The cultures of risk tolerance

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Abstract

This study explores the links between culture and risk tolerance, based on surveys conducted in 23 countries. Altogether, more than 4,000 individuals participated in the surveys.

Risk tolerance is associated with culture. Risk tolerance is relatively low in countries where uncertainty avoidance is relatively high and in countries which are relatively individualistic. Risk tolerance is also relatively low in countries which are relatively egalitarian and harmonious. And risk tolerance is relatively high in countries where trust is relatively high. Culture is also associated with risk tolerance indirectly, through the association between culture and income-per-capita. People in countries with relatively high income-per-capita tend to be relatively individualistic, egalitarian, and trusting. Risk tolerance is relatively high in countries with relatively low income-per-capita.

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The cultures of risk tolerance

Culture varies from country to country and affects all parts of life, including its economic and financial parts. Trust is one dimension of culture and Guiso, Sapienza and Zingales (2004) found that trust between countries enhances trade between them. Guiso, Sapienza and Zingales (2008) found that higher levels of trust are associated with higher levels of participation in the stock market. They also found that trust is not a mere proxy for risk tolerance. In this paper I explore links between culture and risk tolerance in 23 countries.

Guiso, Sapienza and Zingales (2006) defined culture as "those customary beliefs and values that ethnic, religious, and social groups transmit fairly unchanged from generation to generation." The place of a country along the span between individualism and collectivism, described and measured by Hofstede (2001), is one dimension of culture. Ties between individuals are loose in individualist countries, where individuals are expected to look after themselves and their immediate families. In contrast, ties between individuals are strong in collectivist countries where people are integrated into cohesive groups of family and friends who are expected to support one another. Chui, Titman and Wei (2009) found evidence consistent with the hypothesis that stock markets' trading volume, volatility, and momentum profits are higher in relatively individualistic countries than in relatively collectivistic countries.

Uncertainty avoidance is another cultural dimension described and measured by Hofstede. People in societies where uncertainty avoidance is relatively high are uncomfortable in risky situations, such as encounters with what is unknown or surprising. Harmony and mastery are the two poles of a cultural dimension described and measured by Schwartz (1994). Values associated with mastery include ambition and daring. People of countries which value mastery strive to get ahead whereas people in relatively harmonious countries prefer to fit in with others.

Egalitarianism and hierarchy are the two poles of a related cultural dimension described and measured by Schwartz. Values associated with egalitarian cultures include equality and social justice, and people in egalitarian countries are socialized to feel concern for everyone's welfare. Harmonious countries tend to be egalitarian.

Griffin, Li, Yue and Zhao (2009) found evidence consistent with the hypothesis that corporate managers in countries where uncertainty avoidance and harmony are relatively high take fewer risks than managers in countries where they are relatively low. They also found evidence consistent with the hypothesis that managers in relatively individualistic countries take greater risks than managers in relatively collectivistic countries. The last finding is seemingly at odds with findings about risk tolerance among Chinese and Americans. The United States is relatively individualistic while China is relatively collectivistic, yet Fan and Xiao (2005) found that Chinese workers are more risk tolerant than American workers, and Hsee and Weber (1999) found that Chinese students are more risk tolerant than American students.

Risk tolerance is composed of risk perception and risk preference. Wealthy people who are offered 50-50 gambles to win $300 or lose $100 might have the same risk preference as poor people who are offered the same gambles, yet their risk perceptions are likely to be different. Wealthy people might perceive the gambles as low-risk because $100 is miniscule relative to their wealth whereas poor people might perceive the same gambles as high-risk because $100 is substantial relative to their wealth. Similarly, poor people who can fall back on financial cushions of family and friends if they take the gambles and lose might perceive them as low-risk gambles whereas equally poor people with identical risk preferences but without such cushions might perceive them as a high-risk gambles. Hsee and Weber (1999) attributed their finding that Chinese students are more risk tolerant than American students to the positions of the two

countries along the individualism-collectivism span. Collectivism in the Chinese culture provides people substantial cushions of family and friends' support if they take risks and fail, whereas individualism in the American culture provides smaller cushions. Weber and Hsee (1998) investigated their cushion hypothesis further in a study of students in four countries, the U.S., Germany, China, and Poland. The first two are relatively individualistic whereas and the last two are relatively collectivistic. They concluded that people in the four countries do not differ in risk preferences. Rather, risk tolerance is higher in China and Poland than in the U.S. or Germany because the substantial cushion offered by the relatively collectivistic China and Poland lowers risk perception there whereas the small cushion offered by the relatively individualistic U.S. and Germany does not lower risk perceptions by as much. Further evidence consistent with the cushion hypothesis comes from Agrawal, Chomsisengphet and Liu (2010). Family and friends provide 'social capital' which serves as a cushion. People who can expect to rely on family and friends for financial support have more social capital than people who cannot expect to rely on them. People who migrate relatively far from their places of birth have less social capital than people who stay close. Agrawal, Chomsisengphet and Liu found that migrating borrowers are more likely to default and go bankrupt than borrowers who live in their states of birth. Moreover, they found that other indicators of social capital, including strong social networks, norms, cooperation, and trust are associated with relatively low levels of consumer bankruptcy.

Culture and risk tolerance

I explore the links between culture and risk tolerance with surveys conducted with the help of colleagues in 23 countries. The respondents were university students, and the sample size was large. Altogether, more than 4,000 people participated in the surveys. The countries and the number of participants in each are presented in Table 1.

Surveys restricted to university students have advantages and drawbacks. On the drawbacks side is that university students in a county are only one segment of the population of that country. Moreover, university students are relatively young and better educated than others of their age. University students are also likely, on average, to be more intelligent and ambitious. On the advantages side is that university students in each country are similar to university students in other countries by age, education, intelligence and ambition, making it easier to isolate differences rooted in culture. I have included in the sample of each county only students born in that country so as not to confound the effects of the culture of each country by the cultures of other countries.

I turn now to an examination of differences in risk tolerance across countries and begin with an examination of differences between the risk tolerance of men and women and differences in risk tolerance in the domains of jobs and portfolios. Barsky, Juster, Kimbal, and Shapiro (1997) wrote that the "principal requirement for a question aimed at measuring risk aversion is that it must involve gambles over lifetime income." (p. 539). They added that "experiments in the existing literature typically involve stakes that have little impact on lifetime resources." (p. 538-539). Barsky et al. asked people a risk tolerance question in the domain of jobs about stakes that have substantial impact on lifetime resources:

"Suppose that you are the only income earner in the family, and you have a good job guaranteed to give you your current (family) income every year for life. You are given the opportunity to take a new and equally good job, with a 50–50 chance it will double your (family) income and a 50–50 chance that it will cut your (family) income by a third. Would you take the new job? If the answer to the first question is "yes," the interviewer continues by increasing the

downside from one third to one half. If the answer to the first question is "no," the interviewer continued by decreasing the downside from one third to one fifth.

I presented people with a modified version of the Barsky et al. 'job' question:

"Suppose that you are the only income earner in the family, and you have a good job guaranteed to give you your current family income every year for life. Now you are given an opportunity to take a new and equally good job. The new job has a 50-50 chance to increase by 50% your standard of living in each year during your lifetime. However, the new job also has a 50-50 chance to reduce by X % your standard of living in each year during your lifetime. Circle the maximum X% reduction in standard of living you are willing to accept."

In testing earlier versions of the question, beginning with Barsky et al.'s version, I found that subjects considered "standard of living" terminology more descriptive than "income" terminology. I also found that subjects found it difficult to conjure in their mind a clear picture of a 100 percent increase in their standard of living but found it easier to conjure a 50 percent increase. I let subjects choose the maximum downside they are willing to accept from three percent to 30 percent in increments of three percent. This range of downside relative to upside overlaps Barsky et al.'s range and extends beyond it.

Risk tolerance varies by domain. Hsee and Weber examined the risk tolerance of Chinese and American students in the domains of investment decisions, medical decisions and academic decisions and found differences between Chinese and Americans only in the domain of investments. Weber, Blais, and Setz (2002) assessed the risk tolerance of students in five content domains: investing and gambling decisions, health and safety decisions, recreational decision, ethical decision, and social decisions. Students rated the likelihood that they would engage in domain-specific risky activities. Weber et al found that students' degrees of risk tolerance were

highly domain-specific rather than consistent across all content domains. Women appeared to be less risk-tolerant in all domains, except the social domain.

Consider a risk tolerance question identical to the earlier one but where the domain is that of investments rather than jobs.

Suppose that you are given an opportunity to replace your current investment portfolio with a new portfolio. The new portfolio has a 50-50 chance to increase by 50% your standard of living in each year during your lifetime. However, the new portfolio also has a 50-50 chance to reduce by X % your standard of living in each year during your lifetime. Circle the maximum X% reduction in standard of living you are willing to accept.

Men and women in the domains of jobs and portfolios

Barsky et al found that women have lower risk tolerance than men. In this they are consistent with many others. Barber and Odean (2001) and Watson and McNaughton (2007) found that women hold less risky portfolios than men. Charness and Gneezy (2007) assembled data from 10 sets of experiments conducted by different experimenters who did not set out to look for gender differences in risk tolerance, yet found that women are less risk tolerant than men. And Beckmann and Menkhoff (2008) found that not even expertise eliminates gender differences in risk tolerance. Women are less risk tolerant than men even among professional fund managers.

Hypothesis 1(The gender hypothesis): Men have a higher risk tolerance than women

Table 1 presents the risk tolerance of men and women from all countries. It shows that men have a higher risk tolerance on average than women in both portfolios and jobs. This is true for risk tolerance toward portfolios in all countries and it is true for risk tolerance toward jobs in

all countries but the Netherlands and Portugal. For example, when the question is posed in the context of portfolios, Chinese men are willing to accept an average 18.04% decrease in their standard of living for an even chance at a 50% increase, whereas Chinese women are willing to accept only a 16.09% decrease for such chance. When the question is posed in the context of jobs, Chinese men are willing to accept an average 16.40% decrease in their standard of living for an even chance at a 50% increase, whereas Chinese women are willing to accept only a 14.72% decrease for such chance.

Hypothesis 2: (The domain hypothesis) Risk tolerance varies by domain

Men are willing to tolerate more risk in the domain of portfolios than in the domain of jobs in all countries. Women are willing to tolerate more risk in the domain of portfolios than in the domain of jobs in all countries except Tunisia. The higher risk tolerance in portfolios than in jobs might seem odd because the stakes in the domain of portfolios are identical to the stakes in the domain of jobs, but Shefrin and Statman's (2000) behavioral portfolio theory explains the difference in the responses. People tend to think about their portfolios as layered pyramids. Jobs constitute the bottom layer of the portfolio pyramid for young people. For them, portfolio wealth is in a layer above the job layer since they can fall back on income from jobs if portfolio wealth is diminished. Yet the positions of the job and portfolio layers are reversed for older people in retirement or nearing it since they must rely on their portfolios for income rather than on their jobs. Indeed, Pan and Statman (2010) found in a large U.S. sample which included older people that while the relatively young are willing to tolerate more risk in their portfolios than in their jobs, the relatively old are willing to tolerate more risk with their jobs than in their portfolios.

Cushions of collectivism

　　Hsee and Weber (1999) observed that Chinese students are more risk tolerant than American students and offered the cushion hypothesis, where people in relatively collectivist countries, such as China, perceive risk as lower than perceived in a relatively individualistic countries, such as the U.S, because people in relatively collectivistic countries are more likely to be cushioned by family and friends than people in relatively individualistic countries. Weber and Hsee (1998) found further support for the cushion hypothesis when they added Germany and Poland to the U.S. and China. I test the cushion hypothesis with data from 23 countries. The risk tolerance of people in each country is measured as the mean of the risk tolerance of men and that of women in that country. This measure is unaffected by the proportion of men and women in the sample of each country. Risk tolerance is measured separately in the domains of jobs and portfolios. Table 2 presents risk tolerance in each country as well as measures of individualism, uncertainty avoidance, egalitarianism, harmony, trust, income-per-capita, and social spending.

Hypothesis 3 (The cushion hypothesis): Risk tolerance is higher in relatively collectivistic countries than in relatively individualistic countries.

　　I find support for the cushion hypothesis in both the portfolio and jobs domains, presented in Table 3. There is a negative relation between risk tolerance and individualism scores in both the jobs and portfolio domains. The correlation between risk tolerance in jobs and individualism scores is -0.47 (p-value = 0.03). The correlation between risk tolerance in portfolios and individualism scores is -0.36 (p-value = 0.11). China, Vietnam and Taiwan are relatively collectivistic and they are also at the high end of risk-tolerance. The United States, United Kingdom, and France are relatively individualistic and they are also at the low end of risk tolerance.

Relatively high collectivism scores are associated with relatively high risk tolerance among individuals, yet Griffin, Li, Yue and Zhao found that they are associated with relatively *low* risk tolerance among corporate managers. The cushion hypothesis explains the difference. The cushion of family and friends available to individuals in collectivistic countries is not necessarily available to them in their capacities as corporate managers.

Income

Weber and Hsee (1998) noted that differences in risk perception can result from many factors, including differences in aspiration levels. They chose to focus on the cushion factor but did not dismiss the other factors. Aspiration levels are a good candidate for further examination. I hypothesize that the gap between current levels of wealth and aspirations levels is greater in countries with relatively low income-per-capita than in countries with relatively high income-per-capita. In this way people in low income-per-capita countries resemble people who buy lottery tickets not because they are risk seeking but because their aspiration levels greatly exceed their present circumstances. This leads to hypothesis 4, the income hypothesis.

Hypothesis 4: (Income hypothesis) Risk tolerance is relatively high in countries with relatively low income-per-capita.

I find some support for income hypothesis. There is a negative relation between income-per-capita and risk tolerance in the domains of both jobs and portfolios. The correlation between income-per-capita and risk tolerance in the domain of jobs is -0.42 (p-value = 0.05) and the correlations between income-per-capita and risk tolerance in the domain of portfolios is - 0.25 (p-value = 0.25). Levels of statistical significance associated with the income hypothesis are lower than those associated with the cushion hypothesis but it is difficult to disentangle the two because relatively individualistic countries tend to have relatively high income-per-capita. The

correlation between income-per-capita and individualism scores is 0.75. The signs of coefficients do not change when income-per-capita and individualism scores are placed simultaneously as the independent variables in regressions where risk tolerance is the dependent variable. Nevertheless, the statistical significance of the coefficients is now far from statistical significance whether the dependent variable is risk tolerance in jobs or portfolios (See table 4.)

The distinction between the cushion hypothesis and the income hypothesis is important since the first is associated with a cultural dimension which is likely long-lasting, while the second is associated which a possibly transitory dimension. Income-per-capita in a country can change substantially over periods as short as a few decades. Causality might flow from income to individualism or from individualism to income. It might be that low incomes push people toward collectivism since relatively small economic shocks in such countries push many people below the poverty line, forcing them to fall on a cushion of family and friends. Moreover, banking services are likely underdeveloped in countries with relatively low income-per-capita, making it difficult for people to borrow through credit cards and similar bank lending arrangements.

Uncertainty avoidance

People in societies where uncertainty avoidance is high are uncomfortable in situations that pose risks, such as those which are unknown or surprising. The cultural dimension of uncertainty avoidance was described and measured by Hofstede along with the individualism-collectivism dimension, but the two are distinct. The correlation between them is -0.06. Uncertainty avoidance is likely associated with risk tolerance. This leads to Hypothesis 5.

Hypothesis 5: (The uncertainty-avoidance hypothesis) People in countries where uncertainty avoidance is relatively high have relatively low risk tolerance.

I find some support for uncertainty-avoidance hypothesis. There is a negative relation between uncertainty avoidance and risk tolerance in the domains of both jobs and portfolios. The correlation between uncertainty avoidance and risk tolerance in the domain of jobs is -0.38 (p-value = 0.09) and the correlations between uncertainty avoidance and risk tolerance in the domain of portfolios is - 0.31 (p-value = 0.17). Analysis of the uncertainty hypothesis provides further support for the income hypothesis. The correlation between uncertainty avoidance and income-per-capita is low, 0.07, indicating that the two affect risk tolerance independently. The coefficients of both uncertainty avoidance and income-per-capita are negative when they serve simultaneously as independent variables in a regression where risk tolerance in jobs is the dependent variable. The p-value for the coefficient of income-per-capita is 0.05 and that for uncertainty avoidance is 0.09. The negative coefficient of income-per-capita is consistent with the income hypothesis while the negative coefficient of uncertainty avoidance is consistent with its role as a measure of risk tolerance. The same is true for a corresponding regression where risk tolerance in portfolios is the independent variable, but p-values in this regression are higher, 0.13 for the income-per-capita coefficient and 0.19 for the uncertainty avoidance coefficient. (See Table 4)

Public cushions

France is almost as individualistic as the United States, providing relatively little 'private cushion' of family and friends. But France is very different from the United States by providing a relatively substantial 'public cushion,' such as generous health and unemployment benefits. Public social spending in France amounted to 33.2 percent of net national income in 2005 while public social spending amounted to only 18.1 percent of net national income in the United States that year. Public cushions might substitute for private cushions such that people are more risk

tolerant in countries with high public social expenditures than in countries with low public social expenditures. This leads to Hypothesis 6, the public-cushion hypothesis.

Hypothesis 6: (Public-cushion hypothesis): Risk tolerance is relatively high in countries with relatively high social spending.

The data do not support the public-cushion hypothesis. Indeed risk tolerance is *lower* in countries with relatively high public spending than in countries with relatively low public spending. The correlation between public spending and risk tolerance in the domain of jobs is -0.32 (p-value = 0.25) and the correlation between public spending and risk tolerance in the domain of portfolios is - 0.32 (p-value = 0.25). This raises the possibility that cultures where people have low risk tolerance are also cultures where people clamor for risk-reducing governmental cushions in the form of high public social spending. This possibility is bolstered by an examination of hypotheses related to egalitarianism and harmony.

Egalitarianism and harmony

People in relatively egalitarian cultures value equality and social justice more than people in hierarchical cultures. People in cultures which promote harmony do not value ambition and daring as much as people in cultures which promote mastery. It is not surprising that harmonious countries tend to be egalitarian. The correlation between egalitarianism and harmony scores is 0.54 (p-value = 0.01). I hypothesize that risk tolerance is relatively low in egalitarian and harmonious countries. This leads to Hypothesis 7 and Hypothesis 8.

Hypothesis 7: (The egalitarianism hypothesis) Risk tolerance is relatively low in relatively egalitarian countries

Hypothesis 8: (The harmony hypothesis) Risk tolerance is relatively low in relatively harmonious countries.

I find support for the egalitarianism hypotheses and weaker support for the harmony hypothesis. There is a negative relation between risk tolerance and egalitarianism in both jobs and portfolios. The correlation between egalitarianism and risk tolerance in the domain of jobs is -0.50 (p-value = 0.02) and the correlation between egalitarianism and risk tolerance in the domain of portfolios is -0.50 (p-value = 0.03). There is also a negative relation between risk tolerance and harmony in jobs and portfolios although correlations are low. The correlation between harmony and risk tolerance in the domain of jobs is -0.36 (p-value = 0.12) and the correlation between harmony and risk tolerance in the domain of portfolios is -0.07 (p-value = 0.76).

Trust

Guiso, Sapienza and Zingales (2008) provided evidence that trust is not a mere proxy for risk tolerance so as to set aside the possibility that greater stock market participation in countries with relatively high levels of trust is due to relatively high risk tolerance in such countries. In particular, they found that the number of individual stocks held in investors' portfolios tends to be higher among investors whose levels of trust are relatively high. Higher numbers of individual stocks in a portfolio are associated with lower risk, a benefit of diversification. High diversification points to relatively low risk tolerance. I offer another test of Hypothesis 9, the trust hypothesis.

Hypothesis 9 (The trust hypothesis): Trust is not associated with risk tolerance.

The evidence is largely inconsistent with this hypothesis. There is a negative relation between trust and uncertainty avoidance, suggesting that people in countries with relatively high levels of trust have relatively low tendency to shy away from uncertainty. The correlation between trust and uncertainty avoidance is -0.47 (p-value = 0.03) There is a positive relation

between trust and risk tolerance in both portfolios and jobs, although statistical significance is low in the domain of jobs. The correlation between trust and risk tolerance in the domain of portfolios is 0.38 (p-value = 0.08) and the correlation between trust and risk tolerance in the domain of jobs is 0.24 (p-value = 0.29). The relation between trust and risk tolerance is positive and statistically significant when income joins trust as an independent variable. The p-value of the coefficient of trust is 0.00 when risk tolerance in the domain of portfolios is the dependent variable and 0.01 when risk tolerance in the domain of jobs is the dependent variable. Still, trust is surely not a perfect proxy for risk tolerance.

Conclusion

Risk tolerance is associated with culture. Risk tolerance is relatively low in countries where uncertainty avoidance is relatively high and in countries which are relatively individualistic. Risk tolerance is also relatively low in countries which are relatively egalitarian and harmonious. And risk tolerance is relatively high in countries where trust is relatively high. Culture is also associated with risk tolerance indirectly, through the association between culture and income-per-capita. Risk tolerance is relatively high in countries with relatively low income-per-capita. People in countries with relatively high income-per-capita tend to be relatively individualistic, egalitarian, and trusting. The role of income-per-capita in risk tolerance is especially important since income-per-capita can charge greatly over periods of a few decades. The role of institutions is equally important and worth examining since loans from banks, such as through credit cards, can substitute for loans from family and friends, diminishing the need for the financial cushion of family and friends and diminishing collectivism along with it.

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Table 1. Risk tolerance of men and women in the domains of portfolios and jobs

Country	Number	Number	Risk Tolerance in the			Risk Tolerance in the			Difference	Difference
			Men	Women	Difference	Men	Women	Difference		
Brazil	151	61	11.30	9.93	1.37	11.17	9.64	1.53	0.14	0.30
China	159	179	18.04	16.09	1.95	16.40	14.72	1.68	1.64	1.37
Estonia	74	136	14.59	12.18	2.42	11.51	10.65	0.86	3.08	1.52
Finland	64	30	15.38	10.90	4.48	11.63	8.60	3.03	3.75	2.30
France	44	44	13.98	9.89	4.09	12.14	8.52	3.61	1.84	1.36
Germany	77	32	14.96	9.69	5.27	11.73	8.70	3.02	3.23	0.98
India	140	65	14.67	12.23	2.44	11.69	11.26	0.43	2.98	0.97
Israel	117	53	12.90	9.91	2.99	12.10	9.79	2.31	0.79	0.11
Italy	38	37	14.32	10.70	3.61	10.97	8.03	2.95	3.34	2.68
Japan	608	188	13.47	11.35	2.12	10.64	8.79	1.85	2.83	2.55
Malaysia	47	138	12.70	11.02	1.68	10.85	9.98	0.87	1.85	1.04
Netherlands	103	26	16.72	15.12	1.60	12.26	14.54	-2.28	4.46	0.58
Norway	104	81	12.78	10.70	2.08	10.59	8.89	1.70	2.19	1.81
Poland	33	65	16.18	11.77	4.41	10.45	8.72	1.73	5.73	3.05
Portugal	75	104	11.88	11.16	0.72	9.12	9.40	-0.28	2.76	1.76
Switzerland	39	17	13.23	9.88	3.35	10.31	6.35	3.95	2.92	3.53
Taiwan	111	141	16.38	14.49	1.89	14.41	12.17	2.24	1.97	2.32
Thailand	43	74	13.88	12.73	1.15	12.21	9.49	2.72	1.67	3.24
Tunisia	73	91	11.47	9.19	2.28	11.42	9.86	1.57	0.04	-0.67
Turkey	118	85	15.08	13.76	1.31	12.92	11.29	1.62	2.16	2.47
United Kingdom	59	52	13.12	10.15	2.96	11.08	8.08	3.01	2.03	2.08
United States	72	60	13.67	11.55	2.12	11.44	9.78	1.66	2.22	1.77
Vietnam	186	235	17.37	15.31	2.06	14.77	13.02	1.75	2.60	2.29
Total	2535	1994			2.54 [1]			1.81 [1]		
					4.51 [2]			3.34 [2]		

[1] difference between means

[2] t-statistic of the difference

Table 2. Country data on risk tolerance, individualism, uncertainty avoidance, income, egalitarianism, harmony, and trust

Country	Risk Tolerance in Portfolios	Risk Tolerance in Jobs	Individualism (IDV)	Uncertainty Avoidance (UAI)	Income per Capita (in thousands)	Social Spending	Egalitarianism	Harmony	Trust
Brazil	10.62	10.40	38	76	$10.466	NA	5.04	4.04	4.80
China	17.06	15.56	20	40	$5.970	NA	4.31	3.76	54.60
Estonia	13.39	11.08	NA	NA	$20.561	NA	4.75	4.66	23.90
Finland	13.14	10.11	63	59	$36.320	30.5	5.03	4.59	56.40
France	11.93	10.33	71	86	$34.205	33.2	5.18	4.50	23.30
Germany	12.33	10.22	67	65	$35.539	31.1	5.14	4.71	36.10
India	13.45	11.48	48	40	$2.780	NA	4.49	3.98	38.30
Israel	11.40	10.95	54	81	$28.474	NA	4.86	3.35	23.50
Italy	12.51	9.50	76	75	$30.631	29.7	5.38	4.91	31.40
Japan	12.41	9.72	46	92	$34.116	22.9	4.47	4.30	42.90
Malaysia	11.86	10.41	26	36	$13.551	NA	4.50	3.68	10.30
Netherlands	15.92	13.40	80	53	$40.558	24.3	5.08	4.19	53.90
Norway	11.74	9.74	69	50	$53.738	24.6	5.29	4.64	63.90
Poland	13.98	9.59	60	93	$17.537	25.1	4.55	4.24	23.70
Portugal	11.52	9.26	27	104	$21.848	28.2	5.34	4.57	15.70
Switzerland	11.56	8.33	68	58	$43.196	22.2	4.98	4.53	42.10
Taiwan	15.43	13.29	17	69	$30.912	NA	4.39	4.22	38.20
Thailand	13.31	10.85	20	64	$7.998	NA	NA	NA	38.90
Tunisia	10.33	10.64	NA	NA	$8.002	NA	NA	NA	NA
Turkey	14.42	12.10	37	85	$13.139	11	4.91	4.31	10.40
United	11.64	9.58	89	35	$36.358	23.3	5.00	3.81	36.90
United States	12.61	10.61	91	46	$47.440	18.1	4.80	3.69	42.10
Vietnam	16.34	13.89	20	30	$2.933	NA	NA	NA	41.30

Sources: Individualism and uncertainty avoidance are from ITIM International   http://www.geert-hofstede.com/

Income-per-capita is from IMF http://en.wikipedia.org/wiki/List_of_countries_by_GDP_(PPP)_per_capita

Social spending is from OECD, 2009 "Society at a Glance 2009 - OECD Social Indicators," Public Social Spending (EQ5)

Egalitarianism and harmony are from Siegel, Jordan, Amir Lichet, and Shalom Schwartz, "Egalitarianism, Cultural Distance, and FDI: A New Approach," Working paper, 2010

Trust is from Bjornskov, Christian, 2007 "Determinants of generalized trust: A cross-country comparison," Public Choice, v 139, Numbers 1-2/January 2007 pp 1-21

Table 3. Correlations between risk tolerance, individualism, uncertainty avoidance, income, social spending, egalitarianism, harmony, and trust (p-values in parentheses)

Correlation p-value	Risk Tolerance in Portfolios	Risk Tolerance in Jobs	Individualism (IDV)	Uncertainty Avoidance (UAI)	Income per Capita	Social Spending	Egalitarianism	Harmony	Trust
Risk Tolerance in Portfolios	1.00								
Risk Tolerance in Jobs	0.84 (0.00)	1.00							
Individualism (IDV)	-0.36 (0.11)	-0.47 (0.03)	1.00						
Uncertainty Avoidance (UAI)	-0.31 (0.17)	-0.38 (0.09)	-0.06 (0.79)	1.00					
Income per Capita	-0.25 (0.25)	-0.42 (0.05)	0.75 (0.00)	0.07 (0.77)	1.00				
Social Spending	-0.32 (0.28)	-0.32 (0.28)	0.13 (0.68)	0.13 (0.67)	0.15 (0.62)	1.00			
Egalitarianism	-0.50 (0.02)	-0.50 (0.03)	0.51 (0.02)	0.24 (0.31)	0.48 (0.03)	0.45 (0.12)	1.00		
Harmony	-0.07 (0.76)	-0.36 (0.12)	0.17 (0.49)	0.38 (0.11)	0.29 (0.22)	0.55 (0.05)	0.54 (0.01)	1.00	
Trust	0.38 (0.08)	0.24 (0.29)	0.27 (0.24)	-0.47 (0.03)	0.44 (0.04)	0.16 (0.60)	-0.03 (0.91)	0.14 (0.57)	1.00

Table 4. Risk tolerance, income, individualism, uncertainty avoidance, and trust (regression coefficients and p-values)

	Income per Capita	Individualism (IDV)	Uncertainty Avoidance (UAI)	Trust	R^2	Correlation between the independent
Risk Tolerance in Portfolios	-0.02 (-0.56)	-0.02 (0.51)			0.15	0.75
Risk Tolerance in Jobs	-0.02 (0.50)	-0.02 (0.33)			0.24	0.75
Risk Tolerance in Portfolios	-0.04 (0.13)		-0.02 (0.19)		0.21	0.07
Risk Tolerance in Jobs	-0.05 (0.05)		-0.03 (0.09)		0.32	0.07
Risk Tolerance in Portfolios	-0.08 (0.00)			0.07 (0.00)	0.49	0.44
Risk Tolerance in Jobs	-0.08 (0.00)			0.06 (0.01)	0.42	0.44