Capturing the Effects of Changing Capital- Intensity on Long-term growth in the Major Emerging Economies

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I Introduction

While the world-wide recession of 2008/2009 brought a sharp decline in GDP growth to most countries, especially to the OECD group, the *Emerging Market Economies* (EMEs) were less affected. When we compare their growth rates (table 1) over the two periods: the first from 2000 to 2008 and the second from 2009 to 2014, we see that most of them suffered a decline in the second period as compared to the first period, but growth in the second period was usually still positive and above 2%. The OECD had lower second-period growth rates, which leads to the question why did the EMEs do better than the more developed countries in the OECD? The short answer to this question is that the EMEs are at a lower stage of industrialization and hence they have lower *incremental capital-output ratios* (ICORs). As economies become more developed they tend to become more capital-intensive, that is, their capital-labor ratios increase as the capital stock accumulates. The EMEs have been quite successful attracting capital but as they become more developed their ICORs also rise making it more difficult to grow at the same pace as they had when their dependency on capital was less. They may compensate for this by raising the investment share in GDP as China and India have done (table 1), but that depends on their capacity to raise investment, which for most EMEs, usually means additional foreign investment as well as domestic investment. When world interest rates are low, as they have been since 2009, money for investment flows to those economies where the returns on investment are the highest.

Hence projecting these countries entails taking into account that they will become more capital intensive which in turn will provide an automatic deceleration of the growth rate, and making reasonable assumptions about their ability to continue attracting both domestic and foreign investment. Assumptions about attracting investment will depend upon their ability to continue to yield a higher return on investment than alternatives elsewhere. A surge of economic and/or political instability in any one country can cause it to be less attractive and

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might initiate a reverse flow of foreign investment out of the country. These kinds of shocks are the most difficult to project. In this exercise we will assume the absence of severe shocks to the economy and assume they will be able to maintain their attractiveness for investment.

Table 1 Emerging Market Economies in G20

Growth Rates of GDP, Investment Shares in GDP and ICORs

		2000 to 2008				2009 to 2014	
	Growth Rate	Investment Share in GDP	ICOR		Growth Rate	Investment Share in GDP	ICOR
China	10.7%	39.1%	3.65		8.1%	47.2%	5.83
India	7.8%	33.7%	4.32		6.5%	39.6%	6.09
Russia	6.8%	22.3%	3.28		2.6%	25.2%	9.68
Brazil	3.4%	17.0%	4.99		2.9%	21.0%	7.24
So. Africa	4.3%	19.7%	4.58		2.3%	20.3%	8.84
Korea(Rep)	4.7%	32.3%	6.86		3.2%	28.9%	9.02
Indonesia	5.0%	24.0%	4.80		5.5%	25.6%	4.65
Mexico	2.7%	23.1%	8.55		3.2%	22.7%	7.10
Argentina	4.6%	18.5%	4.03		3.9%	20.8%	5.34
Turkey	5.9%	18.56%	3.15		4.9%	19.9%	4.06

Note: ICOR is the Incremental Capital-Output Ratio
Source: Derived from the National Accounts Estimates of GDP by expenditure (2005 prices US$) of the United Nations Statistical Division.
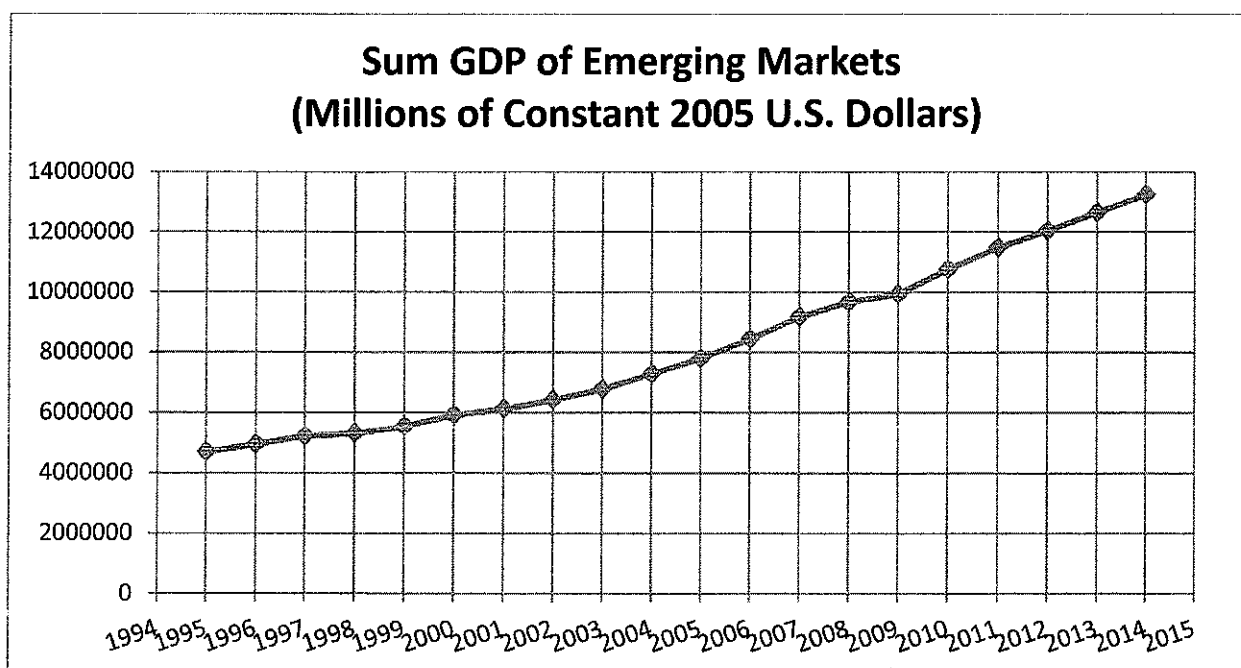

Figure 1 The sum of the GDPs of China, India, Russia, Brazil, South Africa, Rep. of Korea, Indonesia, Mexico, Argentina and Turkey.

Table 2   Emerging Market Countries
Estimated Parameters for the Harrod-Domar and the
Generalized Cobb- Douglas Function (using Employment Data from the ILO)
(Harrod-Domar 2000 to 2014 and Cobb-Douglas 2000 to 2014[2])

	ICOR	α	β	α + β
China	4.47	0.072	0.807	0.879
India	5.12	-1.798	0.681	-1.117
Russia	5.78	3.675	-0.212	3.463
Brazil	5.44	0.462	0.559	1.021
So.Africa	6.27	0.315	0.369	0.684
Korea(Rep)	8.07	0.729	0.567	1.296
Indonesia	4.36	0.668	0.954	1.622
Mexico	9.66	0.759	0.137	0.896
Argentina	3.96	-0.090	0.887	0.797
Turkey	4.43	1.341	-0.145	1.196

National Accounts Data are in 2005 U.S. Dollars supplied by the United Nations Statistical Office.

II Implications of Changing Capital-Intensity

In this section we will project GDP to 2025 for our sample of emerging economies. The data will be taken from the United Nations Statistical Office national account series in constant 2005 prices. We selected this series because alternative series such as the purchasing power parity (PPPs) available at the time of the estimation were still not to everyone's satisfaction (see Deaton 2010). The primary exogenous variable in this exercise will be the ICOR. We will also make the assumption that the share of investment in GDP will be the same as the average for the 2000- 2014 period, however, we will let the ICOR change from year to year at the same average increment as it changed between the 2000 to 2008 period and the 2009 to 2014 period. For eight out of ten of our economies this change is positive, that is the ICOR will be increasing. However, for Indonesia and Mexico the incremental change is negative, therefore the ICOR will be decreasing. This can happen if efficiencies in the execution of investment outweigh the increases of the ICOR due to additional capital accumulation (see Campano, Costantiello and Salvatore 2016). The results are shown in table 3 below. In the case of China, if

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[2] Because of a lack of employment data, the Cobb-Douglas function was estimated for South Africa from 2003 to 2014 and for Turkey from 2005 to 20014.

ICORs are increased at the same rate as they have been increasing over our two historical periods then a gradual slowing of the annual growth rate of GDP from 7.11% in 2015 to 4.48% in 2025 will occur. Although the growth rate will be decreasing, per capita income will continue to rise from $4160 in 2015 to $6952 in 2025 (2005 constant dollars). It would be possible for China to raise the growth rate if they increased the investment share in GDP, but our projected share is already high at 44.04%.

India will see a decline in the GDP growth rate from 5.82% to 3.98% in 2025. Like China, India's investment share is quite high at 37.18% and it doesn't seem likely they will be able to push that much higher. Its GDP per capita rises to $1801 in 2025.

Russia's growth rate slows down from 2.4% in 2015 to 1.2% in 2025, while its GDP per capita increases from $7196 in 2015 to $8631 in 2025. The only countries that do not show a decreasing growth rate of GDP are Indonesia and Mexico. Both of these countries have positive parameters (α and β) in the generalized Cobb- Douglas function (see table 1) and have managed to reduce their ICORs over the two periods. This is possible when capital accumulation increases if the capacity utilization of the capital stock is efficient. Inefficient use of the capital stock can cause the ICOR to rise as well as increases in capital-intensity. However, increases in the ICOR from capital-intensity might be offset with efficient use. In the case of Mexico, the return to labor (α) is higher than the return to capital. Judicious complementary additions to capital of labor led to an overall more efficient production process. While Indonesia's ICOR did not increase, it only slightly decreased, therefore the growth rate only slightly increased.

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Table 3 Projections of Gross Domestic Product 2015 – 2025
(millions of Constant 2005 U.S. Dollars)

	China	I/Y=	44.04			India	I/Y=	37.18		
	ICOR	R	Y	Pop	Y/P	ICOR	R	Y	Pop	Y/P
2015	6.2	7.1	5698524	1369.7	4160	6.4	5.8	1660523	1308.2	1269
2016	6.6	6.7	6081260	1374.2	4425	6.7	5.6	1752953	1324.4	1324
2017	6.9	6.4	6468257	1378.3	4693	7.0	5.3	1846401	1340.4	1377
2018	7.3	6.1	6859348	1381.9	4964	7.3	5.1	1940836	1356.2	1431
2019	7.7	5.8	7254379	1385.0	5238	7.6	4.9	2036231	1371.7	1484
2020	8.0	5.5	7653210	1387.8	5515	7.9	4.7	2132557	1386.9	1538
2021	8.4	5.3	8055710	1390.1	5795	8.2	4.6	2229792	1401.9	1591
2022	8.7	5.0	8461759	1392.0	6079	8.5	4.4	2327910	1416.6	1643
2023	9.1	4.8	8871245	1393.5	6366	8.8	4.3	2426891	1431.0	1696
2024	9.5	4.7	9284066	1394.6	6657	9.0	4.1	2526713	1445.1	1748
2025	9.8	4.5	9700123	1395.3	6952	9.3	4.0	2627356	1459.0	1801

	Russia	I/Y=	20.94			Brazil	I/Y=	18.99		
	ICOR	R	Y	Pop	Y/P	ICOR	R	Y	Pop	Y/P
2015	8.9	2.4	1023428	142.2	7196	7.6	2.5	1236111	203.3	6080
2016	9.7	2.2	1045483	142.0	7360	8.0	2.4	1265500	204.8	6178
2017	10.6	2.0	1066224	141.8	7518	8.4	2.3	1294243	206.3	6273
2018	11.4	1.8	1085820	141.6	7669	8.7	2.2	1322383	207.7	6366
2019	12.2	1.7	1104409	141.3	7815	9.1	2.1	1349956	209.1	6456
2020	13.1	1.6	1122103	141.0	7957	9.5	2.0	1376995	210.4	6544
2021	13.9	1.5	1138997	140.7	8096	9.9	1.9	1403531	211.7	6630
2022	14.8	1.4	1155170	140.3	8232	10.2	1.9	1429591	212.9	6714
2023	15.6	1.3	1170691	139.9	8367	10.6	1.8	1455199	214.1	6797
2024	16.4	1.3	1185617	139.5	8500	11.0	1.7	1480380	215.2	6879
2025	17.3	1.2	1199999	139.0	8631	11.4	1.7	1505154	216.2	6961

Table 3   Projections of Gross Domestic Product 2015 – 2025

(millions of Constant 2005 U.S. Dollars) continued

	S.Africa	I/Y=	18.95			S.Korea	I/Y=	30.63		
	ICOR	R	Y	Pop	Y/P	ICOR	R	Y	Pop	Y/P
2015	8.8	2.2	357766	51.4	6956	9.2	3.3	1280020	49.1	26059
2016	9.6	2.0	364809	51.7	7062	9.3	3.3	1322052	49.3	26828
2017	10.4	1.8	371444	51.9	7159	9.5	3.2	1364792	49.4	27612
2018	11.2	1.7	377721	52.1	7248	9.6	3.2	1408241	49.6	28412
2019	12.0	1.6	383683	52.3	7330	9.8	3.1	1452401	49.7	29228
2020	12.8	1.5	389363	52.6	7406	9.9	3.1	1497271	49.8	30060
2021	13.6	1.4	394791	52.8	7476	10.1	3.0	1542853	49.9	30909
2022	14.4	1.3	399991	53.1	7540	10.2	3.0	1589147	50.0	31776
2023	15.2	1.3	404984	53.3	7599	10.4	3.0	1636155	50.1	32661
2024	16.0	1.2	409789	53.5	7656	10.5	2.9	1683878	50.2	33565
2025	16.8	1.1	414420	53.8	7710	10.7	2.9	1732316	50.2	34489

	Indonesia	I/Y=	24.85			Mexico	I/Y=	22.97		
	ICOR	R	Y	Pop	Y/P	ICOR	R	Y	Pop	Y/P
2015	4.6	5.4	529232	251.9	2101	6.9	3.4	1102748	120.1	9185
2016	4.6	5.4	557826	254.1	2195	6.6	3.5	1141108	121.3	9407
2017	4.6	5.4	588131	256.3	2294	6.4	3.6	1182321	122.5	9651
2018	4.6	5.5	620257	258.5	2400	6.1	3.8	1226722	123.7	9919
2019	4.5	5.5	654325	260.5	2511	5.9	3.9	1274698	124.8	10213
2020	4.5	5.5	690464	262.6	2630	5.6	4.1	1326705	125.9	10535
2021	4.5	5.6	728812	264.5	2755	5.4	4.3	1383280	127.0	10891
2022	4.5	5.6	769518	266.5	2888	5.1	4.5	1445057	128.1	11284
2023	4.4	5.6	812739	268.3	3029	4.9	4.7	1512799	129.1	11720
2024	4.4	5.7	858648	270.1	3179	4.7	4.9	1587421	130.1	12204
2025	4.4	5.7	907427	271.9	3338	4.4	5.2	1670042	131.0	12745

Table 3 Projections of Gross Domestic Product 2015 – 2025

(millions of Constant 2005 U.S. Dollars) continued

	Argentina	I/Y=	19.9			Turkey	I/Y=	19.42		
	ICOR	R	Y	Pop	Y/P	ICOR	R	Y	Pop	Y/P
2015	5.6	3.6	344387	42.2	8165	4.2	4.6	704265	77.0	9146
2016	5.8	3.4	356232	42.5	8378	4.4	4.5	735695	77.8	9457
2017	6.0	3.3	368020	42.9	8586	4.5	4.3	767409	78.6	9768
2018	6.2	3.2	379752	43.2	8791	4.7	4.2	799403	79.3	10079
2019	6.5	3.1	391431	43.5	8992	4.8	4.0	831668	80.0	10390
2020	6.7	3.0	403058	43.9	9190	5.0	3.9	864199	80.8	10702
2021	6.9	2.9	414637	44.2	9386	5.1	3.8	896991	81.4	11014
2022	7.2	2.8	426168	44.5	9579	5.3	3.7	930036	82.1	11327
2023	7.4	2.7	437654	44.8	9770	5.4	3.6	963331	82.8	11641
2024	7.6	2.6	449095	45.1	9958	5.6	3.5	996871	83.4	11956
2025	7.8	2.5	460493	45.4	10145	5.7	3.4	1030649	84.0	12272

III Projections of the National Accounts Expenditure Table

Having projected GDP made it is possible to project the other components of the National Accounts Expenditure table. The model used is based on a production function as mentioned in section I above, and three demand functions for private consumption, government spending and imports.

Production function: Harrod-Domar (see Van den Berg 2013)

Demand equations: Consumption function $C = a + b\,Y$, where Y is GDP

Government Expenditure $G = c + d\,Y$

Imports $M = e + f\,Y$

The above equations were estimated for each country by regression over the period 2000 and 2014. In the cases where 'a' was less than 0, the average propensity to consume was used instead of the equation. The model also included the following identities.

Identities: National Accounts $Y = C + G + I + X - M$

Exports $X = Y - C - G - I + M$

Investment $I = ICOR\,\Delta Y$

Exogenous   ICOR, I/Y

From the above specification we see that exports are the amounts that are necessary to close the national accounts identity for the GDP postulated. In table 4 below is a summary of the estimated parameters for the demand equations. Complete details for each country are given in the appendix.

Table 4   Estimated Parameters of the Demand Functions

(t –values in parenthesis)

Country		Consumption		Government		Imports
	a	b	c	d	e	f
China	112288.1	0.348915	21347.76	0.132217	-185997	0.371075
	(6.76)	(69.88)	(4.1)	(84.52)	(-5.98)	(39.70)
India	40423.83	0.523487	10535.77	0.098224	-132346	0.382015
	(2.12)	(28.91)	(2.71)	(26.62)	(-4.67)	(14.19)
Russia	0	0.614564	85368.25	0.057948	-294821	0.616537
	n.a.	n.a.	(41.63)	(23.56)	(-11.39)	(19.86)
Brazil	0	.690004	34809.49	0.147129	-284994	0.46182
	n.a.	n.a.	(8.48)	(35.72)	(-11.29)	(18.22)
S. Africa	0	0.632286	-14192.3	0.250961	-58262.2	0.488058
	n.a.	n.a.	(-5.68)	(35.72)	(-6.95)	(16.15)
R. Korea	134537.6	0.371664	-21888.8	0.16021	-304361	0.685226
	(12.76)	(34.98)	(-5.54)	(40.24)	(-12.76)	(28.51)
Indonesia	16951.38	0.569617	-6921.1	0.103143	-32948.7	0.379007
	(4.57)	(55.61)	(-4.69)	(25.29)	(-3.77)	(15.68)
Mexico	0	0.682468	6140.891	0.102015	-252989	0.5723
	n.a.	n.a.	(1.04)	(15.88)	(-14.76)	(30.57)
Argentina	0	0.706966	-1520.9	0.114421	-31704.4	0.302266
	n.a.	n.a.	(-0.77)	(15.16)	(-5.52)	(13.69)
Turkey	11911.92	0.673442	734.770456	0.12771294	-54154.5	0.347831
	(1.15)	(33.97)	(0.15)	(13.24)	(-5.49)	(18.50)

The above parameters were used to estimate the private and government consumption and imports based the projected GDP. Exports were the residual which satisfied the national account identity. We now have a projected trade gap which we can compare with the historical trade gap. This is shown in table 5. We see that for all these countries, with the exception of the Republic of Korea where the trade gap as a percentage of GDP remains relatively constant and highly positive, the trade gap (total exports- total imports) as a percentage of GDP shows a gradual movement in the positive direction. Countries which are

negative move towards a less negative foreign trade position. Those that are positive move toward a more positive position. Of course these results depend upon the assumption that the historical trends in the ICOR continue without interruption. As mentioned in section I, any country can reduce its ICOR with a more efficient allocation of investment. This usually requires careful analysis of projects being considered for investment and an efficient execution of the projects once they have been selected. The ICOR can also rise faster than its historical trend because of shocks to the economy. These may be domestically or externally initiated. In these cases, the future GDP will be disappointingly lower than expected. Inefficient allocation of resources and corruption can also be a major reason for an abnormal rise in the ICOR.

The other assumptions that these projections rely upon include: (1) behavioral patterns do not drastically change in the projected period, and (2) the exports that are necessary to balance the national accounts identity actually materialize. Our estimated equations indicate that private consumption patterns are relatively stable, that is the propensity to consume does not change very much in a period of ten years. However, government expenditure and imports can move substantially in any one year. Any large sudden change in government spending is immediately reflected in the internal gap $(Y- C - G -I)$ which is identically equal to the external gap $(X - M)$ and the projected balances will be wrong. Likewise, sudden changes in the propensity to import will be reflected in the external gap and consequently in the internal gap. Furthermore, the demand for a country's exports depends upon the import demand from all other countries. So while the emerging market country may be doing everything right, there may be exogenous forces abroad which limit what they can export. This of course will be reflected in the projected trade balance. A more complete projection exercise would be to run a "linked" model where each country's exports are determined by a world trade matrix (see Klein and Van Peeterssen, 1973).

Table 5   Historical (2014) and Projected Trade Gap as a Percentage of GDP

	2014 (actual)	2015	2020	2025
China	1.3	5.5	6.1	6.5
India	-2.6	-2.4	-1.7	-1.3
Russia	1.0	3.5	4.2	4.7
Brazil	-9.3	-5.5	-5.2	-5.0
S. Africa	-5.7	-3.3	-3.6	-3.9
R.Korea	9.9	7.4	8.7	9.7
Indonesia	4.1	6.0	6.4	6.8
Mexico	-2.2	-2.0	-1.9	-1.8
Argentina	-3.6	-1.6	-1.7	-1.7
Turkey	-1.4	-1.1	-0.7	-0.5

IV   Conclusions

We are cautiously optimistic about the growth prospects of the emerging market countries for the period between 2016 to 2025. As a group they have weathered the stormy economic conditions of the 2008 to 2010 period better than the more advanced OECD countries. One reason for this was their willingness to drastically depreciate their currencies when exports needed a boost. However, there is a great variation both in the level of development and the complexity of the economies among the countries in the EME. Most countries in the group depend upon foreign as well as domestic investment to maintain the growth paths they are on. In this way they are more sensitive to the transmission of adverse economic developments in the OECD than lesser developed countries. The EMEs are exporting products whose markets are mainly in the OECD, while the lesser DGs are exporting more basic traditional commodities that are less sensitive to economic conditions elsewhere. Nevertheless, the EMEs can, to a certain extent, shield themselves from adverse foreign economic shocks if they maintain a reputation of efficiency and continue to offer attractive returns on investment.

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Appendix

Projections of the National Accounts Expenditure Table and Population

Millions of 2005 US$

China

	Y	C	G	I	X	M	Pop
2009	3529638	1327253	484155.4	1615219	1135782	1032771	1334
2014	5320232	1994804	718226.6	2536850	1867393	1797042	1369
2015	5698524	2100589	774789.5	2509630	2242099	1928583	1370
2020	7653210	2782608	1033232	3370474	3120814	2653918	1388
2025	9700123	3496807	1303869	4271934	4040990	3413476	1395

			China	Shares of GDP			
	Y/Y	C/Y	G/Y	I/Y	X/Y	M/Y	X/Y - M/Y
2009	100	37.6	13.7	45.8	32.2	29.3	2.9
2014	100	37.5	13.5	47.7	35.1	33.8	1.3
2015	100	36.9	13.6	44.0	39.3	33.8	5.5
2020	100	36.4	13.5	44.0	40.8	34.7	6.1
2025	100	36.0	13.4	44.0	41.7	35.2	6.5

India

Year	Y	C	G	I	X	M	Pop
2009	1110053	605600	125255	450853	224184	295839	1214
2014	1572967	884186	166036	564172	351910	393337	1295
2015	1660523	909686	173639	617382	461814	501999	1308
2020	2132557	1156790	220004	792885	645201	682323	1387
2025	2627356	1415811	268605	976851	837433	871343	1459

			India	Shares of GDP			
	Y/Y	C/Y	G/Y	I/Y	X/Y	M/Y	X/Y –M/Y
2009	100	54.6	11.3	40.6	20.2	26.7	-6.5
2014	100	56.2	10.6	35.9	22.4	25.0	-2.6
2015	100	54.8	10.5	37.2	27.8	30.2	-2.4
2020	100	54.2	10.3	37.2	30.3	32.0	-1.7
2025	100	53.9	10.2	37.2	31.9	33.2	-1.3

Russia

Year	Y	C	G	I	X	M	Pop
2009	870080	494188	139160	143651	293947	200866	143.1
2014	999647	646494	143689	198979	333391	322906	143.4
2015	1023428	628962	144674	214306	371647	336160	142.2
2020	1122103	689604	150392	234968	444136	396997	141.0
2025	1199999	737476	154905	251280	501360	445023	139.0

Russia   Shares   of GDP

	Y/Y	C/Y	G/Y	I/Y	X/Y	M/Y	X/Y - M/Y
2009	100	56.8	16.0	16.5	33.8	23.1	10.7
2014	100	64.7	14.4	19.9	33.4	32.3	1.0
2015	100	61.5	14.1	20.9	36.3	32.8	3.5
2020	100	61.5	13.4	20.9	39.6	35.4	4.2
2025	100	61.5	12.9	20.9	41.8	37.1	4.7

Brazil

Year	Y	C	G	I	X	M	Pop
2009	1030449	689055	189112	190286	137866	175870	196.7
2014	1206081	852217	214760	250754	163903	275552	206.1
2015	1236111	852922	216677	234737	217642	285867	203.3
2020	1376995	950132	237405	261491	278896	350930	210.4
2025	1505154	1038562	256261	285829	334618	410116	216.2

Brazil   Shares of GDP

	Y/Y	C/Y	G/Y	I/Y	X/Y	M/Y	X/Y - M/Y
2009	100	66.9	18.4	18.5	13.4	17.1	-3.7
2014	100	70.7	17.8	20.8	13.6	22.8	-9.3
2015	100	69.0	17.5	19.0	17.6	23.1	-5.5
2020	100	69.0	17.2	19.0	20.3	25.5	-5.2
2025	100	69.0	17.0	19.0	22.2	27.2	-5.0

| | | | South Africa | | | | |
Year	Y	C	G	I	X	M	Pop
2009	291408	182189	60650	57369	66562	75362	51.0
2010	300266	191601	62449	58013	71700	83497	51.6
2011	309912	200462	63520	63408	74814	92293	52.2
2012	316792	207376	65690	66703	74897	97874	52.8
2013	323800	209554	67842	67729	78331	99655	53.4
2014	328738	211038	69150	67306	80376	99133	54.0
2015	357766	226210	75593	67797	104514	116348	51.4
2020	389363	246189	83523	73784	117637	131770	52.6
2025	414420	262032	89811	78533	128043	143999	53.8

			South Africa	Shares of GDP			
	Y/Y	C/Y	G/Y	I/Y	X/Y	M/Y	X/Y - M/Y
2009	100	62.5	20.8	19.7	22.8	25.9	-3.1
2014	100	64.2	21.0	20.5	24.4	30.2	-5.7
2015	100	63.2	21.1	19.0	29.2	32.5	-3.3
2020	100	63.2	21.5	19.0	30.2	33.8	-3.6
2025	100	63.2	21.7	19.0	30.9	34.7	-3.9

| | | | R. Korea | | | | |
Year	Y	C	G	I	X	M	Pop
2009	1031668	524622	150247	282140	447282	372622	48.8
2010	1098694	543032	156029	332479	504075	436922	49.1
2011	1139144	554857	159480	344045	580362	499600	49.4
2012	1165258	565994	164861	336132	609879	511608	49.6
2013	1199006	577533	170238	335733	635860	520357	49.8
2014	1238695	588855	175039	352605	653542	531346	50.1
2015	1280020	610275	183184	392070	667233	572742	49.1
2020	1497271	691019	217990	458614	851256	721608	49.8
2025	1732316	778377	255646	530608	1050351	882667	50.2

	Y/Y	C/Y	R. Korea Shares of GDP G/Y	I/Y	X/Y	M/Y	X/Y-M/Y
2009	100	50.9	14.6	27.3	43.4	36.1	7.2
2014	100	47.5	14.1	28.5	52.8	42.9	9.9
2015	100	47.7	14.3	30.6	52.1	44.7	7.4
2020	100	46.2	14.6	30.6	56.9	48.2	8.7
2025	100	44.9	14.8	30.6	60.6	51.0	9.7

Year	Y	C	Indonesia G	I	X	M	Pop
2009	378784	229124	35497	92410	120410	98657	238.5
2010	402359	243178	35612	100545	138792	115768	241.6
2011	427184	255024	37577	108458	159291	133167	244.8
2012	452943	275260	39278	120368	161854	143818	248.0
2013	478214	288907	41999	125204	168599	146495	251.3
2014	502242	308106	42830	130700	170315	149708	254.5
2015	529232	318411	47666	131514	199275	167634	251.9
2020	690464	410251	64296	171580	273079	228742	262.6
2025	907427	533837	86674	225496	372393	310972	271.9

	Y/Y	C/Y	Indonesia Shares of GDP G/Y	I/Y	X/Y	M/Y	X/Y-M/Y
2009	100	60.5	9.4	24.4	31.8	26.0	5.7
2014	100	61.3	8.5	26.0	33.9	29.8	4.1
2015	100	60.2	9.0	24.9	37.7	31.7	6.0
2020	100	59.4	9.3	24.9	39.6	33.1	6.4
2025	100	58.8	9.6	24.9	41.0	34.3	6.8

Mexico

Year	Y	C	G	I	X	M	Pop
2009	904986	616953	103396	204800	223540	243703	116.8
2010	952037	656909	105165	214060	269469	293566	118.6
2011	989353	681542	107740	225661	291609	317198	120.4
2012	1029312	704816	111491	238906	308636	334537	122.1
2013	1043670	724007	113005	234058	315518	342918	123.7
2014	1066952	731712	115810	243234	338501	362304	125.4
2015	1102748	752590	118637	253301	356332	378113	120.1
2020	1326705	905434	141484	304744	481326	506283	125.9
2024	1587421	1083364	168081	364631	626836	655491	130.1
2025	1670042	1139750	176510	383609	672948	702775	131.0

Mexico   Shares of GDP

	Y/Y	C/Y	G/Y	I/Y	X/Y	M/Y	X/Y-M/Y
2009	100	68.2	11.4	22.6	24.7	26.9	-2.2
2014	100	68.6	10.9	22.8	31.7	34.0	-2.2
2015	100	68.2	10.8	23.0	32.3	34.3	-2.0
2020	100	68.2	10.7	23.0	36.3	38.2	-1.9
2025	100	68.2	10.6	23.0	40.3	42.1	-1.8

Argentina

Year	Y	C	G	I	X	M	POP
2009	268978	186637	29379	47649	48515	43201	40.8
2010	294401	201000	31496	64841	55317	58253	41.2
2011	319091	221004	34272	76783	58433	71400	41.7
2012	321649	231017	36296	66233	55136	67033	42.1
2013	330930	240108	37817	69479	52950	69423	42.5
2014	332482	240516	38868	65115	48643	60660	43.0
2015	344387	243470	37884	68533	66892	72392	42.2
2020	403058	284948	44597	80209	83430	90126	43.9
2025	460493	325553	51169	91638	99620	107487	45.4

	Y/Y	C/Y	Argentina G/Y	Shares of GDP I/Y	X/Y	M/Y	X/Y-M/Y
2009	100	69.4	10.9	17.7	18.0	16.1	2.0
2014	100	72.3	11.7	19.6	14.6	18.2	-3.6
2015	100	70.7	11.0	19.9	19.4	21.0	-1.6
2020	100	70.7	11.1	19.9	20.7	22.4	-1.7
2025	100	70.7	11.1	19.9	21.6	23.3	-1.7

			Turkey				
Year	Y	C	G	I	X	M	Pop
2009	517694	368121	72126	78632	117814	119000	71.3
2010	565099	396659	73551	116695	121829	143636	72.3
2011	614673	428914	76991	136312	131426	158970	73.5
2012	627750	426719	81724	124783	152868	158342	74.8
2013	654069	448127	87037	138961	152546	172603	76.2
2014	673129	454460	91137	136903	162964	172335	77.5
2015	704265	486193	90679	134796	183408	190811	77.0
2020	864199	593900	111104	165408	240228	246441	80.8
2025	1030649	705994	132362	197266	299364	304337	84.0

	Y/Y	C/Y	Turkey G/Y	Shares of GDP I/Y	X/Y	M/Y	X/Y-M/Y
2009	100	71.1	13.9	15.2	22.8	23.0	-0.2
2014	100	67.5	13.5	20.3	24.2	25.6	-1.4
2015	100	69.0	12.9	19.1	26.0	27.1	-1.1
2020	100	68.7	12.9	19.1	27.8	28.5	-0.7
2025	100	68.5	12.8	19.1	29.0	29.5	-0.5