

The Pricing Risk Recipe for Liability of Foreignness

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Introduction

A US-based client has retained our team to help them strategically determine the most sophisticated path toward their international expansion plans to either Brazil, New Zealand, Russia, or Vietnam. Understanding that global expansion can be complicated and risky, our team knows the importance of measuring key factors pertaining to globalization and utilizing those measurements to help determine when, where, why, and how this client can and should expand to grow their business in a sustainable way. We first approach this task by developing a measurement tool that will help us model certain scenarios for expansion and ultimately help our client pick the most valuable opportunity for their business. Our tool is malleable and generic, meaning that we can apply it to multiple scenarios as we ideate around the best opportunities for the client over the course of our relationship.

Consideration Factors

When explaining our approach to the client, we need to focus our recommendations around their inherent Liability of Foreignness (LoF). Operating a business abroad is more difficult than operating in the U.S. where they may feel more comfortable and have more local expertise. We need to consider additional costs associated with foreignness to ensure that their expansion plans still leave space for profitability. We will need to ensure that our client understands the impacts of globalization, and to help them realize their most sound options for global expansion

(including country selection, entry mode, management methods, staffing needs, etc). This exercise is largely research-based and requires a deep understanding of the various institutions that impact decisions to globalize, including economic, political, and cultural factors in both the United States and the markets where our client is considering entering.

Economic, Cultural, & Political Factors

We first select a range of indices that are indicative of economical, cultural, and political factors that we can manipulate to fit the analysis required and provide us with interesting and telling results. Ultimately, this tool will give us a clear sense of our client's LoF so that we price out risk associated with expansion into each market, and help them make an educated decision based on these outcomes. In order to price LoF, we need to start with our Pricing Risk Recipe (PRR), including the indices and statistics that we felt would best represent the risk of expanding to one of our four counties.

Economic Factors

In evaluating economic institutions, we focused primarily on GDP and inflation measures, seeking to understand the rate at which our selected economies are growing, the per-capita output (for market potential), and the degree to which GDP and price have remained stable over time (for risk).

In our analysis, we viewed higher GDP and greater stability as desirable features for a host market. Thus, each country's economic measures are calculated as a difference measure, favoring investment into countries with higher GDP and greater stability in comparison to the home

country. Host countries with lower GDP or greater *instability* result in a greater difference and a larger liability of foreignness.

Our analysis of GDP measures provided a few key insights, particularly as we evaluated Russia and Vietnam (World Bank Group, n.d.). At first glance, GDP volatility results for Russia (measured as a standard deviation over time since 1990) revealed heightened volatility in the country. After narrowing our time window to the last decade (a more realistic measure of Russia's current economy), the GDP results became much more stable. When we turned to Vietnam, the country at first appeared quite favorable - Vietnam was the only country with both higher growth rates and less volatility than the U.S. However, when we added a measure for GDP per capita, it became apparent that the spending power in the country is substantially lower than all other markets.

Using the Consumer Pricing Index (CPI) as an indicator of inflation and economic well-being, we looked at both a 10-year span for long-term analysis as well as data from just 2019 to get a better understanding of how these economies are stabilizing in the short run. In our 10-year analysis, we found that New Zealand had the closest difference to the United States, thus most favorable for expansion. We found that Vietnam was significantly different from the U.S., therefore more volatile than the U.S. In the short-run data from 2019, we also found that New Zealand remained relatively close, while Brazil, Russia, and Vietnam expressed larger differences from the US. To get an accurate depiction of GDP/economic measures, we needed to look at results over time within relevant time windows, evaluate a current snapshot, and include per-capita measures.

Cultural Factors

Unlike political and economic indices, cultural indices are more nuanced and are typically subjectively quantified. It is more practical to measure the difference between cultures by distance rather than difference because people tend to have an easier time communicating and understanding those people who come from similar cultural backgrounds. For example, high-context and low-context people will have a harder time understanding each other than if both people were from the same cultural context.

The Hofstede Cultural Dimensions Theory provides six categories of cultural measurement: power distance, individualism, masculinity, uncertainty avoidance, long-term orientation, and indulgence (Hofstede, n.d.). These six categories are very thorough in describing the type culture of a country. However, to more adequately reduce bias and overreliance stemming from a single source, we selected the two indices that we felt best described or impacted business interactions within a culture.

For our first index, we selected uncertainty avoidance (UAI) from Hofstede. A high UAI generally associates with whether or not a culture is comfortable with “unorthodox behaviors and ideas” while a lower UAI is generally more accepting of risk. The United States is in the middle, with a score of 46. We believe this index falls in line with whether or not a foreign country would be willing to do business with the United States, as well as potentially indicate what type of concerns the country would have regarding risk. Countries with low tolerance for uncertainty would likely require greater concessions and guarantees from a US-based company before

allowing them to operate, while countries more comfortable with uncertainty might want a much more aggressive investment than the US-based company might be willing to provide.

Our second Hofstede index was Indulgence Versus Restraint (IVR). Cultures with a high IVR score encourage free social and emotional gratification, while those with a low IVR score have stricter social norms. This measurement is designed to account for how similarly the work and free time ethic compared to the United States. The US has an IVR score of 68. Countries with high IVR may require additional worker concessions, for example longer vacation time and outages, while countries with lower IVR may potentially have an exploitative work culture, for example Bangladesh (20), where garment sweatshops still operate.

For our third cultural index, we selected the Religious Diversity Index (Pew Research Center, 2014). This index measures the amount of religious diversity a country has, but not its religious freedom or secularity. For example, Vatican City and Morocco are both very religious countries, but have a score of 0 because the population follows only a single religion. We chose this index as a proxy for whether a country is comfortable with people of different backgrounds. Unlike race and ethnicity, which are static, religion is more of a social construct. A country with higher religious diversity implies that religion may not be a culturally defining factor. The United States has an RDI of 4.9 on a range of 0.0 to 9.0. Countries high in RDI have a diverse range of religious backgrounds.

Our final cultural index is the World Values Survey 7, Question 3 on Leisure (World Values Survey, 2020). This is less of a direct index than other questions but ties into how important

leisure is for individuals. We weighted Very Important as 4 points, Rather Important as 2 points, Not Very Important as 1 Point, and Not Important as 0 points and multiplied the samples by the percentage distribution of votes, for a final score ranging from 0 to 4. Countries high on this scale find leisure an important part of their quality of life. Countries with poor views of leisure may not find a product targeting leisure appealing, and countries with positive views of leisure may not enjoy a more structured business setup. The US scores 2.6 in a range of 1.771 to 3.274.

Political Factors

Political institutions abroad have perhaps the most concrete and obvious effects on businesses seeking to expand abroad. Examples of political institutions include everything from legal constraints and political stability to corruption practices and intellectual property protections. Since businesses must adhere to the political institutions of and are subject to the political factors within the borders of their intended markets, often without the protections of the domestic conditions they typically enjoy at home, failure to thoroughly consider political institutional distance could be a costly mistake. In order to comprehensively analyze all the ways political institutions could impact foreign companies in the target market, broad and varied political metrics are needed.

Consequently, we selected the World Justice Project Rule of Law Index, Transparency International's World Corruption Index, The Fund for Peace's State Fragility Index, the Cato Institute's Human Freedom Index, and the Property Rights Alliance's International Property Rights Index in order to compare political institutions. In our estimation, rule of law, corruption, state fragility, human rights, and property rights collectively provide a comprehensive assessment of the institutional distance and difference among countries.

The least surprising conclusion we discovered through the examination of political factors over the past 10 years is that New Zealand had the least institutional distance from the United States, with a relative political distance of 0.10. This was expected because the evolution of political institutions in these two countries share a similar history and tradition, and broadly ascribe to the same political paradigms. What was perhaps a bit surprising, though, is that of countries we considered, Russia was the most distant from the United States in terms of political institutions, with a relative distance of 0.31. While challenges in the Russian political landscape are no secret, in many ways Russia intuitively *feels* more like a country with Western political values than, say, Vietnam. This brings to bear a key point: without quantitative analysis of political distance, a manager may have intuitively assumed that Russians, with their Western tradition, were politically close to the United States. By doing the analysis, however, he would learn that Vietnam is actually politically closer to the United States than Russia, with a relative distance of 0.29. While this relative similarity may not be sufficient to make Vietnam an attractive market into which to expand, it *does* emphasize the significant political distance between Russia and the United States. This information provides important context to qualitative, intuitive, and even financial assessments of opportunities, and forces managers to ask: *Is the financial opportunity before us sufficient to overcome the liability of foreignness that stems from political institutional distance?*

Another advantage of the various indices we selected is that they individually provide an assessment of potential liability of foreignness that may otherwise be masked by the broader index. For example, if a firm were considering expansion into a foreign market, strategists

assessing political institutional distance may consider Brazil or Vietnam politically closer than anticipated and interestingly attractive. If, however, a great deal of this same firm's value is associated with its intellectual property, these same strategists could quickly see that both of these countries have poor and stagnant property rights relative to the rest of the world. The value of the quantitative assessment of political institutions is not that it gives a company considering expansion a solid yes/no metric; rather, it provides context the company needs to assess the liability of foreignness associated with political distance, and to determine if the value of the opportunity is sufficient to cover the costs associated with that risk.

PRR LoF Model

Once we had gathered information for each of the political, cultural, and economic distances for the United States and our four target countries, we entered this into our proprietary PRR LoF model. For each institutional measure, we identified the minimum and maximum possible values across all countries. We then calculated the relative distance/difference between our home and host countries against the total possible range for each measure. This approach ensured that we did not overstate the distance compared to the total possible range. A calculated average of all measurements within a category prevented us from over-weighting any single measurement over the others. The output of these steps provided us with a relative distance/difference between our home and host countries for each institutional category.

Our model allows us to weigh each institutional category differently for a total weight of 100%. We created this capability to account for the differing exposures to risk associated with different industries - a utility company may be more impacted by political institutional risk, whereas a

fashion firm may be more exposed to risk from cultural institutions. Once industry weightings have been applied, we summed the total risk across all institutional categories and spread the amount between 0% and 30% (from the course, we learned that 30% is an appropriate maximum risk premium associated with global expansion into the riskiest market).

Lastly, our Liability of Foreignness risk model allows us to forecast the risk premium based on entry mode. A subsidiary model assumes 100% of the total risk premium, whereas an import/export model assumes 20% (there is always some risk premium associated with entering a foreign market). For now, we assume alliances to be in the middle around 60%. We did not try to account for local vs. global management, as the results of these decisions are more nuanced and less directly measurable.

Conclusion

Initially, our group anticipated New Zealand to have the smallest LoF Base Risk Premium (BRP) with the United States, due to the shared history as British colonies and similar political, cultural, and economic institutions. We expected Brazil to be a close second given Brazil's location in South America and the close relationship with the United States, closely followed by Vietnam, given expansive existing U.S.- Vietnam trade relations and their shared membership in the Asia-Pacific Economic Cooperation forum. Given the long-standing tension between the United States and Russia, we expected Russia to be a distant fourth. Our assumptions proved to be correct, since New Zealand's LoF BRP was 3.14%, and New Zealand had the smallest adjusted cultural and political distances, and second closest economic distance to the United States. Brazil's LoF BRP was 6.45%, and had the second smallest cultural and political distance and

third smallest economic distance to the United States. Though our assumption for Vietnam was correct given their 6.65% LoF BRP, we were surprised that they had the furthest cultural distance and were tied for the furthest political distance. However, their economic distance was actually the smallest of the four countries, putting it closer to the U.S. than Russia. Finally, Russia was either tied for or had the largest distance to the United States in all three measures, and had the largest LoF BRP of 9.29%.

On the surface, only looking at the LoF BRPs, our client would likely decide to expand into the New Zealand market since it is considerably lower than the other three countries. However, it is not enough to just look at the LoF BRP--it is also critical to assess the value that this expansion could provide. Assuming a U.S. Market Risk Premium of 7%, if an expansion into New Zealand is only expected to return 8%, this would not be a wise decision since it is less than the total Risk Premium the country should use--the domestic 7% and the 3.14% for New Zealand, or 10.14% total. And if an expansion into Russia would expect to yield 13%, though this is significantly higher than the return in New Zealand, it would also not be a sound decision because it is less than the 16.29% risk premium the company should use for Russia. It is therefore critical to not make any decision simply based on the BRPs from our model, but also based on the potential value the expansion would provide to their shareholders. Is it possible that an expansion into Russia could be the best option, despite being the highest BRP? Yes. But it is still critical for a company to not only understand the potential reward of an expansion, but also understand the risk of an expansion--and the risk should be less than the potential reward.

Appendix

Institutional Factors

Cultural Measures				Political Measures				Economic Measures			
Indices	Range Min	Range Max	Total Range	Indices	Range Min	Range Max	Total Range	Indices	Range Min	Range Max	Total Range
Hofstede IVR	0	100	100	World Justice Project Rule of Law	0	1	1	World Bank GDP Growth - GDP Volatility (excluded 5 outliers)	1.06	12.75	11.69
Hofstede UAI	8	112	104	Transparency.org: Corruption	0	100	100	IMF - Consumer Price Index (10-yr)	-4.29	55.41	59.7
Religious Diversity Index	0	9	9	Fragile States Index	0	120	120	IMF - Consumer Price Index (2019)	1.62	4.47	2.85
WVS7 Q3 Leisure	1.771	3.274	1.503	Cato Human Freedom Index	0	10	10	World Bank GDP Growth - GDP 2019	-8.10	9.76	17.86
				IPR: IP Protection	0	10	10	World Bank 2019 GDP Per Capita (PPP Current International \$)	782.00	130000.00	129218.00
		Possible range	100			Possible range	1			Possible range	11.69
Hofstede IVR	Country Value	Distance from US	Relative Distance	World Justice Project Rule of Law	Country Value	Distance from US	Relative Distance	World Bank GDP Growth - GDP Volatility (excluded 5 outliers)	Country Value	Difference from US	Relative Difference
United States	68	0.00	0.00	United States	0.728	0.00	0.00	United States	1.52	0.00	0.00
Brazil	59	9.00	0.09	Brazil	0.536	0.19	0.19	Brazil	2.70	1.18	0.10
Vietnam	35	33.00	0.33	Vietnam	0.498	0.23	0.23	Vietnam	1.22	-0.30	-0.03
Russia	20	48.00	0.48	Russia	0.466	0.26	0.26	Russia	6.20	4.68	0.40
New Zealand	75	7.00	0.07	New Zealand	0.828	0.10	0.10	New Zealand	1.90	0.28	0.02
		Possible range	104			Possible range	100			Possible range	59.7
Hofstede UAI	Country Value	Distance from US	Relative Distance	Transparency.org: Corruption	Country Value	Distance from US	Relative Distance	IMF - Consumer Price Index (10-yr)	Country Value	Difference from US	Relative Difference
United States	46	0.00	0.00	United States	72.7	0.00	0.00	United States	0.80	0.00	0.00
Brazil	76	30.00	0.29	Brazil	38.8	33.90	0.34	Brazil	1.98	1.18	0.02
Vietnam	30	16.00	0.15	Vietnam	31.8	40.90	0.41	Vietnam	5.24	4.44	0.07
Russia	95	49.00	0.47	Russia	27.1	45.60	0.46	Russia	3.55	2.75	0.05
New Zealand	49	3.00	0.03	New Zealand	90.4	17.70	0.18	New Zealand	1.04	0.24	0.00
		Possible range	9			Possible range	120			Possible range	2.85
Religious Diversity Index	Country Value	Distance from US	Relative Distance	Fragile States Index	Country Value	Distance from US	Relative Distance	IMF - Consumer Price Index (2019)	Country Value	Difference from US	Relative Difference
United States	4.1	0.00	0.00	United States	35.45	0.00	0.00	United States	1.81	0.00	0.00
Brazil	2.3	1.80	0.20	Brazil	65.68	30.23	0.25	Brazil	3.73	1.92	0.67
Vietnam	7.7	3.60	0.40	Vietnam	72.03	36.58	0.30	Vietnam	2.8	0.99	0.35
Russia	4.9	0.80	0.09	Russia	77.95	42.50	0.35	Russia	4.47	2.66	0.93
New Zealand	6.2	2.10	0.23	New Zealand	22.86	12.59	0.10	New Zealand	1.62	-0.19	-0.07
		Possible range	1.503			Possible range	10			Possible range	17.86
WVS7 Q3 Leisure	Country Value	Distance from US	Relative Distance	Cato Human Freedom Index	Country Value	Distance from US	Relative Distance	World Bank GDP Growth - GDP 2019	Country Value	Difference from US	Relative Difference
United States	2.604	0.00	0.00	United States	8.353	0.00	0.00	United States	2.33	0.00	0.00
Brazil	2.544	0.06	0.04	Brazil	6.528	1.83	0.18	Brazil	1.14	1.19	0.07
Vietnam	1.885	0.72	0.48	Vietnam	6.181	2.17	0.22	Vietnam	7.02	-4.69	-0.26
Russia	2.517	0.09	0.06	Russia	6.695	1.66	0.17	Russia	1.34	0.99	0.06
New Zealand	2.752	0.15	0.10	New Zealand	8.783	0.43	0.04	New Zealand	2.17	0.16	0.01
						Possible range	10			Possible range	129,218.00
				IPR: IP Protection	Country Value	Distance from US	Relative Distance	World Bank 2019 GDP Per Capita (PPP Current International \$)	Country Value	Difference from US	Relative Difference
				United States	7.7959	0.00	0.00	United States	65,118.00	0.00	0.00
				Brazil	5.4006	2.40	0.24	Brazil	15,258.00	49,860.00	0.39
				Vietnam	4.787	3.01	0.30	Vietnam	8,374.00	56,744.00	0.44
				Russia	4.5748	3.22	0.32	Russia	29,181.00	35,937.00	0.28
				New Zealand	8.3639	0.57	0.06	New Zealand	43,952.00	21,166.00	0.16
Calculated Cultural Measures	Sum Relative Distance	Average Value	Relative Cultural Distance from US	Calculated Political Measures	Sum Relative Distance	Average Value	Relative Political Distance from US	Calculated Economic Measures	Sum Relative Difference	Average Value	Relative Economic Difference from US
United States	0.00	0.00	0.00	United States	0.00	0.00	0.00	United States	0.00	0.00	0.00
Brazil	0.62	0.15	0.15	Brazil	1.20	0.24	0.24	Brazil	1.25	0.25	0.25
Vietnam	1.36	0.34	0.34	Vietnam	1.46	0.29	0.29	Vietnam	0.57	0.11	0.11
Russia	1.10	0.27	0.27	Russia	1.56	0.31	0.31	Russia	1.71	0.34	0.34
New Zealand	0.43	0.11	0.11	New Zealand	0.48	0.10	0.10	New Zealand	0.13	0.03	0.03

Model Results

<u>Liability of Foreignness (LOF) to Expand Internationally</u>						
<i>(starting point from inputs tab)</i>						
Host Country	<u>Relative Cultural Distance from the US</u>	<u>Relative Political Distance from the US</u>	<u>Relative Economic Difference from the US</u>			
Brazil	0.15	0.24	0.25			
Vietnam	0.34	0.29	0.11			
Russia	0.27	0.31	0.34			
New Zealand	0.11	0.10	0.03			

<u>Risk Spread (with Industry Adjustment)</u>						
Host Country	<u>Adjusted Cultural Distance from the US</u>	<u>Adjusted Political Distance from the US</u>	<u>Adjusted Economic Distance from the US</u>	<u>Total Distance</u>	<u>Max Risk Spread</u>	<u>LOF Base Risk Premium</u>
Brazil	33%	33%	33%	0.22	30%	6.45%
Vietnam	0.05	0.08	0.08	0.25	30%	7.48%
Russia	0.11	0.10	0.11	0.31	30%	9.29%
New Zealand	0.09	0.10	0.01	0.08	30%	2.31%

<u>Risk Spread Adjusted for Entry Mode</u>				
Host Country	<u>LOF Base Risk Premium (G16)</u>	<u>Import/Export</u>	<u>Alliance</u>	<u>Subsidiary</u>
Brazil	6.45%	20%	60%	100%
Vietnam	7.48%	1.29%	3.87%	6.45%
Russia	9.29%	1.50%	4.49%	7.48%
New Zealand	2.31%	1.86%	5.57%	9.29%
		0.46%	1.39%	2.31%

Bibliography

Cato Institute. 2020. *Human Freedom Index*. [online]

<<https://www.cato.org/human-freedom-index-new>> .

Fragilestatesindex.org. 2020. *Country Dashboard | Fragile States Index*. [online]

<<https://fragilestatesindex.org/country-data/>>.

Hofstede, G. (n.d.). *The 6D model of national culture*.

<<https://geerthofstede.com/culture-geert-hofstede-gert-jan-hofstede/6d-model-of-national-culture/>>

Inglehart, R., C. Haerpfer, A. Moreno, C. Welzel, K. Kizilova, J. Diez-Medrano, M. Lagos, P.

Norris, E. Ponarin & B. Puranen et al. (eds.). (2020). *World Values Survey: Round Seven*.

<<http://www.worldvaluessurvey.org/WVSEventsShow.jsp?ID=413>>.

International Monetary Fund. *Consumer Price Index - CPI*. <<https://data.imf.org/>>.

Internationalpropertyrightsindex.org. 2020. *International Property Rights Index*. [online]

<<https://www.internationalpropertyrightsindex.org/>> .

Pew Research Center. (2014, April 4). *Table: Religious Diversity Index Scores by Country*.

<https://www.pewforum.org/2014/04/04/religious-diversity-index-scores-by-country/>

Transparency.org. 2020. *Corruption Perceptions Index*. [online]:

<<https://www.transparency.org/en/cpi/>>.

World Bank Group. (n.d.). *GDP growth (annual %)*. World Bank Open Data.

<<https://data.worldbank.org/>>

World Justice Project. (2020). *WJP Rule Of Law Index*. [online]

<<https://worldjusticeproject.org/rule-of-law-index/country/2020/>>.