

G7 to E7: The Standard Chartered Trade Performance Index



Contents

Foreword / 3

Brief Methodology / 5

Part One: Introduction G7 to E7 Trade Performance / 6

G7 to E7: The Standard Chartered Trade Performance Index / 9

Part Two: Country Trade Performance / 13

US / 20

Canada / 24

UK / 28

France / 33

Germany / 37

Italy / 41

Japan / 45

Part Three: E7 Country Performance / 47

Conclusion / 57

Detailed Methodology / 58

Credits / 62

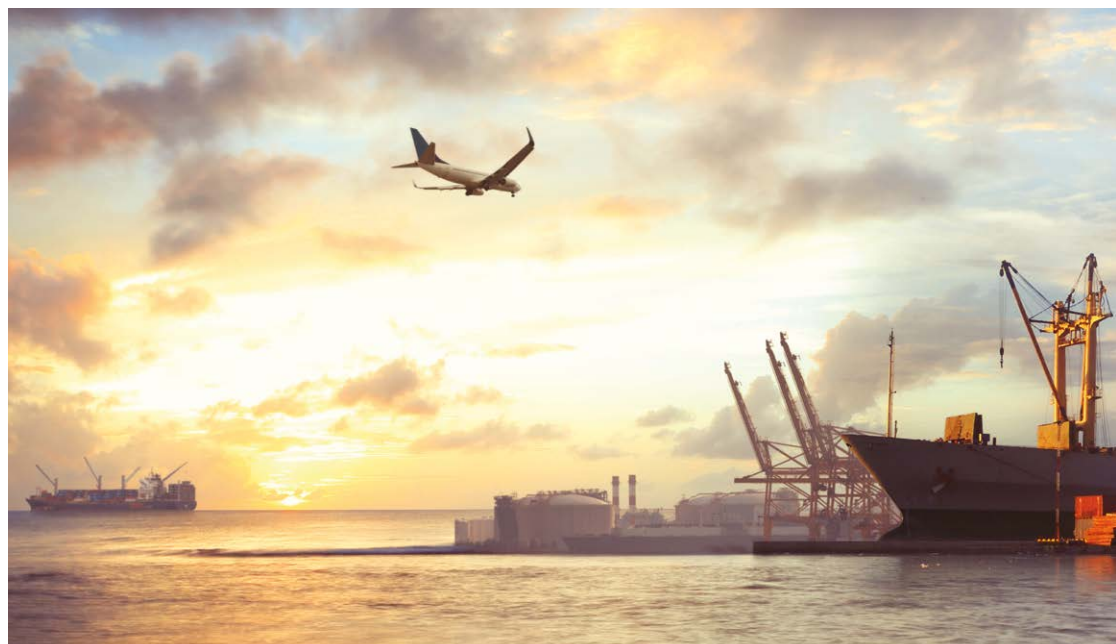
Contact / 62



Foreword

G7 to E7 Trade Race

Membership of the privileged group of G7 nations is no longer a passport to growth. For high stock prices to continue to be justified, Western companies need a compelling growth narrative forecasting expansion into large, fast-growth markets. For countries to continue to prosper, they need a strong, consistently advancing economy. In the face of unrelenting pressure to deliver shareholder return and economic prosperity, are the G7 nations and multinationals accelerating to make the most of the opportunities open to them — and where might they find the greatest gains?



For high stock prices to continue to be justified, Western multinationals need a compelling growth narrative forecasting expansion into large, fast-growth markets. For countries to continue to prosper, they need a strong, consistently advancing economy. In the face of unrelenting pressure to deliver shareholder return and economic prosperity, are the G7 nations and multinationals accelerating to make the most of the opportunities open to them — and where might they find the greatest gains?

To find out, Standard Chartered mapped the developed world's export trade to developing economies. This revealed key opportunities for G7 exports to seven fast-growing or high-potential emerging markets: Bangladesh, China, Indonesia, India, Nigeria, Pakistan and Vietnam. We have coined these the Emerging Seven (E7) and they collectively represent 47% of emerging market imports and 48% of the world's population.¹

Using an economic model² taking into account GDP, geographic distance, and other characteristics, we compared the actual export performance of G7 economies to their trade potential — the prediction of trade performance indicated by the model.

The result is Standard Chartered's G7 to E7 Trade Performance Index, which reveals that these emerging markets remain largely untapped by G7 companies, leaving US\$100 billion a year on the table. The UK, US and France stand to realise the greatest gains if they can fulfil their E7 trade potential, while Germany tops the performance table, standing alone as the only country to currently exceed its total E7 trade potential. Yet even Germany has much more to do in building E7 trade relationships, as the vast majority of Germany's total E7 trade is with China, putting it at risk of potential overreliance on a single, albeit significant, trading partner.

This report shares lessons of winners and losers in the G7 to E7 trade race. The E7 continue to surge ahead at a time when weaker growth at home could leave G7 economies and their prosperity-driving corporates in the slow lane. Every G7 nation has much to gain from accelerating their export performance in these seven emerging economies to achieve — and even exceed — their trade potential.



Michael Vrontamitis
Head of Trade for Europe and Americas,
Standard Chartered

¹ The World Bank, Population total, 2016

² G7 to E7: The Standard Chartered Trade Performance Index Report, Detailed Methodology, page 58



Brief Methodology

G7 to E7: The Standard Chartered Trade Performance Index reveals the size of G7 goods export opportunities in the seven identified emerging markets — Bangladesh, China, Indonesia, India, Nigeria, Pakistan and Vietnam — coined the E7, representing a total of 49 exporting relationships. It does so by incorporating key export considerations — taking into account GDP, geographic distance, and other characteristics — into a gravity trade model. This model reveals annual total export potential for all 49 exporting relationships.

We subtracted potential exports — as indicated by our model — from actual exports. A negative number indicates falling short of potential i.e. an export opportunity. A positive number indicates meeting or exceeding trade potential. G7 nations are ranked based on their export performance to the E7, based on their over- or underperformance as a percentage of actual exports.

The consequences of Brexit for UK exporters were considered by

controlling for membership of the European Union and leaving all other factors unchanged. This enables us to assess UK export potential to each E7 market with and without EU membership. The model excludes assumptions on potential Brexit outcomes, trade negotiations and any UK specific trade deals. It reflects only the trade-diversion that takes place from being inside the EU customs area. The model can be applied to any developed economy and is not specific to the UK.

Introduction

Trade at a Tipping Point

World trade is in transition. The US's withdrawal from the Trans-Pacific Partnership, uncertainty over the North American Free Trade Agreement (NAFTA), and the UK's possible exit from Europe's single market are creating international ripples. The rules of the road are being rewritten, old partnerships are ending just as new ones are forged, and innovative technologies from blockchain to 3D printing are changing the art of the possible in moving value around the globe.

G7 Challenges

G7 growth has not fully recovered from the 2008 global financial crisis. According to IMF figures, between 2010 and today, the G7's contribution to global economic output has narrowed from 50% to 46%, whereas all developing economies have contributed 39% and the E7 alone a significant and growing 20%.³

While the global economy may be forecast to grow at a rate of 3.9% in 2018, the former giants of the G7 are only expected to see an uplift of an average rate of less than 2%.⁴ In this context, Western governments and multinationals must look further afield for the dynamic growth currently eluding them – but where may this come from?



³ The World Economic Outlook, International Monetary Fund, October 2017

⁴ The World Economic Outlook, International Monetary Fund, January 2018



E7 Opportunities

The seven emerging economies of Bangladesh, China, Indonesia, India, Nigeria, Pakistan and Vietnam – the E7 – offer significant potential to become key G7 trading partners. Receiving about 10% of all G7 private sector exports,⁵ the E7 countries represent fast lanes to growth for G7 businesses seeking to drive export growth. The question is, will G7 countries capture their share of this opportunity, or will we see further rises in emerging markets trading with each other and growing together?

Standard Chartered's G7 to E7 Trade Performance Index

Standard Chartered's G7 to E7 Trade Performance Index examines the trading partnerships of the G7 (collectively representing 46% of global GDP)⁶ with the E7 (collectively representing 20% of global GDP and 47% of emerging market imports).⁷

Using an economic model (taking into account GDP, geographic distance and other characteristics) our study ranks the **actual trade performance of G7 countries relative to their potential performance** across their 49 trade routes with E7 trading partners.

Comparing each route's actual trade levels to its potential performance reveals to what extent each G7 nation's export trade is meeting the import needs of the E7 nations. Our study reveals untapped potential at every turn.

To what extent are each of these G7 nations achieving their export trade potential with the E7, and what is the size of the prize if they reorient their trade strategy?

⁵ OECD, Exports by Business Size, 2015 World Integrated Trade Solution, Japan Summary 2015

⁶ The World Economic Outlook, International Monetary Fund, October 2017

⁷ The World Economic Outlook, International Monetary Fund, October 2017

G7 to E7 Trade Performance



How well are G7 nations and businesses performing — and how do they compare to each other?

From 59 developing countries, Standard Chartered's seven selected fast-growing emerging economies — the E7 — represented close to one-third of the G7's total exports to the developing world in 2017.⁸ Our research reveals that there are opportunities with the E7 for all G7 countries.

The E7 represents a crucial path for growth among G7 businesses seeking to drive export growth beyond saturated proximity markets. For Germany, France, Italy and the UK, Europe is the export destination for between 55% and 66% of all exports, while 76% of Canadian exports head to the US and 54% of Japanese exports are destined for Asia.⁹ The search for export diversification, as well as export growth, which among the G7 has been declining, is a priority for business and governments alike.

Our analysis suggests that G7 goods exporters could increase annual exports to the E7 by US\$100 billion, from US\$535.1 billion to US\$635 billion.

⁸ UN Comtrade Database

⁹ UN Comtrade Database

G7 to E7: The Standard Chartered Trade Performance Index

The Trade Performance Index ranks G7 nations by their actual exports to the E7 relative to their predicted exports, according to our model, with the highest ranking nations closest to achieving or exceeding their trade potential. The export opportunity gap* shows the extent to which a G7 economy falls short of its total export potential across all of its individual trade routes to E7 nations. The growth opportunity is the export opportunity gap expressed as a percentage of actual exports.

Country by Ranking	Total Actual Exports (US\$bn)	Total Predicted Exports (US\$bn)	Export Opportunity Gap (US\$bn)*	Growth Opportunity (%)
Germany	109.2	55.7	2.7	2.5
Canada	23.1	29.3	6.6	28.6
Japan	154.6	218.7	69.0	44.6
Italy	21.0	32.3	11.3	53.8
France	30.7	42.0	12.1	39.4
US	162.9	209.0	46.1	28.3
UK	33.6	48.0	14.5	43.2
Total	535.1	635.0	162.3	30.3

* The export opportunity gap reveals the total of G7 nations' underperformance against predicted exports for each individual G7 to E7 trade route. It is not a sum of the 'total predicted exports' minus the 'total actual exports'. In other words, a surplus on one trade route does not offset underperformance on another: nations can both exceed total predicted exports and have underperformance (export opportunity) on specific G7 to E7 trade routes.

Highlights of the Winners and Losers in the G7

Germany takes pole position as the only market to exceed its predicted value of trade with the E7, exporting US\$109 billion with the E7. This is almost double what is predicted and accounts for as much as 4% of Germany's total global exports. This puts it several laps ahead of its closest trade rival, Canada, which falls short of its potential trade performance by more than a quarter (28.6%).

China is now Germany's top global trading partner and most of its E7 success is due to this one relationship, with exports to China making up a vast 81% of the country's overall trade with the E7. This is US\$53 billion more than predicted by our model and, even given China's market size, this could put Germany at risk of overexposure to one market. This relationship

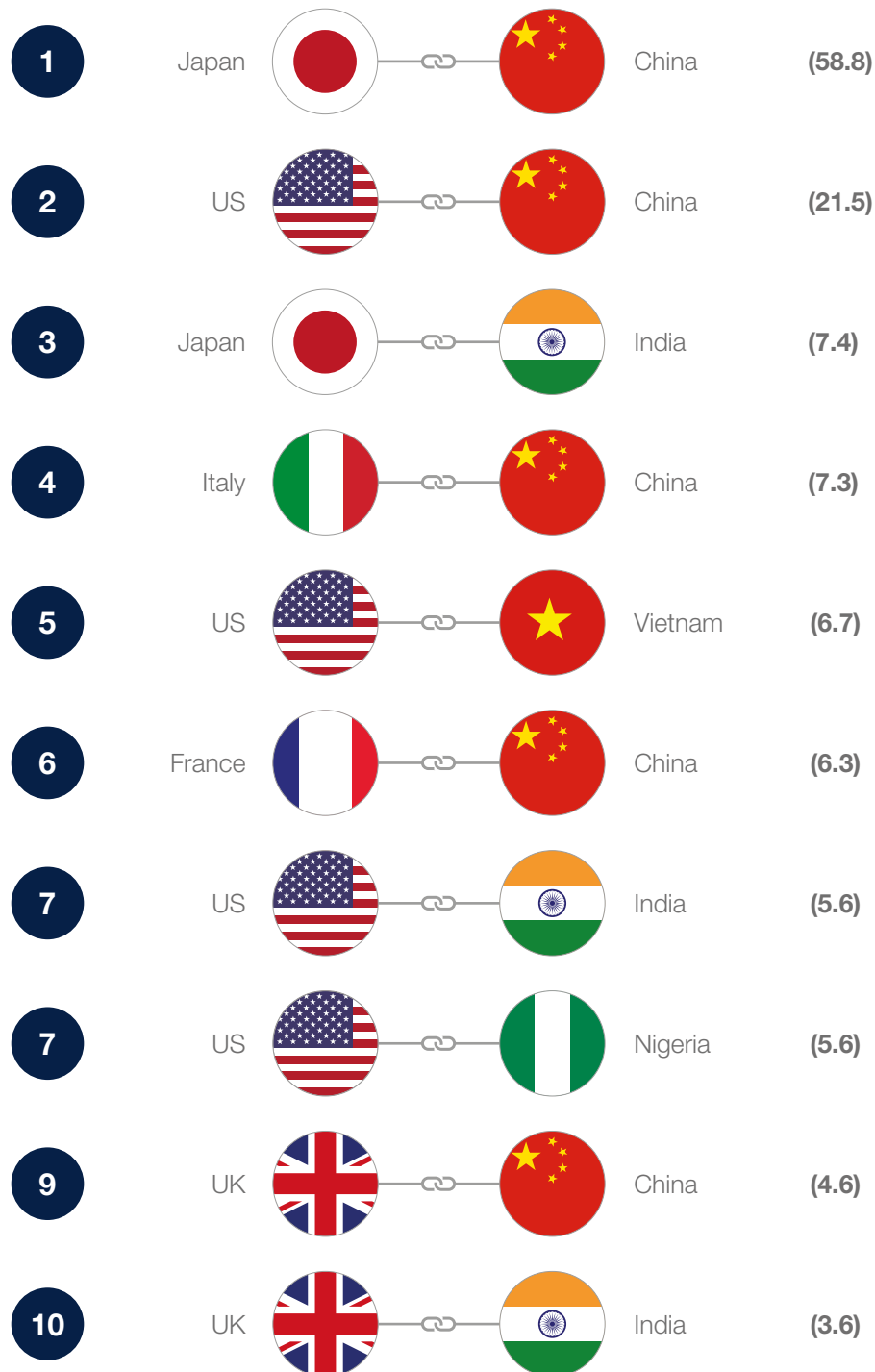
demonstrates that the G7 can no longer be seen as a standalone 'bloc' — the dynamics of world trade are changing as emerging market growth outshines that of developed nations.

Japan has much to gain by achieving its potential trade levels with the E7. Japanese businesses could increase exports to the E7 by US\$69 billion, or 44.6%, which would give the entire economy a momentous 10.7% boost if it exports its full potential to the E7. Much of this increase could be gained through improving relationships with China. This route offers the biggest G7 to E7 growth opportunity by value, of US\$58.8 billion – equivalent to the GDP of Luxembourg¹⁰ or 9% of Japan's current annual exports.¹¹

¹⁰ World Bank, Luxembourg, 2016

¹¹ Observatory of Economic Complexity, Japan, 2016

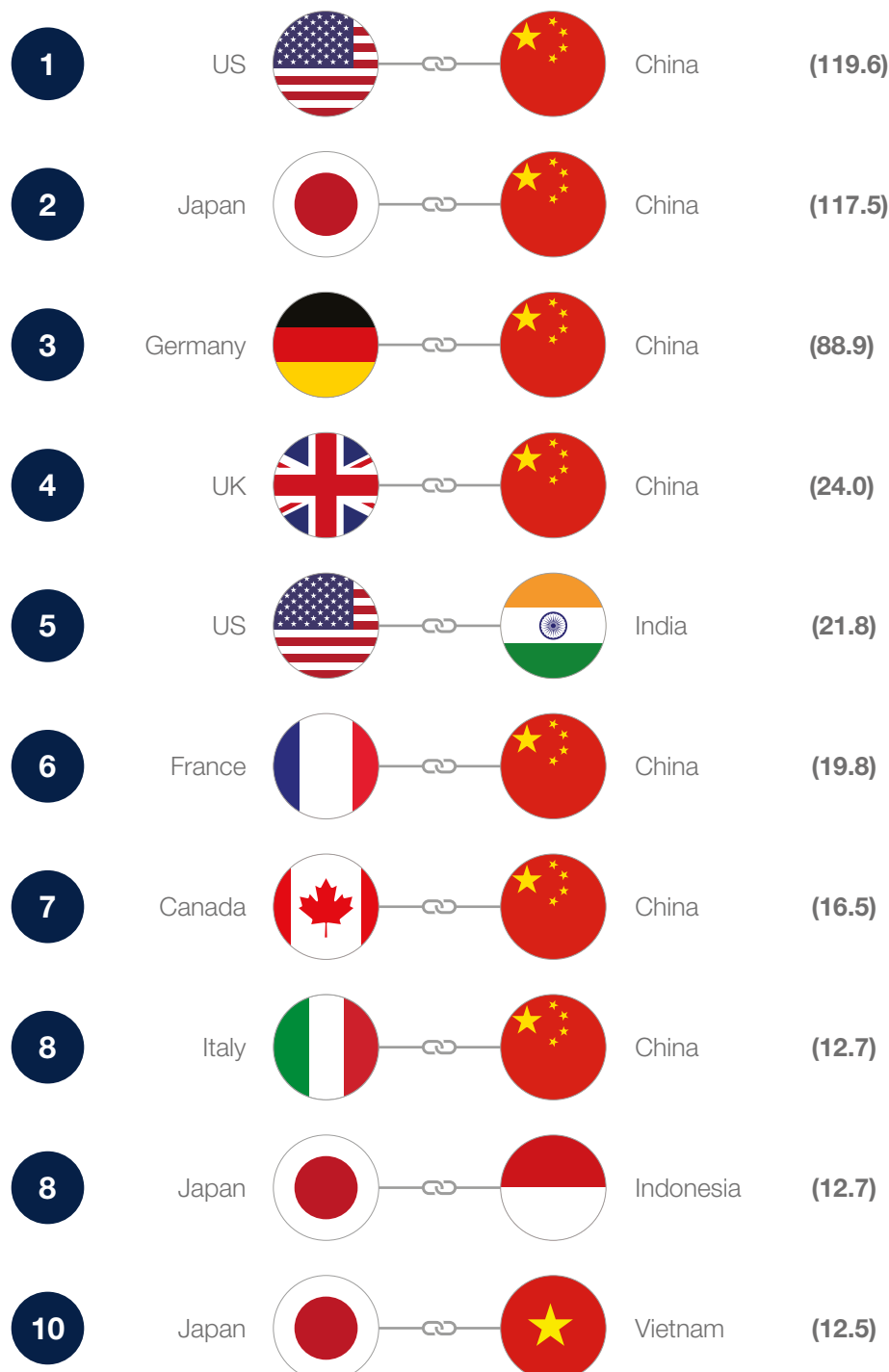
Top 10 G7 to E7 Export Opportunities by Value (US\$bn)



The US and UK, both undergoing significant political change that risks seeing them draw back from international trade, could do more to focus on opportunities in emerging markets. At a time when overall growth in these countries is slow compared to emerging economies, reaching potential performance in the E7 could be vital.

While the **US** is the largest exporter to the E7 overall, it is falling below potential by over a quarter (28.3%). It boasts the largest G7 to E7 trade route, exporting nearly US\$120 billion to China, but even here, there is more opportunity. The US could experience a US\$22 billion boost by maximising opportunities with China alone. But multi-billion-dollar opportunities exist for the US in all E7 markets, not just China. US companies could increase exports to Indonesia by 45.1% (to US\$10.5 billion), to India by 25.9% (to US\$27.4 billion) and to Vietnam by 87.4% (to US\$14.4 billion). If the US makes the most of all E7 trade, its total exports could rise by as much as 3.1%.

Current Top 10 G7 to E7 Export Trade Routes by Value (US\$bn)



Membership of a trade and customs union brings many trade benefits but also diverts some trade that might have happened outside it. Our analysis reveals that exports to the E7 could increase for the **UK** when it leaves the EU customs union, from a current actual trade of US\$33 billion to US\$65 billion. This additional opportunity reflects the impact of the trade diversion effect for the UK out of the EU and does not reflect the presumed loss in UK exports to the EU. As 2018 gathers pace, there are opportunities for the UK outside the EU, although the EU will remain a critical trading partner.

Economy-changing opportunities in the E7 are also open to **France** and **Italy**. US\$12 billion and US\$11 billion a year is the untapped potential for both European nations respectively, or a 2.4% boost for France and 2.5% boost for Italy in terms of overall trade. Both countries excel on some trade routes (in particular France-India and Italy-Bangladesh) but fall short of expectations overall — France by a third (39.4%) and Italy by half (53.8%). With key trading partner, the UK, leaving the European Union, these nations should also look elsewhere for growth.



While **Canada** places second in the G7 behind Germany, it displays patchy performance and falls more than a quarter (28.6%) below expectations. Its trade relationship with Bangladesh is incredibly strong, but it struggles elsewhere, with exports to Nigeria and Vietnam achieving just 29% and 22% respectively of what would be expected.

Overall, what becomes clear through our analysis of these trade routes is that the E7 represent a significant trading opportunity for the G7. For those business leaders and governments who race ahead of the pack now to drive change, the prize could be immense.



How Successful is Each G7 to E7 Route?

By ranking all 49 trade routes between the G7 and E7, we can see the greatest opportunities overall and for each nation. Each route's performance is ranked based on the extent to which it meets expectations and is placed into one of seven categories which reveal how much of an opportunity exists within each route to increase exports.

G7 to E7: The Standard Chartered Trade Performance Index

Performance Key

						
Vast Opportunity	Significant Opportunity	Medium Opportunity	Opportunity	Slightly Exceeding Expectations	Exceeding Expectations	Considerably Exceeding Expectations



Canada

US

UK

Germany

France

Italy

Pakistan

India

Bangladesh


China

Vietnam

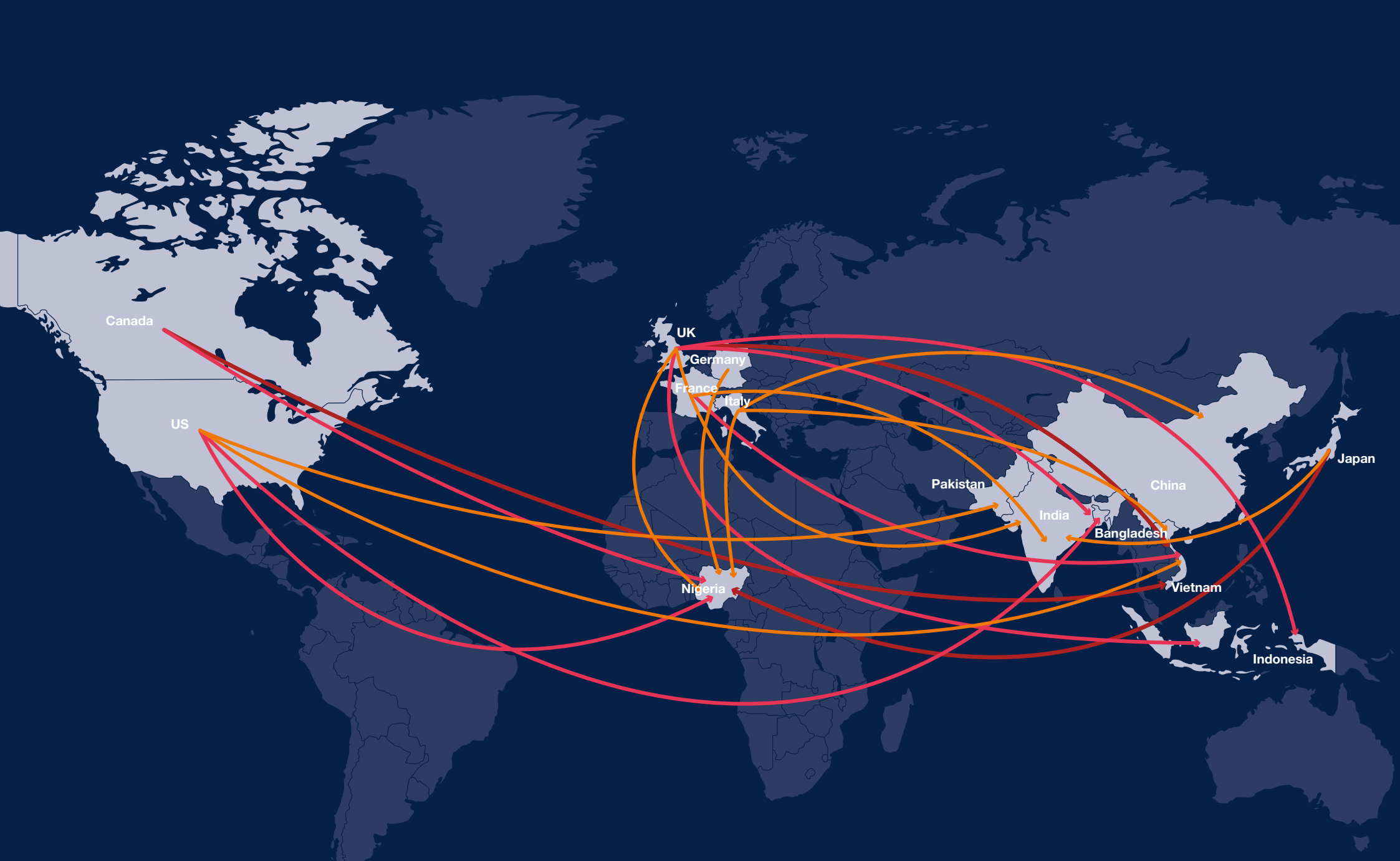
Indonesia

Japan

Performance Key

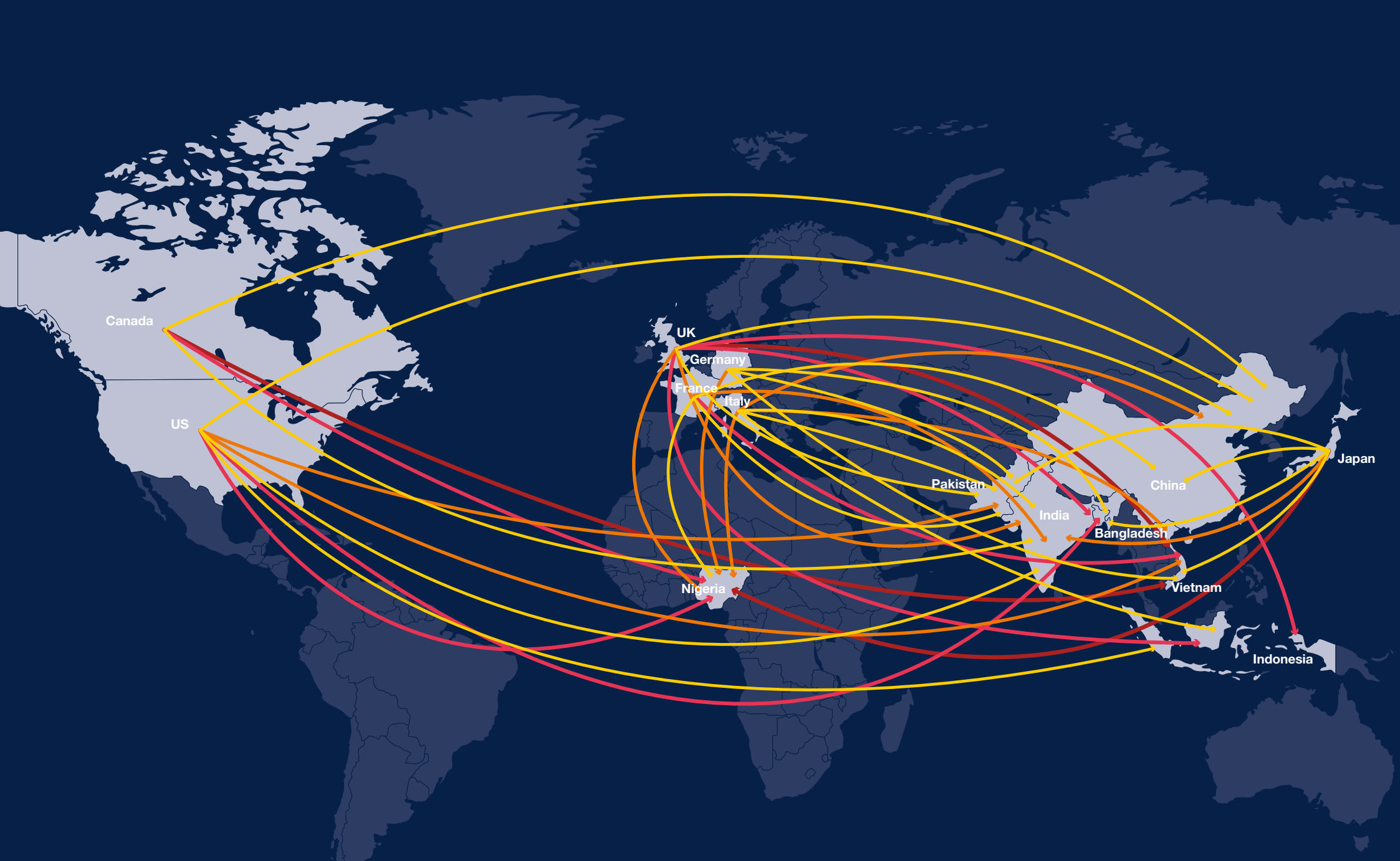
 Vast Opportunity

 Significant Opportunity



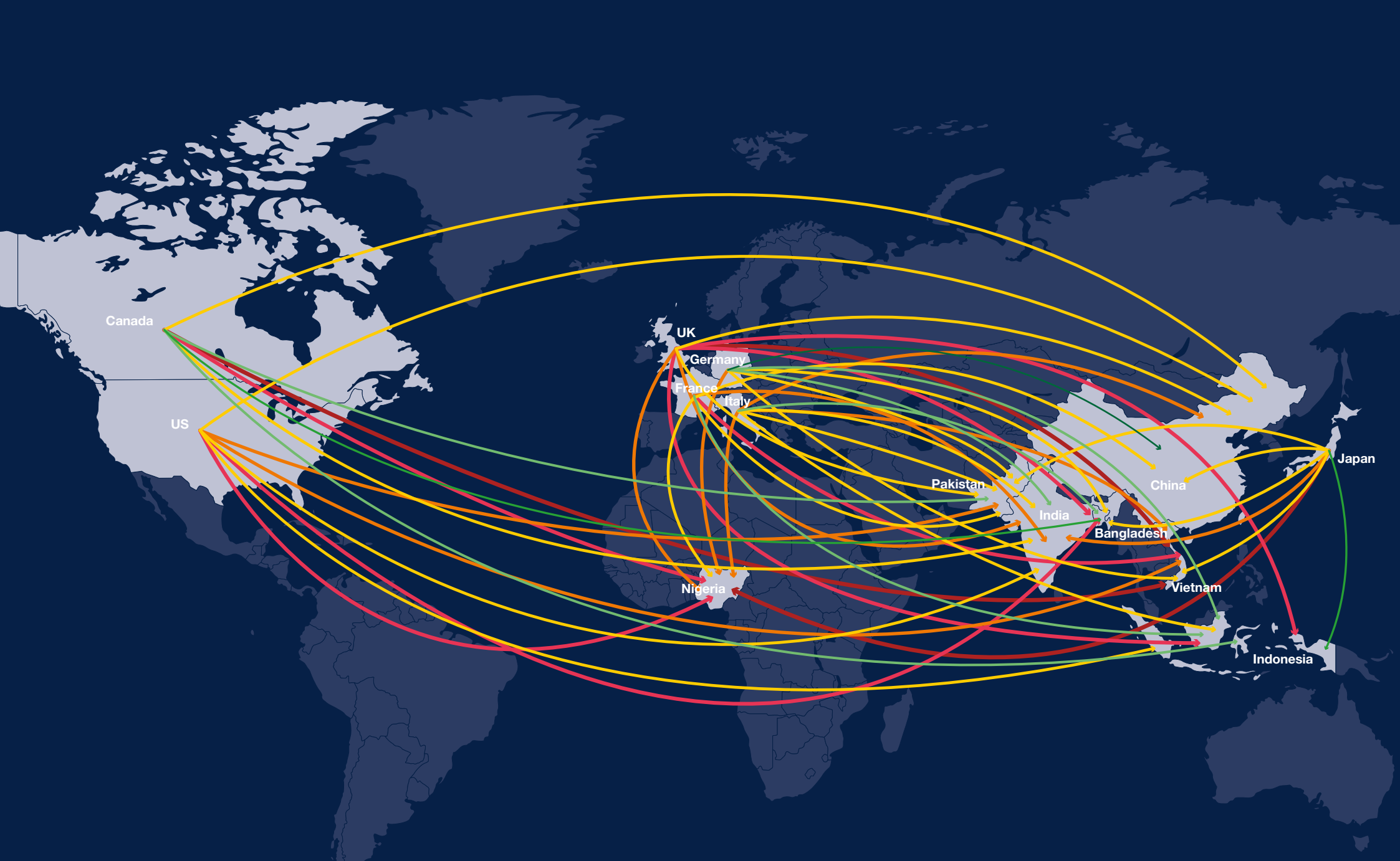
Performance Key

-  Vast Opportunity
-  Significant Opportunity
-  Medium Opportunity
















Performance Key




-  Vast Opportunity
-  Significant Opportunity
-  Medium Opportunity
-  Opportunity






























Performance Key



Rank	G7 Country to E7 Country	Performance	Actual Exports (US\$bn)	Predicted Exports (\$bn)
1	DEU ↔ CHN		88.90	35.63
2	CAN ↔ BGD		0.65	0.36
3	JPN ↔ IDN		12.67	7.79
4	FRA ↔ IDN		2.73	2.01
5	DEU ↔ IND		11.21	8.81
6	DEU ↔ IDN		3.20	2.69
7	CAN ↔ PAK		0.57	0.49
8	ITA ↔ BGD		0.51	0.45
9	CAN ↔ IDN		1.46	1.46
10	DEU ↔ BGD		0.75	0.76
11	DEU ↔ PAK		1.15	1.20
12	JPN ↔ VNM		12.55	13.20
13	JPN ↔ PAK		1.75	1.90
14	ITA ↔ IDN		1.38	1.61
15	USA ↔ CHN		119.60	141.10
16	GBR ↔ CHN		24.03	28.65
17	CAN ↔ CHN		16.52	19.96
18	CAN ↔ IND		3.08	3.80
19	ITA ↔ PAK		0.58	0.73
20	USA ↔ IND		21.80	27.44
21	JPN ↔ BGD		1.38	1.81
22	FRA ↔ CHN		19.84	26.18
23	FRA ↔ NGA		1.60	2.23
24	FRA ↔ PAK		0.63	0.88
25	ITA ↔ IND		3.82	5.34
26	DEU ↔ VNM		2.70	3.83
27	USA ↔ IDN		7.22	10.47
28	GBR ↔ PAK		0.82	1.24
29	JPN ↔ CHN		117.52	176.35

Performance Key Vast Opportunity Significant Opportunity Medium Opportunity Opportunity Slightly Exceeding Expectations Exceeding Expectations Considerably Exceeding Expectations

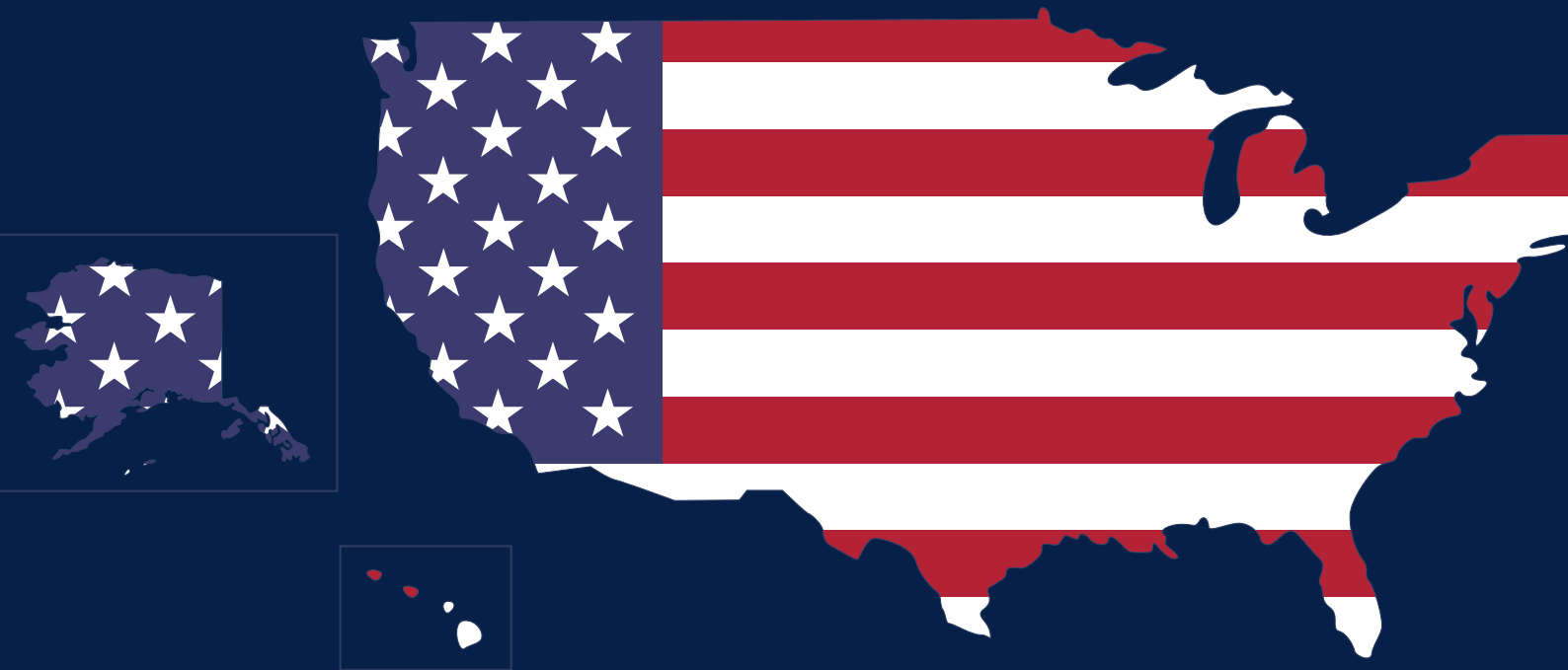
Rank	G7 Country to E7 Country	Performance	Actual Exports (US\$bn)	Predicted Exports (\$bn)
30	FRA — IND		4.22	6.46
31	ITA — CHN		12.68	19.98
32	GBR — IND		5.51	9.12
33	GBR — NGA		1.68	3.04
34	USA — VNM		7.71	14.45
35	JPN — IND		8.21	15.57
36	USA — PAK		1.83	3.58
37	ITA — VNM		1.12	2.24
38	DEU — NGA		1.28	2.76
39	ITA — NGA		0.88	1.92
40	FRA — BGD		0.25	0.56
41	USA — NGA		3.79	9.40
42	USA — BGD		0.99	2.60
43	FRA — VNM		1.42	3.74
44	GBR — IDN		0.73	2.17
45	CAN — NGA		0.36	1.24
46	GBR — BGD		0.23	0.79
47	JPN — NGA		0.47	2.05
48	CAN — VNM		0.45	2.03
49	GBR — VNM		0.60	3.07

Performance Key							
	Vast Opportunity	Significant Opportunity	Medium Opportunity	Opportunity	Slightly Exceeding Expectations	Exceeding Expectations	Considerably Exceeding Expectations

Reflecting the overall country scores, at the top of the table cluster German and Canadian routes. At the bottom, sit the UK and US. Japan, Italy and France feature throughout, mostly ranking in mid-table positions. What this shows is that today, of all these trade routes between the seven emerging and seven established economies, only nine — or 18% — exceed or meet predictions. While this is disappointing, it does demonstrate that building these valuable relationships and meeting — or even exceeding — expectations is more than possible.

So where are the trade route opportunities for each G7 nation?

Significant Returns Possible



Sixth placed US could increase its exports to the E7 by more than a quarter — or US\$46 billion — according to Standard Chartered's G7 to E7 Trade Performance Index.

Rank	Country	Actual Exports (US\$bn)	Predicted Exports (US\$bn)	Export Opportunity Gap	Growth Opportunity	Opportunity as a % Global Exports
6	US	162.9	209.0	46.1	28.3	3.1







US

America's move to self-sufficiency is reflected in the results of Standard Chartered's G7 to E7 Trade Performance Index. Ranking sixth of the G7 nations and with no trade routes featuring in the top ten of the Standard Chartered Trade Performance Index, the US has a long way to go to tap into its full potential in the E7. The US is underperforming in every single relationship and overall misses expectations by over a quarter (28.3%) — but it could be one of the top trading partners with the E7. By trading more with these emerging nations, the US could see a 3.1% increase in its overall exports, equivalent to an extra US\$46.1 billion a year.

Net exports, having barely added to growth in recent years, are not expected to contribute tremendously in 2018. For the US, trade risks are weighted to the downside in North America due to the ongoing NAFTA renegotiations and the potential for an escalated trade dispute with China. Any drastic actions such as withdrawal from the trade agreement or restricting Chinese trade could negatively impact the US.

US's Current E7 Trade Performance

Rank	G7 Country to E7 Country	Performance
15	 China	Opportunity
20	 India	Opportunity
27	 Indonesia	Opportunity
34	 Vietnam	Medium Opportunity
36	 Pakistan	Medium Opportunity
41	 Nigeria	Significant Opportunity
42	 Bangladesh	Significant Opportunity

Opportunities

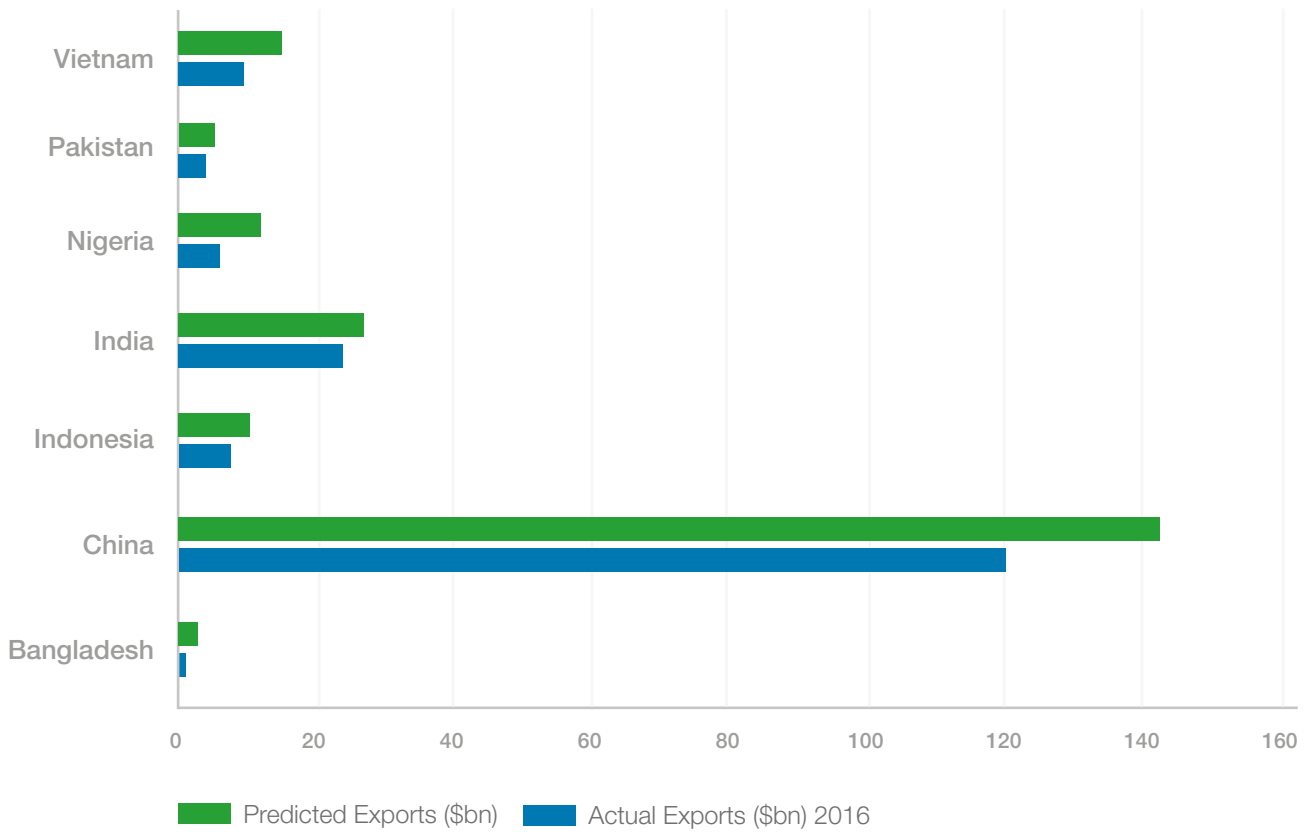
With President Trump determined to promote ‘America First’ and increase US exports, our model indicates that US business could enhance exports to the E7 by as much as 28.3%, from US\$163 billion to US\$209 billion annually. Multi-billion-dollar opportunities exist in all E7 markets, but most significantly in China, India, Indonesia and Vietnam.

Despite it already being the most valuable route of all 49, trading US\$120 billion last year, the biggest E7 trade route opportunity for the US is with China. This route failed to meet expectations by US\$22 billion.

Of course, the China/US trade deficit is a current area of discussion and an issue of great complexity. Other large opportunities for the US are Bangladesh which ranked 42nd, Nigeria in 41st, Vietnam in 34th and Indonesia in 27th place. Combined, they represent a potential of US\$17 billion untapped trade opportunity for the US. The US might focus on machinery in Bangladesh for example, with current exports in this category falling 44% more than other countries.

With its current political stance, the risk is that the US may retreat even further from the E7 but for businesses that buck the trend, the returns could be significant.

Trade Between USA and E7 (USD billion) 2016



US



The Standard Chartered View on the US¹²

The US economy is likely to benefit from strong domestic activity and global growth in 2018. We expect the labour market to continue holding a position of strength and while the Fed is pursuing gradual tightening, it is unlikely to derail this.

In terms of exports, capital goods, industrial supplies, automotive products and petroleum products are the largest categories for the US, and demand for these is particularly sensitive to global growth. Continued growth in the E7 could prove particularly lucrative for US trade in these industries.



¹² Standard Chartered Global Research, Global Focus – Economic Outlook 2018, Beware of the dog

Rocky Performance



A second place ranking in Standard Chartered's G7 to E7 Trade Performance Index masks the fact that Canada underperforms expectations by a fifth and could make an additional 1.7% in developing-world exports each year by maximising E7 opportunities.

















Rank	Country	Actual Exports (US\$bn)	Predicted Exports (US\$bn)	Export Opportunity Gap	Growth Opportunity	Opportunity as a % Global Exports
2	Canada	23.1	29.3	6.6	28.6	1.7

Bumpy economic growth and uncertainty surrounding the continuation of NAFTA mean there are opportunities for Canada to steady the ship and spread its risk by building new and strengthening long-term E7 trade relationships. Doing so could boost Canadian exports by 1.7%, representing US\$7 billion extra trade a year. With the size of the opportunity and the Standard Chartered G7 to E7 Trade Performance Index revealing a mixed picture for the country, now is the time for businesses to take action.

Overall, Canada takes current second place in the G7 to E7 trade race, but it falls below expectations by a quarter (28.6%). Its high ranking is not due to the country's outperformance but to underperformance by all G7 countries, except Germany which places first.

Canada's Current E7 Trade Performance

Rank	G7 Country to E7 Country	Performance
2	 —  Bangladesh	Exceeding Expectations
7	 —  Pakistan	Slightly Exceeding Expectations
9	 —  Indonesia	Slightly Exceeding Expectations
17	 —  China	Opportunity
18	 —  India	Opportunity
45	 —  Nigeria	Significant Opportunity
48	 —  Vietnam	Vast Opportunity

Highs

Canada achieves the second strongest trade route performance in Canada-Bangladesh. Representing US\$650 million, this route ranks in the number two spot due to how impressively it exceeds its expected exports — by 80%. With a well-established diplomatic relationship between the two starting in 1972, Canada's trade of retail links with Bangladesh are strong, with Bangladeshi imports of Canadian retail outperforming imports from the rest of the world by 65% over the last five years. This trade route is an example of how to create effective E7 connections fuelled by long-term commitment and diverse commodities.

Opportunities

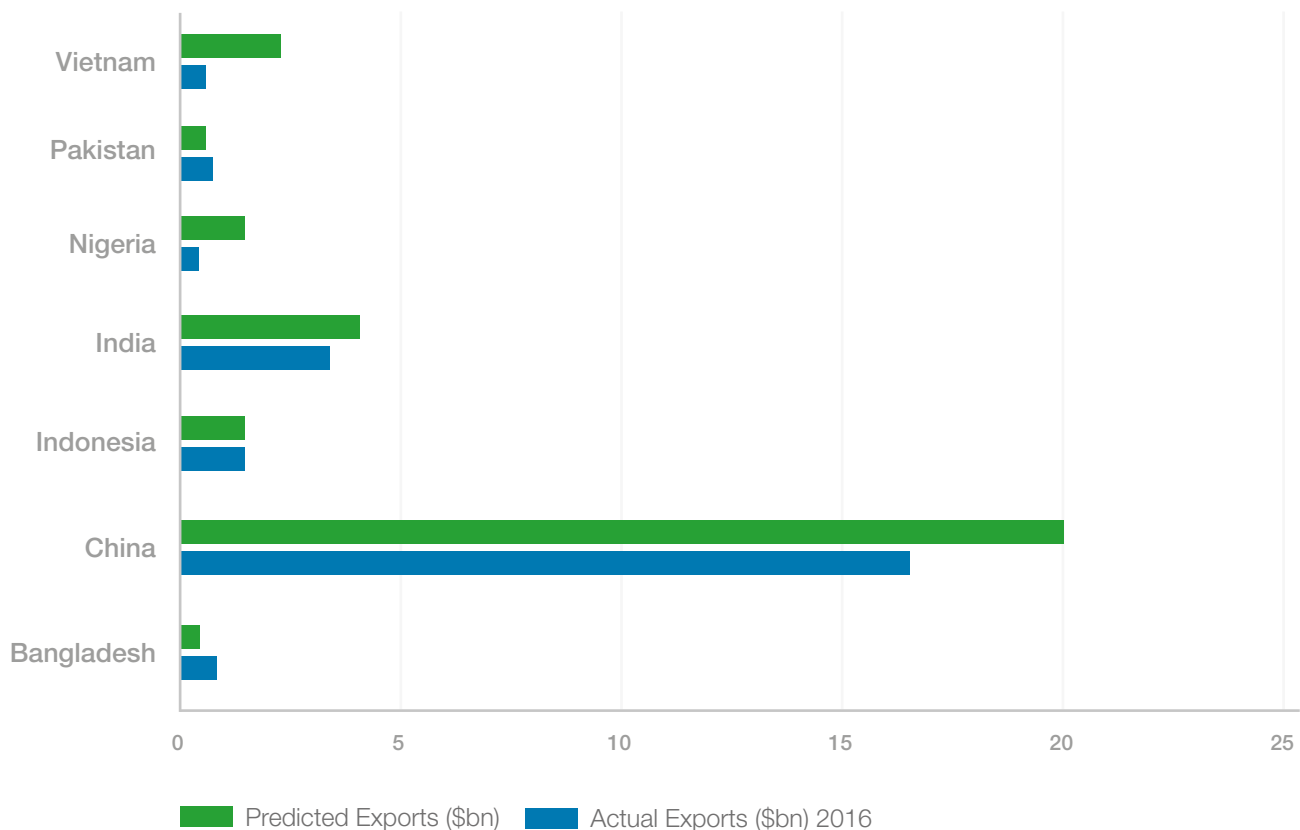
Canada’s relationships with E7 countries Nigeria and Vietnam are nowhere near as extensively developed. These trade lanes are ranked 45th and 48th out of 49 routes, respectively exporting just 29% and 22% of what would be expected. Clearly there are opportunities here for Canada.

Overall, of particular focus for Canada could be increasing FMCG products to Nigeria and machinery to Bangladesh. Relative to imports from the rest of the world, Nigerian imports of Canadian FMCG have fallen by 52% over the last five years, while Bangladeshi imports of machinery have fallen by 56% over the same period.

Canadian businesses are also failing to make the most of trade with all-important China. Although US\$16.5 billion was exported on this route in 2016, making it the seventeenth most valuable G7 to E7 trade route, this was US\$3.4 billion less than expected. Lessons could be taken from automotive trade from Canada to China, which has demonstrated impressive growth since 2011 — 88 percentage points faster than the rest of the world’s automotive exports to China. Political appetite for a trade deal between China and Canada could see this trend continue.

While Canada may be the fastest growing G7 nation,¹³ it cannot afford to rest on its laurels. Such inconsistent performance across the E7 trading nations reveals significant opportunities, which Canadian businesses have the skills and experience to capitalise on.

Trade Between Canada and E7 (USD billion) 2016



¹³ Desjardins, Economic Studies, February 2017

Opportunity to Capitalise from E7



Ranking seventh in Standard Chartered's G7 to E7 Trade Performance Index, the UK has much to gain from looking further afield to the E7. Specifically, China and India represent sizeable growth opportunities for the UK.

Rank	Country	Actual Exports (US\$bn)	Predicted Exports (US\$bn)	Export Opportunity Gap	Growth Opportunity	Opportunity as a % Global Exports
7	UK	33.6	48.0	14.5	43.2	3.5

Of all G7 nations, the UK is struggling most with growth.¹⁴ It is one of the lowest performers in Standard Chartered's G7 to E7 Trade Performance Index. However, of all the G7 countries, the UK's opportunities in the E7 are by far the greatest. If the UK's E7 exports were to meet expectations, the country's overall trade to the E7 would increase by 43.2%, netting an additional US\$14.5 billion — a significant economic boost at a time of modest growth.

Looking ahead, the UK economy has settled into a slower pace of growth. Since the Brexit vote, the UK has switched from one of the fastest-growing G7 economies to the slowest.¹⁵ Economic growth could be blunted by uncertain investment prospects and consumption constrained by lower real incomes and higher debt payments. This is already evident with retail sales growth averaging less than 2% between July and September 2017 — down from more than 4% in the eighteen months leading up to the EU referendum.¹⁶ While the Bank of England expects savings to continue to fall, this will be driven by the squeeze on real incomes, not by higher spending. In this environment, which will last beyond 2018, UK businesses could capitalise on export opportunities with all E7 countries.

















¹⁴ Think Canada, Investment Strategy and Analysis Division, Office of the Chief Economist Global Affairs Canada, December 2017

¹⁵ OECD, Interim Economic Outlook, September 2017

¹⁶ Office for National Statistics, Retail Sales, Great Britain Statistical bulletins, July - September 2017

UK's Current E7 Trade Performance

Rank	G7 Country to E7 Country	Performance
16	 —  China	Opportunity
28	 —  Pakistan	Opportunity
32	 —  India	Medium Opportunity
33	 —  Nigeria	Medium Opportunity
44	 —  Indonesia	Significant Opportunity
46	 —  Bangladesh	Significant Opportunity
49	 —  Vietnam	Vast Opportunity

Like all G7 countries, the UK would significantly benefit from focusing on China, but it also faces a sizeable opportunity to capitalise on its current relations with India. UK businesses missed projections by US\$4.6 billion with China and US\$3.6 billion with India. These are two of the top ten biggest G7 to E7 opportunities by value, demonstrating that UK businesses have much to gain from strengthening relationships with these emerging nations. A slowing in FMCG products being sent to China over the last five years — by 34 percentage points compared to the rest of the world's FMCG export growth to China — is a warning sign for the UK as China switches to domestic production and imports from elsewhere.

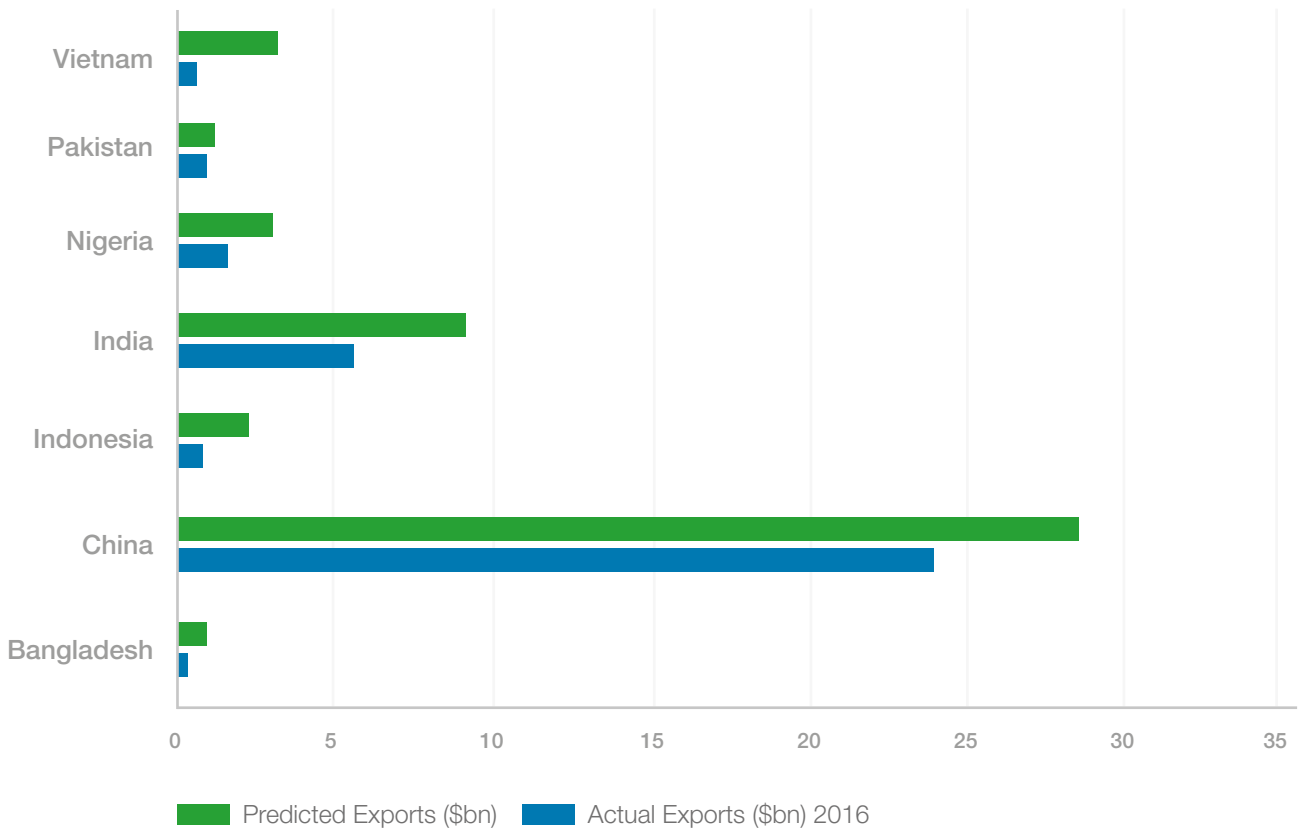
Billion-dollar-plus opportunities also exist for UK businesses in Vietnam. A last place ranking for the UK-Vietnam trade route reveals it only made US\$600 million of the predicted US\$3 billion. Ranked 68th of 190 in the World Bank's Ease of Doing Business ranking,¹⁷ Vietnam can be a more challenging country to trade with, but the UK is taking steps to make the most of this vibrant Asian economy by assigning it as one of the Department for International Trade's (DIT) 20 High Growth Markets.¹⁸ Crucially, Vietnam is expected to lead the way when it comes to growth - with GDP growth of about 6.3% between 2018 and 2022.¹⁹

¹⁷ The World Bank, Doing Business Index, 2017

¹⁸ Gov UK, Doing business in Vietnam: Vietnam trade and export guide, January 2016

¹⁹ International Monetary Fund, World Economic Outlook, October 2017

Trade Between UK and E7 (USD billion) 2016



UK

Brexit Effect

Since the UK voted to leave the EU, the biggest political topic of conversation has been how to maintain strong European trading relationships. In addition, the UK has to consider building strong trading relationships with the rest of the world to source new export opportunities.

Membership of a trade and customs union may increase trade within that union but often diverts trade that might have happened outside it. Our analysis confirms this ‘trade diversion’ effect, with membership in the EU being associated with a statistically significant and economically meaningful decrease in exports to developing countries like the E7 for all EU member nations.

Excluding assumptions of the possible outcome for the UK of leaving the EU Customs Union, our research suggests that predicted UK exports to the E7 could potentially increase by US\$16.9 billion from US\$48.1 billion to US\$64.9 billion when the country leaves the EU.

This additional opportunity purely reflects the impact of the trade diversion effect for the UK out of the EU and does not reflect the presumed loss in UK exports to the EU.

Even if the UK continues to grow its relationships with other European trading partners, the opportunities beyond its continent are both considerable and underutilised.

Notional Post-Brexit UK Exports to the E7 (US\$bn)

Country by Ranking	Actual Exports (US\$bn)	Predicted Exports if in EU (US\$bn)	Predicted Exports if Outside EU (US\$bn)	Increased Export Opportunity if Outside EU (US\$bn)
1 - China	24.0	28.6	38.7	10.1
2 - India	5.5	9.1	12.3	3.2
3 = Nigeria	1.7	3.0	4.1	1.1
3 = Vietnam	0.6	3.1	4.1	1.1
5 - Indonesia	0.7	2.2	2.9	0.8
6 - Pakistan	0.8	1.2	1.7	0.4
7 - Bangladesh	0.2	0.8	1.1	0.3
Total	33.6	48.1	64.9	16.9

Source: Oxford Analytica for Standard Chartered



The Standard Chartered View on the UK²⁰

The UK economy has settled into a slower pace of growth. Consumer spending has slowed sharply in 2017 as the impact of higher inflation has weighed on spending power, despite rising employment and a falling savings rate.

A more competitive British pound, having re-accelerated in 2017 after a weak performance in 2016, should support export growth in 2018. Meanwhile, imports are likely to slow due to higher costs and weaker

demand. We expect the current account deficit to shrink gradually as export growth outpaces import growth and as investment income from abroad improves.

In 2019, we anticipate a post-Brexit transition agreement will leave UK trading arrangements with the EU broadly unchanged for two to three years; in that case, export growth is likely to be weak but positive.



²⁰ Standard Chartered Global Research, Global Focus – Economic Outlook 2018, Beware of the dog

Untapped Opportunities

















Ranking in fifth place in Standard Chartered's G7 to E7 Trade Performance Index, France is exporting a quarter (27%) less to the E7 than its potential and could grow overall exports by 2.4% by meeting this target.

Rank	Country	Actual Exports (US\$bn)	Predicted Exports (US\$bn)	Export Opportunity Gap	Growth Opportunity (%)	Opportunity as a % global Exports
5	France	30.7	42.0	12.1	39.4	2.4

Of the G7, France ranks fifth for how well it is trading with the E7 group of emerging nations. Effective trade with E7 nations could boost France's global exports by 2.4%, representing a US\$12 billion-a-year uptick.

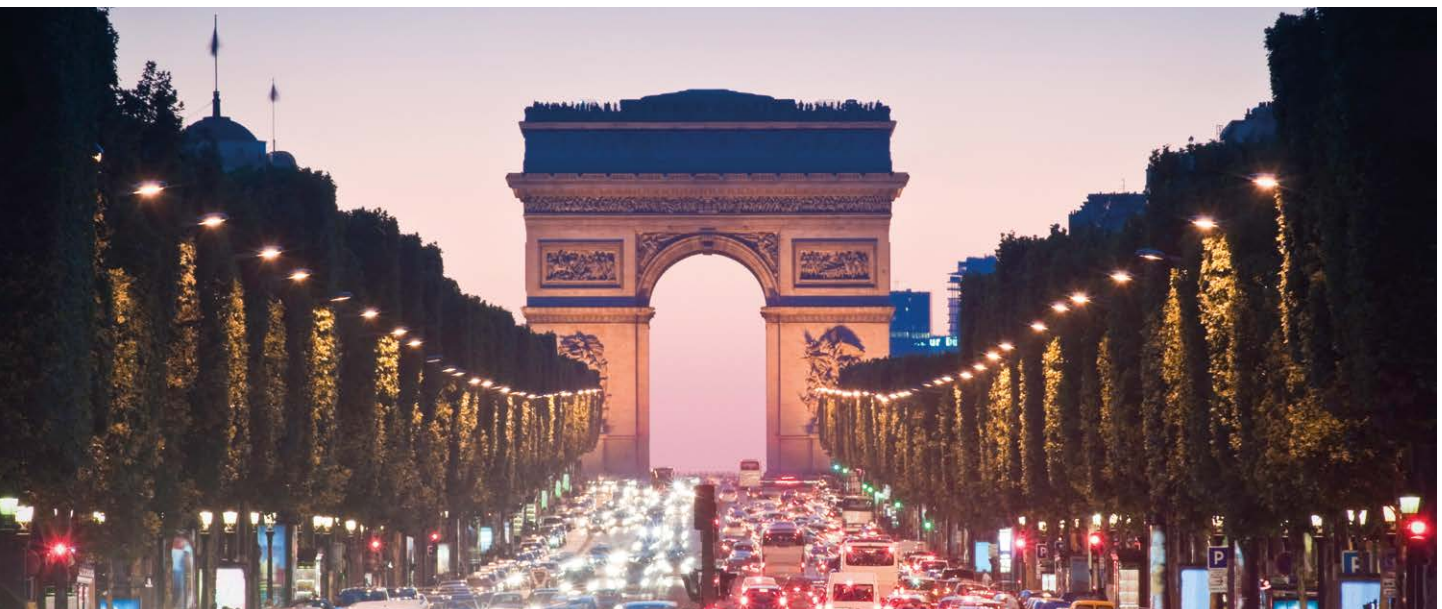
France's Current E7 Trade Performance

Rank	G7 Country to E7 Country	Performance
4	 —  Indonesia	<u>Slightly Exceeding Expectations</u>
22	 —  China	<u>Opportunity</u>
23	 —  Nigeria	<u>Opportunity</u>
24	 —  Pakistan	<u>Opportunity</u>
30	 —  India	<u>Medium Opportunity</u>
40	 —  Bangladesh	<u>Medium Opportunity</u>
43	 —  Vietnam	<u>Significant Opportunity</u>

The fallout from prolonged political uncertainty in Germany will be felt across Europe, not least in France where President Emmanuel Macron may have to focus even more on reform at home. In this climate, French businesses, which already rely heavily on European markets, should benefit in the short-to-medium-term from positioning themselves for growth in markets further afield such as the E7.

Highs

The fourth best performing trade route between the G7 and the E7 is France-Indonesia. One of only nine routes to exceed or meet expected performance, US\$2.7 billion worth of French exports travelled to Indonesia in 2016, a third (36%) more than expected. This route has been growing in recent years with transport equipment making up the large majority of exports.²¹



Opportunities

France is China's third-largest EU trading partner²² and the long-established trade relationship between the two is clearly paying-off with US\$19.8 billion being exported along this route. With an additional US\$6.3 billion of exports possible, this also represents the biggest opportunity in the E7 for France.

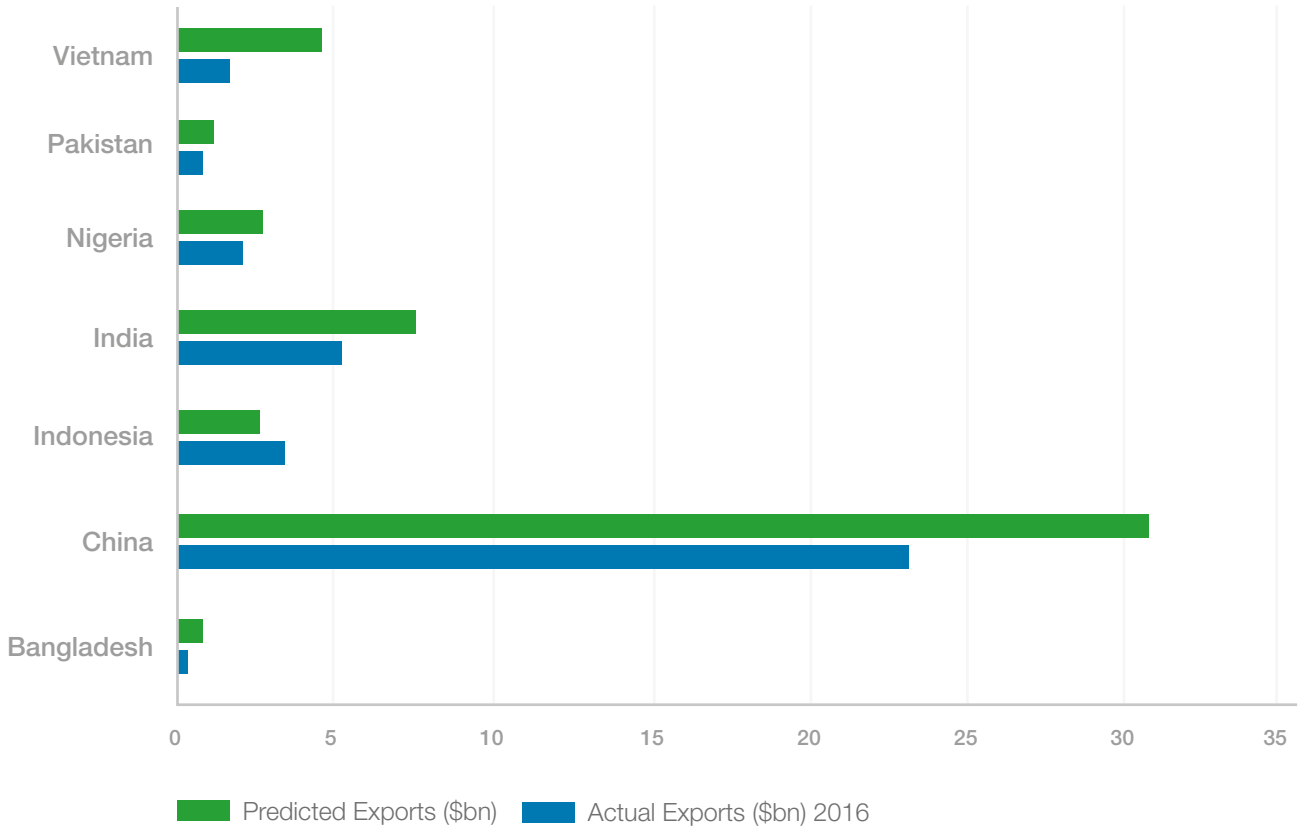
Other countries to explore for growth are Vietnam and India, where US\$2.3 billion and US\$2.2 billion more could be traded respectively. Despite the relationship with fellow Asia-Pacific partner Indonesia being so positive, the France-Vietnam route ranks as one of the least successful G7 to E7 Routes of all. Ranking 43rd out of 49 and offering one of the top ten route opportunities, today's performance between France and Vietnam perhaps reflects a complex political history.

While steady economic growth is currently being achieved in France, the country's businesses could see great benefits from tapping into E7 opportunities, in particular using the knowledge of working with Indonesia to expand successfully elsewhere.

²¹ France Diplomatie, France and Indonesia, Economic Relations (Accessed September 2017)

²² European Commission, Trade & Policy, China (Accessed September 2017)

Trade Between France and E7 (USD billion) 2016



FRANCE



The Standard Chartered View on France²³

President Emmanuel Macron has been hoping that 2018 will be the year in which France and Germany could give new impetus to reform of the euro-area and to a series of bilateral initiatives ranging from defence to climate change.

In the meantime, French businesses, which already rely heavily of European

markets, will benefit in the short to medium term from positioning themselves for growth in non-proximity markets. The E7 represents one such important opportunity.

Overall the Macron government needs to be successful in order to avoid the risk of a resurgence of the right.



²³ Standard Chartered Global Research, Global Focus – Economic Outlook 2018, Beware of the dog

Pole Position




Ranking first in Standard Chartered's G7 to E7 Trade Performance Index, Germany still has untapped opportunities with emerging nations as its strong relationship with China hides its underperformance elsewhere.

Rank	Country	Actual Exports (US\$bn)	Predicted Exports (US\$bn)	Export Opportunity Gap	Growth Opportunity (%)	Opportunity as a % Global Exports
1	Germany	109.2	55.7	2.7	2.5	0.2

Germany is the greatest G7 success story when it comes to trading with the E7. Not only does it top the chart for the best performing nation overall, it is the only country to outperform expectations — and by a colossal 96%. Currently exporting US\$109 billion with the E7, this is double what was predicted. Germany exceeded expectations by US\$54 billion in trade, adding 4% to the country's global exports.



Germany's Current E7 Trade Performance

Rank	G7 Country to E7 Country	Performance
1	 —  China	Considerably Exceeding Expectations
5	 —  India	Slightly Exceeding Expectations
6	 —  Indonesia	Slightly Exceeding Expectations
10	 —  Bangladesh	Opportunity
11	 —  Pakistan	Opportunity
26	 —  Vietnam	Opportunity
38	 —  Nigeria	Medium Opportunity

Highs

This outstanding performance has been driven by exports to China which account for a significant 81% of Germany's exports to the E7 — and 6.4% of its exports overall.²⁴ Germany is the only G7 country outperforming expectations in China and this is the most successful G7 to E7 export route of all, achieving US\$89 billion — more than double the expected US\$36 billion.

China is now Germany's largest trading partner, making this trading relationship vital to its current success. With fears of protectionism affecting trade with the US, this relationship is clearly key to both nations, with Berlin acting as the first stop on Chinese Premier Li Keqiang's recent European visit. But while continuing to grow in China is vital, the concern for the German economy must surely be an over-reliance on one trading relationship.

²⁴ UN Comtrade Database

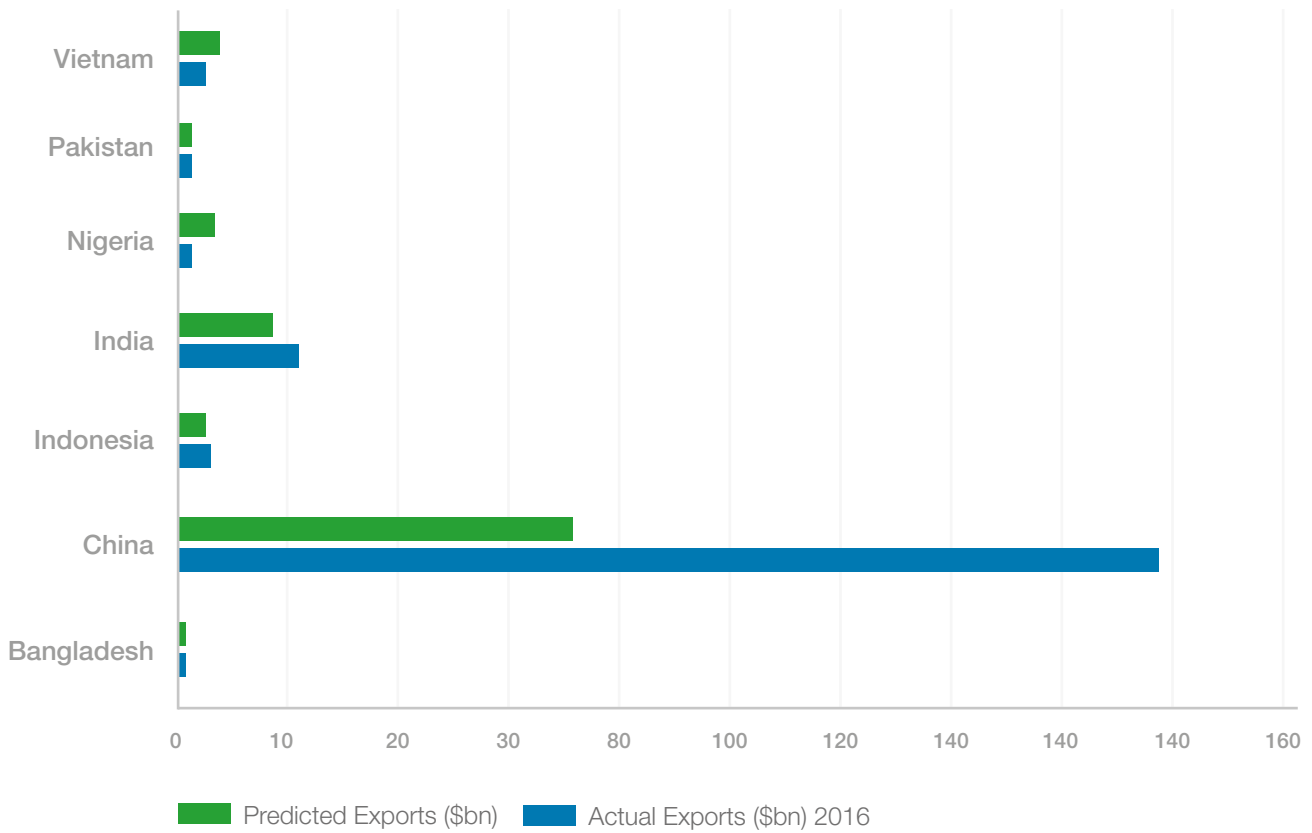
Opportunities

Five of Germany’s trade routes rank in the top 11 overall, with China sitting at first, India fifth, Indonesia sixth, Bangladesh tenth and Pakistan eleventh. Indeed, our model shows German companies are outperforming on most export fronts. Outliers representing the greatest route opportunities for diversification are Germany-Vietnam, ranking at 26th, and Germany-Nigeria in 38th.

Our estimates indicate that German companies have an opportunity to double exports to Nigeria from US\$1.3 billion to US\$2.8 billion (115%). There is also an opportunity to increase exports to Vietnam from US\$2.7 billion to US\$3.8 billion (41%).

Efforts to diversify into markets such as Nigeria and Vietnam could be an important way for German businesses to protect themselves from the continuing fallout from the UK’s decision to leave the EU. Countries that have ports highly dependent on trade with the UK — Belgium, the Netherlands and France — are stepping up preparations for the possibility of a ‘hard’ Brexit, which could cause significant disruption and delays.²⁵

Trade Between Germany and E7 (USD billion) 2016



GERMANY

²⁵ Institution for Government, Joe Owen et al, Brexit: Customs, Institute for Government, September 2017

Mixed Fortunes












Sitting mid-table in Standard Chartered's G7 to E7 Trade Performance Index, Italy has the opportunity to increase exports to the E7 by half and, in doing so, boost its global exports by 2.5%.

Rank	Country	Actual Exports (US\$bn)	Predicted Exports (US\$bn)	Export Opportunity Gap	Growth Opportunity (%)	Opportunity as a % Global Exports
4	Italy	21.0	32.3	11.3	53.8	2.5

Italy places in the middle of the G7 for how successfully it is trading with the E7, missing out on half (53.8%) of potential trade with these nations. The country could experience a 2.5% uplift in exports, or US\$11 billion annually, if it were to make the most of the opportunities in these emerging nations.

Italy's Current E7 Trade Performance

Rank	G7 Country to E7 Country	Performance
8	 —  Bangladesh	Slightly Exceeding Expectations
14	 —  Indonesia	Opportunity
19	 —  Pakistan	Opportunity
25	 —  India	Opportunity
31	 —  China	Medium Opportunity
37	 —  Vietnam	Medium Opportunity
39	 —  Nigeria	Medium Opportunity

Highs

There are already signs that Italy is increasing its focus on exports to the E7. Italy to Bangladesh is one of only a handful of routes to outperform expectations, ranking at eighth out of 49. With official relations dating back to 1972, the partnership is well-established. Even here though there is room for improvement, as the automotive industry's trade on this route has declined over the last five years, 60% more than all other nations in the world.

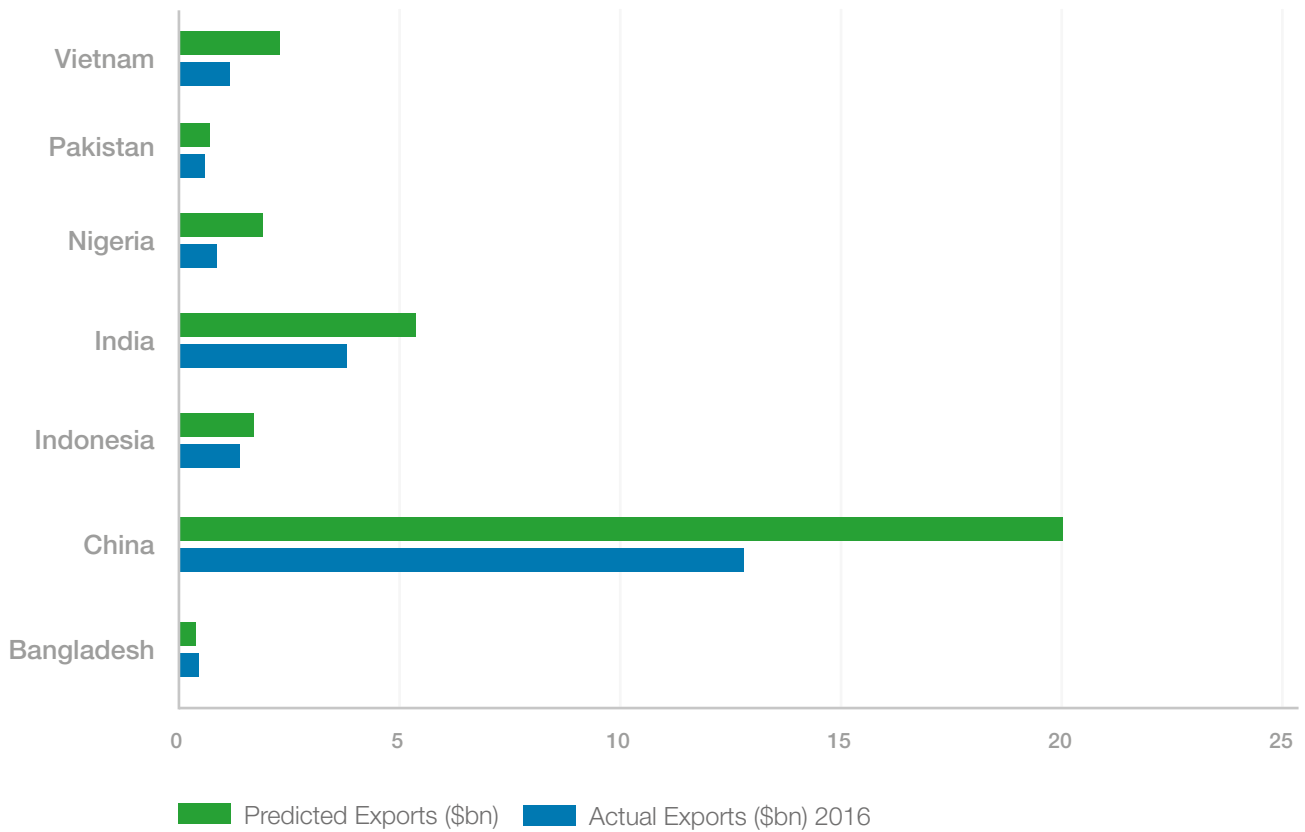


Opportunities

Italy could export more to all other E7 nations but in particular it is falling below expectations in its relationship with China. The Italy-China route could see an extra US\$7.3 billion of trade a year — the fourth biggest economic opportunity of all the 49 trade routes. Additionally, FMCG could be an area worthy of refocus, with Italy’s trade to China in this sector falling by 44% over the last five years.

As one of its key trading partners, the UK, looks to move outside the EU, Italy could have much to gain from exporting more to the E7, especially to China.

Trade Between Italy and E7 (USD billion) 2016



Great Gains To Be Made




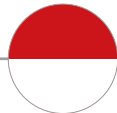







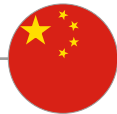




Placing third in Standard Chartered's G7 to E7 Trade Performance Index, Japan could increase its global exports by nearly **11%** by meeting its export potential with the E7.



Rank	Country	Actual Exports (US\$bn)	Predicted Exports (US\$bn)	Export Opportunity Gap	Growth Opportunity (%)	Opportunity as a % Global Exports
3	Japan	154.6	218.7	69.0	44.6	10.7

Japan has significant opportunities in the E7. US\$69 billion is the size of the prize as Japan currently underperforms expectations by nearly half (44.6%). This rise would increase Japan's global exports by as much as 10.7%.

Japan's Current E7 Trade Performance

Rank	G7 Country to E7 Country	Performance
3	 —  Indonesia	Exceeding Expectations
12	 —  Vietnam	Opportunity
13	 —  Pakistan	Opportunity
21	 —  Bangladesh	Opportunity
29	 —  China	Opportunity
35	 —  India	Medium Opportunity
47	 —  Nigeria	Vast Opportunity

Highs

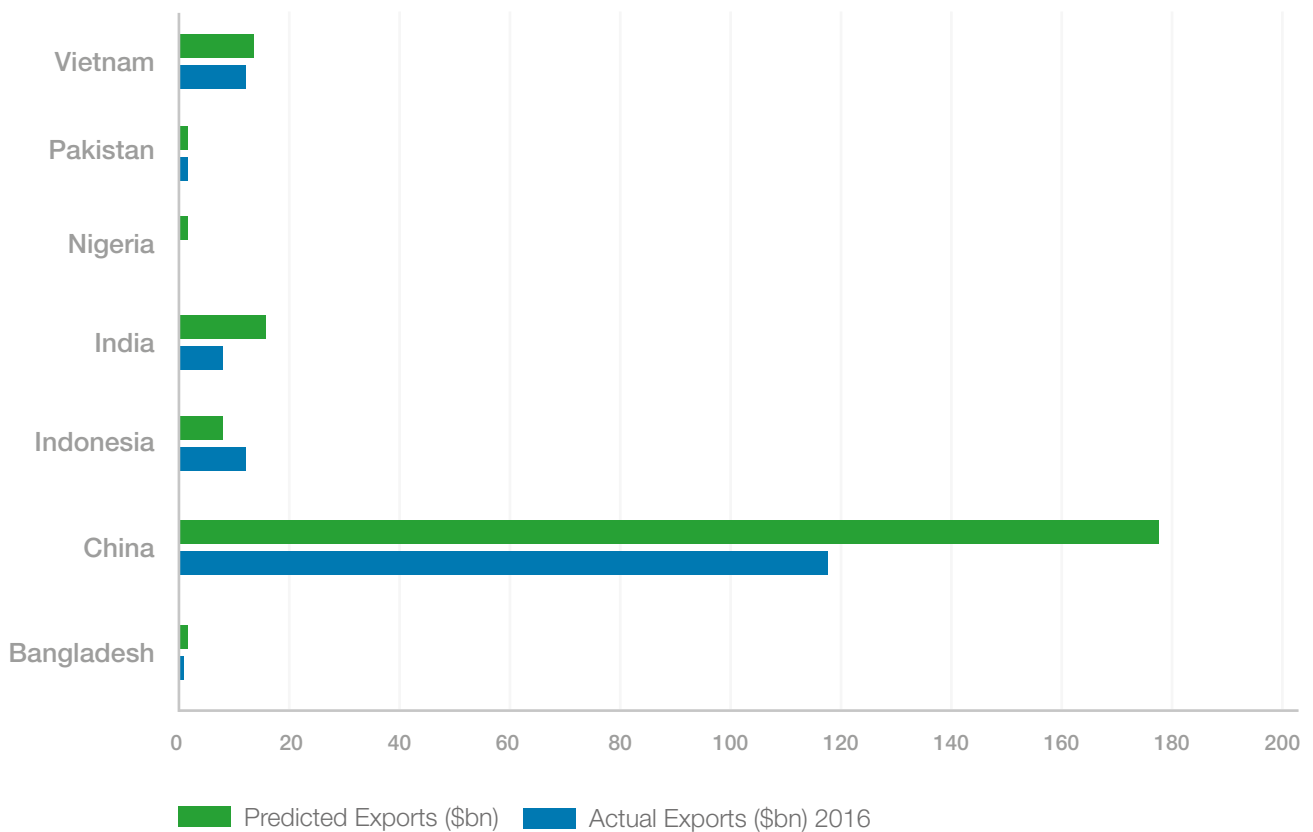
Japan already performs well in some areas, with the Japan-Indonesia route ranking third overall of the 49 G7 to E7 routes in terms of meeting expectations. It achieved US\$12.7 billion in 2016, 61% above predictions. Unlike a number of the other G7 countries, relationships with Vietnam, Pakistan and Bangladesh are proving fruitful.

Opportunities

The Japan-China trade route offers a potential US\$59 billion of the US\$69 billion of additional export value available to Japan. With these countries making up the first and fourth largest world economies,²⁶ this is by far the biggest G7 to E7 growth opportunity by value — more than double the second-placed US-China opportunity of US\$22 billion. In fact, by making the most of this route alone, Japan could boost its overall exports by an astonishing 9%. Of course, the close proximity of these two countries could make trade easier. Japan’s potential trade with China is higher than with other nations, and 54% of all Japanese exports are destined for Asia.²⁷

Japan could also focus is the 47th ranked route, Japan-Nigeria, where there is the opportunity to quadruple current exports. Similarly, the Japan-India route is underperforming and Japan could nearly double the flow of trade here, creating an additional US\$7 billion.

Trade Between Japan and E7 (USD billion) 2016



JAPAN

²⁶ International Monetary Fund, World Economic Outlook, April 2017
²⁷ IUN Comtrade Database

E7 Import Opportunities



The E7 represent a fast-growing group of emerging economies, collectively constituting 20%²⁸ of global GDP and 48%²⁹ of the world's population. They are predominantly Asian countries, illustrating strong economic growth in the East.

²⁸ The World Economic Outlook, International Monetary Fund, October 2017

²⁹ The World Bank, Population total, 2016

E7: Bangladesh, China, Indonesia, India, Nigeria, Pakistan and Vietnam



All E7 countries reveal opportunities to import from the G7. Unsurprisingly, the E7 story is dominated by China. China's import potential represents over 70% of export trade from the G7 countries. India and Vietnam follow with the next highest import potential among the E7, however, they lag behind in total trade volume with the G7, representing 12% and 6.7% respectively. Of the E7, these three Asian countries represent close to 90% of predicted import trade with the G7. In actual performance terms, Indonesia's import levels exceeded predicted imports in 2016, replacing Vietnam among the E7 as the third largest importer from the G7.

E7 Country	Actual Import from G7 (US\$bn)	Predicted Imports from G7 (US\$bn)	Import Gap (US\$bn)
Bangladesh	4.8	7.3	-2.5
China	399.1	447.9	-48.8
Indonesia	29.4	28.2	+1.2
India	57.9	76.5	-18.6
Nigeria	10.0	22.6	-12.5
Pakistan	7.4	10.0	-2.6
Vietnam	26.5	42.5	-16.0
Total	535.1	635.0	-99.9

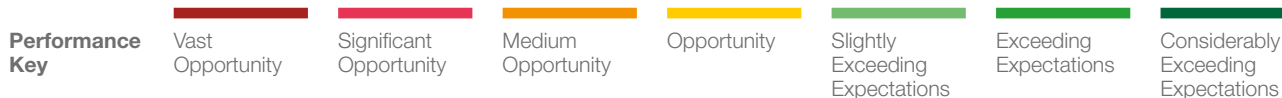
China receives the largest US dollar value of imports from the US and neighbouring Japan. Overall, these two G7 countries dominate in their exports to the E7 markets. Over half of China, India and Vietnam's imports come from these two G7 countries. It is important however to acknowledge a difference in strategy between the US, Japan and also the EU when it comes to trading with Asia-Pacific countries. The US has withdrawn from the Trans-Pacific Partnership, while Japan is now playing a significant role in leading it, and the EU — through the likes of President Macron — is looking to build relations with the East.



Current Top 10 E7 Import Trade Routes from G7 by Value (US\$bn)

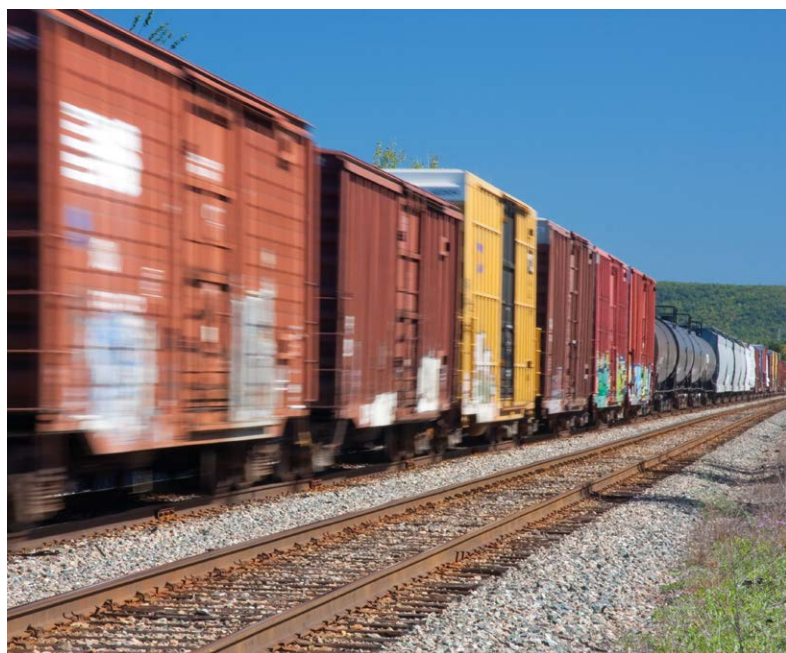


Rank	G7 Country to E7 Country	Performance	Predicted Exports (US\$bn)	Predicted Exports (\$bn)
1	DEU – CHN		88.90	35.63
2	CAN – BGD		0.65	0.36
3	JPN – IDN		12.67	7.79
4	FRA – IDN		2.73	2.01
5	DEU – IDN		11.21	8.81
6	DEU – IND		3.20	2.69
7	CAN – PAK		0.57	0.49
8	ITA – BGD		0.51	0.45
9	CAN – IDN [AP3]		1.46	1.46
10	DEU – BGD		0.75	0.76



Bangladesh currently has three of the top 10 trade relationships in the Standard Chartered Trade Performance Index — with Canada, Italy and Germany. Its trade with Canada is second in the Index as actual imports exceeded predicted imports by US\$0.3 billion and predicted imports were met with Italy and Germany. Bangladesh’s import performance is noteworthy and there is still room for expansion.

One of the Bangladesh government’s key policy focuses is on increasing garment exports, which requires significant capital imports in the form of machinery and some technology. The government and garment industry aim to increase these exports to US\$50 billion by 2021.³⁰ This growth is attributed to political stability, government efforts to reduce infrastructural constraints, and intensification of China’s exit from producing low-cost garments, creating new opportunities for Bangladesh, as well as Vietnam.

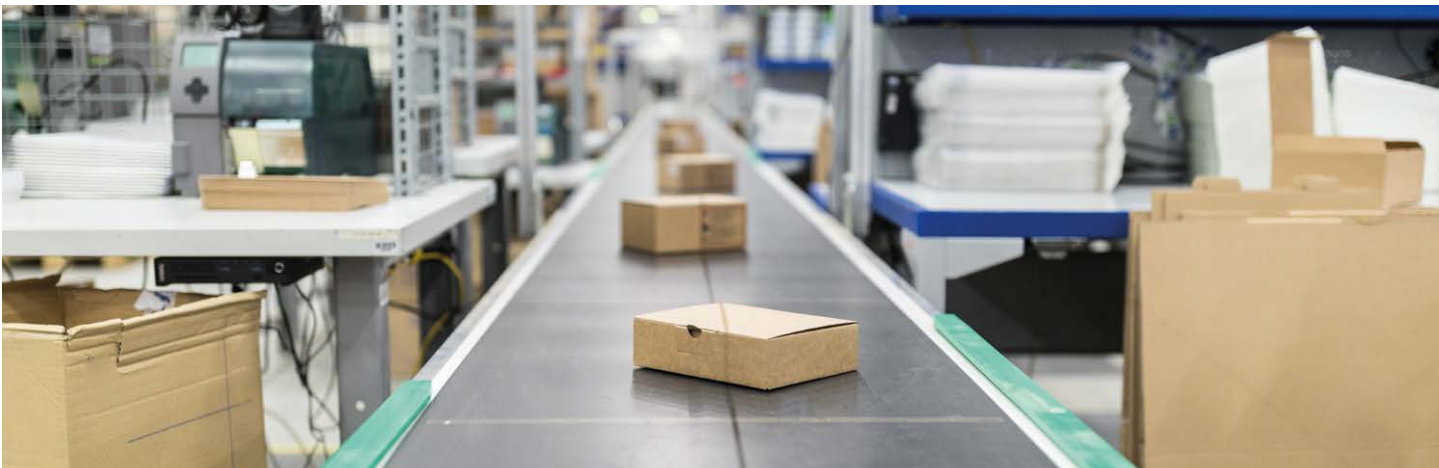


³⁰ Oxford Analytica Daily Brief, April 2016

Among the E7, **China** is by far the most important export market for the G7. Although China has imported more than US\$100 billion worth of goods from both the US and Japan, its imports from Germany lead the Standard Chartered Trade Performance Index. Chinese imports of German products, ranging from automotive to technology, currently exceeded expectations by more than double to US\$88.9 billion. If we exclude this successful trade relationship with Germany, our model suggests further expansion can be expected for China with a potential increase in imports by over US\$100 billion from the remaining G7 countries. Given its size, China will remain an important export focus for G7 companies. French President Macron is embracing China's Belt and Road project, and has called for reciprocity in economic and trade ties between Europe and China.

Indonesia is one of the top performers among the E7; it is the only E7 country whose total actual imports are higher than predicted imports. Indonesia has four of the top ten trade routes in the Index, coming third in its trade with Japan, where it imports nearly US\$5 billion more than the predicted import level. The level of Indonesian imports from Japan is crucial to the country's outperformance, although it also demonstrates import outperformance, albeit at a lower level, with Germany and France. US, UK and Italian companies have real opportunity for export growth to Indonesia, which could represent significant capital investment for Indonesia. The Index ranks Indonesia's current trade with the UK in the bottom ten. The Indonesian government is attempting to boost economic growth by emphasising infrastructure investment and deregulation. And private investment should get a boost from the continuing improvement in the investment climate — as reflected in the rise in Indonesia's ranking in the World Bank's Ease of Doing Business survey to 72 from 91.³¹

In terms of total imports from the G7, India is second to China, representing 12% of the total potential E7 imports from the G7. However, in actual performance, India is behind in meeting its predicted imports from every G7 country except Germany. It's lagging behind particularly in its imports from Japan, US and the UK which equate to over US\$16 billion of lost import opportunity. Japanese Prime Minister Shinzo Abe's visit to India in September 2017 saw the unveiling of an Asia Africa Growth Corridor, at a time when China is increasingly prioritising its Belt and Road Initiative. US Secretary of State Rex Tillerson in November 2017 claimed that the US was seeking to promote alternatives to China's infrastructure investment in Asia. From a G7 perspective, India is a key trade route.



³¹ The World Bank, Doing Business Index, 2017



Nigeria misses its predicted imports across all G7 countries. The US is the largest trade opportunity for Nigeria with total predicted imports from the US representing over 40% of Nigeria's total G7 imports. Five of Nigeria's trade routes with the G7 are in the bottom quartile of the Index, with three relationships in the bottom ten. This signifies opportunity across the board for Nigeria to grow its imports with the G7 to at least meet predicted imports. An increase in G7 exports to Nigeria would represent significant capital investment for the country, potentially benefiting local jobs and currency.

While the size of Nigeria's import gap reveals opportunities, its underperformance is also reflective of a country whose import demand has been severely impacted by the fall in oil prices between June 2014 and February 2016. Oil prices have since trended upwards and Nigerian elections, due in February 2019, should be a key driver of economic activity in 2018.

With mixed performance in the Index, G7 countries have a number of outperforming trade routes to **Pakistan**. Pakistani imports from Canada and Germany hit predicted imports while imports from Italy and Japan miss predictions by US\$0.14 billion each. Similar to neighbouring India, Pakistan has capacity to increase imports from the US and UK, missing over US\$2 billion from these two countries together, representing significant capital investment for Pakistan.

In terms of predicted import levels from the G7, **Vietnam** represents the third largest market of the E7, with predicted imports of 6.7% of total G7 exports. However, in actual performance, Vietnam fell behind Indonesia and came in fourth with 4.96% of total actual imports from G7. None of Vietnam's trade routes met predicted imports and its imports from Canada and the UK significantly underperformed expectations. Vietnam had a decent performance with Japan which represents a large part of its total imports from the G7. It failed to capitalise on trade with the US which is the largest potential G7 market for Vietnam, representing a predicted US\$14.5 billion. Geopolitical shifts could benefit US firms wanting to export more to Vietnam. In June 2017, Vietnam signed or reaffirmed deals with US firms worth a reported US\$8 to US\$15 billion.³² This came as Vietnam's Prime Minister Nguyen Xuan Phuc visited US President Trump in Washington, the first Southeast Asian leader to do so.

³² Oxford Analytica Daily Brief, June 2017

Predicted Top 10 E7 Import Trade Routes from G7 by Value (US\$bn)



World trade dynamics are changing with emerging markets. The E7 in particular is forecast³³ to show strong GDP growth compared to developed nations, specifically the G7. The E7 should not be ignored as they present strong export opportunities for the G7.

³³ Standard Chartered Global Research, Economic Outlook 2018, Beware of the Dog



Conclusion

The Standard Chartered G7 to E7 Trade Performance Index shows there are multi-billion dollar trading opportunities for G7 countries and companies that confidently set a course towards the fast-growing E7. Every company faces its own unique challenges in breaking away from the pack to form new alliances — from language to law to leadership and, of course, geopolitics. But our research shows that in every G7 country there are success stories of trade in the E7, whether that is Germany with China or Canada with Bangladesh. There is no doubt that there are existing E7 relationships and experience that can be leveraged by other G7 companies to make the most of potential trade in further emerging nations: the road is there and it is navigable.

For companies in the US, the E7 opportunity is to continue down the right path with China. For Canadian, Italian and French businesses, China will also be central to a successful E7

export strategy, whereas in Germany, diversification beyond the Chinese market should fuel a stable future. In the UK, looking to China and India will be essential. Japanese countries too can turn to nearby China, but Nigeria and Indonesia may also emerge as key countries for trade.

Whatever their current exposure in these markets, one driver remains the same for every G7 company: the quest for growth. This cannot be achieved by continuing in the same lane any longer. It's time to look to the future and set new routes, with the E7 nations being key to the roadmap.

With political change so high on today's business agenda and trade relationships changing at speed, we will see new winners and losers in the G7 to E7 trade race over the coming months and years. This is a moving challenge that will not slow down. Companies that realise that the race is on and kick into gear, will see great returns.

Methodology

Summary

G7 to E7: The Standard Chartered Trade Performance Index is based on in-depth research and economic modelling commissioned by Standard Chartered, designed by Standard Chartered, Man Bites Dog and Oxford Analytica, and conducted by Oxford Analytica in 2017.

This report sets out to examine G7 export performance to the seven identified emerging markets – Bangladesh, China, Indonesia, India, Nigeria, Pakistan and Vietnam, which have been coined the E7 markets. The methodology compares predicted versus actual G7 exports to the E7. It does so by incorporating key export considerations – including GDP, geographic distance and other characteristics – into a gravity trade model. This model reveals annual total export potential for all 49 exporting relationships.

The gravity trade model used to calculate predicted exports for the model has an R-squared of 0.866. The 49 exporting relationships are categorised according to the size of differential between the predicted exports and the actual exports. The seven categories of performance were identified based on:

- (A) Is the exporter exceeding expectations (“outperform”) or falling short (“opportunity”)?
- (B) How big is the outperformance or shortfall in terms of standard deviations?

The Index is the modified-distance-to-frontier of the percentage gap between actual and predicted values of exports. Specifically, it is the difference between log of exports and log of predicted exports, applied to a modified distance-to-frontier formula.

The model also derived the UK export potential for each E7 market with and without EU membership by including a host of developed economies both inside and outside the EU in order to control for membership in the European Union.

Gravity Trade Model

The gravity trade model is one of the most robustly validated economic theories. The essential insight of the model is that trade between any two countries is analogous to the attractive force between two celestial bodies: a positive function of their mass and a negative function of their distance.

$$(1) \quad X_{ij} = \ln GDP_i + \ln GDP_j - \ln dist_{ij} + FDIout_i + FDIin_j + \text{Additional correlates} + e_{ij}$$

$$(2) \quad \text{Additional correlates} = contig_{ij} + colony_i - landlocked_j - area_j - EU_i - E7_j + VNM_j$$

Equation (1) describes the essential ingredients of the gravity model. X_{ij} is exports of goods from country i to country j . GDP_i is the exporter's economic size, GDP_j is the importer's economic size, $dist_{ij}$ is the distance between them, $FDIout_i$ is the outward stock of FDI originating in country i and $FDIin_j$ is the inward stock of FDI invested in country j . The latter two variables capture the trade-inducing effects of integration into the global value chain.

Equation (2) includes a number of additional correlates typical of the literature. These include indicator variables for contiguous border between exporter and destination ($contig$), current or former colonial relationship ($colony$), landlocked status of destination and a continuous variable for the geographic area of the destination economy. Finally, we include indicator variables for the exporter being an EU member, the importer being an E7 economy and the importer being Vietnam. The latter is added because of Vietnam's large total trade relative to GDP within the E7.

Data

The estimation sample includes 31 advanced-country exporters and 56 developing-economy destinations (those with an economy of 40 billion dollars or larger in 2016). This yields 1,736 observations in a given year (31×56). Our source for export data is IMF Direction of Trade Statistics, reported in current US dollar billion of free-on-board value. Our source for GDP is IMF WEO April 2017, reported in current US dollar billion. FDI is from UNCTAD. Distance and all other correlates are from CEPII.

Export Performance

The G7 and E7 constitute 49 exporting relationships. We categorise these according to the size of differential between the predicted exports and the actual exports. Specifically, we are interested in the percentage differential, so we derive the difference in log of actual minus log of predicted. We identify seven categories of performance, based on (A) Is the exporter exceeding expectations ("outperform") or falling short ("opportunity")? and (B) How big is the outperform or shortfall from the expectations?

Export Performance Index

On the basis of predicted versus actual G7 exports to the E7, we derived an Index of G7 to E7 performance. The Index is the modified-distance-to-frontier of the percentage gap between actual and predicted values of exports. Specifically, it is the difference between log of exports and log of predicted exports, applied to a modified distance-to-frontier formula. The modification is a widening in the range of gap values by 0.5 of one standard deviation in the percentage gap. We add 0.25 to the maximum of the range of G7-E56 observations and subtract 0.25 of one standard deviation from the minimum of the range. This allows future editions of the index to sit comfortably within the bounds of 0-100, making the index comparable over time.

$$(3) \quad \text{Index} = \left[\frac{(\text{Gap} - (\min(\text{Gap}) - 0.25 * \text{sd}(\text{Gap})))}{(\max(\text{Gap}) + 0.25 * \text{sd}(\text{Gap}) - (\min(\text{Gap}) - 0.25 * \text{sd}(\text{Gap})))} \right] * 100$$

Equation (3) is a modified version of the distance-to-frontier transformation. Gap is the log-difference in actual and predicted exports. The formula widens the range of actual values by 0.5 of a standard deviation in Gap across the E56.

Brexit

Because our model includes several advanced-country exporters, whom developed exporters tend to favour, we are able to control for membership in the European Union. The estimated parameter on EU membership is -0.302. Being in the European Union is estimated to shift your baseline exports to a given developing-economy destination down by 300 million dollars. This accords with the widely substantiated theory of trade diversion (Lipsey 1957, Balassa 1967, Krueger 1992). We derived the UK export potential for each E7 market with and without EU membership for the UK. Holding all else equal, merely being out of the EU is associated with a potential 16.9 billion dollar gain in exports to the E7 (relative to what the UK should be exporting as an EU member). The model does not factor in any assumptions about the type of Brexit that will be agreed and the outcome negotiated for the UK.

Category Exports

We examined the performance of G7 exports to the E7 in seven broad categories. The composition of each, in Harmonised System (HS) codes.

For each category, we derived the real 2012-2016 compound annual growth rate (CAGR) for each exporter-partner combination. We also derived the 2012-2016 real CAGR of global imports of each E7 in each category. By subtracting the latter from the former, we derive a “performance” measure of G7 sector exports.

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