Chapter 4.

Economic Integration and Interdependence in Hungary

Challenges and Experiences Since the Fall of the Iron Curtain

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Introduction

After the fall of the iron curtain, Hungary started its economic transformation with an uncompetitive economic structure. The previously state-owned enterprises had monopoly positions in the markets of the socialist bloc, facing no or minimal competition. Given the high economic exposure of Hungary to the Soviet markets, the rapid collapse of these markets left the country unprepared. Additionally, the high level of indebtedness of the country also put immense pressure on the restructuring of the economy. Hungary's economic transformation and integration into the countries of the then European Economic Community and the European Union started with rapid privatisation, export-oriented policies and austerity measures. Nevertheless, this was accompanied by a high level of unemployment and social tensions.

The objective of this paper is to give an overview on the economic and social development of Hungary since 1990. In this context, special emphasis will be devoted to the process of EU integration as well as the country's trade and Foreign Direct Investment (FDI) relations. The core of the analysis is the interrelatedness and integratedness of the Hungarian economy into the European Union.

The paper is structured as follows. First, I give a review of the conditions at the beginning of the integration process and an insight into the political

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and economic transformation process of Hungary in the 1980s and 1990s. Then, the macroeconomic performance and economic interdependence of the country will be analysed. This section deals with Hungary's situation from an economic and social development point of view, with special emphasis on FDI, trade, globalisation indices and economic complexity. Finally, the paper has a conclusion and outlook.

The Conditions at the Beginning of the Integration Process

Although Hungary's economic transformation has started back in 1968, the most important steps took place from the beginning of the 1980s. In this section I give a brief overview based on Zídek's article. (Zídek 2014)

In the 1980s, foreign direct investment was already allowed in Hungary and some joint-ventures with western companies appeared. Hungary became a member of the International Monetary Fund (IMF) already in 1982. The country agreed on a standby program as early as 1988. Hungary passed a bankruptcy law in 1986. A two-tier banking system was introduced in 1987—the previous monobank split into the central bank and 3 commercial banks. The economy started to open that year, too; Hungarian companies were allowed to trade internationally on their own accounts. A new commercial code was approved in 1988. The government started to transform state companies into joint-stock companies in 1989. Hungary was the first country of Central Europe to have incorporated value added tax into the tax system, which occurred in 1988. Price liberalisation took place already in 1989.

Ownership structure changed as well. Bethkenhagen (1989) wrote that the private sector had created 3% of national product in 1970. In 1989 it was already creating more than one quarter (Holman 2000) and two thirds of Hungarians had an income from private activity in addition to their main jobs in a state company or a cooperative. The privatisation process showed differences among the central European countries at the beginning of the transformation process. As far as ownership is concerned, the biggest difference was in the role of managers of state companies. As a consequence, the managers were allowed to gain control over thousands of companies in Hungary already at the end of the 1980s. This process is sometimes called spontaneous privatisation. The following two tables (Table 1 and 2) show the increasing role of the private sector (private companies) in the Hungarian economy after the fall of communism.

Table 1.
Private sector share in GDP (%)

Country	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Hungary	25	30	40	50	55	60	70	75	80	80	80

Source: Zídek 2014

We can see that the share of the private sector in the total GDP increased from 25% in 1990 to 80% by 2000. Also, we can see that state ownership radically decreased between 1992 and 1996, while individual private, domestic corporate and especially, foreign ownership increased rapidly and significantly.

Table 2.
Ownership of manufacturing firms, % of registered capital

Types of ownership	1992	1993	1994	1995	1996
State	55.2	39.2	29.3	19.9	14.4
Municipal	8.8	1.6	1.6	1.0	0.9
Individual private	N/A	8.8	9.4	10.1	9.5
Domestic corporate	0.1	15.0	17.9	18.2	19.4
Employee	20.5	1.0	1.5	1.4	1.2
Foreign	3.6	30.9	37.1	46.7	51.1
Cooperative	N/A	2.6	1.9	1.4	1.2
Other	N/A	0.9	1.3	1.3	2.3

Source: Zídek 2014

The first post-communist government entered into office in 1990. One of its achievements was that Soviet troops left Hungary in the middle of 1991. In the same year, the association agreement with the European Community was signed as well. A very tough new bankruptcy code was in effect from the beginning of 1992. If a company was not capable of paying its debts within 90 days, it had to call to start bankruptcy proceeding itself. (Zídek 2014) Following the demise of communism, the process of normalisation of Hungary's engagement in external commercial relations has progressed rapidly. In 1989, the EU granted Hungary the General System of Preferences (GSP), which significantly improved conditions in access to EU markets. The interim trade agreement of the Europe Agreements (EA), which was signed in December 1991, came into effect in March 1992. The preferential trade agreement with European Free Trade Association (EFTA) in 1992, modelled after the EA, was followed by Central European Free Agreement (CEFTA) which entered into force in 1993. As a result of the implementation of these agreements combined with the new European-wide system of cumulation of rules of origin, almost 60% of Hungary's trade are subject to preferential arrangements. In 1998, all its exports of manufactures have unfettered duty-free access to EU markets. With the entry into force of the Pan-European Cumulation Agreement on July 1, 1997, Hungary has become part of a multilateral free trade area encompassing the EU, EFTA and nine other Central and East European Countries – Bulgaria, the Czech Republic, Estonia, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia. (Kaminski 1999)

Economic transformation in Hungary had high economic and social costs (Table 3). Hungary suffered similar (or deeper) decline as other countries in Central Europe. The unemployment rate was relatively high. Inflation development did not embrace the typical jump after the price liberalisation (that took place in other countries) but there was a continuously higher inflation rate. On the positive side, a relatively high level of foreign capital was flowing into the country. It had again its roots in the previous liberalisation because foreign investors were familiar with the situation in Hungary. (Zídek 2014)

Table 3.

Basic economic indicators at the beginning of the 1990s

Indicator	**Hungary**
Inhabitants in millions	10.36
Employment in industry % of total	29.7
Investment in %	29.7
GDP in billions $ PPP	59.6
GDP/person $ PPP	5,750
EX per person in $	922
IM per person in $	832
Gross external debt per person	2,077

Source: Chvojka–Zeman 2000

Hungary was deeply affected by the disintegration of the Council for Mutual Economic Assistance (CMEA). Hungarian exports declined by roughly one quarter, which was much less than in some of the other countries. The country generally followed the path to liberalisation of international trade as other countries of the Eastern bloc. In 1990, tariffs declined and quotas on consumption goods were abolished. Hungarian trade quickly re-orientated towards western markets. EU15 had already had a 34% share of Hungarian exports as early as in 1989. This number rapidly increased to 50% in 1991 and 70% in 1997. The role of goods in the exports into the EU had grown as well—from 55% in 1989 to 85% 1997. (Stojanov 2004 In: ZÍDEK 2014) Germany became Hungary's main trading partner, just as it became for the other Central European countries. (Zídek 2014)

Developments in Hungarian foreign trade seem to suggest that Hungary has achieved impressive results in both production and trade reorientation. A cursory examination of exports to the EU points to two different phases—1989–1992 and 1993–present. The first phase witnessed an initial expansion in exports followed by their contraction in 1993. The expansion in exports to the EU, triggered by the collapse of former CMEA markets and the liberalisation of imports and exchange rate regime, was mainly driven by a redirection of manufactures exports to Western, mostly EU, markets. The value of exports increased by 84% between 1989 and 1992. This expansion lost steam in 1993 at which time the value of EU oriented exports fell by 12%. But exports subsequently regained their dynamism, registering an exceptionally strong performance over 1994–1997 with the value of exports increasing by 132%. (Kaminski 1999)

It seems that the rapid pace of turn around has a lot to do with the emergence of "second generation" firms-mostly foreign owned. Foreign-owned firms tend to be more export oriented and more profitable than domestic-owned firms are. Thanks to a friendly environment to FDI since the outset of transition, Hungary has been the most successful transition economy in terms of attracting foreign investors. Over 1990–1997, Hungary absorbed around one-half of all foreign capital invested in Central Europe. The inflows did not concentrate in the more recent period (as they did in Poland) but were already large in terms of GDP over 1990–1994, which allowed a considerable lead-time to have an impact on the economy. Thus the catalyst for a reorientation of Hungary's commercial relations was the demise of whatever was left of central planning associated with the rapidly declining Soviet capability to sustain "soft" settlements in intra-CMEA trade which eventually led to its dissolution. In the second half of the 1980s, the combination of the falling oil price in intra-CMEA trade and cuts in Soviet deliveries encouraged former CMEA-members to restrain exports to the former Soviet Union (FSU) and increase exports to hard-currency markets. This heralded a return to trade patterns determined by economic rather than political considerations. The share of former CMEA fell from 60% in 1986 to 38% in 1990 and to 20% in 1997. Despite this long term of declining trade with the former CMEA, the challenge of readjustment of trade patterns in the early 1990s was formidable. We should consider that the previous two decades had witnessed declining competitiveness of Hungarian exports in Western markets and that many Hungarian firms operated in "soft" CMEA markets devoid of competition and dominated by products of shoddy quality. Furthermore, although the price of oil supplied by the former Soviet Union—based on a moving five-year average—was close to the world price, Hungarian products exported would purchase more oil there than elsewhere. Thus, in addition, the shift to convertible currencies in CMEA trade, combined with a rapidly falling import demand in the FSU, amounted to a significant deterioration in Hungary's terms of trade mainly with the FSU.

Hungary has successfully coped with these challenges. The volume of total exports fell by 5% in 1991; was flat in 1992; took a dive of 13% in 1993; and increased by 17% in 1994. By around 1994–1995, the volume of total exports exceeded the 1989 level, and the share of developed countries in Hungary's exports has moved to around 70% in line with what one might expect given Hungary's proximity to EU markets. The changes on the import side were even more pronounced. As a result, the process of geographic reorientation to market-driven patterns of foreign trade was quickly completed. (Kaminski 1999)

Foreign Direct Investment played a role in the Hungarian economy since the early years of the 1970s (Table 4). Although this role was very limited, it is still noticeable that foreign capital could appear in the economy of a communist country. In 1972, Hungary made a historically interesting and unique decision to authorise the establishment of joint ventures with western companies. Pursuant to this decision Siemens, a German company, was the first to set up a joint venture in Hungary in 1974 under the name of Sicontact. Many years ago, during the 1880s Siemens was already among the major investors. One year before the change of regime in 1988, Hungary authorised the establishment of 100% foreign-owned companies, which was a radical turning point and signalled Hungary's desire and ambition to become reintegrated into the world economy. At the end of the 1980s, direct investments in Hungary were dominated by German (and Austrian) capital. By the end of 1989, Germany invested 37 million euros of FDI in Hungary. (Kőrösi 2009)

Table 4.

FDI inflows in Hungary in USD million (1972–2000)

Year	In cash	Of which privatisation income	as %	Investment in kind	Total
1972–1989	387	–	N/A	783	1,170
1990	311	20	6.4	589	900
1991	1,459	435	29.8	155	1,614
1992	1,471	492	33.4	170	1,641
1993	2,339	1,163	49.7	142	2,481
1994	1,147	103	9.0	173	1,320
1995	4,453	3,370	75.7	185	4,638
1996	1,983	618	31.2	57	2,040
1997	2,085	1,827	87.6	22	2,107
1998	1,935	485	25.1	11	1,946
1999	1,651	295	17.9	6	1,657
2000	1,600	–	–	0*	1,600
1990–2000	20,434	8,808	43.1	1,510	21,876

* In the fiscal year 2000, this figure was equal to USD 280.00—which is 0 while rounded to millions.

Source: Csáki 2002

Foreign direct investments played a very important role in the economic transformation of Hungary. In the 1990s, foreign companies gave almost half of the employment, more than 80% of the total investments and almost 90% of the total export (Table 5).

Table 5.

Share of foreign companies in the industrial sector at the end of the 1990s

Country	Employment	Investment	Sales	Exports
Hungary	47%	82%	73%	89%

Source: Berend 2009

Csáki (2002) lists a number of locational advantages of Hungary to attract FDI. Hungary's early advantages over its regional competitors in terms of FDI attractiveness was due to several different factors, such as:

- early establishment of the legal and regulatory environment adequate to a modern market economy;

- early liberalisation of both commodity, service and capital inflows—even without a fully convertible currency;
- important tax allowances were provided to foreign investors since 1988;
- Hungary has a fortunate geographical position in Central Europe—on the one hand, the country is historically in a transit position between North and South as well as East and West, on the other hand, Hungary is geographically close to some very important potential investors, such as Germany, Austria and Italy;
- at the time of the change of regime Hungary had, at least in regional comparisons, relatively high standards of entrepreneurial spirit – which was, certainly due to the relative corporate independence introduced in the framework of the so-called "new economic mechanism" in 1968;
- in the framework of the legal and regulatory reforms in 1987–1988, relatively early reforms of financial intermediation also took place: a two-tier banking system was established as early as in 1987, foreign banks and insurance companies were authorised to set up their affiliate companies since 1988.

Csáki distinguishes three phases of FDI inflows in Hungary, which are as follows:

- an early phase occurred in 1988–1992, based upon Hungary's above described early advantages. Till the end of 1992, about USD 5 billion FDI were attracted which was by far the largest amount of foreign capital attracted by one single Central and/or Eastern European country. Early investors were fairly different from the ones in the successive phases. Those who had well known the Hungarian market (former foreign trade partners or/and traditional investors from and of the region) set up joint ventures in order to penetrate the Hungarian market;
- in the second phase of FDI inflows, between 1993–1998, Hungary's inward FDI attraction was characterised by the dominance of privatisation. The Hungarian privatisation was always based upon market methods: in Hungary there was no voucher privatisation or any other kind of free of charge asset provisions. In Hungary, even preferential privatisation methods, such as compensation vouchers, existence credit facility, start-up credit facility, privatisation leasing, etc., all

could have been used exclusively on the market (as a bid) and had to compete with bids in cash. With very few exceptions (mostly in case of medium-sized state-owned companies), when foreigners were excluded, Hungarians had to compete with foreigners, and the latter always had a much stronger capital position. That is why foreigners dominated the Hungarian privatisation process: not less than 71% of total FDI inflows was carried out by foreign investors;
- since 1999 Hungarian FDI entered the third phase that can be described as a period between privatisation and EU accession. As it is obvious, privatisation has ceased to be the main source of Hungarian FDI inflows. Therefore, on the one hand, then yearly FDI inflows decreased significantly, on the other hand, nowadays, inward FDI is fuelled mostly by the multiplier effects of earlier investment and reinvested profits. (Csáki et al. 1996)

Kaminski (1999) adds that FDI has played a pivotal role in reintegrating the Hungarian economy into international markets. A huge portion of investment has come from large multinational corporations (MNCs) with global networks of production and marketing. As a result, a significant share of Hungary's domestic business activity has been incorporated into these networks. Moreover, most FDI has come to Hungary not as a way of jumping trade barriers but to take advantage of the overall economic environment including location, the cost of factors of production and transaction costs. The data on profitability and export-orientation of foreign owned firms appears to confirm this observation. As a result, the proportion of FDI in inefficient industries supported by unearned "rents", which usually roils the social and political atmosphere, seems to be negligible.

In Hungary, political change managed to evolve without mass demonstrations and strikes in a politically calm and peaceful environment. The so-called "round-table" negotiations defined the framework and the sequence of the political shift to democracy with the consent of the communists. (Benczes 2009) The reform tradition and the relative successes did not prevent Hungary from implementing a series of painful reforms. Transformation recession totalled at 18% of the GDP by 1993, and Hungary experienced the most dramatic fall in employment in turn in the region. From its 1989 level, employment declined first to 87% by 1991 and then further down to 72 by 1994. The numbers for the same period were 90 and 85.5 in Poland and 93.5 and 90.5 in the Czech Republic. Unemployment reached double-digit numbers in the first half of the nineties; it peaked at 12 in Hungary. (Basu et al. 2000) In fact, the gradualist character of the economic transformation was not the result of a conscious decision of the first freely elected government, but a historically determined outcome of a two-decade long reform process, which culminated in the political change of 1989. Applying the term "gradualist" with regard to Hungary is therefore misleading. Originally, the theorists of gradual reforms favoured a sequenced and embedded reform process and argued against the total suspension of past capacities, since it would have triggered an unnecessary fall in supply, ending up in impoverishing and frustrating citizens. The early years of the Hungarian transformation, however, according to Csaba (1995), were burdened with ambiguity in policy decisions and a lack of coherence.

Macroeconomic Trajectory of Hungary after the Fall of Communism

This section gives an overview on the most important macroeconomic and political trends in Hungary. Depending on data availability, some of them are from the 1990s, while others are from the 2000s, covering the period of Hungary's EU membership.

Hungary started the decade of the 1990s with a significantly high level of central government debt. This was the result of the increased level of social benefits to be transferred to unemployed people due to the elevated level of unemployment. Also, lots of previously state-owned companies went bankrupt and were not able to pay corporate taxes, therefore decreasing the revenue side of the state budget. The gap in the budget was filled by taking more and more credits by the state of Hungary, increasing the indebtedness of the government. We can also see in Figure 1 that following the stabilisation package in the mid-1990s (Bokros-package), government debt sharply and significantly decreased until the early years of the 2000s (first government of Viktor Orbán). Nevertheless, the left-wing government, which entered into power in 2002 increased social benefits and salaries of public servants, which largely contributed to the enhanced level of government debt. This tendency was aggravated by the 2008–2009 crisis, which caught Hungary off guard and the country needed to turn to the IMF to get loans. Since then, government debt is stagnating at a relatively high level.

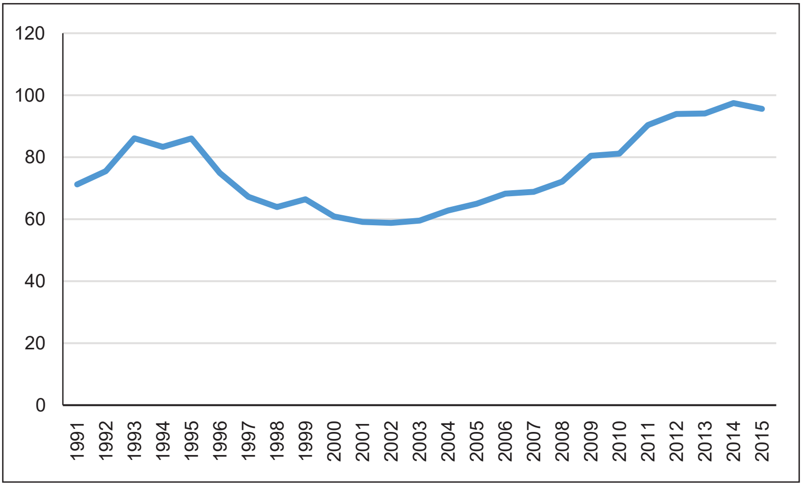

Figure 1.
Central government debt, total in Hungary (% of GDP)
Source: WB[1] 2018a

The current account balance in Hungary showed a negative picture in the 1990s, when the traditional export markets of the country collapsed (post-Soviet countries and countries of the CMEA). Therefore, many domestic companies were unable to compete with foreign competitors (due to the obsolete technological background and the outdated product range) and the import to the country was high. This lasted until Hungary's EU accession, after which we can see a gradually improving current account balance for the country, positive since 2009 (Figure 2).

[1] WB: Word Bank.

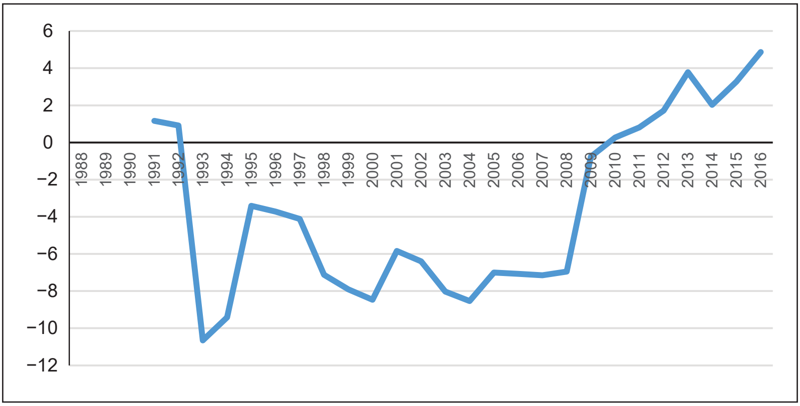

Figure 2.
Current account balance in Hungary (% of GDP)

Source: WB 2018a

Net trade in goods and services is derived by offsetting imports of goods and services against exports of goods and services. Exports and imports of goods and services comprise all transactions involving a change of ownership of goods and services between residents of one country and the rest of the world. The chart of net trade in goods and services also confirm the previously mentioned tendencies in Hungary (Figure 3). A slightly positive trade balance in the last years of the 1980s sharply turned into negative in the very first years of the 1990s, after the mass bankruptcy of state-owned Hungarian companies and the collapse of the markets of the Soviet bloc. This was followed by a volatile period of approximately 10 years. Since 2004, Hungary's EU accession, the volume of trade increased significantly, mostly due to the access to EU markets. This clearly shows that the Hungarian economy is deeply linked and integrated into the economic body of the European Union.

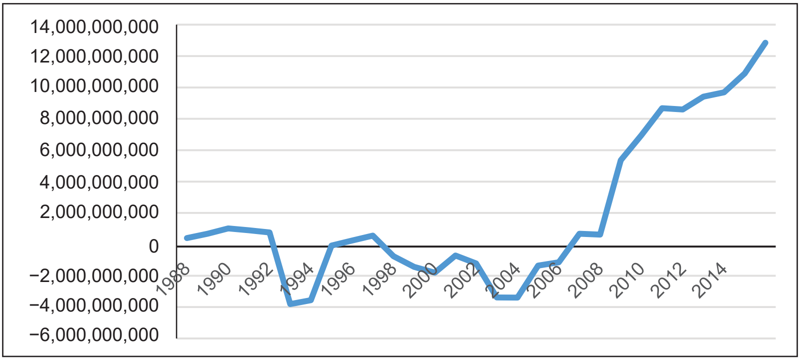

Figure 3.

Net trade in goods and services in Hungary (BoP, current USD)

Source: WB 2018a

The Human Development Index (HDI) of the United Nations has shown a steady increase in Hungary in the last 25 years (Figure 4). Interestingly, the cutbacks in social benefits, the increased level of unemployment after the fall of the communist system are not reflected in the trend. It is also worth mentioning that the level of the minimal wage and other social benefits has increased recently in Hungary, justifying the betterment of the Human Development Index. Also, the EU funds played an important role in this, as a significant percentage of them addressed human development type of projects, especially in education and healthcare.

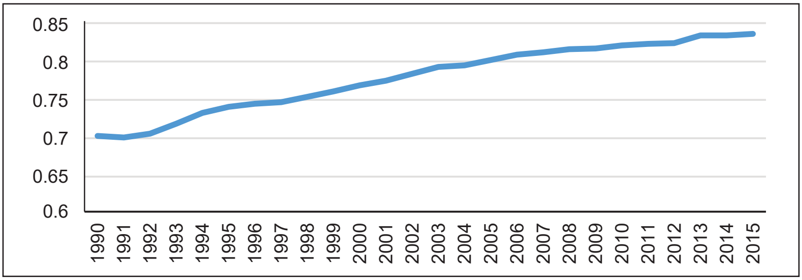

Figure 4.

Human Development Index in Hungary

Source: UNDP[2] 2015

[2] UNDP: United Nations Development Programme.

Looking at the annual GDP growth rates in Hungary in the last 25 years, we can easily identify some important milestones in the economic policy and the international economic environment of the country (Figure 5). First, there was a fallback in the GDP (negative growth) in the early years of the 1990s. Then, between 1994–1996, the decline in the GDP growth triggered the launch of the austerity measures in Hungary (Bokros-package). This induced economic growth in the coming years. Nevertheless, since 2004—the year of EU accession—GDP growth started to mitigate (parallel with the increase of budget deficit), which turned into negative after the sharp decline in the 2008 financial crisis. Since then, GDP growth values show strong volatility but are positive in the last 5 years.

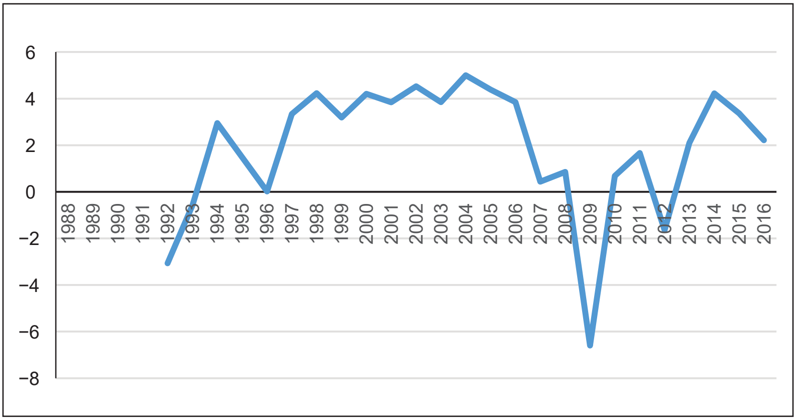

Figure 5.
GDP growth in Hungary (annual %)

Source: WB 2018a

Total and per capita GDP in Hungary shows a similar pattern in the last 25 years (Figure 6 and 7). Relatively modest growth between 1990 and 2000 was followed by a sharp and more significant boost until the 2008 crisis. Since then, total and per capita GDP in Hungary has fallen back and been stabilised at a lower level. The country still has not managed to reach the pre-crisis level of total and per capita GDP.

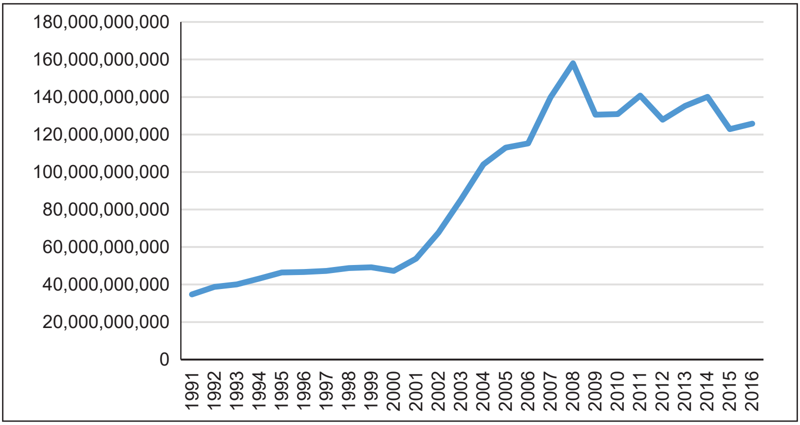

Figure 6.
GDP in Hungary (current USD)

Source: WB 2018a

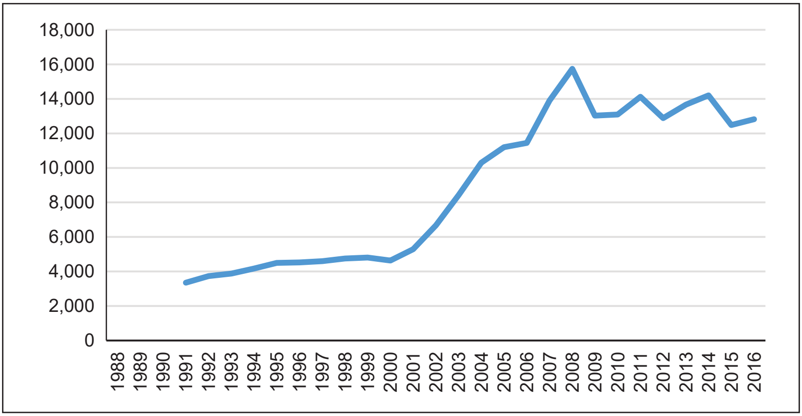

Figure 7.
GDP per capita in Hungary (current USD)

Source: WB 2018a

The Freedom House evaluates countries according to the freedom of political rights as well as civil liberties. The scaling is from 1 to 7, where 1 expresses the best status of a country, i.e. complete freedom for exercising political rights and civil liberties. Since the late 1980s, as the result of the democratic transformation, Hungary's ranking quickly improved, reaching the best status by 1994. This best category was sustained until 2014, when the classification quickly deteriorated, reaching the category of 3 by 2017. Regarding civil liberties, a similar pattern could be observed, with the distinct difference that the best classification has been reached in 2004 and was sustained until 2012 (Figure 8 and 9).

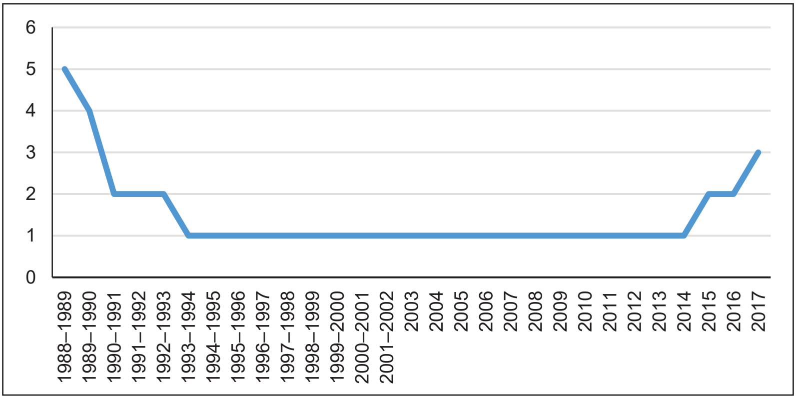

Figure 8.
Political rights in Hungary

Source: Freedom House 2017

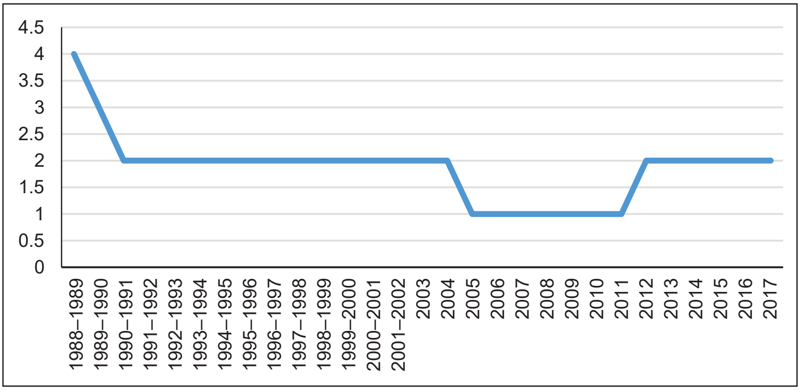

Figure 9.
Civil liberties in Hungary

Source: Freedom House 2017

The Doing Business ranking of the World Bank shows practically a stagnation for Hungary between 2005 and 2018 (Figure 10). Although literally, there is a slight increase—from the position of 52 to the position of 48—nevertheless, most of the rankings in the covered period varies in the range of the 40s. We can see a steady decrease in the ranking after 2008 until 2015 and a sharp increase from 2015 to 2016. This latter one could be attributed to the simplification of business environment (flat rate taxes, for example) implemented by the Hungarian Government.

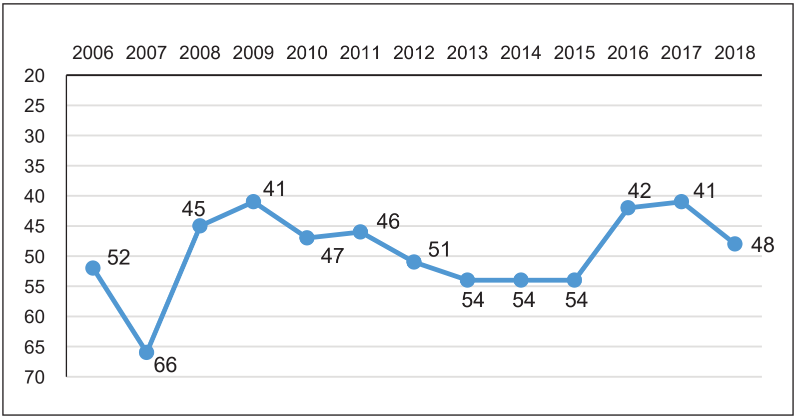

Figure 10.
Doing business ranking, Hungary

Source: WB 2018b

The Global Competitiveness Index (GCI) depicts a darker picture about Hungary's competitiveness in the last 10 years (Figure 11). Hungary has fallen back with more than 20 positions from 47 to 69. The World Economic Forum lists inadequately educated workforce, corruption, tax rates and tax regulations as the biggest problems and obstacles to increase the competitiveness of the country (Figure 12). Regarding the methodology of the scaling, it should be noted that from the list of factors, respondents to the World Economic Forum's Executive Opinion Survey were asked to select the five most problematic factors for doing business in their country and to rank them between 1 (most problematic) and 5. The score corresponds to the responses weighted according to their rankings.

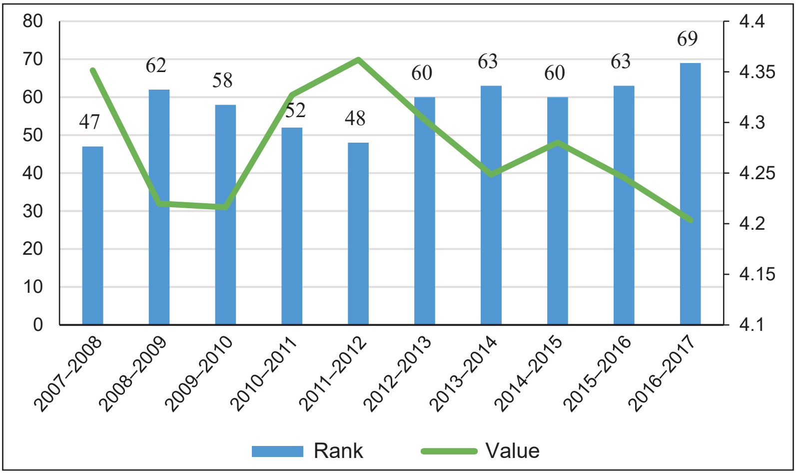

Figure 11.

Global Competitiveness Index, Hungary

Source: Schwab–Porter 2008; Sala-i-Martin 2011; Schwab–Sala-i-Martin 2017

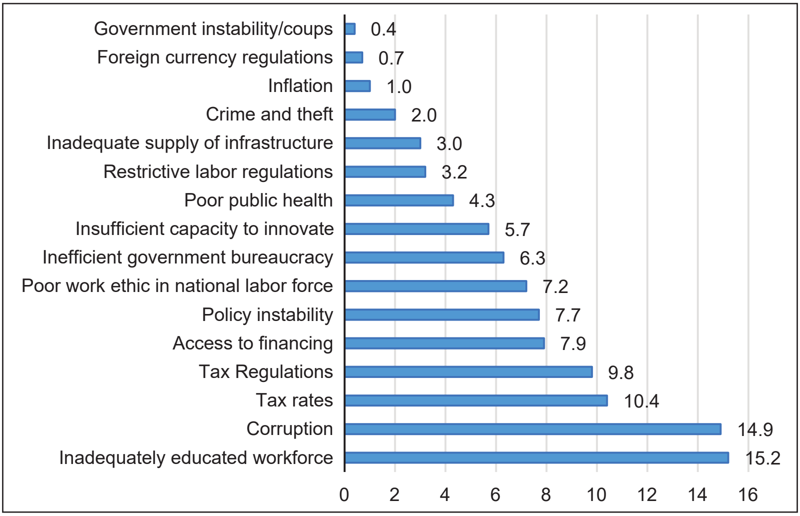

Figure 12.

Most problematic factors for doing business in Hungary

Source: Schwab–Sala-i-Martin 2017

The World Bank Worldwide Governance Indicators (WGI) give a picture on the political and regulatory setup and status of a country. According to two indicators of WGI, Hungary's position is deteriorating. Both political stability and the control of corruption shows a worsening picture in the last 20 years (Figure 13 and 14). World Governance Indicators measure a country's performance on a range of –2.5 (weak) to 2.5 (strong) governance performance.

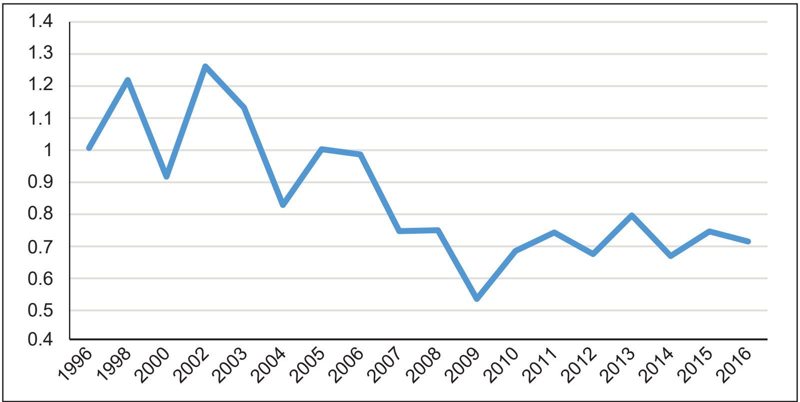

Figure 13.
Political stability/No violence in Hungary

Source: WB 2016

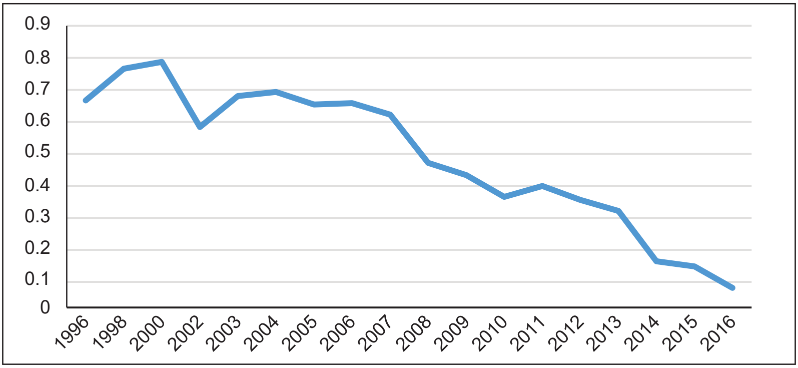

Figure 14.
Control of corruption in Hungary

Source: WB 2016

Hungary's EU Membership and the Use of EU Funds

Still today, there is a vivid discussion about the pros and cons of Hungary's EU membership. This section aims to give some hints to this debate by providing some analysis from various aspects.

Hungary's net financial position to the EU can be calculated since the year 2000, when Hungary started to receive EU funds in the framework of the pre-accession funds. Since then, Hungary has a net financial position to the European Union in terms of financial transfers, which means that the country received more financial transfers from the EU budget than it paid to it (Figure 15).

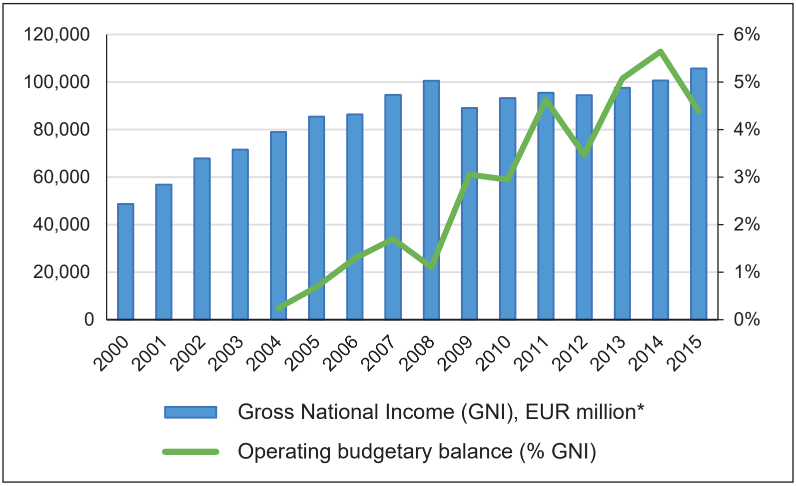

Figure 15.
Hungary's net financial position to the EU

Source: EC[3] 2015

Since the country's EU accession, Hungary has been a net beneficiary country in the European Union. Since the year 2000, Hungary received a total amount of almost 44.0 billion Euros of EU funds. In this period, the net financial balance for Hungary has been 33.0 billion Euros. During its EU membership, Hungary received an annual average of 2.8% of its Gross

[3] EC: European Commission.

National Income (GNI) as EU resources. The total amount of EU contribution of agricultural and rural development funds between 2000 and 2020 has been almost 8.5 billion Euros, triggering a total amount of spending and investment of more than 10.0 billion Euros.

Table 6 gives an overview on the main economic trends in Hungary since the country's EU accession. Per capita GDP shows the same tendency as total GDP: a sharp drop in 2008, and a recovery period until 2015 followed a gradual increase. Today, per capita GDP is almost 30% higher than at the time of the country's EU accession. Regarding innovation, Hungary's innovation potential is still lagging behind the European average. In 2016, the country spent 1.6% of its GDP on research and development. It is a gradual and steady increase compared to 2004, when this value was only 0.86%. In 2016, Hungary took the 14th position in the EU regarding R&D spending on GDP. (Eurostat 2017a) Regarding the Global Innovation Index, Hungary took the 39th position globally in 2017, ranked 24th out of the 28 EU Member States. Ten years before, in 2007, Hungary was ranked 36th globally, but 17th in the European Union. This means a decline in intra-EU comparison in the last ten years (GII 2017). According to the World Intellectual Property Organization (WIPO), Hungary experienced a negative tendency between 2004 and 2015 regarding "Patents in force" – 28th global position in 2004, 41st in 2015 – and also in "Resident patent applications": 33rd global position in 2004 and 40th position in 2015. (WIPO 2015) Regarding entrepreneurship, Hungary takes the 47th position globally on the Global Entrepreneurship and Development Index in 2017. (GEDI 2017) This is the 24th position out of the 28 EU Member States, which clearly reflects the relatively low level of entrepreneurship in the country.

Table 6.

Main economic trends of Hungary

Indicators	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Population (million)	10.11	10.09	10.07	10.06	10.04	10.03	10.01
Total GDP (current prices, million EUR)	83.54	90.59	91.39	101.7	107.6	93.80	98.32
GDP per capita (Euro)	N/A	9,000	9,100	10,100	10,700	9,400	9,800
GDP per capita (EU28 = 100%)	n.d.a.	62	61	60	62	64	64
Unemployment rate (%)	6.1	7.2	7.5	7.4	7.8	10.0	11.2
FDI (GDP %)	4.4	7.0	6.6	2.9	4.1	1.6	1.7
Investment (% of GDP)	24.06	23.87	23.58	23.66	23.26	22.81	20.35

Indicators	2011	2012	2013	2014	2015	2016
Population (million)	9.98	9.93	9.91	9.88	9.86	9.83
Total GDP (current prices, million EUR)	100.8	99.08	101.5	105.0	110,0	112.4
GDP per capita (Euro)	10,100	10,000	10,300	10,600	11,100	11,500
GDP per capita (EU28 = 100%)	66	65	67	68	68	67
Unemployment rate (%)	11.0	11.0	10.2	7.7	6.8	5.1
FDI (GDP %)	4.2	11.1	N/A	N/A	N/A	N/A
Investment (% of GDP)	19.77	19.36	20.94	21.80	21.67	N/A

Source: Compiled by the author based on Eurostat 2017b; 2017 c; 2017 d; 2017e and KSH[4] 2018a; 2018b.

As for infrastructure, there is a clear and unquestionable advancement in the field of both the quality and quantity of infrastructure in Hungary. Road density, accessibility, the quality of roads and railway networks have largely developed since 2004. There is a significant development actually in all main indicators of these fields: length of motorways, population connected to public water supply, urban wastewater treatment plants, population connected to wastewater treatment plants, sewage sludge production and disposal, share of renewable energy in gross final energy consumption (Table 7).

Table 7.

Infrastructure and environmental statistics in Hungary

Indicators	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Length of motorways (kilometre)	761	859	1,065	1,157	1,274	1,273	1,477	1,516	1,515	1,562	1,577	1,621
Population connected to public water supply (%)	99.9	99.9	99.9	100	100	100	100	100	100	100	100	100
Population connected to waste-water treatment plants (%)	72.1	60.6	63.4	66.5	67.7	68.8	71.7	72.3	72.9	72.7	73.8	76.8

[4] KSH: Központi Statisztikai Hivatal (en – Hungarian Central Statistical Office).

Indicators	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Share of renewable energy in gross final energy consumption (%)	4.4	4.5	5.1	5.9	6.5	8	12.8	14	15.5	16.2	14.6	14.5

Source: Compiled by the author based on Eurostat 2017f; 2017g; 2018a; 2018b.

Since 2010, there is a positive tendency on the Hungarian labour market: employment rate increased to 66.5% by 2016 (the EU average was 67.1%). Unemployment rate was 4.9% at the end of 2016, which gave Hungary the 4th best position among EU Member States (the EU average was 8.2%). Another important issue to note is that the Hungarian labour market—at least in some segments—is getting more and more demand-driven, i.e. there is a lack of skilled and qualified labour force in some sectors of the economy. Also, emigration from Hungary has accelerated since 2007, causing shortages of young and skilled labour force in the Hungarian economy.

Social and territorial cohesion could be best measured using the Cohesion Indicators of the European Union. (Eurostat 2017h) The share of people at risk of poverty and social exclusion is 31% in Hungary. Life expectancy is 75.7 years, while persons aged 25–64 with tertiary education attainment are 21.1%. All these values are lagging behind the EU average. On the Regional Social Progress Index, (European Commission) Hungarian regions got moderate scores, again, they are in worst position than the EU's average (Table 8).

Table 8.

Regional Social Progress Index of Hungarian regions

Region Code	Regions in Hungary	European Union Regional Social Progress Index
HU10	Central Hungary [Közép-Magyarország]	59.42
HU21	Central Transdanubia [Közép-Dunántúl]	56.21
HU22	Western Transdanubia [Nyugat-Dunántúl]	57.83
HU23	Southern Transdanubia [Dél-Dunántúl]	55.52
HU31	Northern Hungary [Észak-Magyarország]	52.72
HU32	Northern Great Plain [Észak-Alföld]	53.98
HU33	Southern Great Plain [Dél-Alföld]	54.54

Source: EC 2016

Unfortunately, in spite of the significant investments by EU funds into the Hungarian regions, they are still lagging behind the EU average. Although per capita GDP per region increased since the country's EU accession, as well as indicators regarding infrastructural situation have got better, the relative position of Hungarian regions has worsened (Table 9).

Table 9.
Regional Competitiveness Index ranking of Hungarian regions

The regions of Hungary (NUTS name)	RCI 2013	RCI 2016
Central Hungary [Közép-Magyarország]	144	152
Central Transdanubia [Közép-Dunántúl]	192	205
Western Transdanubia [Nyugat-Dunántúl]	189	207
Southern Transdanubia [Dél-Dunántúl]	219	227
Northern Hungary [Észak-Magyarország]	218	231
Northern Great Plain [Észak-Alföld]	231	232
Southern Great Plain [Dél-Alföld]	220	224

Source: EC 2016

Finally, it is important to look at the progress of Hungary in the fulfilment of the EU 2020 objectives of the European Union. Hungary is doing better in employment than the EU average, but lagging behind in Research and Development. Hungary's progress in the climate change and energy indicators is promising, just like in education (Table 10).

Table 10.
The EU 2020 objectives and their fulfilment in Hungary

EU 2020 objectives		Hungary's state of play (2016)	Hungary's target by 2020	EU average in 2016	EU 2020 targets
Employment	• 75% of people aged 20–64 to be in work	72.60%	75.00%	71.10%	75%
Research and development (R&D)	• 3% of the EU's GDP to be invested in R&D	1.40%	1.80%	2.10%	3%
Climate change and energy	• greenhouse gas emissions 20% lower than 1990 levels	16.20%	N/A	N/A	20%
	• 20% of energy coming from renewables	14.65%	14.65%	N/A	20%
	• 20% increase in energy efficiency	N/A	N/A	N/A	20%

EU 2020 objectives		Hungary's state of play (2016)	Hungary's target by 2020	EU average in 2016	EU 2020 targets
Education	• rates of early school leavers below 10%	12.50%	10.00%	10.70%	10%
	• at least 40% of people aged 30–34 having completed higher education	32.80%	34.00%	39%	40%
Poverty and social exclusion	• at least 20 million fewer people in – or at risk of – poverty/social exclusion	–13.80%	–20%	N/A	20 million

Source: Compiled by the author based on EC 2017; Eurostat 2018c.

Interdependence and Economic Penetration

Since Hungary's EU accession, trade and investment relations have intensified significantly. The volume of trade almost doubled in 10 years. Hungary has a positive trade balance with other countries of the EU (Table 11). The main export products of Hungary are automotive, machinery, other industrial products and food. The main import products are machinery, raw materials (energy) and food products. (Eurostat 2017i) The main export partners in the EU are Germany, Austria, Romania, Slovakia and Italy. The main import partners are Germany, China, Russia, Austria and Poland.

Table 11.
Trade values between Hungary and other EU Member States (million Euro, all products)

Indicators	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Exports	37,684	41,645	48,369	55,997	58,836	47,717	56,469	62,457	62,398	63,003	66,611
Imports	33,437	37,499	43,912	48,653	50,775	38,431	45,251	51,333	52,371	54,060	59,375
Trade balance	4,246	4,146	4,456	7,343	8,061	9,286	11,217	11,123	10,026	8,943	7,235

Source: Compiled by the author based on Eurostat 2017j.

As it can be seen on Figure 16, the value of export of Hungary has increased significantly since the mid-1990s. Figure 17 shows that export from Hungary to the EU28 (without Hungary EU27) countries showed a quick surge in the second part of the 1990s, stabilising around 85% until 2004. Interestingly, after Hungary's EU accession, the share of export to the EU (in the total) started to decrease, although still has the dominant share (80%).

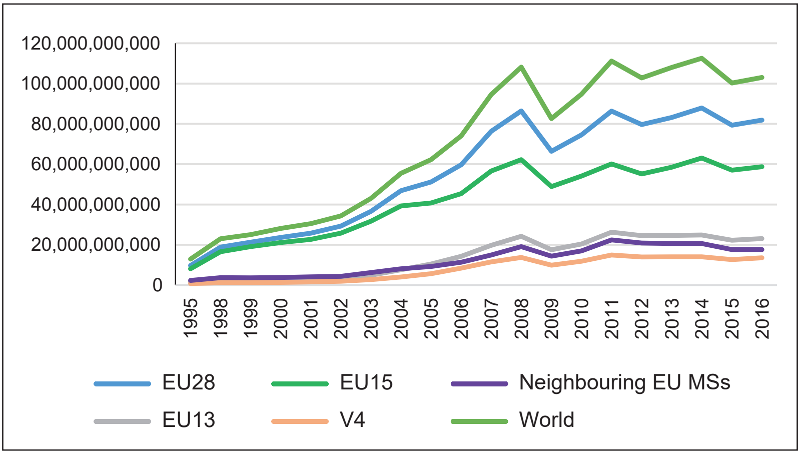

Figure 16.
The value of export of Hungary (USD)

Source: UN Comtrade 2016

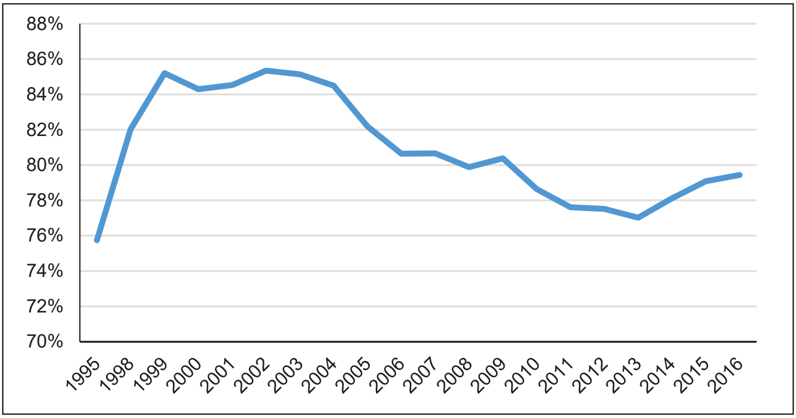

Figure 17.
Hungary's total EU export share (%)

Source: UN Comtrade 2016

Behind the above tendency, as we could see on Figure 18, Hungary's export to EU15 Member States is slowly but gradually decreasing, while the export to new Member States (EU13), including the Visegrád countries is on an upward trend.

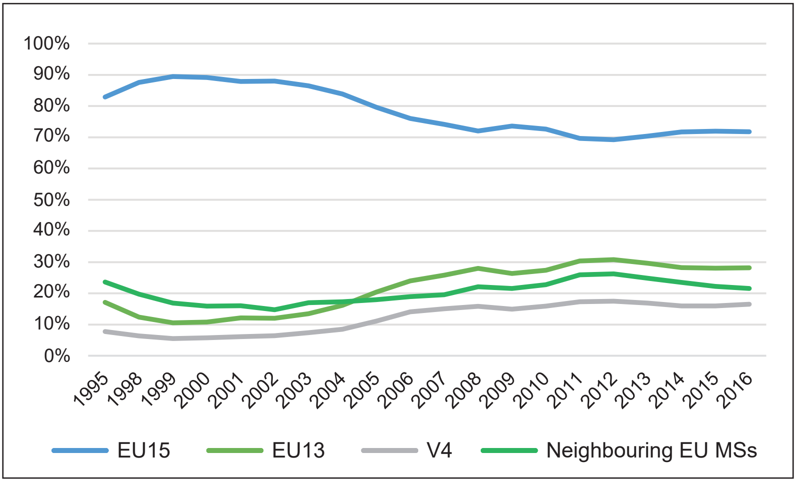

Figure 18.

Share of country groups in intra-EU Hungarian export (%)

Source: UN Comtrade 2016

This can be corroborated with Table 12. It shows that in approximately 20 years (1995–2016), Central and Eastern European (CEE) countries became more important export destinations to Hungary. Romania has been upgraded by 2016 compared to 1995, Slovakia became the third most important partner, while Poland and the Czech Republic are also in the top 10.

Table 12.
Hungary's main export partners in selected years

1995			2004			2016		
Member State	Export value	Share in total export to EU MSs	Member State	Export value	Share in total export to EU MSs	Member State	Export value	Share in total export to EU MSs
Germany	3,686,764,000	37.8%	Germany	17,539,824,000	37.4%	Germany	28,351,204,571	34.6%
Austria	1,303,271,000	13.4%	Austria	4,010,035,000	8.6%	Romania	5,144,974,646	6.3%
Italy	1,096,275,000	11.2%	United Kingdom	3,097,250,000	6.6%	Slovakia	5,069,365,532	6.2%
France	517,854,000	5.3%	France	3,090,910,000	6.6%	France	4,921,381,403	6.0%
United Kingdom	391,497,000	4.0%	Italy	3,053,520,000	6.5%	Italy	4,906,541,070	6.0%
Netherlands	374,897,000	3.8%	Netherlands	2,030,500,000	4.3%	Austria	4,894,258,905	6.0%
Romania	357,451,000	3.7%	Romania	1,747,824,000	3.7%	Czech Republic	4,266,810,195	5.2%
Poland	337,140,000	3.5%	Poland	1,593,090,000	3.4%	Poland	4,196,628,136	5.1%
Belgium	273,388,000	2.8%	Spain	1,548,522,000	3.3%	United Kingdom	4,026,080,618	4.9%
Slovenia	255,214,000	2.6%	Czech Republic	1,323,205,000	2.8%	Netherlands	3,248,909,216	4.0%

Source: UN Comtrade 2016

Similar tendencies can be observed based on Hungary's import relations. Hungary's main partners are EU countries, with a growing share and importance of new Member States (EU13) (Figure 19).

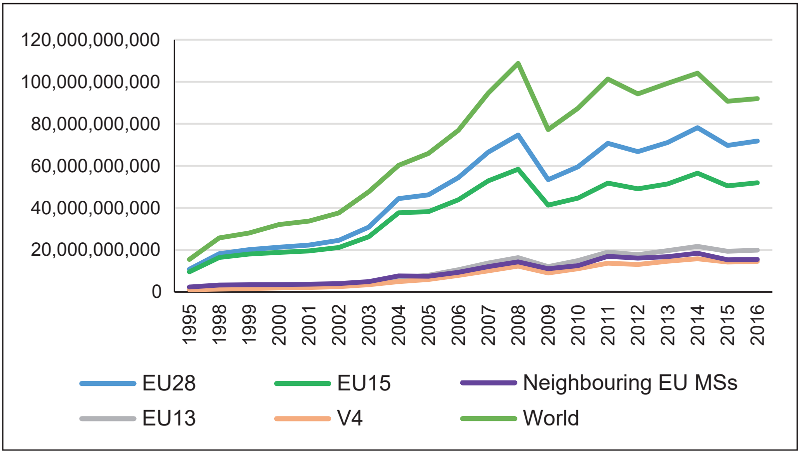

Figure 19.
The value of import of Hungary (USD)
Source: UN Comtrade 2016

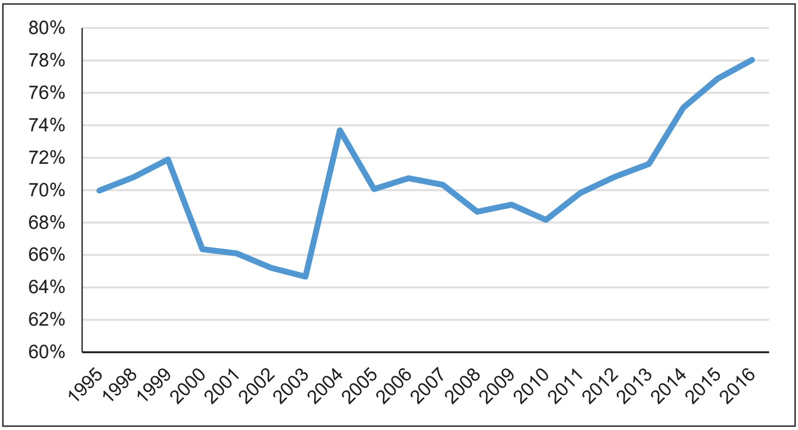

Figure 20.
Hungary's total EU import share (%)
Source: UN Comtrade 2016

Figure 20 shows that Hungary's import dependency on the EU is lower than that of export to the EU. Approximately 70% of all the import comes from EU Member States. In addition, Figure 21 and Table 13 confirm the growing importance of CEE countries in Hungary's import relations. This tendency is similar to that of the export relations. Poland, Slovakia, the Czech Republic and Romania can be found in the top 10 import partners of Hungary, with the unquestionable dominance of Germany and Austria through the last 20 years.

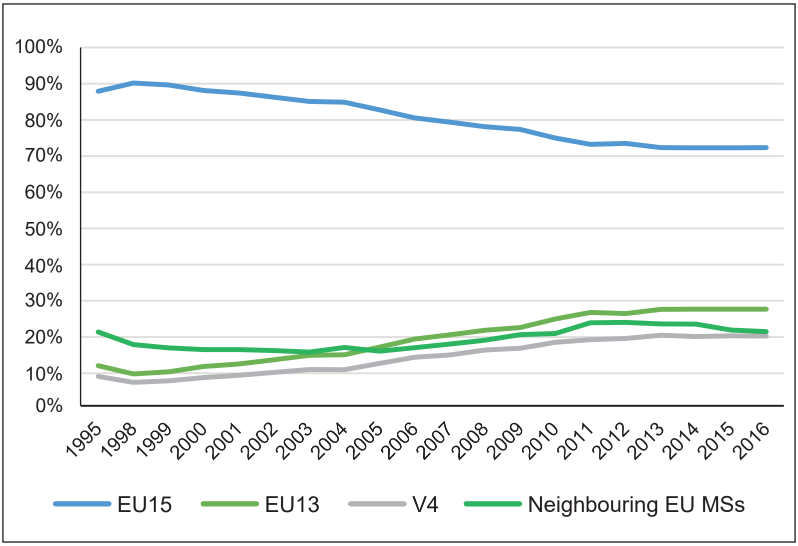

Figure 21.

Share of country groups in intra-EU Hungarian import (%)

Source: UN Comtrade 2016

Table 13.
Hungary's main import partners in the EU

1995			2004			2016		
Member State	Import value	Share in total import from EU MSs	Member State	Import value	Share in total import from EU MSs	Member State	Import value	Share in total import from EU MSs
Germany	3,628,234,000	33.5%	Germany	17,678,363,000	39.8%	Germany	24,343,945,038	33.9%
Austria	1,663,721,000	15.4%	Austria	4,901,052,000	11.0%	Austria	5,890,425,422	8.2%
Italy	1,220,388,000	11.3%	Italy	3,377,489,000	7.6%	Poland	5,115,600,894	7.1%
France	610,747,000	5.6%	Netherlands	2,974,453,000	6.7%	Slovakia	4,908,774,501	6.8%
Netherlands	483,651,000	4.5%	France	2,776,299,000	6.3%	Czech Republic	4,528,783,025	6.3%
United Kingdom	476,470,000	4.4%	Poland	1,944,139,000	4.4%	Netherlands	4,512,370,900	6.3%
Belgium	391,457,000	3.6%	Czech Republic	1,723,855,000	3.9%	France	4,491,984,397	6.3%
Slovakia	369,703,000	3.4%	United Kingdom	1,614,142,000	3.6%	Italy	4,429,607,015	6.2%
Czech Republic	363,995,000	3.4%	Belgium	1,250,549,000	2.8%	Romania	2,824,796,930	3.9%
Sweden	311,422,000	2.9%	Slovakia	1,204,973,000	2.7%	Belgium	2,148,772,489	3.0%

Source: UN Comtrade 2016

Regarding the Foreign Direct Investments, we could also see a significant increase both in terms of Hungarian FDI stock in other EU Member States as well as FDI inflow to Hungary (Table 14). FDI in Hungary has flown into the banking sector and automotive industry. Hungarian outward FDI primarily has flown into the financial sector. We can conclude that strong trade and investment relations between Hungary and other EU Member States clearly show how embedded and connected the Hungarian economy to the EU economy is.

Table 14.

FDI values between Hungary and other EU Member States (million EUR)

Indicators	2004	2005	2006	2007	2008	2009	2010	2011	2012
Direct investment stock, EU27	3,100	4,410	5,737	7,507	6,678	6,035	5,269	7,286	11,876
Direct investment inward flow from EU27	2,067	5,909	5,015	2,342	4,197	–3,242	753	3,756	8,607

Source: OECD 2013

As we described above, economic integration and connectedness could be greatly expressed by capital flows. Foreign Direct Investment statistics shows that Hungary’s EU accession was a boost to inward and outward FDI, as well. Both the economic transition in the early 1990s and the EU accession contributed to the intensification of capital flows regarding Hungary (Figure 22 and 23).

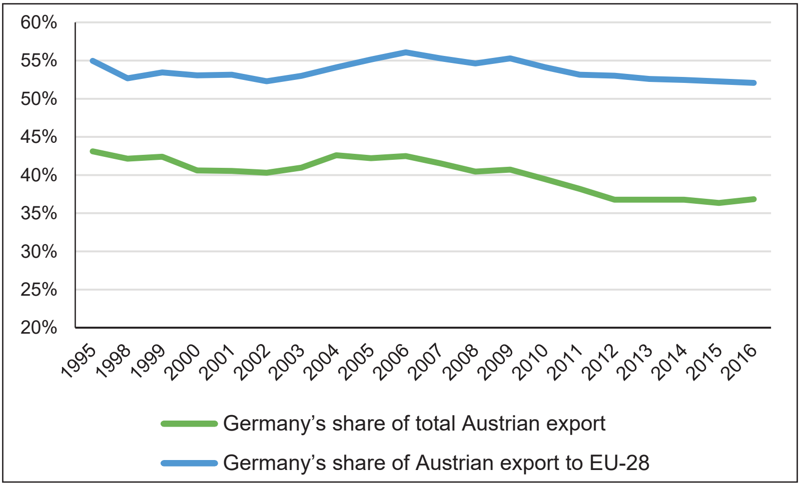

Figure 22.

Foreign Direct Investment inflow, Hungary

Source: WB 2017a

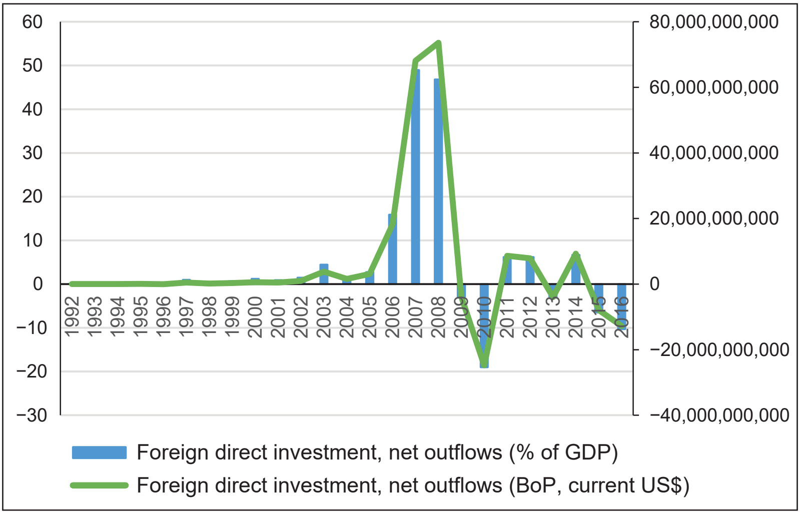

Figure 23.

Foreign Direct Investment outflow, Hungary

Source: WB 2017b

The Economic Complexity Index (ECI) also expresses a country's capability and prospects to integrate into the global economy. Theoretically speaking, ECI measures the knowledge intensity of an economy by considering the knowledge intensity of the products it exports. ECI can be used to construct relative measures of the knowledge intensity of economies. ECI has been validated as a relevant economic measure by showing its ability to predict future economic growth. We can observe a positive tendency in Hungary regarding this index, as its value has generally been improving in the last almost 30 years (Figure 24). The index increased more before Hungary's EU accession (2004), as this was the period of radical economic change in the country, economic restructuring, significant change in the ownership of production facilities, all this combined with the orientation of foreign markets, building up an export-driven economy with the involvement of foreign direct investment. In the period of Hungary's EU membership, the value of the index remained fundamentally unchanged with smaller volatilities. This means that Hungary's economic structure has been prepared and adjusted to the needs of the EU market—to which it is mostly integrated—and since then the Hungarian economy is "only" fulfilling the expectations of this market, there is no pressure for change and further diversification at this moment.

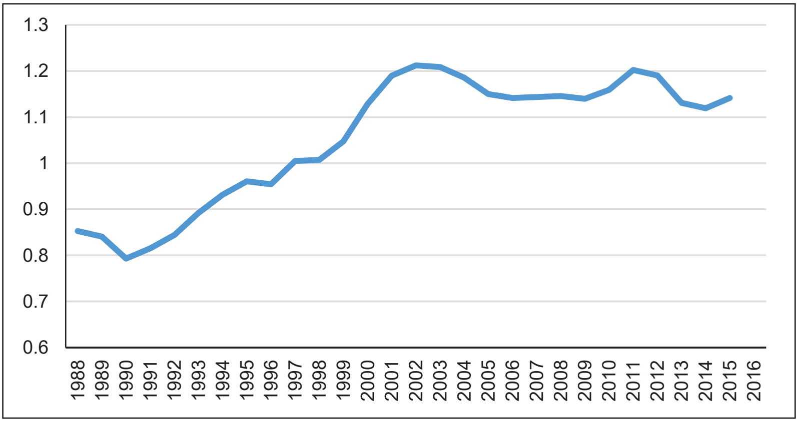

Figure 24.

Economic Complexity Index in Hungary

Source: OEC[5] 2016

[5] OEC: The Observatory of Economic Complexity.

Globalisation indices express a country's involvement and integratedness into the global economy and society by quantifying and analysing the economic, political and social ties of the country to other countries. The KOF Globalization Index shows the picture of a gradually integrated Hungary into global economic, social and political relations (Figure 25). We can see that from the late 1980s until 2004—the country's EU accession—the value of the index for Hungary is increasing. Since 2004, there is a "stagnation" and slight increase.

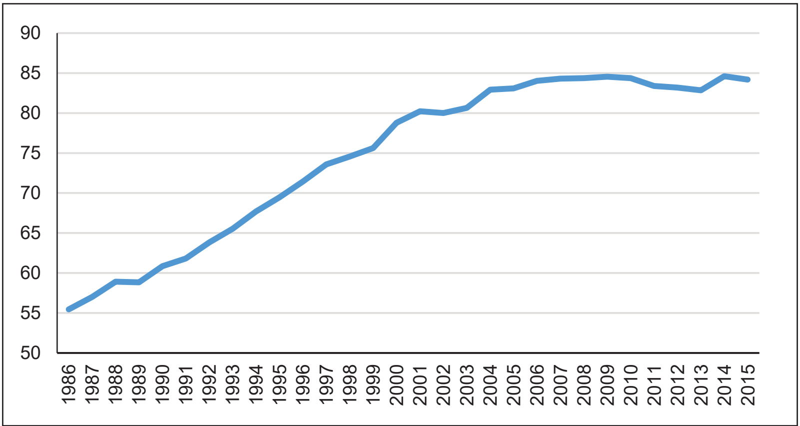

Figure 25.
KOF Globalization Index, Hungary

Source: ETHZ[6] 2015

The DHL Global Connectedness Index shows fundamentally the same tendency. Hungary's ranking has gradually improved in the last more than 10 years. The country is ranked among the top 15 most connected countries in the world (Figure 26).

[6] ETHZ: ETH Zürich.

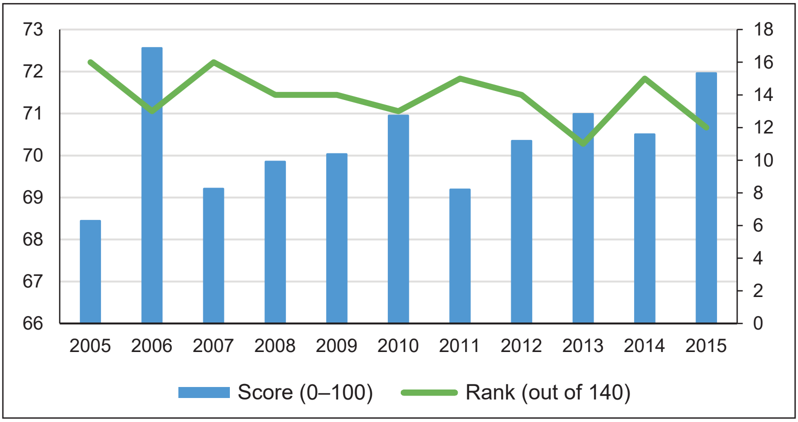

Figure 26.
DHL Global Connectedness Index, Hungary

Source: DHL 2015

Conclusion and Outlook: Drawing the Balance of the Results of Integration

In the triangle of economic transformation, economic integration and economic dependency, we can draw some key conclusions regarding Hungary. These are the following:

- Hungary's economic transformation was a gradual process, which has intensified in the late 1980s and took dominantly place in the 1990s. By 2000, the economic transformation practically has been completed with a dominantly privately owned economy with significant foreign ownership;
- foreign direct investment played a key role in the economic transformation and foreign capital has a dominant role in today's economy in Hungary both in terms of contribution to GDP, employment and export;
- in line with the growing foreign ownership in the Hungarian manufacturing sector, Hungary's trade reorientation is a success story. The former relations with the countries of the Soviet bloc have been replaced by the deep trade relations to the Western European countries. Both in FDI and trade, Hungary's main partners are Germany and Austria;

- export to EU Member States has the most significant part of Hungary's export relations. Although the dominant share of it is attributed to EU15 Member States, export to new Member States (EU13) play a more and more important role. Interestingly, Hungary's EU accession helped integrate the Hungarian economy not only to old Member States (it was already integrated to them before 2004), but more to Central and Eastern European Member States;
- recent years have seen a growing level of outward FDI from Hungary. Investments of Hungarian companies are targeting the Visegrád counties, Balkan countries and the post-Soviet region;
- Hungary is a net beneficiary country of the European Union, getting on average almost 3% of its Gross National Income since the country's EU accession. These funds significantly contributed to the development of Hungary in the last more than 10 years. Nevertheless, it also caused dependency to the EU budget (the net contributor Member States); today, most of the new investments in the country are EU co-funded. Nevertheless, in spite of significant funding, Hungary is still lagging behind in social and territorial cohesion;
- Hungary's gradual integration into the global economy as well as the global political and social tendencies are confirmed by the globalisation indices. The country's global rankings have improved in the last 15–20 years.

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