

Appendix

Table A.1

Bilateral investment agreements (BITs) between Russia and foreign countries

Country	Period
Canada	Since 1991
China, Turkey, Denmark, Spain, Austria, Switzerland, Belgium, Luxembourg, Finland, Germany, Netherlands, France, Republic of Korea, United Kingdom	Since 1992
Czech Republic, Kuwait, Albania, Hungary	Since 1996
Uzbekistan, Greece, Slovakia, Romania, Serbia, Montenegro, Cuba, Vietnam	Since 1997
India	1997–2017
Norway, Italy	Since 1998
North Macedonia	Since 1999
Egypt, Japan, South Africa, Kazakhstan	Since 2000
Ukraine	2000–2021 ¹
Argentina	Since 2001
Moldova	Since 2002
Lebanon	Since 2003
Lithuania	Since 2004
Laos, Mongolia, Armenia, North Korea, Bulgaria, Yemen	Since 2006
Syria	Since 2008
Jordan, Qatar	Since 2009
Venezuela, Indonesia	Since 2010
Angola, Libya, Turkmenistan	Since 2011
Singapore	Since 2012
Nicaragua, United Arab Emirates	Since 2014
Zimbabwe	Since 2015
Cambodia, Equatorial Guinea, Bahrain, Azerbaijan	Since 2016
Iran	Since 2017
Palestine	Since 2018

Source: International Investment Agreements Navigator, URL: <https://investmentpolicy.unctad.org/international-investment-agreements/by-economy> (accessed 01.08.2025).

Table A.2

WTO member countries that are Russia's trading partners (WTO)

Country	Period of WTO membership
Antigua and Barbuda, Argentina, Australia, Austria, Bahrain, Bangladesh, Barbados, Belgium, Belize, Bolivia, Botswana, Brazil, Brunei, Burkina Faso, Burundi, Hungary, Venezuela, Gabon, Germany, Ghana, Greece, Guatemala, Guinea, Guinea–Bissau, Guyana, Honduras, Hong Kong, Denmark, Djibouti, Dominican Republic, Egypt, Zambia, Zimbabwe, Iceland, India, Indonesia, Ireland, Israel, Spain, Italy, Cameroon, Canada, Kenya, Colombia, Costa Rica, Côte d'Ivoire, Cuba, Cyprus, Kuwait, Lesotho, Liechtenstein, Luxembourg, Mauritius, Mauritania, Macau, Madagascar, Malawi, Malaysia, Maldives, Mali, Malta, Morocco, Mexico, Mozambique, Myanmar, Namibia, Netherlands, New Zealand, Nicaragua, Nigeria, Norway, Pakistan, Paraguay, Peru, Poland, Portugal, Republic of Korea, Romania, El Salvador, Saint Lucia, Saint Vincent and the Grenadines, Senegal, Sierra Leone, Singapore, Slovakia, Slovenia, United Kingdom, Suriname, USA, Tanzania, Thailand, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, Uruguay, Philippines, Finland, France, Czech Republic, Chile, Central African Republic, Sri Lanka, Sweden, Switzerland, Eswatini, South Africa, Jamaica, Japan	Since 1995

¹ Formally, this agreement was terminated at the beginning of 2025, but in fact — since 2022 [42].

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Country	Period of WTO membership
Angola, Benin, Bulgaria, Gambia, Grenada, Haiti, Qatar, Niger, UAE, Papua New Guinea, Rwanda, Saint Kitts and Nevis, Solomon Islands, Fiji, Chad, Ecuador	Since 1996
Congo, DR Congo, Mongolia, Panama	Since 1997
Kyrgyzstan	Since 1998
Latvia, Estonia	Since 1999
Albania, Georgia, Jordan, Oman, Croatia	Since 2000
Lithuania, Moldova	Since 2001
China, Taiwan	Since 2002
Armenia, North Macedonia	Since 2003
Cambodia, Nepal	Since 2004
Saudi Arabia	Since 2005
Vietnam, Tonga	Since 2007
Cape Verde, Ukraine	Since 2008
Vanuatu, Samoa, Montenegro	Since 2012
Laos, Tajikistan	Since 2013
Yemen	Since 2014
Kazakhstan, Seychelles	Since 2015
Afghanistan, Liberia	Since 2016
Timor-Leste, Comoros	Since 2024

Source: Members and Observers, WTO, URL: https://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm (accessed 01.08.2025).

Table A.3

Sanctions of Russia / foreign countries against foreign countries / Russia

Country	Period
<i>Russia's sanctions against foreign countries (SANCru)</i>	
Kazakhstan, Turkmenistan	1995
Estonia, Latvia	1995 – 1998, since 2014
Ukraine	1995 – 1996, 2006, 2009, since 2014
Moldova	2006 – 2007, 2013 – 2021
Georgia	2006 – 2013
Belarus	2010
Eritrea	2009 – 2018
Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Lithuania, Luxembourg, Malta, Romania, Slovakia, Slovenia, Spain, Sweden, Netherlands, Norway, Poland, Portugal, United Kingdom, Australia, Canada, USA	Since 2014
Albania, Iceland, Montenegro	Since 2015
Kyrgyzstan	2020
New Zealand	Since 2022
<i>Sanctions of foreign countries against Russia (SANCz)</i>	
Ukraine	1995 – 1996, since 2014
Georgia	2008 – 2011

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Country	Period
Albania, Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom, Australia, Canada, Japan, New Zealand, USA	Since 2014 r.
North Macedonia, Taiwan, Republic of Korea, Singapore	Since 2022 r.
Kazakhstan	2023–2024

Source: Global Sanctions Data Base, 2025, URL: <https://www.globalsanctionsdatabase.com/> (accessed 01.08.2025).

Table A.4

Separation of raw materials and industrial goods in ISIC

ISIC code	ISIC code description
<i>Raw materials</i>	
11	Agriculture and hunting
12	Forestry and logging
13	Fishing
21	Coal mining
22	Crude petroleum and natural gas production
23	Metal ore mining
29	Products of other mining industries
<i>Industrial goods</i>	
31	Food, beverages and tobacco
32	Textile, wearing apparel and leather industries
33	Wood and wood products, including furniture
34	Paper and paper products; printing and publishing
35	Chemicals, rubber products, plastics, and petroleum and coal products
36	Manufacture of Non-metallic mineral products, except products of petroleum and coal
37	Metallurgical industry products
38	Metalworking products, machinery, and equipment
39	Products of other manufacturing industries

Source: WITS. World Integrated Solution, URL: <https://wits.worldbank.org/> (accessed 01.08.2025).

Table A.5

Estimation results for models (1) and (2) by periods

Variable	Total, $\hat{\beta}$		Raw materials, $\hat{\beta}$		Industrial goods, $\hat{\beta}$	
	(2)	(1)	(2)	(1)	(2)	(1)
$FTA_{2014-2021}^+$	0.49** (0.19)	0.37*** (0.18)	0.45 (0.29)	0.19 (0.39)	0.56*** (0.10)	0.61*** (0.18)
$FTA_{2022-2024}^+$	0.97*** (0.20)	0.90*** (0.19)	1.01*** (0.28)	0.71*** (0.18)	1.00*** (0.20)	1.18*** (0.19)
$FTA_{1995-2013}$	0.60*** (0.17)	0.62*** (0.16)	0.56** (0.23)	0.61*** (0.23)	0.64*** (0.17)	0.62*** (0.16)
$FTA_{2014-2021}$	0.90*** (0.21)	0.95*** (0.20)	1.20*** (0.27)	0.92*** (0.27)	0.59*** (0.19)	0.96*** (0.20)

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Variable	Total, $\hat{\beta}$		Raw materials, $\hat{\beta}$		Industrial goods, $\hat{\beta}$	
	(2)	(1)	(2)	(1)	(2)	(1)
$FTA_{2022-2024}$	0.93*** (0.28)	1.01*** (0.27)	0.91*** (0.32)	1.10*** (0.32)	0.84*** (0.23)	1.00*** (0.27)
$BIT_{1995-2013}$	-0.14 (0.14)	-0.22 (0.23)	-0.18 (0.18)	-0.32 (0.28)	-0.09 (0.14)	-0.15 (0.23)
$BIT_{2014-2021}$	-0.29 (0.16)	-0.37 (0.35)	-0.35 (0.30)	-0.49 (0.20)	-0.18 (0.16)	-0.23 (0.35)
$BIT_{2022-2024}$	-0.11 (0.24)	-0.17 (0.23)	-0.01 (0.31)	-0.16 (0.31)	-0.27 (0.24)	-0.29 (0.23)
$WTOexp_{1995-2013}$	0.13*** (0.04)	0.14* (0.06)	0.48*** (0.11)	0.47*** (0.11)	0.02*** (0.04)	0.01 (0.06)
$WTOexp_{2014-2021}$	0.18 (0.12)	0.16 (0.11)	0.10 (0.19)	-1.01 (0.99)	0.41 (0.32)	0.52 (0.99)
$WTOexp_{2022-2024}$	0.03 (0.14)	0.05 (0.13)	-0.05 (0.23)	-0.87 (0.73)	0.15 (0.14)	0.42*** (0.13)
$WTOboth_{2014-2021}$	0.43*** (0.13)	0.34*** (0.12)	0.93*** (0.20)	0.40*** (0.20)	0.11*** (0.03)	0.06 (0.12)
$WTOboth_{2022-2024}$	1.27*** (0.18)	1.19*** (0.17)	1.75*** (0.27)	1.48*** (0.27)	0.80*** (0.18)	0.92*** (0.17)
$WTOexpboth_{2014-2021}$	0.54*** (0.10)	0.18** (0.10)	0.94*** (0.14)	-0.21 (0.19)	0.46 (0.16)	0.30*** (0.10)
$WTOexpboth_{2022-2024}$	1.37*** (0.17)	0.96*** (0.17)	1.50*** (0.22)	0.61*** (0.24)	1.34*** (0.16)	1.03*** (0.16)
$SANCru_{1995-2013}$	-0.10 (0.15)	-0.08 (0.14)	-0.32 (0.29)	-0.19 (0.29)	-0.16 (0.15)	0.05 (0.14)
$SANCru_{2014-2021}$	-0.02 (0.15)	-0.01 (0.14)	-0.17 (0.19)	-0.17 (0.19)	0.19 (0.15)	0.20 (0.14)
$SANCru_{2022-2024}$	-1.37*** (0.24)	-1.39*** (0.23)	-1.32*** (0.33)	-1.34*** (0.33)	-1.46* (0.99)	-1.39*** (0.23)
$SANCz_{1995-2013}$	0.72 (0.51)	0.67*** (0.20)	1.09 (0.87)	1.02*** (0.37)	0.38 (0.31)	0.32*** (0.20)
$SANCz_{2014-2021}$	-0.64*** (0.16)	-0.70*** (0.15)	-0.66*** (0.20)	-0.66*** (0.20)	-0.71*** (0.16)	-0.72*** (0.15)
$SANCz_{2022-2024}$	-1.76*** (0.20)	-1.75*** (0.19)	-2.21*** (0.24)	-2.15*** (0.24)	-1.35*** (0.20)	-1.40*** (0.19)
$INTL_{1996}$	—	-0.53*** (0.14)	—	-1.26*** (0.25)	—	-0.25*** (0.05)
$INTL_{2000}$	—	-0.72*** (0.04)	—	-1.47*** (0.20)	—	-0.95*** (0.18)
$INTL_{2004}$	—	-0.15*** (0.05)	—	-0.88*** (0.15)	—	-0.16*** (0.06)
$INTL_{2008}$	—	-0.22** (0.11)	—	-0.68*** (0.24)	—	-0.05 (0.05)
$INTL_{2012}$	—	-0.38* (0.17)	—	-0.57*** (0.26)	—	-0.22*** (0.08)
$INTL_{2016}$	—	-0.18 (0.15)	—	-0.19 (0.19)	—	-0.38*** (0.04)
$INTL_{2020}$	—	-0.10 (0.10)	—	-0.12 (0.12)	—	-0.06 (0.15)
Intercept	18.91*** (0.50)	19.30*** (0.50)	-0.12 (1.06)	3.39*** (0.20)	7.88*** (0.50)	13.01*** (0.80)

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Variable	Total, $\hat{\beta}$		Raw materials, $\hat{\beta}$		Industrial goods, $\hat{\beta}$	
	(2)	(1)	(2)	(1)	(2)	(1)
Pseudo log-likelihood	-3.1e+11	-3.0e+11	-2.4e+11	-2.3e+11	-1.9e+11	-1.6e+11
Pseudo R ²	0.99	0.99	0.99	0.99	0.99	0.99
RESET-test	0.01	0.02	0.01	0.01	0.02	0.06

Note: *** — $p < 0.01$; ** — $p < 0.05$; * — $p < 0.10$.