. Its positions are weak considering either other frontier markets or solely the domestic market. High exchange rate risks must be eliminated since they negatively impact risk-return trade-off.

Frontier markets as a group also enclose considerable exchange rate risk for foreign investors. The relative differential values are -1.36 and -0.48 for USD and EUR investors respectively. However, exchange rate risks from euro investors' perspective are much lower than from the perspective of an American dollar investor. The FM index has the lowest USD and EUR risks thus supporting the concept of diversification. Investors should diversify using the whole market group rather than individual markets, while such an investment being much

more efficient for euro than for dollar investors. That is supported either by Sharpe ratios or by absolute risk figures.

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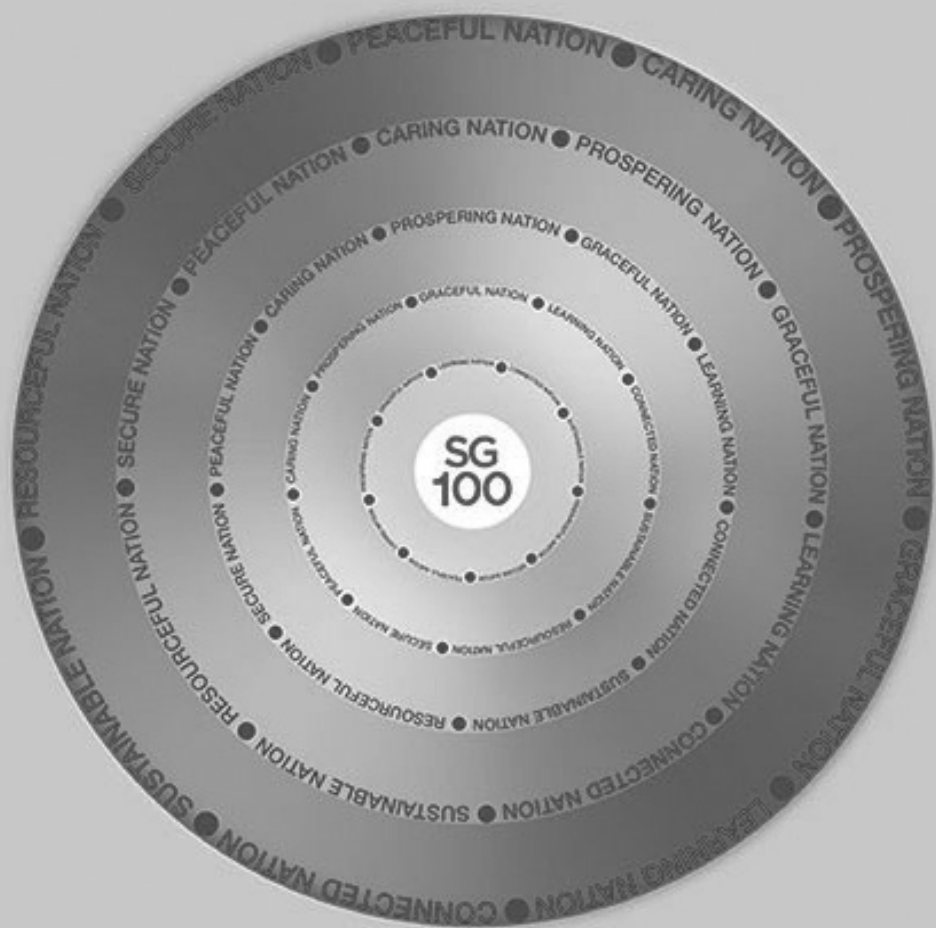
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# BEYOND 50: RE-IMAGINING SINGAPORE



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# Economic Transition and Regional Wages: The Evidence from Poland

Vera A. Adamchik • Thomas J. Hyclak

**Abstract** The paper studies regional wage differences across 16 NUTS-2 regions in Poland during 1994-2007. The analysis is based on data of individual workers from the Polish Labor Force Survey, which includes about 8,000-15,000 full-time workers each year. In the first part of the analysis, the microdata are used to estimate regional wage measures while controlling for differences in observed worker characteristics across regions. Although adjusting for worker heterogeneity reduces regional wage differences, regional disparities still exist. In the second part of the analysis, the relative regional wage measures (in both nominal and real terms) are regressed on a set of regional macro variables.

The results show that regional differentials are correlated with historical patterns of agglomeration, market access, regional amenities as well as internal and external migration. Furthermore, higher regional wage differentials are, in part, compensation for a higher regional cost of living.

**Keywords** Regional labor markets - wage differentials - economic transition

**JEL classification** J31 - P23 - R23

## 1. Introduction

Regional disparities have been a major concern for European policy-makers since the inception of the European Union (EU) in the 1950s. Attention to this issue intensified after the latest enlargements when several new member countries with relatively low levels of economic development joined the Union. Financial resources for Cohesion Policy increased significantly and now constitute the second largest outlay in the EU budget after the Common Agricultural Policy. However, research suggests that, while this policy focus may have narrowed disparities between the EU countries, regional differences within member countries – particularly the new ones – have remained stable or even widened. Growing spatial inequalities pose a key challenge for EU regional Cohesion Policy. Therefore, it is important for scientists, politicians and society as a whole to understand the determinants of regional disparities and potential reinforcement mechanisms. In Poland, regional development was an integral part of the broad process of political and economic transformation.

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However, the effects of the systemic changes were not evenly distributed across the Polish regions. The spatial differentiation was caused by a historical east-west divide rooted in the eighteenth-century partitions, a legacy of socialist economic policies, and an asymmetric impact of transition shocks on the regions (Czyż and Hauke, 2011). This study focuses on one aspect of spatial pattern and provides a comprehensive examination of regional wage differentials in Poland over the period from 1994, when the country was recovering from its initial transition shock, to 2007 when Poland was a full member of the EU in the mature phase of its transition to a market economy.<sup>1</sup> We treat the transition-specific shocks in Poland as a source of exogenous variation that identifies how structural changes affected the spatial distribution of wages. The objective of the exploratory analysis is to find a correlation between the demand and supply shocks during transition (such as, massive inward FDI, trade liberalization and openness, emigration, and the accession to the EU) on the one hand, and regional relative wages on the other, given the regional characteristics. On the theoretical front, our analysis draws on a broad framework of labor economics and spatial economics (which currently includes two main strands – the new neoclassical urban/regional economics and the New Economic Geography (NEG) – along with their numerous refinements and extensions).

Empirical studies on regional differences in earnings within transition economies, and particularly Poland, are rather scant.<sup>2</sup> While the empirical evidence is far from conclusive (estimates of regional wage differentials vary considerably because of variations in methodologies used as well as data sources), the majority of studies find that significant inter-regional pay differentials do exist. However, disentangling the sources of differentials in order to explain their persistence and stability over time has proven difficult. Furthermore, while spatial disparities in nominal earnings are reasonably well documented, there is still a shortage of studies about regional real wages due to the fact that data on regional costs of living are typically not collected by government agencies and, hence, unavailable.

Our research innovates on previous work in several ways. The first is the estimation of determinants of both nominal and real<sup>3</sup> regional wage differentials using composition corrected<sup>4</sup> data, and a model that captures demand shocks from historical patterns of agglomeration and market access and the role of amenities and local housing supply on inter-regional migration. The second contribution is an

<sup>1</sup> We end our examination of regional wages at 2007 for three reasons. First, we consider the early and mature transition periods in Poland up to the start of the global financial crisis. Second, there seems to be a consensus among transition economists that now, 20 years after the start of economic transformation, transition is over, and “all former socialist countries are market economies at the middle stage of economic development” Sonin (2013, p. 1). Third, for several years after 2007 the Polish Labor Force Surveys (that constitute the major data source in our study) stopped reporting individual actual earnings, but instead reported individual wage data only for relatively wide predefined wage ranges. Furthermore, the Central Statistical Office allowed respondents to opt not to answer this question, and the non-response rate was high in some surveys.

<sup>2</sup> Those available generally focus on the distribution of output, income, employment and unemployment. Only a small number of researchers consider price effects, in terms of regional wages. The analysis of inter-regional disparities in wages have been typically in conjunction with the distribution of other macroeconomic indicators, but rarely as the main subject of research. We found only a few papers for Poland: Góra and Sztanderska (1998), Duffy and Walsh (2000, 2002), Sibley and Walsh (2002), Egger *et al.* (2005), Rogut (2007), Adamczyk *et al.* (2009), Bogumil (2009), Rokicki (2007, 2015), and Cieślak and Rokicki (2015, 2016).

<sup>3</sup> A severe problem for inter-regional comparisons on a regional level is the lack of regional price indices. Such data are not available in Poland. In this study, we construct a measure of regional cost-of-living conditions (Relative Regional Price Indices). We also try to account for regional housing costs.

<sup>4</sup> The predominant majority of previous studies on regional wages in Poland employed regional data publicly available on the Polish Central Statistical Office website. Due to a high degree of aggregation, such data may not adequately reflect regional differences. In this study, we use microdata on individual workers from Polish Labor Force Surveys in order to estimate annual regional wage differentials. Using micro data allows us to reduce worker heterogeneity that remains unobserved at a more aggregate (regional) level.

examination of the unique Polish situation of very high rates of emigration throughout the transition period but especially post-2004 and the effects of this type of supply shock on the regional structure of wages. Further, as compared to many other studies for Poland, we consider a long time span – from 1994 to 2007. Such a long time span allows us to extend our gaze over the early and mature phases of transition in Poland as well as the country's early membership in the European Union.

Our study suggests that economic transformation in Poland was associated with increased regional disparities. We find evidence of pronounced and persistent nominal and real wage differentials even when controlling for a large number of personal characteristics. These differentials are broadly consistent with the theoretical predictions and reflect regional differences in the historical pattern of agglomeration, geographical proximity to external and internal markets and potential for internal and external migration. Our study may provide an important contribution to the current debate on efficiency and effectiveness of EU regional policy. The evolution of regional earnings is an interesting topic in its own right because the average pay is an indicator of regional well-being along with the commonly used per capita GDP and disposable income. Furthermore, if the wage curve holds for Poland, persistent regional wage differentials may further exacerbate existing unemployment disparities.

The paper is organized as follows. Section 2 describes our empirical strategy, data sources and choice of territorial units. In Section 3 we explain our estimation techniques and present the estimated inter-regional wage differentials from the cross-sectional Mincerian wage equations. Section 4 attempts to disentangle the macroeconomic forces causing persistent regional wage disparity in Poland. The final section summarizes our findings and concludes.

## 2. Empirical strategy, data, and choice of territorial units

In the analytical part of this study, we proceed in two stages. Our two-stage empirical strategy is close to that of Combes et al. (2008), Fally et al. (2010), and Groot et al. (2014). In the first stage (Section 3), we first describe the magnitude and dynamics of “raw” regional wage differences using rich micro data from the Polish Labor Force Surveys in 1994-2007. We then apply the Mincerian (Mincer, 1974) wage equation in order to control for observed worker heterogeneity and to subsequently derive the relative regional wage differentials that cannot be attributed to individual characteristics. A Markov transition probability matrix is used to study the development in the estimated relative regional wage differentials over time. An advantage of the Markov analysis in this study is that it is based on estimated regional wage differences (corrected for worker heterogeneity) rather than raw wage differences.

In the second stage (Section 4), we regress the estimated relative regional wage differentials on the set of regional macro variables. The choice of independent variables is justified by theoretical framework of urban/regional economics and the NEG. Both approaches are general equilibrium, and assume maximizing agents, but differ in their view on what factors underlie the uneven distribution of economic activity across space. Urban/regional economics stresses ‘first-nature geography’ (i.e., local factor endowments and amenities), while the NEG instead emphasizes ‘second nature geography.’ by explicitly considering the territorial dimension. It is worth noting that, unlike many empirical studies, our goal is not to determine which of these two theories more accurately describes inter-regional wage differentials in Poland. We believe that notwithstanding the epistemological differences between the two approaches, empirical economics would benefit from an interchange of the models’ ideas. Though urban/regional economics and the NEG differ in some keyways, they also have many similarities, and hence may be viewed as complements, and not competitors (Glaeser and Gottlieb, 2009, p.1002; Brakman et al., 2009, p 780.) Labor Force Surveys (LFS) conducted by the Polish Central Statistical Office in May of 1994-2007 constitute

the data source for the estimation of regional wage differentials. We restrict our attention to full-time hired employees because only this category reported their earnings in the survey. We further narrowed our sample of full-time hired workers by deleting those individuals who did not report their earnings, who were full-time students, or handicapped, or younger than 18, or older than 60 (the retirement age for women) or 65 (the retirement age for men). Furthermore, for consistency we controlled if an employee worked 40 and more hours per week on a regular basis. After all these adjustments, we had samples of about 8,000-15,000 full-time hired employees for each year in 1994-2007.<sup>5</sup>

Data for the independent macro variables mainly come from the Polish Central Statistical Office (Główny Urząd Statystyczny) website (<http://stat.gov.pl/>). The climate data are from the official website of the Polish National Meteorological Service (Państwowa Służba Hydrologiczno-Meteorologiczna) which is found at <http://www.pogodynka.pl/polska/daneklimatyczne/>.

In our analysis, we use 16 NUTS-2 (voivodships<sup>6</sup>) administrative territorial units in Poland. Although the number of voivodships in Poland changed from 49 to 16 in 1999, the Polish Central Statistical Office provided us with the 1994-1999 Labor Force Survey data adjusted for the new territorial classification. One may argue that these territorial units are too large and the unobserved heterogeneity may lead to the ecological fallacy problem or the Modifiable Areal Unit Problem, so that it would be more relevant to use NUTS-3 (sub-regions) or NUTS-4 (poviats) territorial units. The regional breakdown adopted in this study is constrained by data availability. The Polish Central Statistical Office makes every effort to protect the identity of the LFS participants and releases the location variable only at the NUTS-2 level. Another justification is that NUTS-2 regions are the main focus of the EU Cohesion Policy, and thus it would make sense to examine the relative position of the Polish voivodships in relation to one another for policy implications. Furthermore, in their study of the effect of local density on wages, Briant et al. (2010) show that the ‘shape and size’ effects are of secondary importance and the biases are of a significantly smaller magnitude as compared to the model mis-specification. Combes and Gobillon (2015, p. 294) thus conclude that “choosing the right specification when measuring the impact of local characteristics appears to be more important than choosing the right spatial units.” Nevertheless, we are aware of all the shortcomings of our choice of territorial units, and that our empirical findings may be affected by it. Hence, the results should be interpreted with caution.

### 3. Estimation of regional wage differentials

We use two different measures to assess the overall dispersion of regional wages – the weighted average absolute regional wage differential,  $AVG|\Delta|$ , and the standard deviation of regional wage differentials,  $SD(\Delta)$ . We first calculate the overall “raw” regional wage differentials ( $\Delta$ s) using current wages in Zlotys (see Table 1 and the notes under it). As expected, the Mazowieckie voivodship (with the capital city of Warsaw) exhibits the largest positive deviations

<sup>5</sup> Table 1 shows the number of observations in our data sets for each year. A noticeable reduction in the number of observations after 1999 is caused by a significant decrease in the total number of people surveyed in the LFS’s. If in 1994-1999 the total number of the surveyed individuals were 65,000-75,000, then in 2000-2007 the total number of the surveyed individuals were 55,000-60,000.

<sup>6</sup> Since the 14th century, a ‘voivodship’ (‘województwo’ in Polish) has been the major territorial division in Poland. At the outset of the transition, in the early 1990s there were 49 small and economically weak voivodships. The 1999 Polish local government reform reduced the number of territorial units to 16 sizeable administrative regions, 9-35 thousand km<sup>2</sup> each. The aim of the reform was to create fewer but stronger regions, capable of implementing their local independent policies according to their own needs and priorities. Polish voivodships are equivalent to provinces and correspond to the NUTS 2 level according to the EU Nomenclature of Territorial Units for Statistics.

from the national average: 11% in 1994 and 18% in 2007. As expected, the regions in the Eastern part of Poland typically exhibit the largest negative deviations from the national average wage: Podkarpackie (-13%) and Podlaskie (-15%) in 1994, and Podkarpackie (-13%) and Świętokrzyskie (-15%) in 2007. Over all 16 regions, the  $AVG|\delta|$  measure was about 7% and the  $SD(\delta)$  measure was about 9% in both 1994 and 2007 (see Columns (c) and (f) in Table 1). The dynamic pattern of these two measures, however, suggests a decline in regional wage dispersion in 1994-1999, a subsequent increase in 2000-2001, another decline in 2002-2004, and another increase in 2005-2007. Of course, these statistics do not control for differences across regions in the characteristics of workers.

To control for observed heterogeneity of workers, we use the Mincerian ‘human capital earnings function’ (Mincer, 1974) and apply the restricted least squares (RLS) estimation procedure developed by Haisken-DeNew and Schmidt (1997). The advantage of the RLS procedure is that the results are independent of the choice of the reference group, and all dummy coefficients and standard errors are estimated. In our regression, we include 16 regional dummy variables, that is, one dummy variable for each of the 16 Polish regions. Hence, there is no reference group for this category; and the estimated regional coefficients are interpreted as percentage-point deviations from the country’s average wage (i.e., the regions’ weighted average wage). The Mincerian earnings function is in its traditional semi-log form:

$$\ln W_i = \alpha + X_i\beta + \sum_{r=1}^R \delta_r D_{ri} + \varepsilon_i \quad (1)$$

$$\text{subject to restriction, } \sum_{r=1}^R \delta_r \frac{n_r}{N} = 0,$$

where  $\ln W_i$  is the natural logarithm of monthly earnings of a full-time hired employee  $i$ ;  $X_i$  is a vector of observed characteristics other than the region of residence;  $D_{ri}$  is a regional dummy which assumes the value of 1 if worker  $i$  resides in region  $r$  and 0 otherwise,  $r = 1, \dots, R$ ,  $R = 16$ ;  $n_r$  is the number of workers residing in region  $r$ ;  $N$  is the total number of workers in the sample;  $\alpha$ ,  $\beta$ ,  $\delta_r$  are the coefficients to be estimated; and  $\varepsilon_i$  is an error term assumed to be  $N(0, \sigma_\varepsilon)$ . Equation (1) assumes that  $\beta$ ’s do not vary by region. While not beyond reproach, this assumption is quite common in empirical regional studies (see, for example, Maier and Weiss, 1986; Azzoni and Servo, 2002; Combes *et al.*, 2008; Beenstock and Felsenstein, 2008; Fally *et al.*, 2010; Groot *et al.*, 2014.)

Compared to other papers on the Polish wage structure, the specification of the earnings equation in our study is one of the most comprehensive with 65 individual socio-economic characteristics. In addition to the 16 regional dummies, we include: 5 city/town/rural dummies, 5 educational dummies, marital status (married or divorced/separated/widowed vs single as a reference group), whether the worker heads a household, private sector (vs public sector as a reference group), 13 industry dummies, potential experience and potential experience squared, tenure at the current workplace and tenure squared, 8 occupational dummies, permanent job (vs temporary job as a reference group), recent (within the past 12 months) graduate, whether the worker holds a second job, whether the worker is looking for another job in accordance with his/her qualifications, and whether the worker has an additional non-wage source of income.

An important caveat should be stressed at this point. Endogeneity concerns may arise at the individual level when regional dummies  $D_{ri}$  are correlated with the individual error  $\varepsilon_i$ . Endogeneity may arise due to the omission of explanatory variables (when workers sort across regions according to their unobserved characteristics such as abilities, ambition, motivation or dedication to work) or due to reverse causality when workers’ location choices depend upon their wages if they receive

job offers with known wages. To remedy for this endogeneity issue, researchers typically resort to using panel data or structural models. Unfortunately, none of these strategies can be implemented in this study. We hope to reduce concerns about endogeneity by including a large number of observed control variables.<sup>7</sup> For instance, the argument could be that higher ability workers tend to choose high-end occupations in high-productivity large firms in high-tech industries located in dense areas. If so, controlling for occupation, firm and industry types, the size of city/town, the level of education and job experience might help reduce the upward bias caused by spatial sorting to a negligible level.<sup>8</sup> Furthermore, we believe that spatial sorting should not significantly impact our estimates due to a very low inter-regional mobility of Polish workers.

The wage regression (1) was estimated for each of the 14 years within the 1994-2007 period. The estimated coefficients on the regional dummy variables ( $\hat{\delta}_r$ ) are interpreted as the regional differences in wages that still exist after controlling for the compositional mix of the work force as well as different socio-economic characteristics. Figure 1 depicts the estimated RLS regional wage coefficients for the entire period of 1994-2007.<sup>9</sup> We next compute the summary measures of regional wage dispersion using the estimated coefficients on the regional dummy variables from the RLS regressions. The results are summarized in Columns (d) and (g) in Table 1. Looking at the time series of data on  $AVG|\delta|$  we see that there was a downward trend in measured regional dispersion from 1994 to 1997 followed by a sharp increase in 1998-2001, a sharp decrease in 2002-2005, and a sharp increase in the last two years (2006-2007). The dynamics of  $SD(\delta)$  shows a similar pattern. When we compare 1994 and 2007, we see that  $AVG|\delta|$  increased from 4.1% to 5.2%, and  $SD(\delta)$  increased from 4.9% to 6.2%. The T2 statistic proposed by Carree and Klomp (1997) rejected equality of the variances in 1994 and 2007.

Columns (e) and (h) of Table 1 indicate that controlling for observed worker heterogeneity reduced measured inter-regional wage disparity by 25-50%. For instance, in the Mazowieckie voivodship (with the capital city of Warsaw) in 2007 deltas reduce from 18% (using actual wages) to 12% (using RLS coefficients). Our further comparison of the two approaches to measuring regional wage disparity, i.e., actual wages vs RLS coefficients, produces an interesting result. Regional wage dispersion as measured by  $AVG|\delta|$  slightly decreased by 3.3% (from 7.5% in 1994 to 7.2% in 2007) when using actual wages, but increased by 25.3% (from 4.1% to 5.2%) when using RLS coefficients. The pattern is similar for  $SD(\delta)$ : a decrease by 2.1% (from 8.9% to 8.7%) when using actual wages, but an increase by 26.2% (from 4.9% to 6.2%) when using RLS coefficients. We conclude that controlling for observed worker heterogeneity does reduce regional wage disparity in Poland, but wage differentials still exist, albeit smaller. Moreover, not only do these remaining wage differentials persist, but they seem to intensify over time.

#### 4. The impact of region-specific factors on regional wage differentials

In this section, we turn to an examination of the cross-region correlates of the wage differentials identified in the previous section. Our initial focus (Section 4.1) is on the determinants of the relative nominal wage differentials. Available data allow us to consider variation across the 16

7 Our approach is similar to Groot *et al.* (2014) who prefer a large number of relevant control variables over a fixed effects strategy in order to control for worker heterogeneity (see pp. 504, 513-514).

8 For instance, to control for spatial sorting, Eeckhout *et al.* (2014) use educational attainment and occupation as direct measures of skills, and control for industry selection and large versus small cities. Bacolod *et al.* (2009) show that city size is positively correlated with cognitive and people skills but negatively correlated with physical strength and motor skills. Bartel and Sicherman (1999) show that more able workers sort themselves into high-tech industries.

9 The detailed annual results for 1994-2007 are available from the authors upon request.



voivodships over the period from 1995 to 2007. In Section 4.2 we focus on regional differences in real wages and use available data to introduce controls for regional differences in the relative cost of living over time and in relative apartment rents at the beginning of the period for the years from 1999 to 2007. We do not present any formal model. Our empirical framework is “sufficiently general to capture a wide variety of business environment and quality-of-life factors” (Partridge et al., 2010, p. 441) and we “motivate our reduced-form approach on the basis of the informal reasoning and the intuitive predictions” (Overman and Winters, 2011, p. 999).

#### ***4.1. Nominal wage differentials***

In the spirit of Storper and Scott (2009, p. 164), we consider the historical, geographical and economic specificities of regional development in Poland during the period under consideration. The discussion below provides a broad, albeit somewhat simplified, conceptual model for the empirical analysis of relative regional wage differentials in this analysis.

*FDI, trade openness and agglomeration.* One aspect of the remarkable transformation from controlled central planning to relatively free markets in Poland was the considerable concentration of economic activity through inward FDI. The stock of FDI in Poland expanded from \$3.8 billion in 1994 to \$56.1 billion in 2003 (pre-accession) and \$172.1 billion in 2007 (<http://unctadstat.unctad.org/>). Poland was (and still is) the biggest recipient of FDI in the Central and Eastern European region, accounting for about one-third of total FDI inflows. The share of FDI positions in GDP increased from 3.5% in 1994 to 40.1% in 2007, indicating a growing significance of firms with foreign capital in the Polish economy. Empirical research shows that inward FDI in Poland was very uneven and gravitated toward the existing geographic agglomerations of economic activity, the size of the local market and proximity to surrounding markets (see Domański, 2003; Ablov, 2015 and references therein). FDI seems to raise labor demand, employment, productivity and wages in the local labor markets (Bedi and Cieřlik, 2002; Kolasa, 2008; Hagemeyer and Kolasa, 2008; Onaran and Stockhammer, 2008); however, FDI also appears to be associated with an increase in wage differentials due to the concentration of foreign capital in certain voivodships as well as weak labor mobility (Skuratowicz, 2005).

The process of trade liberalization and re-orientation started in Poland as early as in 1990 when the EU granted Poland the Generalized Systems of Preferences status, and completed in 2004 with Poland’s accession to the EU. Inward FDI also contributed positively to the development of international trade.<sup>10</sup> Similar to FDI, Polish exports were characterized by large regional concentration and disparities (Ciřkiewicz et al., 2013). In his extensive survey on the spatial effects of trade openness, Brülhart (2011, p. 59) concludes that, *ceteris paribus*, “regions with inherently less costly access to foreign markets, such as border or port regions, stand to reap the largest gains from trade liberalization” such as employment and higher wages. Indeed, increased trade with the EU appears to have enhanced labor demand in CEE regions near the EU border (Egger and Egger, 2002; Egger et al., 2005; Niebuhr, 2008). And wages seem to rise smoothly in market access (López-Rodríguez and Runiewicz-Wardyn, 2014; Oshchepkov, 2015; Cieřlik and Rokicki, 2015, 2016). However, whether trade liberalization and market access raise or lower regional inequality depends upon each country’s specific geography (Brülhart, 2011). For instance, for CEE Egger et al. (2005) associate trade openness with spatial divergence in wages, while Damijan and Kostevc (2011) find a U-shaped pattern, that is, first divergence and then convergence in wages.

Overall, due to the uneven spatial distribution of FDI and trade during the transition period in Poland, economic activity became more concentrated in the voivodships along the Western

<sup>10</sup> In 2007 two-thirds of total Polish exports originated in the firms with foreign capital (OECD, 2010, p. 107).

borders and in more urbanized regions. As postulated by the NEG, higher productivity in denser areas translates into higher nominal wages in those areas. Hence, the uneven spatial agglomeration pattern in Poland may, in part, explain the observed relative regional wage differentials.

In the subsequent analysis, we measure regional agglomeration and market potential with five variables. We measure regional agglomeration by the number of individuals per unit of land (i.e., density)<sup>11</sup>. Following Ciccone and Hall (1996), we instrument for current density in order to mitigate endogeneity, and measure agglomeration by the logarithm of population density in each region at the beginning of the transition in 1990 ( $\ln Den_{1990_r}$ )<sup>12</sup>. We also capture the effects of market access by including several other variables, as market access is one of the main agglomeration forces driving differences in local outcomes at a larger scale, typically the region (Combes and Gobillon, 2015, p. 294). The concept of wage-augmenting agglomeration economies and Hanson's (2005) derivation of an equilibrium wage relationship guide our approach. In his formulation, the nominal wage level in region  $r$  depends on its market potential, measured by economic activity in neighboring regions weighted by their distance from  $r$ , the size of the local housing stock, which captures the ability of region  $r$  to accommodate in-migration, and wages in other regions. Our two measures of proximity to regions with market potential are the logarithm of travel distance in kilometers from the principal city in each region to the center of the Polish economy in Warsaw ( $\ln DisW_r$ )<sup>13</sup> and to the center of the EU in Brussels ( $\ln DisB_r$ ). We also measure access to external markets with dummy variables indicating whether the region was located on the Baltic Sea coast ( $Coast_r$ ) or the border with EU member states ( $EUbor_r$ ). Two voivodships are located on the coast. Prior to EU accession, two voivodships shared a border with Germany; after expansion of the EU in 2004 eight voivodships are located on the border of Germany or the former CEE countries joining the union (the Czech Republic, Slovakia and Lithuania).

*Labor migration.* During the transition period, the labor market in Poland was plagued by excess labor supply and persistent high unemployment. However, internal rates of migration in Poland were very low and did not work as an equilibrium adjustment mechanism in reducing interregional unemployment and wage differentials.<sup>14</sup> An inefficient housing market along with credit market imperfections were a possible impediment to internal mobility. On the other hand, Poland had a pronounced international out-migration and low immigration.<sup>15</sup> A standard

11 In practice, production can also be used to measure agglomeration; however, production is more subject to endogeneity issues than population (Combes and Gobillon, 2015). Furthermore, Ciccone and Hall (1996) and Briant et al. (2010) argue that using density should reduce the Modifiable Areal Unit Problem caused by the fact that territorial units are based on arbitrary administrative boundaries.

12 Puga (2010, p. 207) explains, "Since there is substantial persistence in the spatial distribution of population but the drivers of high productivity today differ from those in the distant past, the usual instruments are historical data for size/density as well as characteristics that are thought to have affected the location of population in the past but that are mostly unrelated to productivity today. Ciccone and Hall (1996) find that reverse causality on this matter is only a minor issue. This conclusion has been confirmed by much of the subsequent literature."

13 Distance to Warsaw for the Mazowieckie region was approximated as  $0.333\sqrt{area/\pi}$ , that is, one third of the radius of a circle with the same area as the Mazowieckie region.

14 The nationwide unemployment rate was 13% in 1995, then decreased slightly to 11% in 1998, but rose to 20% in 2002-2003, that is, just before the accession to the EU. Dustmann et al. (2015, p. 538) report that not only was internal mobility across regions low but it also decreased over time: "in 2001, 0.24 percent of the population reported living in a different region than in the previous year, and this share decreased to 0.12 percent in 2007." Also, see Fidrmuc (2004), Ghatak et al. (2008), Bogumił (2009), Jurajda and Terrell (2009), Dustmann and Görlach (2015).

15 International emigration from Poland was high even before joining the EU (Okólski, 2006). Temporary



neoclassical framework predicts that the labor-supply effect of out-migration will lead to reducing spatial wage differentials; however, whether the emigration shocks had significant effects on regional wages in Poland is unclear. Some studies find a weak overall impact of emigration on wages in Poland (Budnik, 2007; Kaczmarczyk, 2012; Dustmann et al., 2015), while others report that the effect was stronger in voivodships with high emigration rates (Anacka et al., 2014). Dustmann et al. (2015) present evidence for a positive correlation between regional differences in Polish emigration rates and average wages for lower skilled workers remaining in the home region.<sup>16</sup> In line with Hanson's (2005) model, studies of inter-regional migration find that the very low rate of inter-regional migration seen within Poland largely reflects the availability of housing, with in-migration rates highly correlated with the housing stock in destination regions. Our regressions thus include two variables designed to control for the potential effect of labor supply changes through internal and external migration on regional relative wages. The first is the logarithm of the region's stock of dwelling units relative to the resident population at mid-year ( $\ln House_{rt}$ ). The second is the regional net emigration rate (emigration for permanent residence in a foreign country minus immigration from foreign countries for permanent residence in each region) per 10,000 people in the resident population ( $NetEmigr_{rt}$ ).

*Physical geography.* As agglomeration of economic activity may also be explained by the presence of natural advantages, that is, within the framework of urban/regional economics (see Roos, 2005 and references therein), we tried to take into account the possibility that the physical geography may also have a bearing on regional wages. We experimented with a large number of climate variables, such as, temperature, elevation, precipitation, sunshine, etc. However, these variables were typically highly correlated, and we ended up with including only two of them: a dummy variable when a voivodship borders the sea ( $Coast_r$ ) and the average relative temperature. The latter is the logarithm of the ratio of average Centigrade temperature in each region over the period from 1981 to 2010 to the temperature range over the same period ( $\ln Climate_r$ ).

*Other estimation issues: a pooled regression model and endogeneity.* The RLS coefficients for each region and each year ( $\hat{\delta}_{rt}$ ) yield a panel of estimated regional wage measures which identify the positive or negative percentage difference between the regional wage and the average wage across all regions, controlling for a large number of individual and regional characteristics. We transform those coefficients in two ways. First by adding one to each of the coefficient estimates, we convert them into relative nominal wage ratios. We then take the logarithm of the relative nominal wage ratio and use this variable,  $\ln(\hat{\delta}_{rt} + 1)$ , as the dependent variable in regressions focused on determinants of nominal wage differentials across Polish regions:

$$\ln(\hat{\delta}_{rt} + 1) = \theta + Z_r\gamma + V_{rt}\phi + u_{rt} \quad (2)$$

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and permanent emigration intensified significantly after Poland's accession to the EU in 2004, such that the stock of Poles abroad numbered 1.45 million in 2005, 2 million in 2006, and 2.3 million (6.6% of the total population) at the end of 2007 (Kaczmarczyk and Okólski, 2008; Fihel and Kaczmarczyk, 2013; Zaiceva, 2014). Emigration was particularly marked in rural areas of the south-eastern part of Poland where 20-35% of the working-age population left between 2004 and 2007 (Kaczmarczyk, 2012). Emigration became more evenly distributed across voivodships and included more urban dwellers after 2004 (Kaczmarczyk and Okólski, 2008). Despite a recent increase, immigration to Poland remains low: the immigrant share in employment was the lowest among all OECD countries at 0.3% compared to 12.0% on average in the OECD in 2007 (OECD, 2010, p. 108).

16 Ozgen et al. (2010) in their meta-study conclude that empirical analyses in general find a positive but small effect of migration. According to Shioji (2001), this may be due to the two countervailing effects of migration – the scale and composition of migrant flows – which affect both convergence and divergence.

where  $Z_r$  is a vector of the time-constant regional explanatory variables,  $V_{rt}$  is a vector of the time-varying regional explanatory variables, and  $u_{rt}$  is an error term.

The fact that we include time-constant explanatory variables into our model along with the relatively small number of regions and years precludes us from using panel data estimators, making the pooled regression our only choice. As shown in many standard econometrics textbooks, if the pooled model is correctly specified and regressors are uncorrelated with the error term, then it can be consistently estimated using pooled OLS. The error term is likely to be correlated over time for a given region, hence, panel-corrected standard errors must be used for statistical inference. There could be a potential endogeneity issue at the local level if the explanatory variables are correlated with the local random component. This can occur because of some missing (unobserved) regional variables or reverse causality. To remedy the endogeneity issue, we instrument the regional determinants using local geographical and historical variables. Furthermore, the explanatory variables were lagged, if necessary, in order to avoid potential simultaneity problems (see Section 5.4 “Estimation strategy” in Combes and Gobillon, 2015, pp. 282-297 for an excellent discussion of these issues). We assume that our geographical variables are exogenous since climate is independent of regional labor market developments. We also assume that the five variables reflecting agglomeration and market potential are exogenous determinants of regional relative wages since they are geographic characteristics or, in the case of density, predetermined by policies and developments during the Communist era (Korcelli, 2005). The housing stock is also treated as exogenous since it evolves slowly over time and factors external to the country and region are the most important drivers of net emigration from Poland (Zaiceva, 2014). While initially we assume that the net emigration rate is an exogenous variable, we later release this assumption and treat the net emigration rate as an endogenous regressor.

Table 2 presents regression estimates of the determinants of nominal regional relative wages in Poland along with descriptive statistics for all of the variables. Regional data on the number of dwellings and emigrants for each region are available only from 1995 so the results in Table 2 cover the period from 1995 to 2007. The first regression presents OLS estimates while the second presents weighted least squares results, using the inverse squared standard errors of the region coefficients from the RLS regressions as analytic weights. This regression gives greater weight to region by year observations with more precise estimates of the regional wage coefficient.

The coefficient and robust standard error estimates in both regressions are very similar. The five variables measuring aspects of market potential are all statistically significant at the one percent level and have impacts on nominal regional relative wages that are consistent with the hypotheses in Hanson (2005). Regional relative wages are higher in areas with greater population density at the start of the transition to the market economy. A ten percent higher initial density level is associated with a four percent higher relative wage, *ceteris paribus*. The nominal regional relative wage falls with distance from both Warsaw and Brussels. This is in line with Brühlhart and Koenig (2006). Unlike the studies by Cieřlik and Rokicki (2015, 2016) we find evidence that proximity to the EU is considerably more important for regional wages than proximity to the domestic economy. The estimate of the coefficient on distance from Brussels is more than three times the estimated effect of distance from Warsaw. Regions on the Baltic coast with enhanced proximity to the Nordic countries and, indeed, the world have nominal relative wages six to seven percent higher than the other regions. In addition, relative wages are two to three percent higher for regions directly on the border with the EU.

Alternative estimates that split the EU border effect into a pre-2004 and post-2004 estimate find no statistical difference between the two periods despite the big difference in the number of regions with this characteristic in the two periods. We also tested for pre- and post-accession differences in

the coefficient estimates for the other market access variables but none was statistically significant. These results are available from the authors upon request. Poland pursued an asymmetric trade liberalization policy with Germany and the EU right from the beginning of the transition in 1990 so that the process of economic integration with the EU began well before 2004. Looking at the effects of EU accession from the other side, Braakman and Vogel (2011) also find minor post-accession effects on small to medium size German firms located close to the Polish and Czech borders.

The estimated coefficients on the three migration related variables present interesting results. As suggested by the Hanson (2005) model, nominal regional relative wages are lower in regions with more abundant dwelling units relative to the resident population, since these regions can more readily accommodate the in-migration of workers attracted by higher labor demand. Relative wages are also lower in regions with warmer and less variable average temperatures although  $\ln Climate_r$  is statistically significant at just the 0.10 level in the weighted least squares regression.

Finally, the rate of net emigration from a region has a statistically significant positive effect on nominal regional relative wages, suggesting that a reduction in local labor supply from outmigration raises relative wages for workers who remained at home. However, our estimates are that this effect is quite small. A one standard deviation increase in the net regional emigration rate would raise the regional relative wage by less than one percent. Dustmann et al. (2015) report a higher elasticity of regional wage levels to emigration from Poland, and Mishra (2006) and Hanson (2007) both report substantially higher home wage effects related to emigration from Mexican regions. This may be because our emigration variable captures only the number of people registered as leaving a region for permanent residence abroad. It does not capture temporary emigration nor does it measure emigrants who fail to register their change in residence, both of which have been important components of emigration from Poland (Bijak and Koryś, 2006; Dustmann and Görlach, 2015).

## 4.2. Controlling for the cost of living

To analyze how real regional wages react to changes in economic activity, we augment our model with additional variables that measure regional costs of living and housing costs. Following the amenities-based theory of equilibrium regional wage differences by Rosen (1979) and Roback (1982, 1988), Winters (2009) develops a model that guides our analysis of regional wage differentials controlling for differences in the cost of living across Polish voivodships. His model is based on two points of empirical methodology. First, that a partial adjustment model, with the cost of living as an independent variable, is more appropriate than deflating wages and thereby assuming that there is full adjustment of wages to prices (see also Dumond et al., 1999). In addition, rents are the best measure of the cost of housing (as compared to house prices). Assuming that utility can be described by a Cobb-Douglas utility function and that total spending equals disposable wage income, Winters' (2009) model leads to two hypotheses. The first is that the elasticity of wages with respect to local prices should be equal to unity to maintain equal utility across regions. And the second is that the elasticity of wages with respect to the price of a given category of goods will equal the expenditure share on that category of goods in household income. His cross-section analysis of the effect of city amenities, including cost of living indexes, on individual wages for US workers in 2006 finds support for both hypotheses and the methodological assertions.

We take advantage of available annual regional and national price data for more than 130 goods and services to construct relative regional price indices (RRPI) for each voivodship for the period from 1999 to 2007. The Polish Central Statistical Office reports prices in eight major categories: food and non-alcoholic beverages; alcoholic beverages and tobacco products; apparel and shoes;

housing, utilities, and household equipment and furnishings; health; transportation; recreation and entertainment; and other. That said, however, it is important to emphasize that the price data in the housing category covers the cost of utilities and some housing maintenance activities but does not provide information on the cost of housing services, i.e., actual rent expenditures.

An example in the Appendix explains in detail how we calculated the RRPI for the Mazowieckie region in 2007. We computed the RRPI indices for all other years and regions in a similar fashion. The relative regional price index for each region shows the difference in living costs between a particular region and the national average level. If the RRPI is equal to 1, it implies that the price level in this region equals the average price level in Poland; if the RRPI is greater (less) than 1, the price level in this region is higher (lower) than the average price level in Poland. We use the logarithm of the constructed RRPI ( $\ln RRPI_{rt}$ ) as one control variable for the cost of living in regressions explaining regional nominal wage differentials. Oshchepkov (2015) argues that this type of local price index for non-housing products could be considered exogenous to relative wages since many of the products included are tradable goods that vary across regions mainly due to transportation costs and many non-traded goods are provided by public utilities and government agencies.

We also have limited information on regional housing cost differentials. The Polish Statistical Office web site provides data on apartment rents per square meter in buildings owned by cooperatives and for company-owned and communal dwellings by region, but only for 1999 and 2000. We construct the weighted average rental rate for 1999-2000 in each region for these two types of apartments using usable floor space of apartments by type of ownership in 2002 for the weights. The variable  $\ln Rent_r$ , the logarithm of regional average rent in 1999-2000 relative to national average rent in 1999-2000, is used to control for cross-region housing cost differentials. The best that we can do is to estimate the effect of higher relative housing costs at the beginning of the period on annual relative wages over the period.

To provide a comparison for the other regressions, Column (c) in Table 3 focuses on nominal wage differences without controlling for annual differences in the regional cost of living index and in relative rents for 1999-2000. These results are very similar to those reported in Table 2 over a slightly longer sample period with the exception that we now cannot reject the null hypothesis of zero effect of the climate variable on relative wage levels. Columns (d) and (e) in Table 3 present OLS and WLS estimates for regressions that include the price index and rent variables. These variables both have statistically significant positive coefficients indicating that wage differentials across Polish regions are compensating for the negative amenity of a higher cost of living. The quantitative estimates seem to be consistent with Winters' hypotheses. The sum of coefficients on  $\ln RRPI_{rt}$  and  $\ln Rent_r$  is not significantly different from unity, and the coefficient on  $\ln Rent_r$  at 0.17 is close to the true share of apartment rents in household income. The Polish Central Statistical Office data base includes a measure of the "share of rent related to occupied dwelling in disposable household income." On average for Poland, this share was 18.4% in 1999, 17.9% in 2000, and 19.3% over 1999-2007.

Including the price and rent controls in the regression has significant effects on the estimated coefficients of the other determinants of regional relative wages. The density of population in 1990 is no longer statistically significant indicating that denser communities have both higher nominal wages and a higher cost of living. The estimated coefficients on the external market variables, distance to Brussels and location on the Baltic or the EU border, are lower by a half or more but remain statistically significant and positive. Regions with a favorable geographic location relative to Europe have higher relative wages even after controlling for the cost of living and housing costs. The estimated relative wage advantage of proximity to Warsaw and the negative effect of housing

supply on relative wages are also slightly lower in the regressions controlling for price and rent differentials while the positive effect of net emigration on local relative wages remains unchanged. These results lead to the conclusion that demand and supply factors associated with the increased integration with the EU and housing constraints on internal migration had a significant effect on relative real wages in Polish regions during this period.

Our findings are in contrast to those of Egger et al. (2005), who analyzed regional disparities within eight Central and East European countries in the early transition period from 1991 to 1998 and found significant convergence of real wages in Poland.<sup>17</sup> However, our findings are in line with a methodologically similar and more recent study for Poland by Rokicki (2015). Like us, Rokicki adopts a more nuanced approach and constructs regional PPP deflators for the 16 Polish voivodships in 2000-2011.<sup>18</sup> He reports: “the application of regional PPP deflators significantly decreases the overall level of wage disparities across Polish regions (as compared to nominal wages). Nevertheless, it does not significantly change the overall pattern of their evolution. Hence, there is a tendency toward regional real wage divergence rather than equalization” (p. 353). Our results point to increased European integration during the mature phase of Poland’s transition as the source of real wage divergence across voivodships.

Thus far the regressions reported in Table 2 and columns (c)-(e) in Table 3 assume that the net emigration rate is an exogenous variable. This is because the main drivers of emigration from Poland appear to be network connections with previous migrants and the substantially higher wages relative to all Polish regions in destination countries and because immigration to Poland has been relatively limited (Kaczmarczyk and Okólski, 2008). As a robustness check, the regression reported in column (f) of Table 3 treats  $NetEmigr_{rt}$  as endogenous and presents two-stage least squares (2SLS) estimates of our model. As instrumental variables we use four lags on the regional net emigration rate to account for network influences on emigration decisions, and a one year lag of the logarithm of employment in the main European destinations for Polish emigrants, to proxy for job opportunities abroad for Polish workers. The destination countries are Germany and Italy for the years prior to 2004 and, after accession, Germany, Italy, the UK, Ireland and Sweden. There is no noticeable difference in the coefficient or robust standard error estimates in the 2SLS regression when compared to those obtained from OLS or WLS. The robust score of the  $\chi^2(1)$  test, with a value of 1.86 and a significance level of 0.17, cannot reject the null hypothesis that the variables are exogenous. And the  $\chi^2(4)$  test, with a value of 2.21 and a probability level of 0.69, supports the over identifying restrictions on the model.

As another robustness check, we estimate the model with the dependent variable fully adjusted for non-housing prices. While Winters (2009) makes a strong case for the partial adjustment model, empirical work often uses “real” wage levels that deflate nominal values by the local price index. So we do the same using the annual regional index for relative non-housing costs

as the deflator for our regional relative nominal wage variable. The logarithm of  $\frac{\hat{\delta}_{rt} + 1}{RRPI_{rt}}$  is the dependent variable in the regressions reported in columns (g)-(i) of Table 3. Similar to the discussion above, OLS, WLS and 2SLS (again treating  $NetEmigr_{rt}$  as endogenous) estimates

17 It is worth to note that the authors found regional convergence in real wages only for Poland and Bulgaria. For Romania wage convergence was insignificant, and in all other countries (Czech Republic, Estonia, Hungary, Slovakia, and Slovenia) evidence suggested divergence. The shortcoming of this study was that the authors used the national (*i.e.*, not regional) consumer price indices to convert nominal wages into real wages.

18 Rokicki uses the Éltető-Köves-Szulc method to calculate regional PPP deflators. Despite a more sophisticated methodology, the values of his regional price indices are very close to ours (see the Appendix), suggesting that our indices provide accurate and reliable estimates of the regional cost of living.



are provided. There are very few differences between the coefficient and robust standard error estimates reported in columns (d)-(f) and columns (g)-(i) in Table 3. Proximity to Brussels and Warsaw and a location on the Baltic or EU borders have positive effects on regional relative wages fully adjusted for non-housing costs. In addition the availability of housing and the net emigration rate have almost identical effects on the dependent variable. Perhaps the one noticeable difference between the two specifications is in the estimated coefficient for  $\ln Rent_r$ . The coefficient is about 0.15 for regional relative wages adjusted for non-housing prices, two points below the estimates for regional nominal relative wages. This likely reflects the fact that the construction of the dependent variable in these regressions increases the weight of non-housing costs in determining relative wages from around 0.82 to 1.0. The estimates of the regression coefficients are quite robust to changes in the method of estimation and the specification of the dependent variable.

## 6. Conclusion

The spatial disparities in Poland and in the EU as a whole are in striking contrast to the influential view (e.g., Caimcross, 1997; Friedman, 2005) that in the twenty-first century geography will not matter. In this view, location will become irrelevant in the globalized world, and regional differences will dissipate because of decreasing transport costs and disappearing communication barriers. However, we observe exactly the opposite trend: regional divergence within countries increases, regions become more polarized, and location still matters.

Our analysis of Polish Labor Force Survey data from 1994 to 2007 indicates the presence of significant wage differentials across the 16 NUTS 2 regions (voivodships) in Poland that have persisted over time. Controlling for a large number of individual wage determinants in annual cross-section Mincerian regressions serves to reduce but not eliminate the disparity in wages across regions. While it appears that some convergence occurred during the 1990s, this was offset by developments during the period from 2000 to 2007. In the end, after controlling for detailed worker characteristics, our summary measures of regional wage dispersion in Poland were fully 25% higher in 2007 than in 1994.

Using our annual estimates of regional wage differentials as dependent variables in regressions across regions over time, we find evidence that is in line with the hypotheses drawn from NEG models. Regional nominal relative wage differentials are positively correlated with historical patterns of agglomeration, as measured by population density in 1990 at the beginning of the economic transition in Poland, and with market access, measured by proximity to Warsaw and Brussels and location on the Baltic coast and the EU border. There is also evidence that regional wage differentials responded to the potential for internal and external migration. Differentials were lower in regions with more housing and a warmer climate and higher in regions that experienced larger outflows of people to other countries.

We were able to take advantage of available data to construct indices of cross-region differences in the annual non-housing cost of living and average apartment rents in 1999-2000. Higher regional wage differentials are, in part, compensation for a higher regional cost of living. The elasticity of regional relative wages to non-housing costs plus rent is equal to unity and the elasticity of regional relative wages with respect to rent is close to estimates of rent as a share of household income in Poland. While controlling for non-housing prices and rent reduces the magnitude of most of the other coefficients in the regressions, regional relative wages are still positively correlated with proximity to EU and internal markets and with the rate of net emigration and the level of housing supply. Growing integration with the EU during the mature phase of the transition period appears to have reinforced the historical pattern of more favorable labor market outcomes in western Poland.

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## **Appendix Calculation of the Regional Relative Price Index (RRPI)**

The Polish Central Statistical Office reports prices in eight major categories: food and non-alcoholic beverages; alcoholic beverages and tobacco products; apparel and shoes; housing, utilities, and household equipment and furnishings; health; transportation; recreation and entertainment; and other.

For each voivodship, we first computed a relative regional price ratio for each major category as the arithmetic mean of the price ratios (price in the region / price in Poland) for all goods and services listed in this category. The “food and non-alcoholic beverages” category includes 48 products. In 2007, the price of 1 kg of rice was 2.89 Zlotys nationally and 3.25 Zlotys in the Mazowieckie region, implying the price ratio of 1.125. The price of a wheat roll (50 g) was 0.35 Zlotys nationally and 0.32 Zlotys in the Mazowieckie region, implying

the price ratio of 0.914. The price of a loaf of rye bread (0.5 kg) was 2.04 Zlotys nationally and 2.04 Zlotys, in the Mazowieckie region, implying the price ratio of 1.000. We computed the price ratios for the Mazowieckie voivodship for the remaining 45 products in the “food and non-alcoholic beverages” category and then computed the arithmetic mean of these 48 price ratios. The calculated average ratio was 1.033 meaning that, on average, prices of food and non-alcoholic beverages in the Mazowieckie region in 2007 were 3.3% higher than the national average.

The “apparel and shoes” category includes 17 products. In 2007, the price of a wool coat for women was 598.53 Zlotys nationally and 689.79 Zlotys in the Mazowieckie region, implying the price ratio of 1.152. The price of a pair of leather shoes for men was 149.85 Zlotys nationally and 158.58 Zlotys in the Mazowieckie region, implying the price ratio of 1.058. The price of a winter jacket for children 2-6 years of age was 95.74 Zlotys nationally and 104.96 Zlotys in the Mazowieckie region, implying the price ratio of 1.096. The calculated average ratio for all 17 products in this category was 1.042 meaning that, on average, prices of apparel and shoes in the Mazowieckie region in 2007 were 4.2% higher than the national average.

We then calculated the overall RRPI as the weighted average of a region’s relative price ratios, multiplying the relative regional price ratio for each major category by its relative weight in the consumer basket. The relative weights were those used by the Polish Central Statistical Office to calculate the CPI. In 2007, the weight of food and non-alcoholic beverages in the consumer basket was 26.20%, the weight of apparel and shoes was 5.38%, etc. Therefore, the overall RRPI for the Mazowiecki region in 2007 =  $1.033 \cdot 0.2620 + 1.042 \cdot 0.0538 + \text{etc.}$  for all other major categories = 1.024, meaning that the price level (for a particular bundle of goods and services) in this region was 2.4% higher than the price level (for the same bundle of goods in services) in Poland as a whole.

Below, we compare our Relative Regional Price Indices (RRPI) used in this analysis and regional PPP deflators (in parentheses) reported in Rokicki (2015): Dolnośląskie 1.000 (1.009), Kujawsko-Pomorskie 0.972 (0.984), Lubelskie 0.969 (0.973), Lubuskie 1.042 (1.036), Łódzkie 0.986 (0.991), Małopolskie 1.014 (1.016), Mazowieckie 1.024 (1.030), Opolskie 0.985 (0.989), Podkarpackie 0.971 (0.974), Podlaskie 0.973 (0.971), Pomorskie 1.038 (1.043), Śląskie 1.007 (1.010), Świętokrzyskie 0.985 (0.985), Warmińsko-Mazurskie 0.981 (0.979), Wielkopolskie 0.981 (0.984), Zachodniopomorskie 1.033 (1.029), Poland 1.000 (1.000).

**Table 1 Summary measures of the overall dispersion of regional wages:  $AVG|\delta|$  and  $SD(\delta)$**

Year	N obs	AVG $ \delta $			SD( $\delta$ )		
		using actual wages	using RLS coefficients	reduction in dispersion, % (d/c-1)*100%	using actual wages	using RLS	reduction in
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1994	14941	0.0746	0.0411	-45.0	0.0886	0.0487	-45.0
1995	15245	0.0668	0.0347	-48.1	0.0768	0.0434	-43.5
1996	14708	0.0588	0.0317	-46.0	0.0682	0.0379	-44.4
1997	14566	0.0537	0.0262	-51.2	0.0634	0.0331	-47.8

Year	N obs	AVG delta			SD(delta)		
		using actual wages	using RLS coefficients	reduction in dispersion, % (d/c-1)*100%	using actual wages	using RLS	reduction in
1999	13312	0.0488	0.0354	-27.6	0.0592	0.0440	-25.7
2000	9599	0.0641	0.0375	-41.4	0.0897	0.0488	-45.6
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
2003	8040	0.0509	0.0411	-19.3	0.0619	0.0495	-20.1
2004	8116	0.0455	0.0306	-32.9	0.0601	0.0378	-37.2
2005	7924	0.0559	0.0271	-51.6	0.0670	0.0352	-47.5
2006	8147	0.0683	0.0400	-41.5	0.0846	0.0508	-39.9
2007	8391	0.0721	0.0515	-28.6	0.0867	0.0615	-29.0

Notes: The table shows the weighted average absolute regional wage differential,  $AVG|\delta|$ , and the standard deviation of regional wage differentials,  $SD(\delta)$ , where deltas are regional wage differentials measured as deviations from the average wage in the national economy:

$$AVG|\delta| = \sum_r |\omega_r \delta_r|$$

$SD(\delta) = \sqrt{\sum_r \omega_r \delta_r^2}$  using actual wages and  $SD(\delta) = \sqrt{\sum_r \omega_r \hat{\delta}_r - \sum_r \omega_r \sigma_r^2}$  using RLS coefficients,

$$\delta_r = \frac{\sum_{i=1}^{n_r} w_{ir}}{n_r \bar{w}} - 1$$

where  $r = 1, \dots, R$ ;  $R$  is the number of regions (i.e., 16 voivodships);  $i = 1, \dots, n_r$ ;  $n_r$  is the number of workers in region  $r$ ;  $w_{ir}$  is the wage of worker  $i$  in region  $r$ ;  $\omega_r = \frac{n_r}{N}$  is the share of each region in the total number of workers ( $N$ );  $\bar{w}$  is the average wage in the national economy,  $\hat{\delta}_r$  are the estimated coefficients on the regional dummy variables in the Mincerian wage equation, and  $\sigma_r^2$  is the variance of  $\hat{\delta}_r$ .

**Table 2 Determinants of nominal relative wages across regions, 1995-2007**

Variable	Notation	Mean, std. deviation	OLS	WLS
Log population density (people/km <sup>2</sup> ) in the region at the beginning of the transition in 1990	$\ln Den_{1990_r}$	4.74, 0.46	0.0429 (0.0057)*	0.0435 (0.0050)*

Log travel distance in kilometers from the principal city in the region to Warsaw	$\ln DisW_r$	5.47, 0.61	-0.0636 (0.0065)*	-0.0647 (0.0047)*
Log travel distance in kilometers from the principal city in the region to Brussels	$Coast_r$	7.10, 0.15	-0.2056 (0.0248)*	-0.2038 (0.0216)*
The region is located on the Baltic Sea coast (Yes = 1, No = 0)	$EUbor_{rt}$	0.19, 0.39	0.0632 (0.0062)*	0.0646 (0.0056)*
The region is located on the border with EU member states (Yes = 1, No = 0)	$\ln House_{rt}$	0.28, 0.45	0.0324 (0.0069)*	0.0288 (0.0068)*
Log dwelling units in the region divided by the resident population at mid-year	$\ln Climate_r$	-1.16, 0.08	-0.1713 (0.0410)*	-0.2017 (0.0419)*
Log ratio of average Centigrade temperature in the region over the period from 1981 to 2010 to the temperature range over the same period	$NetEmigr_{rt}$	0.97, 0.10	-0.0871 (0.0418)*	-0.0684 (0.0411)
Net international emigration from the region per 10,000 people in the resident population		4.73, 7.62	0.0008 (0.0002)*	0.0009 (0.0003)*
Constant			1.4600 (0.1925)*	1.4002 (0.1636)*
R <sup>2</sup>			0.54	0.54
N obs.			208	208

Notes: The dependent variable is  $\ln(\hat{\delta}_{rt} + 1)$ . Its mean is -0.0010 with a standard deviation of 0.0460. The WLS regression weights observations by the inverse squared standard error of the region coefficient in the cross-section Mincer regressions discussed in Section 3. Robust standard errors are in parentheses. \*Coefficient is significant at the 0.05 level or better.

**Table 3 Determinants of nominal relative wage across regions, controlling for regional price and rent differences (columns c-f) and determinants of regional relative wages adjusted for non-housing prices (columns g-i), 1999-2007**

Variables	Mean, std. deviation	Regional nominal relative wages <sup>a</sup>				Regional relative wages adjusted for non-housing prices <sup>b</sup>		
		OLS	OLS	WLS	2SLS	OLS	WLS	2SLS
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
$\ln Den1900_r$	4.74, 0.47	0.04632 (0.0078)*	0.0120 (0.0091)	0.0071 (0.0087)	0.0122 (0.0088)	0.0122 (0.0093)	0.0064 (0.0089)	0.0124 (0.0090)

Variables	Mean, std. deviation	Regional nominal relative wages <sup>a</sup>				Regional relative wages adjusted for non-housing prices <sup>b</sup>		
		OLS	OLS	WLS	2SLS	OLS	WLS	2SLS
$\ln DisB_r$	7.10, 0.15	-0.2038 (0.0216)*	-0.0922 (0.0427)*	-0.0932 (0.0402)*	-0.0951 (0.0414)*	-0.0981 (0.0418)*	-0.0965 (0.0404)*	-0.1006 (0.0405)*
$Coast_r$	0.19, 0.39	0.0646 (0.0056)*	0.0251 (0.0086)*	0.0236 (0.0092)*	0.0255 (0.0082)*	0.0224 (0.0088)*	0.0206 (0.0092)*	0.0229 (0.0086)*
$EUbor_{rt}$	0.32, 0.47	0.0376 (0.0082)*	0.0257 (0.0076)*	0.0226 (0.0075)*	0.0257 (0.0073)*	0.0229 (0.0071)*	0.0196 (0.0072)*	0.0230 (0.0069)*
$\ln House_r$	-1.14, 0.07	-0.2241 (0.0587)*	-0.1854 (0.0454)*	-0.1774 (0.0454)*	-0.1879 (0.0434)*	-0.1883 (0.0446)*	-0.1758 (0.0455)*	-0.1905 (0.0428)*
$\ln Climate_r$	0.97, 0.10	-0.0786 (0.0535)	-0.0494 (0.0456)	-0.0494 (0.0448)	-0.0514 (0.0441)	-0.0581 (0.0442)	-0.0366 (0.0423)	-0.0596 (0.0429)
$NetEmigr_{rt}$	5.21, 8.11	0.0007 (0.0002)*	0.0008 (0.0002)*	0.0007 (0.0002)*	0.0008 (0.0002)*	0.0008 (0.0002)*	0.0008 (0.0002)*	0.0009 (0.0002)*
$\ln RRPI_{rt}$	-0.002, 0.02		0.8184 (0.1272)*	0.8370 (0.12267)*	0.8271 (0.1253)*			
$\ln Rent_r$	-0.02, 0.10		0.1748 (0.0481)*	0.1725 (0.0462)*	0.1707 (0.0475)*	0.1548 (0.0462)*	0.1567 (0.0462)*	0.1517 (0.0449)*
Constant		1.6768 (0.2519)*	0.7306 (0.3011)*	0.7436 (0.2817)*	0.7522 (0.2922)*	0.7720 (0.2942)*	0.7695 (0.2804)*	0.7906 (0.2866)*
R <sup>2</sup>		0.60	0.74	0.76	0.74	0.57	0.60	0.57
N obs.		144	144	144	144	144	144	144

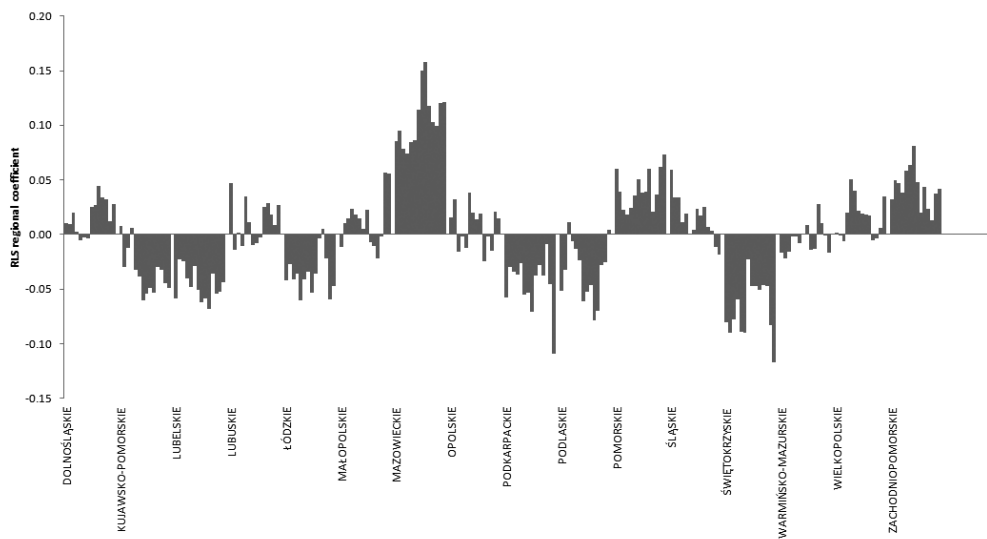
Notes:

<sup>a</sup> The dependent variable is  $\ln(\hat{\delta}_r + 1)$  with the mean of -0.0012 and the standard deviation of 0.0489.

<sup>b</sup> The dependent variable is  $\ln(\frac{\hat{\delta}_r + 1}{RRPI_{rt}})$  with the mean of 0.0014 and the standard deviation of 0.0378.

See Table 2 for description of variables. In addition,  $\ln RRPI_{rt}$  is log of Relative Regional Price Index (not including housing rent) and  $\ln Rent_r$  is log of actual rental prices (Zlotys per sq meter). Refer to Section 4 and the Appendix for more explanations. The WLS regression weights observations by the inverse squared standard error of the region coefficient in the cross-section Mincer regressions discussed in Section 3. The 2SLS regression treats  $NetEmigr_{rt}$  as endogenous with the lagged level of employment in European destination countries for Polish emigrants and four lags of  $NetEmigr_{r,t-1}$   $i = 1, 4$  as instruments. Robust standard errors are in parentheses. \*Coefficient is significant at the 0.05 level or better.



**Figure 1 RLS regional wage coefficients, 1994-2007**

For each region (voivodship), the graph shows the estimated RLS wage coefficients for 1994-2007 (from left to right). The 0.0 line represents a benchmark (i.e., the average wage in the national economy).

# **POWER SHIFTS AND NEW BLOCS IN THE GLOBAL TRADING SYSTEM**



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# Legal Regulation of Obligations on Service Delivery in the Context of the Development of Ukraine's Economy

Nataliia Fedorchenko • Ivan Kalaur

**Abstract** The article defines legislative approaches towards legal regulation of relations on service delivery, focuses on the existing collisions of legal regulation of studied relationships. The authors also noted that legislative approaches in the Civil and the Economic Codes of Ukraine contain a significant number of rules of clearly conflict character. Acts of subordinate legislation, adopted by the Cabinet of Ministers of Ukraine and other state authorities in cases and within the limits set by the Constitution of Ukraine, have important regulating significance in service delivery. Of great importance are the general provisions of the Civil Code of Ukraine regarding contracts for services, which can help solve a number of conflicting issues arising during service delivery. Even greater importance for this sector belongs to general provisions of the Civil Code of Ukraine on the procedure of concluding, amending and termination of contracts, laches, liability for breach of obligations and termination of obligations. Thus, analysis of these regulations suggests the lack of a systematic approach towards normative regulation of relations on service delivery.

**Keywords** Sources of legal regulation - legal instruments - service delivery sphere  
obligations on service delivery - civil legislation - contract - the economy of Ukraine

**JEL classification** K 100 - K 120

## Introduction

The signing of the Association Agreement between Ukraine and the European Union and, consequently, the change of vectors of economic development of our country put new questions regarding the main concepts of legal regulation of relations in service delivery.

According to the World Trade Organization (WTO), the share of services in world gross domestic product reaches over 60%. A similar trend is observed in the domestic market economy. The modern services market is characterized not only by a trend to growth but by a growing trend towards diversification of services. Activities in service delivery meet social, domestic, and spiritual needs of individuals, as well as the needs of legal entities and the needs of global macroeconomic scale, which are

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satisfied by the emergence of new services in the field of information technology and telecommunications. The changes of Ukraine's development vectors put on the agenda the need for a new concept of legal regulation of service delivery that would meet the economic and social realities of the day. That is why this article attempts to explore prospects of legal regulation of relations in service delivery. In particular, in contractual obligations on service delivery in addition to named types of contracts are widely used unnamed types, which without a proper theoretical understanding may lead to negative consequences. This explains the need for civil regulation of contractual obligations both on the theoretical and enforcement levels.

The integration processes in the legal regulation of the services' market stipulate bringing national legislation in line with EU standards and the need to harmonize national legislation with the provisions of the international private law of the EU (in particular, with the General Agreement on Trade in Services).

## 1. Analysis of the Recent Research and Publications

Analyzing the sources of legal regulation of services obligations, we should first of all note that sources of law are one of the main legal categories both in the praxeological and epistemological sense, so this category has a rich research history. However, as S. F. Kechekyan noted the issue of sources of law "is the one of the most obscure for the theory of law" (Kechekyan, 1946).

The term "source of law" was firstly used and acquired doctrinal comprehension through the works of Titus Livius, who called the Law of the Twelve Tables "fons omnis publici privatique juris" (the source of all public and private law). As A. F. Shebanov noted on that, the term "source" was used by Titus Livius within the meaning of the basic principles, a kind of historical roots, on which basis contemporary law had evolved (Shebanov, 1968).

Analysis of a situation around the current scientific study of sources of law allows us to fully agree with some domestic researchers about the lack of development of this issue in analytical jurisprudence as a whole (Patsurkivskyi, 1998). Definition and understanding of a "source of law" concept is the area, where underdeveloped theoretical and legal comprehension is particularly clearly manifested, because in most cases the fundamental assumption that forms the basis of such understanding of a source of law is the thesis about inseparable connection between forms of law and legislative activity of a state (Pervomaiskyi, 2001). However, such an approach of legal-positivistic understanding of sources (forms) of law for many contemporary researchers is rather a simplification of the real situation, caused by the applied need for clear definition of terms in legal practice and theory.

Without equating the terms "source" and "form" of law and considering their multi-valued nature, analyzing the sources of legal regulation of obligations on service delivery we use the category a "source (form) of law", which is the result of perennial searching for external expression of law as a social phenomenon and has the right to exist. So, currently a discussion about the correctness of terms "form of law" and "source of law" continues, but these terms are used in the same meaning. It should be borne in mind that a source of law is understood in the formal-legal sense (emergence, but not origin) of law, and its external expression is a form of law as a concept that reflects a set of ways to fix those rules that have already been made by a source of law.

## 2. Discussion

So, moving to the analysis of the main sources of legal regulation of obligations on service delivery, we will use for their classification such features as state- and power-related nature and a

particular type of social regulation, based on which all sources of legal regulation of obligations on service delivery can be divided into the following groups:

- 1) formal-legal (institutional) sources - have inherent legal level of social regulation as a result of legislative activity of state bodies (multileveled regulations in service delivery);
- 2) social (non-legal) sources - have inherent, or direct, or indirect recognition by the state as regulators of relations on service delivery (morality, customs, law of standard contracts);
- 3) judicial practice as a source of legal regulation - has the combination of formal-legal, non-legal sources and contractual self-regulation.

This classification of sources of legal regulation of relations on service delivery, in our opinion, reflects the existence of two levels of regulation in the modern civil law: a) external (power-state) and b) individualized, carried out at the level of local acts (statutes, regulations) and agreements. Thus, let's start analyzing sources of legal regulation of obligations on service delivery with formal-legal (institutional) sources.

Based on a systematic interpretation of the Civil Code of Ukraine (hereinafter - CC) and the Economic Code of Ukraine (hereinafter - EC), the main source of contract law is enactment (formal legal source), which the highest level is the Constitution of Ukraine (Teslenko, 2005). Thus, according to the part 1, art.4 of the CC the Constitution of Ukraine is the basis of national civil legislation, which provides general principles of activity in the civil field by recognizing private property and freedom of entrepreneurship and fixes priority of the rule of law, according to which we'll consider the general theoretical positions taking into account features of relations on service delivery.

At the same time, the general constitutional prescriptions are the so-called "atypical" prescriptions because they do not form rules of behavior and serve as a legal basis for civil legislation and enforcement activity. However, the Constitution of Ukraine plays a special role in the legal regulation of studied relations. Thus, the highest legal force of the constitutional prescriptions creates preconditions for a unified legal order throughout the country. Constitutional norms, being mainly the rules of a general character, receive specification in corresponding legislation (Todyka, 2000).

International treaties and agreements ratified by the Verkhovna Rada of Ukraine are an integral part of the legislation governing contractual relationship on service delivery and have priority over domestic civil law. According to the art.9 of the Constitution of Ukraine, such international agreements are a part of the national legislation of Ukraine (Constitution of Ukraine, 1996). The same rule is enshrined in the first part of the art. 10 of the CC. Based on the content of the eponymous Law of Ukraine "On international agreements of Ukraine", international agreements are applied in the order provided by national legislation, unless the agreement itself does not require the adoption of a separate domestic act (the Law of Ukraine "On international agreements of Ukraine", 2004).

Thus, civil legal norms of international agreements, which implementation is possible only through interaction with domestic civil legislation of Ukraine, should be implemented in acts of civil law as its norms. Under the current legislation of Ukraine provisions of international agreements are mandatory for rules of civil law. However, if an international agreement does not comply with the Constitution of Ukraine in whole or in part and this contradiction was acknowledged by the Constitutional Court of Ukraine, such agreement or its part can not be applied in Ukraine (Opinion of the Constitutional Court of Ukraine in the constitutional proposal of the President of Ukraine for giving conclusion on the constitutionality of the Rome Statute of the International Criminal Court, 2001).

Thus concluded and duly ratified international agreements of Ukraine are an integral part of

the national legislation and are applied in the order established by the national legislation; if an international agreement, concluded in the form of a law, establish rules other than those provided for by the legislation of Ukraine, the rules of the international agreement have priority (Judicial practice in economic judicial proceedings, 2007).

Thus, the Constitution of Ukraine and the CC of Ukraine for the first time fixed at the legislative level interrelationship between international and domestic legal regulation of relations on service delivery and established the priority of the international agreement provisions over Ukrainian acts of civil legislation.

Analyzing modern approaches to the unification of the international private law of the EU in general, and in the field of contractual obligations in particular, A. S. Dovhert concludes that unification started not on the basis of international conventions, as before, but on the basis of regulations. That is, according to the scholar, there is a shift from the internationalization of private international law to its Europeanization (Dovhert, 2012).

Totally agreeing with the opinion of a recognized expert in the field of private international law, it is appropriate to note that in a formal-legal sense sources of contractual relations are, first of all, rules of the CC of Ukraine and the Law of Ukraine “On International Private Law”, rules of international conventions developed under the Hague Conference on private international law, 1980 Rome Convention on the law applicable to contractual obligations, Order of the European Parliament and the European Council № 593/2008 on the Law applicable to contractual obligations (Rome I Regulation), the Vienna Convention on Contracts for the International Sale of Goods 1980, etc. (Solomon, 2008).

The Law of Ukraine “On International Private Law” prescribes that the choice of law by the parties to a contract must be clearly expressed or directly follow from their actions, terms of a contract or circumstances of a case, considered in their entirety (art. 5, part 2) (The Law of Ukraine “On International Private Law”, 2005).

The international agreements with Ukraine, which are used to regulate relations on service delivery, are fully correspond to the generally accepted principles of international law, including those expressed in the norms of the Vienna Convention on the Law of Treaties of May 23, 1969 (ratified by Ukraine on June 13, 1986) (Vienna Convention on the Law of Treaties, 1969), the Vienna Convention on Succession of States in Respect of Treaties of August 23, 1978 (ratified by Ukraine on November 26, 1992) (the Vienna Convention on Succession of States in respect of Treaties, 1992), Principles of UNIDROIT, Principles of the European Contract Law (the so-called principle of Professor Ole Lando), Common European Sales Law (CESL), rules of substantive contract law (the so-called Common Frame of Reference), adopted by the legislature of the European community, standardized, conventional legal instruments, etc. (Venhryniuk, 2013). Thus, the Danish scholar Ole Lando managed to hold a fairly wide European codification of contract law rules, because, in addition to general provisions, the Principles of European Contract Law contain provisions on conclusion of a contract, authority of agents, validity, interpretation, content, implementation, and consequences of breach of contract, etc. (The Principles of European Contract Law, 2003).

No less interesting and important in its impact on the regulation of relations on service delivery are the rules of substantive contract law or the so-called Common Frame of Reference, which contains the largest number of unified rules of contract law. This legal instrument is considered as the realization of the official policy of the EU, which states that goals and objectives facing the European nations in the third millennium can be better achieved by means of substantive, rather than collision unification (Rudenko, 2006).

However, it is useful to note that the Rome I Regulation does not provide parties to a contract

with opportunities to select supranational law (*lex mercatoria*) instead of the law of any country. Therefore, this position is rightly criticized in the legal literature (Lando, 2008; Dovhert, 2012). Simultaneously, we may look with favor on the approach of the para.13 of the Rome I Regulation Preamble, under which parties are not prohibited to include references to non-state law or international agreement into their contract. However, the non-state law is considered, in particular, as acts of international intergovernmental and non-governmental organizations, including acts which are not binding for states and individuals (for example, rules of interpretation of International Commercial Terms - Incoterms).

So, apparently, in the modern Ukrainian civil legislation (art. 10 of the CC) the issue of the interrelationship between international and domestic legal regulation of service delivery was firstly resolved at the legislative level by establishing the superiority of Ukraine's international agreements over acts of Ukrainian civil legislation. In view of the above, we conclude that there is a priority of an international agreement over the rules of Chapter 63 of the Civil Code of Ukraine and special laws which regulate relations on service delivery.

The main act regulating relations in the field of service delivery is the Civil Code of Ukraine. N. S. Kuznietsova - one of the members of the working group on development of the Civil Code, notes that it should be seen as a social contract for members of Ukrainian society which accompanies their private life and regulates all spheres of activity. The Civil Code is not only an act of civil legislation but also the foundation stone for the whole system of private law, code of life for civil society (Kuznietsova, 2013).

At the same time, the studied relations are simultaneously regulated by the Economic Code of Ukraine, which in most cases duplicates approaches embodied in the CC, and brings in a significant discord and disagreement to the legal system in general. Therefore, we would like to express the hope that the Civil Code of Ukraine in the second decade of its existence will accomplish the mission embedded by its developers - acquire the features of the backbone legal act, grouping all economic laws around itself, in other words, become the core of the legal and economic reforms in Ukraine.

It's generally known that today legislative approaches reflected in the CC and EC of Ukraine contain a significant number of clearly conflicting rules. This was repeatedly stressed and emphasized in legal literature (Maidanyk, 2012). For example, the following rules: a) possibility to pay for contracts on service delivery in foreign currency is envisaged by the Civil Code of Ukraine and prohibited by the Economic Code of Ukraine (except of special permits for payments in foreign currency); b) fixing of different statutes of limitations for specific contracts and so on.

The significant role in the CC of Ukraine belongs to the regulation of relations on service delivery. Thus, a matter of fundamental importance is recognition of a service as an independent object of civil rights (art.177 CC). The Chapter 63 of the CC of Ukraine for the first time legislatively fixed a system of contracts on service delivery, what became the impetus to address theoretical and legal problems for determining a range of services, which are a subject of investigated contracts. The solution to this problem is possible by two methods fixed in the art.901 of the CC:

- 1) the concept of "service delivery" is disclosed by a legislator in part 1, art.901 of the CC as performing a certain action or certain activities;
- 2) the effect of Chapter 63 of the CC is applied to all (named and unnamed) relationships on service delivery, which with certainty include communication, medical, veterinary, auditing, consulting, information services, training services, tourism services, etc.

So, as it follows from the part 2, art. 901 of the CC of Ukraine, gaps in the 63 chapter of the CC are filled in with rules and other legislative regulations dedicated to certain types of activities



on service delivery. The latter, in particular, are Fundamentals of Ukrainian legislation on health protection, the Laws of Ukraine “On veterinary medicine”, “On transport”, “On communication”, “On tourism”, “On railway transport”, “On financial services and state regulation of financial services”, and so on. Important regulating significance in the field of service delivery belongs to subordinate regulations adopted by the Cabinet of Ministers of Ukraine, other state authorities, and authorities of ARC in cases and within the limits set by the Constitution of Ukraine. Thus, according to the art.117 of the Constitution of Ukraine the Cabinet within its competence issues mandatory resolutions and orders. Examples of such regulations are the Rules of consumer services, the Rules on the delivery of passenger transportation services, the Rules of the railway transportation services, the Rules on the provision of gas supply, the Rules of public services on water supply and sanitation, the Rules for providing public services in urban electric transport. The aforementioned subordinate regulations issued by different agencies within their jurisdiction govern the contractual relationship on service delivery on the territory of Ukraine. Therefore, legal rules regarding conclusion, modification, and termination of contracts on service delivery can be divided into the following groups:

- a. the establishing governing general (fundamental) provisions of all types of civil contracts (chapters 52, 53 of the CC);
- b. the rules establishing general provisions regarding contracts on service delivery – relevant both for named and unnamed types of contracts, which subject is the delivery of various services (chapter 63 of the CC);
- c. the rules establishing a special procedure for the delivery of services in specific areas (the laws of Ukraine “On auditing service”, “On communication”, “On housing services”, etc.);
- d. the rules establishing limits for the conclusion of service delivery contracts (part 3, art.633 of the CC, the laws of Ukraine “On protection of consumers’ rights”, “On licensing of certain types of activities”, etc.).

A typical trait for civil legislation which regulates relations on service delivery is that subjects of these relations need broad autonomy, freedom to conclude contracts, and, hence, the need for consolidation of dispositive legal rules. However, in order to protect interests of a consumer, which is often the weaker party to a contract, the legislator in the Civil Code of Ukraine and in other special regulations (the laws of Ukraine “On protection of consumers’ rights”, “On tourism”, “On housing services”, etc.) rather widely formulates restrictions of freedom of a contract. First of all, we may see it in a way construction of a public contract was consolidated in the art. 633 of the CC of Ukraine.

Thus, service industries today is one of the most promising sectors of the economy, which, moreover, rapidly develops. It covers trade and transportation, finance and insurance, utilities, educational and medical institutions, show-business and so on. Almost all organizations deliver services in a varying degree (Tkachenko, 2003). Therefore, relations on their delivery require proper legal regulation, which also will protect a weaker party to a contract. Protecting the interests of the economically weaker party can be manifested through the limitation of freedom of a contract when pre-contract opportunities are unequal. In the foreign doctrinal studies, this concept covers a wide range of situations that arise when concluding a contract between economically unequal parties (Zweigert, 1998). However, the current Ukrainian legislation considers inequality of pre-contract opportunities in a more narrow sense - as a basis to encourage a monopolist to conclude a contract. An example of this might be the law of Ukraine “On natural monopolies”, which provides opportunities to restrict freedom of contract in the interests of a weaker party, namely: a) it is prohibited to unreasonably refuse to conclude a contract; b) there

is an obligation to conclude a contract on equal terms with everyone.

Based on the content of the art.5 of the law of Ukraine "On natural monopolies" activity of natural monopolists is applicable to such services as transportation of petroleum, petroleum products, natural gas and petroleum gas by pipelines; storage of natural gas; transmission and distribution of electric energy; transmission and distribution of water supply and sanitation; specialized services of transport terminals, ports, airports (the Law of Ukraine "On natural monopolies", 2000).

That is to say, as A. Yu. Kabalkin reasonably pointed out, by regulating of various public relations on service delivery, granting their members with relevant rights and obligations, establishing liability for non-fulfillment or improper fulfillment of obligations, legal rules endue this relationship with stability and order, direct their development for the benefit of the whole society and individual citizens (Kabalkin, 1988).

Considering the fact that service industries have sizable legislation and subordinate regulations, we consider it appropriate to draw attention to the correlation between 63 chapter of the Civil Code of Ukraine and other laws in this area. So, currently, legal doctrine gives two points of view on this question:

1. separate laws should be based on the general provisions of the Civil Code of Ukraine; when discrepancies are detected between the rules of law and rules of the CC, provisions of the Civil Code shall be applied (Maidanyk, 2012);
2. affirmation of the Civil Code as the main act of civil legislation in Ukraine does not mean that this code has a higher force compared to other laws, so long as acts of civil legislation must match each other, that is to be logically consistent (Scientific-practical commentary to the civil legislation of Ukraine, 2010).

In view of stated above, it should be noted that features of the civil law are affected by economic, political, social and ideological factors. The impact of these factors on the condition and effectiveness of legal regulation is clearly traced in historical context because in different periods of Ukrainian society these factors influenced the nature and content of civil legislation.

Legislative acts regulating relations on service delivery are official documents adopted in the established procedure and containing legal rules aimed to regulate studied relations. They are one of the important factors that affect the quality of service delivery and have a significant impact on the ordering of relations in this area. The mechanism of construction and interaction of contracting institutions should allow applying only adequate and effective rules to a specific obligation (Liutykova, 2008). It is, therefore, advisable to support the thesis of R. A. Maidanyk, that implementation of civil legislation must comply with the rule on a correlation of general and special rules (Maidanyk, 2012).

For example, legislative approaches to the regulation of relations arising in the field of tourist services. First of all, it should be noted that considering the briefness of the Law of Ukraine "On tourism", these relations are regulated extremely perfunctorily. Such legislative approach, as reasonably noted by M. M. Hudyma, not only creates uncertainty for activity of tour operators (travel agents) but also puts legal status of tourists out of a special legal regulation, leaving them face-to-face with the tour operator (travel agent); eventually, tourists and travel agents conclude contracts, which, as a rule, significantly infringe the rights of consumers of tourist services (Hudyma, 2012). However, in the art. 2 of the Law of Ukraine "On tourism" the legislator provides a general rule according to which property relations in tourism, based on equality, autonomy of will and property independence of their participants are regulated by the Civil and Economic Codes of Ukraine with the specifications established by this Law (Fedorchenko, 2012). Thus, for quite a long time there was a problem to determine a proper defendant under contracts for tourist services, because under the Law of Ukraine "On tourism" there was certain

ambiguity in the allocation of obligations and responsibilities between a tour operator and a travel agent. Furthermore, it should be noted that civil law has some inherent contradictions in terminology in the field of service delivery. For example, there is a terminological controversy between the art. 901 of the CC of Ukraine (examined contracts are referred to as service contracts) and the art. 20 of the Law of Ukraine “On tourism” (defines this contract as a contract for tourist maintenance); this, as stated in legal literature does not correspond to the essence of this contract and does not give a clear answer to the question of its legal nature (Hudyma, 2012).

This legislative approach to the definition of a contract for tourist maintenance does not reveal the meaning of a “service” and makes it impossible to differentiate the categories of “maintenance” and “service”. Solution to this conflict is complicated because the Civil Code of Ukraine states that the service is one of the objects of civil rights (art. 177 of the Civil Code of Ukraine).

Perhaps the use of such term as “a contract for tourist maintenance” in the Law of Ukraine “On tourism” is influenced by the Civil Code of the RSFSR (1964), which classified all contracts for commercial, contracts of public maintenance and general public contracts. Thus, analysis of above-mentioned legal acts gives us the possibility to deduce that normative regulation of relations on service delivery is deprived of a systematic approach, mainly because these acts were taken at different times. For example, analyzing the approach for regulation of relations on service delivery enshrined in legislative acts we have noticed the legislator’s intention to determine: a) rights and obligations of parties to a contract on service delivery; b) a list of significant conditions which, according to the legislator, should be agreed by parties. It seems that in general, the legislator’s approach is quite reasonable, however, legislator’s “affection” to establish a growing range of essential terms in multi-leveled regulations should be treated with caution.

An important regulator of relations on service delivery is a civil contract, which in all legal systems of the world, according to a justified expression of N. S. Kuznietsova, is a key element of the rule of law and order, which legally provides the validity of exchange processes in order to meet the needs of society, its individual citizens or their associations (Kuznietsova, 1993). Analyzing the works of famous scholars in the field of civil law, we have found different definitions of a contract. In particular, a contract is sometimes called a transaction, a legal relationship, the basis for obligation, a legal fact, an obligation itself, a document that fixes an agreement, a special type of regulation, etc. (Brian, 2010). But no one doubts the assertion that the consent, concord, and agreement are the essences of a contract law.

Summarizing conceptual definitions that exist in the theory of contract law, we can say that a contract is considered in several senses.

1. As a reciprocal will of its members, an agreement between parties, aimed at establishment, modification or termination of certain rights or obligations. From this perspective, a contract is a legal fact, the main basis for a binding relationship. Analyzing definition of a contract given by part 1, art. 626 of the CC of Ukraine, we can assume that developers of the Civil Code proceeded from this position, as far as a contract was defined as an agreement aimed at establishment, modification or termination of civil rights and obligations.
2. As a legal relationship that arises from a contract (transaction), because rights and obligations of the parties exist only within a legal relationship. It should be noted that the legal doctrine has thoughts about similarity between a contract, a relationship, and obligation (Khalfina, 1959), which caused quite reasonable objections that the concept of a contract should not be confused with the concept of an obligation, since obligations may arise not only out of contracts and have both contractual and non-contractual nature (Ioffe, 2004).

3. As a form of transaction, i.e. a document that fixes rights and obligations of the parties. This understanding of a contract is quite arbitrary, because an agreement of the parties may be expressed not only in a form of a single document signed by parties.
4. As a regulator of social relations existing on the same level with the law. Moreover, today on the pages of legal periodicals views are expressed that contractual self-regulation of civil relations has prevailing significance compared to the external (state) legal regulation (Pohribnyi, 2012). We can support this thesis regarding the relationship we study only by making some reservations; because contracts on service delivery are often characterized as public contracts and contracts of accession, so they must meet binding rules established by legal acts and valid at the time of its conclusion. That is why legal doctrine suggests a more broad interpretation of subordination of a contract to mandatory rules of law or other legal acts (Sadykov, 2002).

Thus, in legal relations on service delivery by means of such powerful tool as a civil contract, agents may regulate their relations without the use of standards stipulated by the legislator, except in cases specified in the para. 2, part 3, art. 6 of the CC of Ukraine; because when participants of legal relations use their right to contractual self-regulation it automatically prevents them from the implementation of the relevant civil legislation of Ukraine to these relations, which regulates them differently than it was defined in a contract.

Contractual regulation of service delivery is individual; it gives obligatoriness to a specific order of contractors' actions. Contractual regulation in the studied field of relations is expressed in the establishing order of their conclusion, modification and termination, fulfillment of obligations by parties, and liability for non-fulfillment or improper fulfillment of such obligations. So, contractual relations on service delivery are regulated by a civil contract, which is an individualized relationship between a customer and a contractor bound by rights and obligations that determine the extent of possible and appropriate behavior in certain activities or specific actions in favor of a customer.

The current Ukrainian legislation has very specific regulations in the field of contractual relations on service delivery, which are standard form and sample contracts. The main purpose of these sources is, in our opinion, the state's needs to define where it is important, desired patterns of behavior for participants of contractual obligations and simplify the process of concluding specific agreements on service delivery.

A standard form contract may contain both mandatory and discretionary recommendations, which do not deprive standard form contract of normative features if it is approved by a competent authority and registered as a legal act.

According to the part 4, art. 179 of the CC of Ukraine standard form contracts are approved by the Cabinet of Ministers of Ukraine and other state authorities in the order prescribed by law. This means that contracts on service delivery should be concluded on the basis of standard terms and conditions if this is binding under legal act approving such conditions.

At the same time, there is a question, if such conditions weren't approved by competent national authorities, but resulted by activities of certain subjects of civil relations. In this case, we conclude the impossibility to recognize conditions that were resulted by, for example, a legal entity as standard, because a fact of their promulgation is absent and legal consequences for a party who was not familiar with them are unknown. Thus, according to the art. 630 of the CC a contract can establish that its individual terms are defined in accordance with standard terms of contracts of a certain type, promulgated in the prescribed manner. If promulgation of standard conditions did not happen, these conditions can only be used as business customs if they meet the requirements of the art. 7 of the CC, which defines the concept of a business custom and a

procedure of its application.

It should be noted that today regulation of contractual relations on service delivery tends to the expansion of the range of standard form contracts. Here noteworthy are reservations expressed in the literature as to what: a) provisions of these contracts must not contradict the Civil Code of Ukraine and other laws of Ukraine; b) standard form contracts, which have mandatory prescriptions and are approved by legal regulations, may be applied only to public contracts (first of all, this refers to the service delivery to such monopolies as Ukrzaliznytsia (Ukrainian Railways), Ukrtelecom (telecommunication company), etc.); otherwise mandatory prescriptions will contradict with the principle of freedom of contract (art. 3 of the Civil Code of Ukraine) (Berveno, 2006).

Thus, the typization of contractual forms for service delivery should be held rather cautiously and, as rightly noted by A. B. Hryniak at the level of recommendatory, but not mandatory nature (Hryniak, 2013); so, standard form contracts which are approved by legal regulations and have mandatory prescriptions may be applied only to public contracts, because otherwise mandatory prescriptions will contradict with the principle of freedom of contract.

Meanwhile, sample contracts in relations on service delivery are advisory in nature since non-fulfillment of this kind of recommendations does not entail the occurrence of adverse effects for their parties. Accordingly, parties to a contract have the right not only to modify certain conditions as agreed between them provided by sample contracts but generally regulate relations at their discretion.

We should also note that in the field of service delivery rather common are contracts of affiliation, under which the legislator suggests the contractual terms set by one of the parties to which the other party may only join, since deprived of the right to propose its own terms of contract (part 1, art. 634 of the CC). So, terms in affiliation contracts in the field of service delivery are the instrument securing rights and obligations of the parties, which fixes the will of a performer to a contract while a customer either accepts such conditions without discussion or refuses entry into contractual relations. In other words, the rules set forth in the standard form (text) of a service contract of affiliation are binding for all potential contractors of a performer. Thus, in the contracts of affiliation we are dealing with externally contractual form of relations between subjects of obligation on service delivery, but by essence, it is unilaterally (individually) formulated set of rules applicable to the undetermined number of persons. Therefore, it is advisable to agree with the conclusion of O. A. Belianezych that a contract of affiliation is not so much an act of self-regulation, autonomous towards external regulation, but a rule-making act of one party (author of a contract), which is also quite autonomous from legal regulation (Belianezych, 2006).

Analyzing correlation between contracts of affiliation, standard form contracts, and sample contracts, we should emphasize the need for their differentiation, as far as standard form contracts and sample contracts are regulatory sources of social regulation of relations on service delivery. That is to say, parties when entering these relations must follow terms established by a standard form contract independently of their will. In other words, concluding a contract for service delivery based on a standard form, both contractors are unable to coordination their wills. While contracts of affiliation fix the will of only one party to a contract, which is an autonomous economic entity.

Therefore, we come to the conclusion that standard form contracts, sample contracts and contracts of affiliation as sources of legal regulation of relations on service delivery are specific types of regulatory acts, which imperatively establish rights, obligations, and conditions to be detailed by parties or specified in a contract for their consideration. Civil legal customs play an important role in the system of sources of civil law which, as R. A. Maidanyk claims, are the primary source of Ukrainian law that generated the

other sources and possess their critical point (Legal doctrine of Ukraine, 2013).

In general, a custom is one of those concepts, which despite the significant number of devoted publications, are not so clearly investigated by the theory of law. For example, researchers of the history of law almost unanimously conclude that a custom appeared at the infancy of law and is the oldest its source (Kashanina, 1999). Scholars often emphasize the fact that most legal relics of archaic period of law development (even those that may be considered as legal regulations) is nothing like written statement of legal customs prevailing before elevated to the rank of political will (Marchenko, 2001). As S. S. Alekseev reasonably stressed: "civil regulations (in a form of legal customs, precedents, and then – laws) started forming and enter into practice all that original, unique, socially thorough and regulatory-sophisticated, that was typical for law as the highest form of social regulation of relations in civilization" (Alekseev, 1999).

Relations on service delivery may be regulated by a business custom – a rule of behavior which is not prescribed by legislative acts but is so widely used in a particular area of relations that became sustainable (art. 7 of the CC).

As for international commercial customs, according to the current Ukrainian legislation, their use is permitted with reservation, that custom application to specific relations is not prohibited by the laws of Ukraine and is associated with the ability of the parties in certain cases to deviate from the provisions of a legal act. When concluding contracts by business entities of Ukraine of all forms of ownership, the International Rules for the Interpretation of Commercial Terms (hereinafter – Incoterms), prepared by the International Chamber of Commerce in 2000, may be applied.

In accordance with the art. 1.8 of The principles of international commercial contracts "Custom and practice", parties are bound by any custom to which they have agreed, and practices that they have established in their relations. Paragraph 2 of this article prescribes criteria for establishing a custom, which is applied in the absence of special agreement between parties. In this situation, a necessary condition for application of a custom is that a custom should be widely known and constantly observed in the relevant sphere (The Principles of International Commercial Contracts, 2003).

In general, it should be noted that in obligations on service delivery business customs are applied in the following cases: a) if there are no mandatory prescriptions defining relations between participants; b) if there are no agreements between a customer and a contractor; c) if there are no dispositive norms. That is, in the absence of the abovementioned three levels of legal regulation of relations on service delivery, business customs are applied.

Judicial practice takes a special place in the system of sources of legal regulation of contractual relations on service delivery. The activity of courts is one of the most important elements for legal regulation in any modern democratic society. Thus, the influence of rules of the CC on a disputed situation has a vertical character, since these rules contain an abstract prescription with a side indication of the circle of relations and their subjects. But the court's influence on the disputed situation is specifically expressed since it is aimed at resolving the dispute that arose between the parties to a contract on service delivery in the shortest possible time and taking into account all existing realities. Moreover, the main task of the judiciary is the ability to resolve disputes between the parties to contractual relations, even in the absence of an appropriate rule of law or contract provision, to protect violated subjective rights that have not received legislative or individual consolidation. As a consequence, there is a need to create legal rules by a court decision that will be supported by the state and used in all similar cases.

A special place in the regulation of civil relations in general and contractual relations, in particular, belongs to the decisions of the Constitutional Court of Ukraine, which as regards to



civil legislation acts are also sources of civil law.

An equally important place for adoption of appropriate decisions by the courts belongs to the practice of the European Court of Human Rights. Thus, according to the art. 17 of the Law of Ukraine “On implementation of decisions and application of practice of the European Court of Human Rights” (the Law of Ukraine “On implementation of decisions and application of practice of the European Court of Human Rights”, 2006), the practice of this court is the source of law in Ukraine. Thus, the practice of the European Court of Human Rights has methodological significance and is an effective tool for national judicial interpretation of legal rules and contractual provisions.

At the same time, it is necessary to pay attention to the fact that in our country only the Supreme Court of Ukraine has the right, through analytical analysis of evidence in the case and by specific circumstances, by its justification to create new rules of law, without changing existing ones; as far as existing rules and contractual provisions of parties are not always able to foresee all possible life situations.

It is advisable to emphasize the particular interest in discussing the ideas of judicial rule-making in professional circles of national science and practice. That is, the mere fact of the scientific formulation of these issues and the length of the discussion show that judicial practice can not be attributed to either regulatory sources or other (non-legal) sources of law, since judicial practice as a source of judicial regulation has intrinsic combination of formal legal sources, non-legal sources, and contractual self-regulation.

## Conclusions

Thus, considering the above-mentioned, we believe it is possible to acknowledge legal doctrine as a factor influencing the law-making and law enforcement practice because close cooperation with European institutions today makes it possible to enrich the experience and traditions of law-making by achievements of global and national legal thought.

The above suggests that civil law can not ignore these problems because only a stable scientific doctrine may be an appropriate basis for harmonization with EU standards of national legislation in general and in the field of regulation of service contracts in particular. Therefore, domestic lawyers always paid attention to topical problems of legal regulation of obligations of service delivery.

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# **Crisis of Diplomatic Etiquette and the 2015 African Union Summit in South Africa: Is the International Criminal Court at Crossroads on Omar-Bashir's arrest?**

**Daniel Taye Medoye • Mark I. Rieker**

**Abstract** The role of the International Criminal Court (ICC) became a subject of intense debate during the African Union Summit held in June 2015 and hosted by South Africa. Opinions varied among scholars and experts, as well as commentators on whether the Treaty-based international organisation located in the Hague, Netherlands, had the enforceable rights to subject African leaders to trials arising from accusations of genocide, crime against humanity and war crimes and related issues. Against this background, this paper set out to examine the implications of the unsettling diplomatic imbroglio between South Africa and the ICC on the non-compliance of the country with the Court's request for the arrest of President Omar Bashir of Sudan on charges of genocide and crimes against humanity. Having examined the legal and diplomatic relationship between the ICC and member states in terms of duties and obligations respectively, this paper submits that Court has both enforceable and moral rights to subject any African leader to trials if and when formal accusations of the crimes as mentioned earlier, are established against them. This position is without prejudice to the issue of immunity enjoyed by African leaders in their respective countries. It is a norm and widely acknowledged though, that membership of any multilateral organisation in the contemporary international system requires the giving up of some sovereign right to effective policy implementation for the benefit of members.

**Keywords** Diplomatic Etiquette - International Criminal Court - Genocide  
Immunity - Jurisdiction

**JEL classification** F50 - F51

## **Introduction**

The warrant of arrest on the President of Sudan, Omar Hassan Ahmad Al Bashir by the International Criminal Court (ICC) on charges of genocide once again attracted mixed reactions during the African Union Summit held in June 2015 in South Africa. Being the

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host, South Africa was expected to execute the arrest warrant on President Bashir and be handed to the ICC for prosecution, being a member of the Court, but was not to be. The intervention by a South African court which issued a warrant for the arrest consequent on the weight of calls by the community of human rights advocates, on its own introduced what could be described as some theatrics as the president was reported to have fled the country before the order of the court was handed out. The phrase, Bashir saga in South Africa has triggered a need to undertake an inquiry into the place of diplomatic etiquette and the privileges enjoyed by African leaders and the limits or lack of it, of the ICC in its aim to get leaders to face prosecution on charges of genocide and related crimes against humanity.

It is against this background that this paper attempted to interrogate the role of South Africa as a host of the African Summit in the context of the admissibility or lack of it to have arrested President Bashir on behalf of the ICC; and the influence of public opinion on the volatility of the issue. This exercise became unavoidable in view of the reactions which arose bordering on whether South Africa acted in good faith by not effecting the arrest of President Bashir or not, and to examine the extent to which Presidential immunity can fly in the face of allegations of crimes against humanity.

### **Methodical approach**

This paper shall proceed with a rehash of the mandate of the ICC in relation to the charges of genocide and related crimes against humanity. Intra-state conflict in Africa and its nexus with genocide and crime against humanity will be examined and, in addition, the Darfurian crisis, and the role of the Sudanese government in the escalation of the crisis. The paper shall further examine the expected level of commitment by member states of the ICC to its mandate, and to what extent this has been demonstrated or complied with. The ICC's expectation of the role of South Africa on the Omar Bashir arrest saga during the Africa Union Summit, as well as the place of diplomatic etiquette and immunity on the part of African leaders in relation to their obligations to the ICC Statute, shall be put in perspective. In doing this, the author considered a literature survey method to establish the relevant issues at stake in the context of this paper, and has accordingly done so as will be seen in the course of the write-up. The paper shall conclude by placing in context the need for good governance as a prerequisite to avoid the incidences of accusations of genocide on leaders especially in Africa. It is worthy of mention that this paper is strictly from the perspective of international relations/politics.

### **ICC and its mandate**

Article 1 of the Rome Statute describes the ICC as an independent international organisation established to adjudicate on the most serious crimes of concern to the international community with the view to ending impunity. It is governed by the Rome Statute, treaty-based and sits at The Hague in the Netherlands. The ICC came into being on 17th July 1998, when a total of one hundred and twenty (120) states adopted the Rome Statute that serves as the legal basis for establishing the permanent international criminal court. The Rome Statute, however, entered into force on 1st July 2002 after ratification by 60 countries. The Rome Statute reveals that the ICC is intended to complement existing national judicial systems, and only exercises its jurisdiction on two dimensions, including when national courts are unwilling or unable to prosecute any accused personality of criminal misconduct, or when the a combination of states or individual states refer investigations to the court. The evolution of the ICC can be traced to the aftermath of the 1st World War in 1919. This was inevitable following attendant concerns raised supposedly by the victorious Allied powers, which felt that the devastating impact of

the war was avoidable, leading to the emergence of the concept of crimes against humanity, and that there was the need to investigate the role of political leaders with the view to bringing convicted leaders to book and guard against a repeat of the holocaust.

Between 1919 and 1990 (a period covering over 70 years), every effort made, especially at the level of the General Assembly of the United Nations towards establishing a permanent international court did not yield any positive results. Perhaps the creation by the UN Security Council of two ad hoc tribunals in 1993 and 1994 namely, the International Criminal Tribunal for the former Yugoslavia (in response to the large scale atrocities attributed to the country's armed forces involved in the Yugoslav war), and the International Criminal Tribunal for Rwanda (in connection with the Rwanda Genocide), could be the eventual triggers for the establishment of the permanent international criminal court.

The Rome Statute requires that several criteria exist in a particular case before an individual can be prosecuted by the court. In essence, there are three jurisdictional requirements in the statute that must be met before a case may begin against an individual, and these include the following – subject-matter jurisdiction (relating to what constitutes a crime); territorial or personal jurisdiction (relating to where the crimes were committed or who committed them); and temporal jurisdiction (relating to when the crimes were committed). In addition, Art 4 (1) of the Court states the legal status and powers of the Court as follows – the Court shall have international legal personality, and shall also have such legal capacity as may be necessary for the exercise of its functions and the fulfilment of its purpose. Sub-section 2 of same article states that the Court may exercise its functions and powers as provided in this statute, on the territory of any state party and by special agreement on the territory of any other state.

Article 5 (1) states that the jurisdiction of the Court shall be limited to the serious crimes of concern to the international community as a whole, and comprise the following – the Crime of genocide; Crimes against humanity; War crimes; and the Crime of aggression. The Court shall hereafter exercise jurisdiction over the crime of aggression once a provision is adopted and consistent with articles 121 and 123 which stipulate the process of amendments and the timing of such exercise.

While Article 6 of the ICC statutes defines genocide as any act committed with the intent to destroy, in whole or in part, a national, ethnic, racial or religious group; Article 7 defines Crimes against humanity as acts committed as part of a widespread or systemic attack directed against any civilian population with knowledge of the attack. Such acts as persecution against any identifiable group on political, racial, ethnic-religious and cultural grounds, etc; Article 8 defines war crimes depending on whether an armed conflict is either international (which generally means it is fought between states) or non-international (which generally means that it is fought between non-state actors, such as rebel groups, or between a state and such non-state actors). These articles provide the basis for the arrest warrant placed on President Bashir having being accused of the material elements of the crimes as contained in articles 6, 7 and 8 of the Court. But whether or not the ICC has the authority to undertake the legal action it has manifestly set out to do in this regard, will be tested in the course of this paper.

### **Literature on conceptual nature of intra-state conflict in Africa and related crimes**

As noted by Owwoeye and Amusan (2000), out of the ninety six (96) armed conflicts which occurred between 1989 and 1996, only five (5) were inter-states while the rest were intra-states. In the contemporary times, the figure for intra-state crises is estimated to be around one hundred and fifty (150, and still counting) with many African countries enmeshed in violent conflict, resulting in most cases, from dissensions and discontentment among nationals and



leaders of the countries involved. For examples, countries such as Rwanda, Burundi, Central African Republic, Mali, Libya, Tunisia, Cote d'Ivoire, Burkina Faso, have had one form of internal upheaval or another, which has brought about hundreds of losses of lives, destruction of property and refugee challenges as a result of displacement of victims of such intra-state crises. In all of these, the role of the leaders in the affected countries leaves much to be desired. Rather than engage in a democratic and persuasive approach in resolving issues on which citizens have resorted to violence, leaders seem to prefer the use of repression, oppression and denigration of dissent and opposition without minding the tendency to escalation. This invariably results in continuous insurrections by nationals and counter-insurrections by government through extreme crackdown on dissent. The question that inevitably arises in this situation is what are the causes of intra-state crisis in Africa? While scholars have offered perspectives in explaining the endemic nature of the African crisis, the follow-up question is why have measures not been taken by leaders to address the causes, and ensure continent-wide peace at least for a considerable length of time.

On the causes of intra-state conflict in Africa, Bowd and Chikwanha (2010) note that there are several prominent characteristics that are common to the triggers of intra-state conflict. These include, among others, ethnic groups seeking greater autonomy or striving to create an independent state for themselves (as in Burundi); Failed states where the authority of a national government has collapsed and armed struggle has broken out between the competing ethnic militias, warlords, or criminal organisations seeking to obtain power and establish control of state (as in Libya); impoverished states where there exists a situation of individual hardship or severe dissatisfaction with one's situation and the absence of any non-violent means for change (as in Zimbabwe). In a more differentiated pattern, Zeleza (2008) typified African conflict as follows – imperial wars (colonialism); anti-colonial wars; intra-state wars; and international wars. In the context of intra-state wars in the view of Zeleza, comprises of secessionist wars, irredentist wars, wars of devolution, wars of regime change, wars of social banditry, and armed inter-communal insurrections.

In all of these, it is arguable that virtually all African countries have experienced a combination of the aforementioned forms of conflict one way or the other, with the result that the entire continent is plagued with a spectre of mis-governance, oppression, repression and bad leadership. An emerging trend in governance in Africa is the disposition of leaders to violate the constitutional provision of tenure of office. This in itself has tended to spark violent protests and demonstrations in some African countries where the leaders have put up extreme resistance. Burundi and the Central African Republic are clear examples in this regard. This is apart from countries like Libya and of recent Burkina Faso where state authority has broken down with its attendant consequences of refugee crisis in their neighbouring countries. It is within this purview that the genocide accusations in Sudan against President Bashir will be located for analysis.

### **Omar Hassan Ahmad Al Bashir and the accusation of genocide**

This section provides a brief profile of President Bashir, as a military officer and upon becoming the head of government following a coup, but will be preceded by an insight into the geopolitical and socio-economic conditions in Sudan. This is necessary to contextualise the discussion on accusation of genocide against President Bashir. According to Sikainga (2009), the current Darfur conflict is a product of an explosive combination of environmental, political, and economic factors. Sikainga emphasised that environmental degradation and competition over shrinking resources have played, and continue to play, a critical role in communal conflicts in the Sahelian countries such as Mali, Niger, and Chad. In this regard, Darfur is no exception.

Geographically, Sudan is situated in Northern Africa, with its coastline bordering the Red Sea, and has land borders with Egypt, Eritrea, the Central African Republic, Chad, Libya, and more recently, South Sudan (having achieved nationhood after a referendum in 2011). Sudan is reputed the largest country on the African continent. It is estimated to be about a quarter of the size of the United States of America, covering an area of 1,861,484 sq km.

The Darfur region is the epicentre of the Sudanese crisis is in the Western part of the country, and is estimated to be about the size of France. It is home to about six million people from nearly 100 tribes, (United Human Rights Council: 2015). The population consists of blacks – who are predominantly farmers, and Nomad Arabs tribes.

Darfurians, in a paper written by Sikainga (2009), represent a multitude of ethnic and linguistic groups. They include non-Arabic speaking groups such as the Fur, Masalit, Zaghawa, Tunjur, and Daju as well as Arabic-speaking such as Rizaiqat, Missairiyya, Ta'isha, Beni Helba, and Mahamid, among others. There is also a large number of West Africans, such as Hausa, Fulani, and Borno. These diverse groups are dispersed among each other and share similar physical and cultural characteristics. Pastoral nomadism is the main means of livelihood for many Darfurians. One of the most prominent cattle-herding groups in this region is the Arabic-speaking Baqqara, who are scattered between Kordofan and Darfur provinces. The Baqqara consist of several ethnic groups such as the Ta'isha, Rizaiqat, Beni Helba, Misairiyya, and others.

As indicated by Sikainga (2009), a long history of internal migration, mixing, and intermarriage in Darfur have created remarkable ethnic fluidity: ethnic labels are often used only as a matter of convenience. For instance, in the Darfur context, for the most part the term “Arab” is used as an occupational rather than an ethnic label, for the majority of the Arabic speaking groups are pastoralists. On the other hand, most of the non-Arab groups are sedentary farmers. However, even these occupational boundaries are often crossed. Conflict between pastoralists and sedentary farmers, caused in part by environmental pressures and changing land ownership patterns, was an important cause of the Darfur violence. Sikainga (2009) notes that the desert region of northern Darfur is inhabited by camel-owning nomads who were known locally as *abbala* (camel owners). The nomads were not part of the *hakura* system. Hence, the nomads had to rely on customary rights to migrate and pasture their animals in areas dominated by farmers. As the nomads moved between the northern and the southern part of the region, specific arrangements for animal routes were made by their leaders and those of the farming communities, and these arrangements were sanctioned by the government.

While factors such as environmental degradation and competition over resources can be understood as principal causes of communal conflict in Darfur, it is arguable that the persistent carnage in the area is also a product of a long history of ethnic marginalization and manipulation by Sudan's ruling elites. In specific terms, the Darfurian crisis can be seen as part of the larger Sudanese conflicts attributable to the deeply rooted regional, political, and economic inequalities that have persisted throughout Sudan's colonial and post-colonial history. These inequalities are exemplified by the political, economic, and cultural hegemony of a small group of Arabic-speaking Sudanese elites who have held power and systematically marginalized the non-Arab and non-Muslim groups in the country's peripheries.

As a response to the foregoing, two Darfuri rebel movements- the Sudan Liberation Army (SLA) and the Justice and Equality Movement (JEM)- in 2003 took up arms against the Sudanese government, complaining about the marginalization of the area and the failure to protect sedentary people from attacks by nomads, (United Human Rights Council: 2015). To ward off the insurgency, the government of Sudan responded by unleashing Arab militias known as *Janjaweed*, or “devils on horseback”. Sudanese forces and *Janjaweed* militia attacked

hundreds of villages throughout Darfur, thus leading to over 400 villages being completely destroyed and millions of civilians forced to flee their homes.

In the ongoing genocide, African farmers and others in Darfur are being systematically displaced and murdered at the hands of the Janjaweed. The genocide in Darfur has claimed 400,000 lives and displaced over 2,500,000 people. More than one hundred people continue to die each day; five thousand die every month. However, the Sudanese government had consistently disputed these estimates and denied any connection with the Janjaweed. Rather, the government appears unwilling to address the human rights crisis in the region and has not taken the necessary steps to restrict the activities of the Janjaweed. Hence, the intervention of the International Criminal Court in the Darfur crisis with the view to bringing the Sudanese government to book.

### **Ascension to power by Omar Al-Bashir and the introduction of Sharia Code**

Omar Al-Bashir was reportedly born in 1944 into a farming family, and joined the army as a young man and rose through the ranks. He fought in the Egyptian army in the 1973 war against Israel. According to BBC News (2015), before taking the helm, Omar Bashir was a commander in the army - responsible for leading operations in the south against the late rebel leader John Garang.

Sudanese President Omar al-Bashir's career has been defined by war. He came to power in a coup in 1989 as a Colonel and has ruled what was until 2011 Africa's largest country with an iron fist. When he seized power, Sudan was in the midst of a 21-year civil war between north and south, that was reputed to have deepened the existing racial/religious divide between the African farmers and the Nomadic Arabs, Infoplease (2007). Furthermore, the government immediately introduced an Islamic Code as the basis of governance all over the country. Resistance and insurgency by opposition elements, including the SPLA and the JEM groups, were met with extreme repression and subjugation. A rebellion in Western Darfur in 2004 provoked the emergence of the pro-government militias notoriously described as the Janjaweed to carry out massacres against black villagers and rebel groups in the region.

### **ICC Arrest Warrant on President Bashir**

The arrest warrant on President Omar AL-Bashir in March 2009 was the international response to the unmitigated massacre and carnage in Darfur. The warrant would seem the last resort by the Court, due to the continued recalcitrance of President Bashir to heed the instruction of the United Nations Security Council as contained in its earlier resolution to that effect. Specifically, the ICC arrest warrant against President Bashir was anchored on the charges of genocide, crimes against humanity and war crimes. All these crimes are detailed in the Court's Statutes in articles 6, 7 and 8, mentioned earlier in this paper.

In a press release by the ICC Report (2009), Prosecutor Luis Moreno-Ocampo reportedly presented evidence showing that Sudanese President, Omar Hassan Ahmad Al-Bashir committed the crimes of genocide, crimes against humanity and war crimes in Darfur. This came on the heels of Bashir's failure and blatant recalcitrance to carry out investigation into the Darfur crisis as requested by the Security Council. The Prosecution evidence shows evidence that Al Bashir clearly masterminded and implemented a plan to destroy in substantial part the Fur, Masalit and Zaghawa groups, on account of their ethnicity. As noted earlier in this paper, the armed movements' rebellion by the insurgent groups against marginalisation of the province sparked government resistance which was characterised by extreme repression and consequently genocidal acts by the government. The Prosecutor notes that the failure by Al Bashir to defeat the armed movements propelled him to go after the people, describing his

motives as largely political. Even though Bashir tried to rationalise government's action as 'counterinsurgency, his intent was genocide. Besides, Al Bashir's intent to commit genocide became clear with the well-coordinated attacks on the 2.450.000 civilians who found a haven in the camps. Further evidence revealed that President AL Bashir organized the destitution, insecurity and harassment of the survivors. He did not need bullets. He used other weapons including rapes, hunger, and fear with the view to completely annihilate the Darfurian peoples. The first warrant of arrest on President Bashir was made on the 4th March 2009, while the second was made on the 12th July 2010.

Particulars of the charges as recorded in the ICC Report (2009) include – that Mr Al Bashir is allegedly criminally responsible for ten counts on the basis of his individual criminal responsibility under Article 25(3)(a) of the Rome Statute as an indirect (co) perpetrator including:

- five counts of crimes against humanity: murder - Article 7(1)(a); extermination - Article 7(1)(b); forcible transfer - Article 7(1)(d); torture - Article 7(1)(f); and rape - Article 7(1)(g);
- two counts of war crimes: intentionally directing attacks against a civilian population as such or against individual civilians not taking part in hostilities -Article 8(2)(e)(i); and pillaging - Article 8(2)(e)(v).
- Three counts of genocide: genocide by killing (article 6-a), genocide by causing serious bodily or mental harm (article 6-b) and genocide by deliberately inflicting on each target group conditions of life calculated to bring about the group's physical destruction (article 6-c).

By the arrest warrants, President Bashir is to be arrested and handed over to the Court for prosecution on the charges levelled against him. The arrest of President Bashir can only be executed when he is out of his country, as the arrest warrant implies that President Bashir has been placed on travel bans. Unfortunately, this arrest order has not seen the light of the day, as no African country appears committed to doing so despite being signatory to the Statute of the Court. Besides, the Bush administration, in a report on Infoplease on Sudan (2007), had also expanded sanctions on Sudan banning 31 Sudanese companies and four individuals from doing business in the United States, signalling the commencement of economic embargo on Sudan with the view to placing some checks on the country's alleged terrorist tendencies.

The latest in this non-committal attitude by African countries is the refusal of South Africa to effect the arrest of President Bashir in compliance with its obligation as a member state of the ICC. As of this write-up, a total of 123 countries have signed on to the Rome Statute as State Parties, HRW (2015), while a few have ratified same. The implication of membership is that each signatory member state has committed itself to complying with the provisions of the Statutes of the Court.

### **The Darfur Crisis and the African Union**

In a publication funded by Fride, a European Think-Tank for Global Action, Bah (2010) notes that as international media began to turn to Darfur, the gravity of the situation, with its scenes of death and destruction, was revealed to the world. By and large, images of violence evoked memories of earlier atrocities, most notably the earlier Rwanda experience, leading to calls for intervention to avert a repeat of that tragedy elsewhere, including Sudan. Bar further claims that the Darfur crisis was internationalised by vocal advocacy by civil Rights and human rights groups, thus warranting international response.

Such intervention included among others, the role of the African Union (AU). It will be recalled that the AU emerged from the defunct Organisation of African Unity (OAU) at the

Durban, South Africa Summit in 2002. While the AU appeared set to improve conditions of human rights and related issues such as the promotion of good governance in Africa and peacekeeping activities, its failure to halt human rights violations in Darfur comes out as a sour point. However, the inability of the Union to record manifest success in the case of Darfur crisis speaks to shortcomings such as lack of military and financial resources, and the requisite political will on the part of Union Members. Backed by its Article 4, *which authorises the Union to intervene in a Member State... in respect of grave circumstances – namely war crimes, genocide and crimes against humanity*, a small-sized military mission was deployed to Darfur to mitigate the prevailing incidences of violence, Bah (2010). The mission subsequently transformed into the African Union Mission in Sudan (AMIS) and remained the only external peacekeeping force providing security in Darfur. Political solution in terms of a negotiated settlement by the AU of the Darfur crisis has also been marred by seemingly divergent positions and policies of some of its members, especially from North Africa and the League of Arab States (LAS).

Bah notes that “although divisions between Arab and sub-Saharan members of the AU would seem to be less evident in the debates and voting patterns in the Peace and Security Council (PSC), they made themselves felt in the UN Security Council (UNSC), where Arab members of the Council –Qatar and Algeria - either voted against actions directed at the Government of Sudan or, at best, abstained”. The voting patterns and policy positions of North African members of the AU in the UNSC failed to complement its peace-making venture. Emboldened by the support of these countries, the government of Sudan failed to cooperate with the AU by obstructing the operations of its peacekeeping mission, the African Union Mission in Sudan (AMIS) despite having consented to its deployment.

Despite the arrest warrant issued by the ICC, President Bashir has won consecutive elections in 2010 and 2015, even though both elections were reportedly boycotted by opposition parties on the basis of allegations of unfair electoral practices. Keith (2007) argues that the Sudanese government’s intransigence and the diplomatic protection it has received from China have blunted the more ambitious steps taken by the United Nations Security Council.

As President Bashir continues in office despite efforts by the ICC to get him to face trial, the Darfur debacle shall remain a matter for concern and subject of analysis among scholars and commentators on governance in Africa and the challenges facing it.

### **ICC and African Member State’s obligation**

Out of the 123 member states that have signed on to the Rome Statute, 34 are African countries. By this figure, African countries account for the largest number in representation in the midst of the other five continents. Membership of the ICC requires unwavering commitment and loyalty to the provisions of the Court in relation to its mandate.

It will be recalled that the ICC is among other things, intended to complement existing national judicial systems, and only exercises its jurisdiction on two dimensions, including when national courts are unwilling or unable to prosecute any accused personality of criminal misconduct, or when the a combination of states or individual states refer investigations to the court. Deducible from this intendment of the ICC is the obvious fact political leaders world over, have tended to act as catalyst to national crisis and attendant violence, essentially as a result of their unrestrained tendency for bad governance. In Africa for instance, bad leadership can be identified to be the bane responsible for the continental woes in every segment of the society. Unfortunately, this has given rise to widespread impunity and recklessness that seem to defy caution. Given the lures of office, African leaders have developed an unbridled mania for remaining in power in perpetuity and are prepared to hold on for as long as they



live. Any form of insurgencies, opposition and calls for reforms are effectively repressed and suppressed. However, the wave of democratic culture blowing world-wide, which permits advocacy for accountability, good governance, respect for human rights and rule of law, seems to be a comforting development for the ordinary people. It is now commonplace to experience mass revolt by the peoples against every unpopular policy and decision by their leaders. This is without minding the consequences of security resistance by government security apparatuses, which in most cases often result into violence, destruction, death and genocide, as the Darfur instance clearly portrays. Unfortunately, while the African Union (AU) intervention and involvement in the resolution in the Darfur crisis is nonetheless commendable, the ineffectual impact of the intervention, presumably hindered by poor resources and weak political will of the leaders remains a matter for concern. The prevailing view seems to suggest that African leaders are not disposed to or willing to let their colleagues face any form of trial, especially outside the continent, and more importantly, in the hands of their former colonial overlords. The question that ineluctably arises from this position will be, who will try any African leader accused of crimes of genocide, crime against humanity, crime against aggression and related issues, and before which court?

### **South Africa failure to arrest President Bashir, diplomatic blunder or immunity?**

South Africa hosted the 25th African Summit between 7th and 15th June 2015 in Johannesburg for the 25th session of the African Union. As a member state of the ICC, South Africa was expected to execute the arrest warrant of President Bashir in accordance with the obligation arising from its membership of the Court and hand him over to the Court for prosecution on charges against him. This was not to be, as the fugitive President was aided to escape arrest. Reacting to the failure of South Africa in this instance, the ICC Chief prosecutor, Bensouda (2015) expressed extreme disappointment on this development. In her statement, .... *I believe that in this particular case, there was no ambiguity. The obligation of South Africa under the Rome Statute... was clear. What they had to do is to arrest and surrender Omar al-Bashir to the ICC.*

Continuing, Bensouda remarked that South Africa did not stop Bashir from leaving and the incident is considered by many as a major setback to the cause of international justice. Khadiagala (2015) on his part, opined that nobody anticipated that the June 15 AU Summit in Sandton, Johannesburg would be gripped by the drama of threats to arrest the Sudanese President. This view is probably against the background of the provisional court order which was issued to prevent President Bashir from leaving South Africa in relation to the diplomatic implications of acting contrariwise.

As was to be expected the President Bashir saga has generated mixed reactions, not only in the public place, but also among scholars and commentators on national issues. In the opinion of Maru (2015), respecting its responsibilities to the ICC by arresting Bashir would have meant a total violation of AU's repeated decisions of non-cooperation with the ICC on any cases related to Kenya and Sudanese leaders. It will be recalled that the ICC had charged President Uhuru Kenyatta with financing and coordinating post-election violence in 2008 which resulted in the death of about 1,100 people. President Kenyatta subsequently appeared before the Court in Hague, even though the cases against him could not be established for lack of convicting evidence. Maru disclosed that following an extraordinary AU Summit in 2013, member states had agreed to fight the ICC, and its global influence, through diplomatic channels by appealing to the United Nations Security Council. Consequently, member countries were called upon to begin individual withdrawal from the Rome Statute. On the other hand, by honouring the AU's decision, South Africa clearly

showed disregard to its obligation to the ICC and also to its court's ruling that had initially issued an order which restricted Bashir's travelling out of South Africa.

In her contribution, Paulat (2015) argued that "African citizens and leaders have a right to be suspicious of a court which claims to monitor the world, but only goes after specific regions in Africa". Paulat particularly observes that if the ICC actually wants the respect and cooperation of those on the continent, it has a lot of work to do. This includes a situation where the ICC should start turning its focus outwards and go after the war criminals that have been openly operating all over the globe with impunity. In the midst of ongoing suspicions and opinions by commentators and scholars, a South Africa's Cabinet Minister reportedly announced shortly after the Summit, that the South Africa's government will review its membership of the ICC, and that a decision to that effect will be taken only when the country has exhausted all remedies available to it. To achieve an objective assessment of the role expected of South Africa to the ICC in the circumstance of the arrest warrant on President Bashir, extent of diplomatic immunity opened to government leaders, and the jurisdiction of the Court, it will be useful to lay the following basis.

Firstly, in article 4 of the Rome Statute it is established that the Court shall have international legal personality. It shall also have such legal capacity as may be necessary for the exercise of its functions and the fulfilment of its purposes. Secondly, the Court may exercise its functions and powers, as provided in this Statute, on the territory of any State Party and, by special agreement, on the territory of any other State. In article 11(1) relating to jurisdiction, the provision of the Statute states that - the Court has jurisdiction only with respect to crimes committed after the entry into force of this Statute. And article 11(2) provides that "*if a State becomes a Party to this Statute after its entry into force, the Court may exercise its jurisdiction only with respect to crimes committed after the entry into force of this Statute for that State, unless that State has made a declaration under article 12, paragraph 3*".

Thirdly, Article 12 (1) states the preconditions for ICC's jurisdiction as follows – "*a State which becomes a Party to this Statute thereby accepts the jurisdiction of the Court with respect to the crimes*" referred to in article 5, while article 12 (2) provides that, in the case of article 13, paragraph (a) or (c), "*the Court may exercise its jurisdiction if one or more of the following States are Parties to this Statute or have accepted the jurisdiction of the Court in accordance with paragraph 3: (a) the State on the territory of which the conduct in question occurred or, if the crime was committed on board a vessel or aircraft, the State of registration of that vessel or aircraft; (b) the State of which the person accused of the crime is a national*".

Given the foregoing provisions, it is incontrovertible therefore that the ICC has jurisdiction to carry out its mandate as provided. Besides, once a state (country) has become a member of the organisation, having appended its signatory, expressing its readiness to comply with the obligation attached to membership, it becomes a mandatory obligation on every member state to so do. Accordingly, it is expected of South Africa to abide by the provision of the Rome Statute with respect to the order of arrest of the President of Sudan having being in the jurisdiction where the arrest warrant can be executed.

On the issue of diplomatic immunity, article 27 (1) and (2) of the Rome Statute makes provisions in respect of the limit to the immunity of any accused official of government, irrespective of their statuses. It states in sub-section (1) that, this "*Statute shall apply equally to all persons without any distinction based on official capacity. In particular, official capacity as a Head of State or Government, a member of a Government or parliament, an elected representative or a government official shall in no case exempt a person from criminal responsibility under this Statute, nor shall it, in and of itself, constitute a ground for reduction of sentence*".

Sub-section (2) states that immunities or special procedural rules which may attach to



the official capacity of a person, whether under national or international law, shall not bar the Court from exercising its jurisdiction over such a person. Taken together, and in all material sense, just as the ICC has the mandate to adjudicate on issues within its purview as enshrined in its Statute, so also is every member state that has signed onto the Rome Statute, including South Africa, required to abide by the terms and conditions therein. However, membership of any international organisation – whether governmental or non-governmental, is voluntary, and to this extent, the threat by South Africa to pull out of the ICC does not diminish the personality status of the organisation. The fact remains that if South Africa pulls out of the ICC as a result of its present diplomatic spat with the ICC, the cost of returning may not be easily imagined. Now that the country has formally applied to quit the organisation, thus triggering a spate of withdrawals by Burundi and Gambia, it remains to be seen what implications the development will have on ICC relations with the countries that have served notice to opt out.

### **Conclusion and Recommendations**

This paper set out to examine the implications of the current diplomatic imbroglio between South Africa and the ICC on the non-compliance of the country with the Court's request for the arrest of President Omar Bashir of Sudan on charges of genocide and crimes against humanity. Having examined the legal basis of the relationship in the body of this paper that exists between South Africa (a member country) and the ICC, and the mixed reactions by African leaders, scholars and commentators, especially on the presumed biases of the ICC, this paper notes as follows –

- That membership of any international organisation, whether governmental or non-governmental ought to be based on clear and strict rules of engagement to avoid situations of biases as is the case in the focus of this paper;
- That, following from above, the implications of threats of withdrawal from any organisation, especially when member states feel their interests are in jeopardy should be spelt out and enforceable; and finally
- That the ability of any international to carry out its mandate without any inhibition or distractions be strengthened.

On the calls by African Heads of State for an Africa-based court system as against the ICC considered anti-Africans, this paper is strongly of the opinion that such calls at this material time are a way to distract from the collective pursuit and demand for good governance and respect for human rights, against which African leaders have to contend. African leaders' desire to remain in power for as long as they can orchestrate, is contrary to the collective aspirations of the African peoples for democratic practice and its inherent attributes, and these opposite positions have remained at the base of the crisis and conflict in which the continent has been engulfed. This paper opines that the counter accusations by some African leaders and commentators alike on the ICC as a weapon by the western world to vilify African leaders, and not beaming searchlight on so-called imperialists' actions in troubled zones, defy all logic. For example, selective reference to the interventions of the western world powers in the Middle East, especially in Iraq, and Libya in Africa, in the view of this author, does not constitute genocide in the real sense of it as is being peddled by some African leaders and elites. African leaders, rather than focus on providing good governance in their respective countries, tend to engage in impunities which provoke insurgency.

This paper further opines that incidence of impunity on the part of African leaders as a result of their penchant to remain in office in perpetuity even when their tenure has constitutionally ended, should be checked by a recognised institution such as the ICC, and not a court set up by the leaders with questionable character. On the issue of integrity, there is an emerging trend

on the continent of Africa where sitting leaders are manipulating state institutions to amend national constitutions to remain in power. This trend if not checked, may plunge the continent into a new wave of insurgency and by that fact, resulting in revolutionary movements as witnessed in 2010 and 2012 in the Arab world. In the light of the forgoing, this paper submits that, in the absence of an Africa-based court system to try allegations of genocide, crime against humanity and repression of human rights and rule of law, the ICC as an international institution should be strengthened and supported to carry out the administration of justice with respect to the purpose for which it was established.

In the present circumstance, and in the near future, it is highly improbable and unlikely that African leaders will be in a position to create a court system that will possess the authority to try any of them in cases of impunity and abuse of power. The recent trial and sentencing attempt on the former Chadian President, Hissene Habre, by the Extraordinary African Chambers can be described as an isolated case, because, its creation was purely on the insistence of some of the victims of the Hissene Habre's administration, and backed by the African Union resolution in 2006. The resolution had mandated the Senegalese government to create the court, and within the confines of its national court system. In one sense, the trial of Hissene Habre by the Senegalese government could be viewed as an act of betrayal having given him the privilege of staying in the country. However, it is arguable that any attempt to create a supra-national court institution that will bring African leaders seen to be dictatorial to account for their deeds or otherwise may not see the light of the day. This is because, leaders in Africa, beginning from independence and hitherto, have continually shown penchant for maladministration, misgovernance and sit-tightism, and have tended to assume dictatorial tendencies characterised by extreme repression of opposing views and opinions. It is interesting to note that notices of withdrawal from the ICC by three African countries including South Africa, Burundi and Gambia (as of writing) are beginning to experience a reversal. The new government in Gambia, for instance, has indicated its decision to stop an earlier notice of withdrawal by the defeated former President, Yahyah Jammeh. While in South Africa, a High Court has ruled against the decision by the Executive arm of government to unilaterally serve a notice to withdraw from the ICC. Perhaps these developments may provoke further scholarly inquiries with a view to advancing and enriching knowledge in the circumstance.

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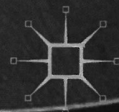
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# **STABILITY WITHOUT STATEHOOD**

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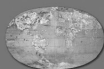
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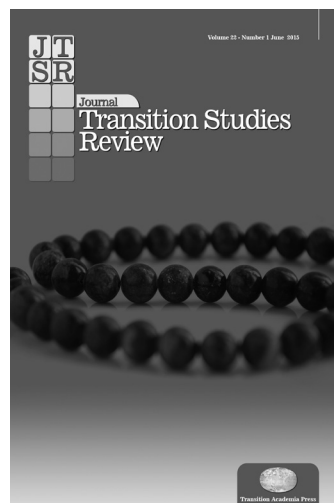


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At the beginning, JTSR was focusing on transition in Central and Southeast Europe, interpreting CEEUN purely as a European network. Soon afterwards, the EU enlargement was achieved extending the aims and scope to differentiated forms of partnership with Russia, Ukraine, Caucasus, the Black Sea and Caspian Seas, Mediterranean regions and Near East. Today this approach has dramatically changed following a serious violation of the international laws and agreements by the Russian backed insurgency and later invasion of Crimea and Eastern Ukraine. Today we are facing the most severe crisis of security and confidence between European Union countries and Russia since the Second World War and the reunification of Germany. The future is unpredictable and certainly nothing will return to be as before in the relations with Russia.

CEEUN was launched in Vienna and its first meeting took place at the Institution that was founded by Friedrich August von Hayek and Ludwig von Mises, two great thinkers and economists: the Austrian Institute for Economic Research. Now the scenario is completely different. From 2005 on, a worldwide regional approach looking to Asia, Latin America, Eurasia and Great Middle East has been implemented. TSN-Transition



Studies Research Network has inherited from the previous CEEUN the “aims and scope” which were recently integrated. In the last ten years Transition Studies Research Network has progressively involved more than 400 internationally well known members and 95 university departments, institutes and research centers and is engaged in many areas and programs.

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The future transition to an open economy and institutional reforms, political and strategic issues and challenges, governance, European, Mediterranean, Asia-Pacific, Middle Eastern, Latin America and Africa perspectives are key topics of this high ranking journal.

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