J Bus Econ (2019) 89:191–220
https://doi.org/10.1007/s11573-017-0888-y

ORIGINAL PAPER

Cultural Finance as a research field: an evaluative survey

Claudia Nadler[1] · **Wolfgang Breuer**[1]

Published online: 13 December 2017

Abstract Academic interest in cultural influences on financial decision-making has risen in the last decade leading to a considerable number of literature contributions in this field. However, the discipline of Cultural Finance is a very young and yet unstructured research niche with its added value being rather opaque than clearly defined. In this paper, we try to contribute to the enhancement of this research niche by (1) developing a structured framework in order to (2) systematically classify and evaluate Cultural Finance papers past to present. Based on the literature survey, we (3) deduct the main research subjects so far, and (4) assess the added value of Cultural Finance as a discipline. Concerning the latter, we find that Cultural Finance displays a revisiting function, since already well-researched questions in traditional finance can now be reconsidered more precisely in a new cultural light. Furthermore, Cultural Finance unfolds a supplementing function for broader concepts like Sustainable Finance by assessing the impact of social preferences on financial decision-making. In order to explore these two functions, we show that the less applied cultural dimensions of Schwartz are in favor of the more prominent Hofstede approach. We conclude that Cultural Finance as a discipline incorporates a pioneer role by delivering an approach that is able to cope with the challenges of financial decision-making against a multi-dimensional goal function of prosocial decision-makers.

Electronic supplementary material The online version of this article (https://doi.org/10.1007/s11573-017-0888-y) contains supplementary material, which is available to authorized users.

✉ Claudia Nadler
claudia.nadler@bfw.rwth-aachen.de

Wolfgang Breuer
wolfgang.breuer@bfw.rwth-aachen.de

[1] Department of Finance, RWTH Aachen University, Templergraben 64, 52056 Aachen, Germany

Keywords Behavioral Finance · Cultural Finance · Dictator games · Schwartz value survey · Sustainable Finance

JEL classification D03 · G02 · Z10

1 Cultural Finance: from a research niche to a research field?

Is it a good idea to diversify a company's portfolio by making foreign investments? Is bond finance more desirable than bank finance? Should private households save or spend more? Managers, institutional investors, and also private households deal with questions involving financial decision-making every day. In doing so, they might rely on long-established financial theories providing neoclassical models with perfect capital markets or models with imperfect markets based on agency theory in order to come to an optimal solution for these questions. However, empirical evidence clearly states that actual decision-making often contradicts recommendations based on these models. Thus, in the last few decades new research approaches have emerged that try to capture real investment behavior by integrating additional aspects in financial decision problems.

The most well-known related research field in this context is *Behavioral Finance*—with Daniel Kahneman and Richard Thaler winning the Nobel Prize in 2002 and 2017, respectively—providing explanations for irrational decision-making through behavioral anomalies (Barberis and Thaler 2003). In contrast to the fully rational and egoistic homo economicus in neoclassical models and agency theory, Behavioral Finance assumes a boundedly rational decision-maker. However, Behavioral Finance still relies on a one dimensional goal function and thus disregards deviations from maximizing (one's own) financial returns. In this sense, Behavioral Finance is as "traditional" as neoclassical finance and financial agency theory.

A second related younger research field is *Sustainable Finance* (see for an overview Breuer et al. 2013). Here, financial decision-making in discordance with the above-mentioned financial theories is no longer neglected due to the assumption of decision-makers exhibiting *social preferences* and thus striving to fulfill not only economic goals, but also (and at the same time) ecologic and social objectives in a *three-dimensional goal function* (Soppe 2009). Decision-makers' motivations to focus on the so-called ''triple bottom line'' may be either egoistic—as, e.g., stated for the "narrow corporate cocial responsibility (CSR) approach" where social goals are only pursued for higher financial returns—or prosocial—as in the less researched "broad CSR approach", where social goals arise from ethical considerations (Salzmann 2013: 566–567). Thus, Sustainable Finance provides an alternative to "traditional finance" by embedding social preferences in financial decision-making. Furthermore, in the more *heterodox* broad approach, finance is assigned a new role: when promoting social change is not only exploited to maximize financial returns but represents an intrinsic goal of prosocial decision-makers, finance advances to the essential supporter of sustainable development (Soppe 2009: 10).

In this paper, we intend to clarify how the rather young and less known research field *Cultural Finance* can contribute to the (traditional and non-traditional) financial sub-disciplines elaborated above. More precisely, we try to assess the added value that stems from the explanation of financial behavior by cultural values. Accordingly, the classical financial research questions stated at the very beginning of this paper might be viewed in a different (cultural) light: Why does empirical evidence clearly state that one nation's managers realize higher foreign investments than others? Why do some countries highly rely on bond finance while others are in favor of bank finance? And finally, why do private household savings differ significantly in a worldwide comparison?

By taking a deeper look at the general role of culture in economic decision-making it becomes obvious that *Cultural Economics* as a discipline can already look back at half a century of research (Taras et al. 2009), covered in various meta studies (Stahl and Tung 2015; Taras et al. 2010) and special issues (Caprar et al. 2015). Most surprisingly, the sub-field of Cultural Finance is not even mentioned in these reviews, proving Aggarwal and Goodell (2014) right in stating a *research gap* concerning the impact of national culture on the field of finance. Likewise, Reuter (2011: 78) and Beugelsdijk and Maseland (2011: xii) confirm that Cultural Finance as a discipline still lacks a standardized theory and is yet an unstructured field. Besides, for the time being, Cultural Finance is non-evident in international (financial) textbooks. Therefore, Cultural Finance at present rather appears to be a research niche, but with potential to become an established research field soon (Karolyi 2016; Zingales 2015).

Accordingly, the *first key objective* of our paper is to develop an encompassing model for Cultural Finance as a potential research field (Sect. 2). This structured framework provides classification criteria for a literature survey that helps to systemize all existing Cultural Finance contributions so far and enables us to sum up the *main contributions* of this research niche until now (Sect. 3). Based on our findings of the literature survey we pursue our *second key objective* to come to conclusions concerning the *added value* of Cultural Finance as a research field and present an example for its further development (Sect. 4). Finally, in Sect. 5, we conclude this paper by trying to assess the future potential of Cultural Finance as a research field.

2 Developing a structural framework for Cultural Finance

In order to explore the main objectives of Cultural Finance as a yet unstructured research field, we start out by adopting the probably most common definition of *culture* by the Dutch researcher Geert Hofstede (1984: 82): "Culture is the collective programming of the mind which distinguishes the members of one group or society from those of another". *Finance* in return matches assets and liabilities over time, dealing with long-term investment decisions and the required financing (Ross et al. 2013; Brealey et al. 2015: vii). Merging these two definitions, we can conclude that Cultural Finance tries to capture and assess the influence on decisions concerning both the *allocation of funds* and the *procurement of funds* that stems from a decision-maker's cultural background.

In order to develop a structured framework for Cultural Finance, we take as origin the widely cited and well-grounded *economic institutions model* of Nobel Prize Laureate Oliver E. Williamson (2000: 597) and further specify its constituent four levels according to the potential impacts of culture on financial decision-making (see Fig. 1).

Williamson's *level 1* covers all informal institutions such as values, traditions, or customs that can also be taken as elements of culture (Breuer and Quinten 2009: 9), since they capture certain characteristic features of a society. Informal institutions change so slowly that they are taken as given as far as economic (and thus financial) decision-making is concerned. Still, culture is believed to have an impact on every single model level. Although informal institutions thus do not form a part of the decision field (white shading in Fig. 1), indirect cultural impacts on financial decision-making are still possible, for example through differences in *trust* (in managers and/or markets both affecting, e.g., the development of financial intermediaries, see Massa et al. 2016) or *religion* (e.g., on risk-taking in foreign investments, see Lin 2009). According to Williamson (2000: 596), the respective higher level of the model influences the level immediately below. Thus, the cultural features of level 1 have an impact on *level 2*, the formal institutions. Concerning cultural finance topics, especially *capital markets*—their characteristics and restrictions—are subject to cultural differences (e.g., in market capitalization of the mutual funds market, see Dragota et al. 2016). Williamson's *level 3* refers to the *governance structure*. On the corporate level, we distinguish between four characteristics—namely investor protection, ownership structure, corporate control, and takeover activities—that are subject to influences of Cultural Finance (Guillén 2000). Culture may determine governance structures, e.g., with respect to corporate control: In Anglo-Saxon Countries a one tier structure—containing the board of directors as the core element—is

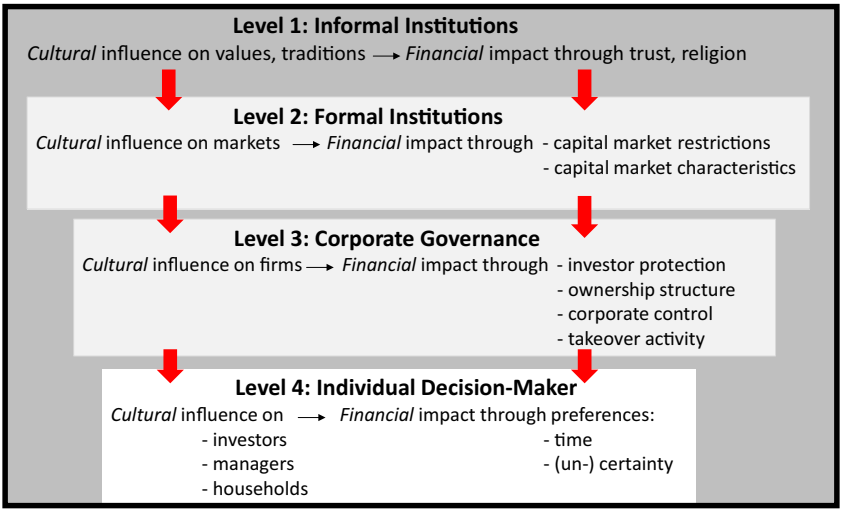

Fig. 1 A structured framework to Cultural Finance

most common, whereas in countries belonging to another cultural region (e.g., in Germany) corporate governance normally foresees two tiers, the board of directors and an additional supervisory board.

Finally, the cultural impact on the decision-maker's *level 4* works through his or her *preferences*. This effect is referred to in the literature as the *direct impact* of culture whereas the aforementioned cultural impacts are labeled as *indirect* (Castro et al. 2011; Li et al. 2011). On Williamson's level 4 we subdivide by the type of a financial decision-maker: institutional investors, managers or private households. They are all subject to cultural influences on their preferences. In more detail, *time preferences* may vary with the relevant cultural background, since some nations are believed to be more of the "borrower-type" striving particularly for high present consumption, whereas other nations represent the "saver-type" that prefers future consumption. Moreover, culture can have an impact on *(un-) certainty preferences*, distinguishing between risk averse and risk seeking decision-makers (Hens and Wang 2007) as well as between ambiguity averse and ambiguity seeking individuals (Chui and Kwok 2008).

3 Evaluating empirical literature contributions to Cultural Finance

3.1 Deriving key characteristics for the survey

Certainly, any attempt to systematize a research field faces the danger of not being completely exhaustive and thus missing certain important contributions. However, we are confident that our model developed in the previous section can serve as a suitable structured framework for presenting quite a comprehensive literature survey on Cultural Finance contributions.

Our database consists of altogether 101 papers that analyze Cultural Finance topics between 1969 and 2016. These 101 papers are the result of applying four selection criteria. *First*, we include all contributions in our survey that deal with cultural influences on any of the four levels of our model and explore finance-related research questions. Thus, we sort out all contributions that relate to (broader) cultural economic issues (like e.g., cultural impacts on job satisfaction) or other subdisciplines (like e.g., cultural marketing). To be more precise, we searched for the key words "Cultural Finance", "culture" and "finance", "culture" and "trust", "culture" and "confidence", "culture" and "religion", and "culture" and "language" in the full text of contributions in Google Scholar. We cross-checked our findings in two ways: (1) we looked through the references in the respective papers and (2) we used the Google Scholar function "related citations" for a robustness check.

Second, we only select papers that explore the relation between culture and finance on an empirical base, thus leaving out merely theoretical analyses. *Third*, we only include those papers that are officially published either in peer-reviewed journals or as (chapters in) a book. However, in order to capture the latest developments of Cultural Finance as a discipline, we also include the topic-related working papers presented at the latest annual EFA (European Finance Association) and AFA (American Finance Association) conferences 2012–2016, since accepted working

papers at these conferences have a very high probability of being published in top ranked academic journals. Thus, five of our 101 contributions are working papers. *Fourth*, we choose only those papers for our survey that analyze cultural differences in a cross-country research, therefore leaving out studies that only focus on cultural discrepancies in e.g., different regions of one country.

We categorize all 101 papers by four criteria, starting with (1) systemizing all papers by the type of decision according to the aforementioned definition of finance—matching assets and liabilities over time—and distinguishing between decisions concerning the *allocation of funds* and the *procurement of funds*. Next, we identify for each paper (2) the respective most important level (1 to 4) of the enlarged Williamson model presented above. Since in general any decision in the field of finance is based on (future) cash flows, authors intend to make the cultural impact on financial decisions *measurable* in monetary terms. Therefore, approaches to measure different cultural *dimensions* by metric scales or by cultural *proxies* (like religion, language or trust) play an essential role in almost all cultural finance contributions. Thus, the different approaches to measure cultural impacts enter our literature analysis as classification criterion (3). In order to introduce the different approaches subsumed under (3) in more detail, Table 1 presents the two most prominent dimensionalist concepts by Hofstede (1980, extended 2001) and by Schwartz (1992, 1994).

Hofstede's original concept contains *five main cultural dimensions*—although he developed long-term versus short-term orientation a few years later than the other four dimensions. More recently he has adopted a sixth dimension "indulgence versus restraint" introduced by Minkov (2007). *Schwartz* distinguishes *six dimensions*

Table 1 Cultural dimensions by Hofstede and Schwartz

Hofstede dimensions	Schwartz dimensions
Individualism (IN) vs. Conservatism (CO): Relation between individual and fellow individuals	**Embeddedness (= Conservatism, EM):** Finding meaning in life largely through social relationships and identifying with the group
Power distance (PD): Society's dealing with the effect that people are unequal	**Autonomy (AU):** Person as autonomous, bounded entity finds meaning in own uniqueness - Intellectual: pursuing own (intellectual) ideas - Affective: pursuing pleasure, exciting life
Uncertainty avoidance (UA): Society's dealing with the fact that the future is unknown	**Hierarchy (HI):** Hierarchical allocation of fixed roles as the legitimate way to regulate interdependencies
Masculinity (MA) vs. femininity (FE): Division of roles between the sexes in society	**Egalitarism (EG):** Individuals as moral equals sharing basic interests, showing concern for everyone's welfare
Long-term (LT) vs. short-term orientation (ST): Fostering of virtues oriented towards future rewards vs. related to the past and present	**Mastery (MT):** Mastering, controlling and changing social and natural environment to pursue further interests
Indulgence (INDU) vs. restraint (RES): Importance of happiness, freedom and leisure and of expressing positive emotions	**Harmony (HA):** World is accepted as it is, avoiding change and self-assertion to modify natural and social world

that are grouped together in three opposing pairs: embeddedness versus (affective and intellectual) autonomy, hierarchy versus egalitarianism, and mastery versus harmony. Both the Hofstede and the Schwartz approach have derived their cultural dimensions by a cross-country cultural survey, asking IBM managers all around the world (Hofstede) respectively teachers (Schwartz) to fill in questionnaires revealing their most important cultural values. They applied cluster analyses to group cultural values to the cultural dimensions displayed in Table 2. Since culture is believed to change very slowly over time, Hofstede's cultural dimensions are still stated to be the most prominent cultural measures today (Beugelsdijk et al. 2017, and for an update of the Hofstede measures Taras et al. 2012).

The newer approach of the *GLOBE* (Global Leadership and Organizational Effectiveness, see House et al. 2004) research program adopted the cultural dimensions paradigm of Hofstede. In their 2004 Culture and Leadership Study (covering 17,000 middle managers in 62 cultures) and their 2014 GLOBE-CEO-Study (over 1000 CEOs and 5000 senior executives in 24 countries) they expanded the five Hofstede dimensions of Table 1 to nine: They maintained *power distance*, *uncertainty avoidance*, and *long term orientation* (renamed: *future orientation*), split Hofstede's individualism/collectivism into *institutional collectivism and in-group collectivism* and replaced masculinity/femininity by four components (*assertiveness, performance orientation, gender egalitarianism,* and *humane orientation*, see for a detailed description House et al. 2004, and for the differences of the two concepts Caprar et al. 2015). A fourth empirical approach to measure culture stems from the *World Value Survey* (WVS, see Inglehart 1990). In contrast to the aforementioned concepts, deriving cultural dimensions is only one of many evaluation purposes of the WVS. However, the (only) two WVS cultural dimensions partly coincide with the ones of Hofstede: *self-expression versus survival* is strongly correlated with individualism and masculinity, whereas *traditional versus secular-rational authority* shows a negative correlation to power distance (Hofstede 2010: 33, 34).

Our last classification criterion of the survey shall give an insight into the impact of the different research topics on the academic community. Therefore, we determine (4) the number of citations (in total, per year, and in relation to the other research papers of the survey) for each paper as it appears in Google Scholar in April 2017 (see for a detailed discussion on citation analyses on the basis of Google Scholar, e.g., Harzing and van der Wal 2008).

3.2 Main findings

3.2.1 Research focus

In order to get a deeper insight into the yet unstructured research niche of Cultural Finance, we classify all 101 contributions according to the four criteria presented in the previous section. Table 2 sums up the evaluation results (the detailed classifications and references of all 101 papers are available in an Appendix as a supplementary online resource).

Table 2 Evaluation of 101 Cultural Finance papers past to present

(i) Financial Decision	#	(ii) Model Level	#	Data Level	→ Cultural impact on	#	(iii) Measuring cultural influences by Hofstede							(iii) Measuring cultural influences by Schwartz							(iii) Papers applying		
							IN	PD	UN	MA	LT	INDU	Σ H:	EM	AU	HI	MT	EG	HA	Σ S:	GLOBE	WVS	proxy
Allocation of funds	67	**(4) Individual**	49	12	Investor: (un)certainty preference	25	12	7	10	4	1		34									1	8
					Investor: time preference	7	3	2	6	1	3		15	1			1			2			
					Manager: (un)certainty preference	11	6	4	8	4			22	2		2		3		7			
					Manager: time preference	4			3	1	2		6							0			
					HH behavior: (un)certainty pref.	6	3	1	1	1			6	1	1	1		1		4		1	1
		(3) Corporate	11	21	Takeover activity	4	4	4	4	4			16							0	1		
					Ownership structure	3	2	0	1	2			5							0			
					Investor protection	4	2	1	3		1		7							0			1
		(2) Market	11	36	Capital market capitalization	7	1	1	2	1			5							0	1	2	1
					Capital market restrictions	4	1		2				3					1		1			1
Procurement of funds	34	**(4) Individual**	25	4	Manager: (un)certainty preference	21	7	7	10	5	1	1	31	4	1		3	1	1	10		2	6
					Manager: time preference	5	1	2	3	1	1		8	1	1					2			
		(3) Corporate	7	22	Corporate control	5		1	3				4	2	2	1	1		2	8			
					Ownership structure	2			1				1	1			1			2			
		(2) Market	9	9	Capital market capitalization	8	2	2	3				7	2	2	1	1		2	8	1		
					Capital market restrictions	1							0							0			1
Total	**101**						44	32	60	24	9	1	**170**	14	7	5	7	6	5	**44**	**3**	**6**	**19**

HH: private household; pref.: preference; WVS: World Value Survey; abbreviations for cultural dimensions as in Table 1. Column (i) presents the financial decision under consideration and the corresponding number of papers. Column (ii) shows the model level according to Figure 1 on which culture is conjectured to have an effect. The column "→ Cultural impact on" offers a more precise description of the effect referred to in column (ii). Due to double counts, the numbers in column (ii) sum up to more than the corresponding numbers of papers in column (i). In the next column, the level of the data underlying the main dependent variable in the empirical sections of the analyzed papers are reported. Once again, there are double counts. The left part of column (iii) reveals which of the Hofstede and/or Schwartz cultural dimensions are addressed as independent variables in the empirical investigations. The right part of column (iii) counts those papers that refer to GLOBE, the Word Value Survey (WVS) or other proxies for cultural variables.

With respect to criterion (1), the message is very clear: About two-thirds of the papers (67 out of 101) deal with the cultural impact on the *allocation of funds*, whereas the remaining 34 papers focus on the *procurement of funds*.

A similar result applies to criterion (2): Once again, two-thirds of all papers (74 out of 112 counts with 11 double counts for papers referring to two levels) deal exclusively or partially with financial decisions on the individual level 4, representing the cultural impact on decision-makers' *preferences*. A typical example for a research question on the *individual* level would be to test whether investors living in a country with high/low scores on the cultural dimension of individualism demand higher/lower risk premiums concerning direct investments at the stock market (Chui et al. 2010). The preference type that is assessed by far the most (79.8%) is (un-) certainty preferences, while the rest of the papers deals with time preferences (20.2%). 18 papers (17.8%) examine—exclusively or among other levels—the cultural impact on the *corporate* level 3. In this context, a relevant research question would be to analyze whether differences in the ownership structure of corporations—one dominant shareholder versus dispersed ownership—can be partly explained by high/low scores for the cultural dimension of uncertainty avoidance (De Jong and Semenov 2006). Furthermore, 20 papers (19.8%) examine cultural influences on *capital markets*—representing the formal level 2—and e.g., explore, whether the concentration of a country's banking sector is different for countries high/low in the cultural dimension of power distance (Malul and Shoham 2008). Finally—and not very surprisingly, since there hardly seems to be any direct connection to financial questions—none of the papers refers to the informal level 1, e.g., establishing a connection between the type of confession, language, or trust and a certain cultural dimension. However, religion, language, and trust seem to play a double role in cultural research: On the one hand, they appear in category (2), the model level, as an informal institution of a country, on the other hand, these elements are taken as proxies to measure culture in category (3). It should be noted that this double role may apply to other general features of a society as well though religion, language, and trust seem to be of particular relevance.

By combining our classification criteria (1) and (2), we can come to first conclusions concerning the focus of Cultural Finance as a research field so far (see Table 3).

The *first main research focus* is on decisions involving the *allocation of funds* (Table 2: 25 papers), namely the cultural influence on *institutional investors' (INV) (un-) certainty preferences* (Table 3: see first two gray rows). As referred to in the introduction, culture serves as one possible explanation for investors' empirical decisions. Regarding the just described first research focus, we can identify deviations from the *Markowitz Portfolio Theory* as our neoclassical reference point. The cultural influence that causes institutional investors (and also managers (MAN) with regard to a firm's loan portfolios, see lower part of Table 3) to deviate from the optimum according to this (normative) theory is most frequently associated with the *home bias*—stating that decision-makers prefer (direct or indirect) investments in similar cultural zones to those in foreign cultures. Other descriptive elements that are frequently analyzed in the papers dealing with cultural influences on the allocation of funds are existing market phenomena (momentum effect, noise trading)

Table 3 Key research areas in Cultural Finance according to classification criteria (i) to (iii)

(i)	Dependent variable [(ii) Model level]	→ Neoclassical theory	→ Behavioral anomalies and market frictions	(iii) Measured by cultural dimension
All. of f.	Single Investment [4:INV]	Markowitz Portfolio Theory	Momentum effect Noise trading Overoptimism	H (**IN**) H (**IN, UN**) H (**IN**)
			Overcaution	H (**UN**)
	Portfolio investment [4:INV]	Markowitz Portfolio Theory	Home bias Overinvestment Ambiguity aversion	H (**PD**); S (EG) H (**IN, UN**) H (**IN**, PD, MA)
	Household consumption [4:HH]	Dividend irrelevance theory	Ambiguity aversion	H (**IN**, PD, MA) S (AU, EM, EG, HI)
	Dividend policy [4:MAN/INV]	Dividend irrelevance theory	Agency costs of dividends (monitoring/risk aversion costs)	H (**IN**, **UN**, MA, LT) S (**EM**, MA EG)
	Cash holdings [4:MAN]	Dividend irrelevance theory	Agency costs of free cash flow	H (**UN**, MA)
	Stock market capitalization [2:CMC]	-	Transaction costs of hierarchy vs. market	H (IN, UN, MA)
	Financial accounting rules [2:CMR]	-	Agency costs of monitoring	H (**UN**, IN)
Pr. o. f.	Loan portfolio [4:MAN]	Markowitz Portfolio Theory	Home bias	H (**PD**)
	Leverage [4:MAN]	Irrelevance of capital structure	Agency costs of debt (underinvestment problem, asset substitution problem, bankruptcy costs)	H (**IN, UN**, PD, FE) S (**EI**; HE; HA)
	Debt maturity structure [4:MAN]	Irrelevance of capital structure	Agency costs of debt (underinvestment problem, asset substitution problem, bankruptcy costs)	H (**UN**, IN, PD, MA)
	Choice of financial systems [2:CMC]	-	Transaction costs of hierarchy vs. market	H (**UN**); S (EM, EG, HA, AU, MA, HE)

All. of f.: Allocation of funds; Pr. o. f.: Procurement of funds; INV: investor; MAN: manager; HH: private household; CMC: capital market capitalization; CMR: capital market restrictions, H: Hofstede, S: Schwartz; main research focus in gray, abbreviations for cultural dimensions as in Table 1. Column (i) refers to the financial decision under consideration. The second column presents the main dependent variables that represent key research areas in the papers with the respective model level according to Figure 1 and sub-categories in squared brackets as in the second and fourth column of Table 2.The last column shows which cultural dimensions are applied, the most frequent ones are in bold.

and investors' biases (overoptimism, overcaution, overconfidence and ambiguity aversion).

The *second main research focus* of the analyzed papers (Table 2: 21 papers) is on financial decisions referring to the *procurement of funds*, namely *managers' (un-) certainty preferences*, either connected with choices of *leverage* or with decisions about *debt maturity structure* (Table 3: see three lower gray rows). Papers dealing with these issues are trying to explain against a cultural background why managers systematically deviate from the *Modigliani–Miller irrelevance theorem* as the neoclassical reference theory.

Outside the two foci described above, another smaller group of papers explores culturally motivated deviations from the dividend irrelevance theorem as a third pillar of neoclassical finance. The papers dealing with *investors' time preferences* in

dividend payout decisions analyze the preferences for payout "today" versus payout "tomorrow", influenced, e.g., by the degree of investors' awareness of the possibility of expropriation by the management and therefore principal-agent relations that seem to vary across countries according to the respective cultural background. The papers on *managers' time preferences* pursue the agency approach to dividends: They examine whether managers are forced—to a low or high degree, depending on the cultural impact—to payout inside excess cash and rely on the outside capital market for financial resources (Fidrmuc and Jacob 2010). Market frictions, namely agency costs, thus play a central role in this *third research focus* in Cultural Finance, but they are also prevalent, e.g., in the second research focus, as Table 3 reveals.

Besides the already elaborated research issues of Cultural Finance, it might be likewise important to state what has *not* been in the research focus of the discipline so far in order to detect *research gaps*. By analyzing the types of decision-makers in more detail, we find that only six papers out of 101 deal with *private households*—all other contributions take the point of view of institutional investors or managers. The second fundamental finding becomes evident in Table 3: The *reference point* for financial decision-making is still deeply rooted in neoclassical models and explanations for potential deviations from the neoclassical paradigm that rely on agency theory and aspects of Behavioral Finance. The general research approach in the papers of our literature survey is to explore market frictions or behavioral anomalies for fully or boundedly rational, but always egoistic decision-makers. Having said that, none of the papers adopts a sustainable perspective on financial decision-making. In Sustainable Finance, certain "deviations" may no longer be viewed as irrationalities or frictions, but as the consequence of rational decisions by *prosocial* individuals that might prefer social and ecological objectives to financial performance.

3.2.2 Research method

In order to come to conclusions concerning recent *research techniques* in Cultural Finance we now link the respective *model* level to the level the *data* is assessed in the publications. In Table 2, third column, we list the respective data level for the dependent variable (see for examples Tables 5 and 6) in each of the 101 literature contributions. Again, we distinguish between the four levels of our framework, i.e. data derived indirectly through *informal* institutions, e.g., the percentage of catholic inhabitants (data level 1, non-existent in the 101 papers), data derived on the *formal* (market) level, e.g., stock market capitalization, (data level 2), on the firm level, e.g., *corporate* debt level, (data level 3) and on the level of the *individual* (data level 4) (e.g., outcomes retrieved by monitoring individual decision-making). In order to explore the special role of Cultural Finance, we yet have to integrate another level in our analysis, namely the data level of the cultural parameters applied in the papers. In this context, Hofstede (2001: 463) clearly states that his cultural dimensions should *not* be used for purposes other than *country level* studies (referring to our formal data level 2). However, our analysis shows that this is frequently violated: 59 papers apply data on the corporate or individual level 3 resp. 4 for their dependent variables, whereas only 45 papers rely on data of the formal level 2, but all of these papers refer only to

formal level data for their main cultural-related explanatory variables. In particular, papers on the *procurement of funds* typically apply cultural parameters (formal *data* level 2) to explain differences in firm-level data (corporate *data* level 3). Additionally, this example hints at another issue, because cultural parameters here are also often used as a proxy for investors' and managers' time and (un-) certainty preferences (individual *model* level 4). Although most of the papers dealing with the *allocation of funds* take cultural parameters (formal *data* level 2) in order to explain differences in national market data (e.g., stock market returns, representing *data* level *2*), thus circumventing the first type of mismatch, they as well generally utilize cultural parameters as a substitute for individual preferences (individual *model* level 4).

Our empirical evidence of this second type of mismatch on the part of the independent variable in Cultural Finance papers—e.g., proxying *individual* (un-) certainty preferences of decision-makers by *country*-level scores of Hofstede's uncertainty avoidance—also contributes to an ongoing *scholarly debate in Cultural Economics*. The main criticism here is that this (mal-) practice is not addressed in the respective papers. Instead, cultural impacts are subject to frequent cross-comparisons despite their different assessment levels (Kirkman et al. 2017: 14; Caprar et al. 2015: 1015). We will return to this issue in Sect. 4.2.

As far as criterion (3), the approaches applied to make cultural effects measurable, is concerned, the idea to utilize *cultural dimensions* clearly dominates indirect measurements by cultural proxies like religion, trust, or language: 83 out of 101 papers (82.2%) rely on cultural dimensions whereas only 18 papers (17.8%) utilize proxies. Among the 83 contributions using cultural dimensions, the Hofstede approach is most frequently applied: 67 papers (80.7%) use all in all 166 Hofstede dimensions, 14 papers apply altogether 44 Schwartz dimensions (16.7%), 6 papers (5.9%) take data from the World Value Survey and only 3 (2.4%) from GLOBE (with 7 papers applying multiple dimensions). Thus, our survey renders first time empirical proof that the dominance of the Hofstede approach is not only true for *Cultural Economics* (Beugelsdijk et al. 2017; Caprar et al. 2015; Stahl and Tung 2015), but also for *Cultural Finance*. As to the scarce use of *WVS* data, one disadvantage is that it does not present "ready to use cultural dimensions" compared to the other approaches (Beugelsdijk et al. 2017: 37), whereas the even less applied *GLOBE* approach is heavily criticized for being too similar to the Hofstede approach, for multicollinearity of the newly introduced dimensions and the rather opaque differentiation between "should be" and "actually is" dimensions (Stephan and Uhlaner 2010: 1350; Kirkman et al. 2017: 21).

Applying the *Schwartz* dimensions has become more prominent in the last years when we take into account chronological effects by calculating the average age of publications: In 2017, papers applying the Hofstede dimensions are on average 7.0 years old compared to only 5.1 years for papers applying Schwartz, while papers that rely on proxies are by far the oldest (11.8 years on average). However, four of the five working papers that we recruited from the latest EFA resp. AFA conferences made use of proxies instead of the dimensionalist approaches. Although it might be far too early to announce a renaissance of cultural proxies in cultural finance papers, our findings contribute to a *second fundamental scholarly debate in Cultural*

Economics, namely the pros and cons of cultural dimensions versus cultural proxies (Caprar et al. 2015: 1012).

In order to get a deeper insight into the type of cultural influence that is analyzed most in empirical investigations, we find that 59 out of 67 papers applying *Hofstede* test for the cultural dimension of *uncertainty avoidance* (see Table 2); 43 of all Hofstede papers explore (additionally or alternatively) *individualism*. Not surprisingly, long-term versus short-term orientation as the youngest of the original five Hofstede dimensions appears the least (only together with other dimensions in 10 papers), since older papers obviously cannot apply this dimension and empirical data is only available for fewer countries than for the other dimensions. The same arguments might explain that the sixth dimension—indulgence versus restraint—is only tested in one single paper. As to the *Schwartz* dimensions, all of the 14 contributions test for embeddedness whereas the other dimensions seem to be of minor importance.

3.2.3 Research impact

Finally, our fourth criterion concerns *citation frequencies* and *citation relations* across the 101 papers (see supplementary online resource for details on each paper) in order to explore the impact of Cultural Finance on fellow researchers as well as on the overall scientific community. As a general first result referring to the importance of the decision type, we find that 78.7% of all citations refer to papers involving decisions on the *allocation of funds* (with an average of 153.6 citations per article; 19.6 citations per year), whereas only 21.3% refer to the *procurement of funds* (81.7 per article; 11.0 citations per year). For a more detailed insight, we compute the *citation relations* between all papers indicating how often the respective older papers are cited in a younger paper (visualized as a "citation map", available in an Appendix in the supplementary online resource).

In order to find out which type of paper has had the highest impact on the scientific community (1) as a whole and (2) on the fellow researchers in Cultural Finance so far, we display 19 papers in Table 4.

The three (five) papers that are colored in black (dark gray) are the papers that score *total citations* of more than 1000 (500) in Google Scholar by April 2017. Since none of the younger papers made it into the top eight mentioned above, we also point out those six papers that ended up "best in class" for the respective year from 2011 to 2016 (light gray). Furthermore, we calculate the *citation relations* among the papers by exploring the references of each paper as to citations of the respective other 100 (or less, depending on the age) papers. This means, e.g., that the first paper in Table 4 of Stulz and Williamson (2003) has been cited 31 times in all of those papers of our selection that have been written later than the one in question. These internal citations range from 0 to 31 and are right skewed (average: 3.6; median: 1). In order to find out whether fellow researchers in Cultural Finance are interested in the same papers as the general scientific community, we highlight those five papers (printed bold and in italics in Table 4) that have an *internal citation quote* (= citations by fellow researchers within the 101 papers/total citations, see last column in Table 4) of 10% and higher. In order to avoid biases stemming from very young papers—e.g., with an internal citation quote of 100% by one total

Table 4 Highest impact papers on the scientific community inside and outside the discipline

#	Author(s)	Year	Model Level	Cultural influence on	Cultural Dimension	Data Level	Total Cit.	Cit. p.a.	Rel. Cit.	Rel.C./ Total C.
Allocation of funds:										
1	Stulz/Williamson	2003	3	Investor protection	proxy	2	1330	95.0	31	2.33%
2	Grinblatt/Keloharju	2001	4	Investor behavior: (un-)cert. pref.	proxy	4	1220	76.3	23	1.89%
3	Morosini/Shane/Singh	1998	3	Takeover activity	H (IN,UN,PD,MA)	4	1023	53.8	6	0.59%
4	Guiso/Sapienza/Zingales	2008	4	Investor behavior: (un-)cert. pref.	proxy	4	973	108.1	15	1.54%
5	Griffin/Ji/Martin	2003	4	Investor behavior: (un-)cert. pref.	proxy	2	813	58.1	3	0.37%
6	Chui/Titman/Wei	2010	4	Investor behavior: (un-)cert. pref.	H (IN)	2	646	92.3	23	3.56%
7	Weber/Shenkar/Raveh	1996	3	Takeover activity	H (IN,UN,PD,MA)	4	565	26.9	6	1.06%
…	…	…	…	…	…	…	…	…	…	…
10	Ahern/Daminelli/Fracasi	2015	4	Manager behavior: (un-)cert. pref.	H (IN); S (EG,HI)	3	239	119.5	9	3.77%
…	…	…	…	…	…	…	…	…	…	…
13	Siegel/Licht/Schwartz	2011	4 2	Manager behavior: (un-)cert. pref. Capital market restrictions	S (EG)	2	156	26.0	10	6.41%
…	…	…	…	…	…	…	…	…	…	…
17	***Shao/Kwok/Guedhami***	***2010***	***4***	***Investor behavior: time pref.***	***S (EM, MT)***	***3***	***129***	***18.4***	***18***	***13.95%***
…	…	…	…	…	…	…	…	…	…	…
19	Wang/Rieger/Hens	2016	4	Investor behavior: time pref.	H (IN, UN, LT)	4	96	96.0	0	0.00%
…	…	…	…	…	…	…	…	…	…	…
34	***Beckmann/Menkhoff/Suto***	***2008***	***4***	***Manager behavior:(un-)cert. pref.***	***H (IN, PD, UN, MA)***	***4***	***43***	***4.8***	***6***	***13.95%***
35	***De Jong/Semenov***	***2006***	***2***	***Capital market capitalization***	***H (UN, MA)***	***2***	***43***	***2.9***	***6***	***13.95%***
…	…	…	…	…	…	…	…	…	…	…
45	***Khambata/Liu***	***2005***	***4***	***Investor behavior: time pref.***	***H (UN, LT)***	***3***	***22***	***1.8***	***3***	***13.64%***
…	…	…	…	…	…	…	…	…	…	…
Procurement of funds:										
63	Mian	2006	4	Manager behavior: (un-)cert. pref.	proxy	4	505	45.9	2	0.40%
…	…	…	…	…	…	…	…	…	…	…
67	Giannetti/Yafeh	2012	4	Manager behavior: (un-)cert. pref.	H (PD)	3	179	35.8	6	3.35%
…	…	…	…	…	…	…	…	…	…	…
70	Li/Griffin/Yue/Zhao	2013	4	Manager behavior: (un-)cert. pref.	H (IN, UN); S (HA)	3	124	31.0	0	0.00%
…	…	…	…	…	…	…	…	…	…	…
72	Burtch/Ghose/Wattal	2014	4	Manager behavior: (un-)cert. pref.	WVS	4	104	34.7	0	0.00%
…	…	…	…	…	…	…	…	…	…	…
82	***Chang/Wee/Yi***	***2012***	***4***	***Manager behavior: time pref.***	***H (UN)***	***3***	***18***	***3.6***	***2***	***11.11%***
…	…	…	…	…	…	…	…	…	…	…

(un-)cert.: (un-)certainty; pref.: preference; Cit./C.: citations; rel.: related; abbreviations for cultural dimensions as in Table 1. Publications are ranked according to total citations for each financial decision type. Citations p.a. are total citations divided by the number of years since publication. Related citations display the number of papers within the 101 papers analyzed that cite the respective paper. The last column shows the internal citation quote as the percentage of related citations given total citations. Papers with total citations above 1000 (between 500 and 1000) are highlighted in black (dark gray), papers below 500 total citations but with highest citations for the respective year are displayed in light gray. Papers with internal citation quotes higher than 10 % are printed in bold and in italics. Model level and data level are defined as in Table 2.

citation only by one fellow researcher—we only take into account those 77 papers that display at least ten total citations (mean internal citation quote of these 77 papers: 5.83%, median: 0.40%, highest: 13.95%; see supplementary online material for details).

The first striking result revealed in Table 4 is that there is no intersection between the 14 papers highlighted because of highest *total* citations and those five papers pointed out due to highest citations *inside* the Cultural Finance community. This divergence even holds true—with only one exception—for the next 16 papers that display an internal citation quote between 5 and 10%. Regarding the contents of the papers with highest *total* citations, two of the three top ranked papers (black in

Table 4) and three of the five second best papers (dark gray) do not measure the cultural impact on financial decision-making by cultural dimensions but by *proxies*. On the contrary, 20 of the 21 papers most cited within the community rely on *cultural dimensions*—17 apply Hofstede and 3 Schwartz. Therefore, the "one-size-fits-all" approach of Hofstede seems to attract much interest only *inside* the specific Cultural Finance world, whereas the *outside* scientific community appears to take more interest in cultural concepts beyond Hofstede.

As a conclusion of our literature survey, we can sum up that contributions to Cultural Finance are clearly dominated by papers focusing (a) on the cultural impact on *individual decision-makers* concerning (b) mostly financial decisions on the *allocation of funds*, applying (c) mainly *Hofstede's* cultural dimensions uncertainty avoidance and individualism, whereas (d) in contrast to fellow researchers the focus of the overall scientific community lies clearly outside the Hofstede dimensions.

4 Cultural Finance—assessing the added value

After having structured and characterized the research niche of Cultural Finance, we now proceed one step further by pursuing our second key research objective: Can Cultural Finance as a discipline generate an *added value*? In the following, we first focus on the contents of this added value by defining two functions that Cultural Finance research can contribute to the overall financial discipline (Sect. 4.1) before concentrating on a new methodology how to assess cultural parameters in financial decision-making (Sect. 4.2).

4.1 Defining the revisiting function and the supplementing function

In order to elaborate on the added value of Cultural Finance, we take a deeper look at the role Cultural Finance parameters play in financial decision-making as it appears in our literature survey. In more detail, we select from each publication that applies the cultural dimensions of Hofstede or Schwartz or both (81 out of 101 papers) the *dependent variable* that is to be explained by cultural impacts (see Tables 5 and 6): For example, in decisions on the *allocation of funds*, the dependent variable might be the demand for life insurance or the trading volume of stocks, whereas in decisions on the *procurement of funds* it is corporate leverage or loan conditions. Furthermore, we list the *cultural dimension* [criterion (3) of our literature survey] applied to measure the cultural impact on the dependent variable (e.g., "higher uncertainty avoidance leads to a higher demand for life insurance") with (±) indicating a positive/negative statistical relation between the cultural dimension and the respective dependent variable. In the last two columns of Tables 5 and 6, we analyze the role cultural parameters play in the empirical evaluations. As a result, we can distinguish between two different functions in order to describe and assess the added value of Cultural Finance.

First, we find cultural variables serving as a proxy for time and (un-) certainty preferences and behavioral anomalies of "irrational" decision-makers in traditional

Table 5 Revisiting and supplementing function specified for Hofstede cultural dimensions

Cult. dim.		Subject of empirical analysis (= dependent variable):	1. Revisiting function: culture as proxy for…	2. Supplementing function: culture includes additional characteristics
UA	A	Life insurance demand (+) Tracking error in investment strategy (−)	Ambiguity aversion	
		Stock returns (+)	Herding, overreaction	
		International mutual fund holdings (−)	Home bias	
		Willingness to wait (−) Hyperbolic discounting (+)	Time preferences	
		Venture Capital activity (−)	Overcaution	
		R&D Investment (−) Dividends (−) Earnings management (+)	Risk aversion	
		Bank risk taking (+)	Risk aversion	
	P	Corporate leverage (−) Corporate debt maturity (−)	Ambiguity aversion	
IN	A	Trading volume, volatility (+) Households stockowning (+) Venture Capital activity (+)	Overconfidence, overoptimism, self-attribution bias	
		Life insurance demand (+)	Self enhancement bias	
		International mutual fund holdings (+)	Home bias	
		Investment strategies (−)	Herding	
		Willingness to wait (+) Hyperbolic discounting (+)	Time preferences	
		R&D Investment (+)	Overconfidence, overoptimism, individual reward system	Creativity
		Bank risk taking (+)	Risk aversion	
		Banking sector concentration (−)		Wealth of society
	P	Corporate leverage (+)	Risk aversion	
		Corporate debt maturity (+)	Monitoring; bankruptcy costs	
PD	A	Life insurance demand (−)	Protection of authorities	
		Stock market volatility (+)	Herding	
		R&D Investment (−)	Risk aversion, individual reward system	Creativity
		Earnings management (−)		Social pressure
	P	Corporate debt maturity (−)	Height of bankruptcy costs	

Table 5 (continued)

Cult. dim.		Subject of empirical analysis (= dependent variable):	1. Revisiting function: culture as proxy for…	2. Supplementing function: culture includes additional characteristics
MA	A	International mutual fund holdings (+)	Home bias, overconfidence	
		Stock market development (+)		Competition
		Corporate cash holdings (+)	Agency costs	Aggressiveness
	P	Corporate debt maturity (−)	Overinvestment, agency costs	
LT	A	Willingness to wait (+) Hyperbolic discounting (−) Life insurance demand (+) Dividend payouts (−)	Time preferences	
		Corporate cash holdings (+)		Sustainable investments
	P	Bank financing (+)	Time preferences	

Cult. dim. cultural dimension in column 1 (abbreviations UA, IN… as in Table 1); *A* Allocation of funds, *P* Procurement of funds as the financial decision type in column 2. Column 3 lists the dependent variables that are subject to positive (+)/negative (−) cultural impacts as the respective independent variables, here with culture either as a proxy for the elements listed in column 4 and/or culture containing additional characteristics as displayed in column 5

finance. This corresponds to our conclusion of the previous section, where especially (un-) certainty preferences play a major role as part of the first and second research focus in Table 3. In the following, we will refer to this role of Cultural Finance as its *revisiting function*, since cultural parameters act as substitutes especially for parameters applied in *traditional finance*. This means the revisiting function refers to already well-researched questions in traditional finance—subsuming that selfish decision-makers still pursue the objective of maximizing financial returns only—that can now be reconsidered more precisely in a new cultural light. In addition, Cultural Finance parameters can enable or facilitate empirical analyses of financial decision-making. Instead of having to assess (un-) certainty or time preferences on the decision-maker's individual level (by questionnaires, personal interviews, or lab sessions), Cultural Finance parameters may be in favor, since they exist for a broad range of countries all over the world. As an example, Park (1993) evaluates whether investors' life insurance demand differs in a cross-country comparison due to different levels of ambiguity aversion, proxied by Hofstede's uncertainty avoidance. In our framework of Sect. 2, this refers to assessing investors' uncertainty preferences. Furthermore, authors frequently rely on (un-) certainty avoidance as a proxy for ambiguity aversion to explain differences in corporate debt levels (Li et al. 2011, 2013; Gleason et al. 2000; Park 1998). As a result concerning the revisiting function, we find that authors mainly apply the cultural dimensions *uncertainty avoidance* and/or *individualism* as substitutes for either *(un-) certainty* or *time* preferences (88.1% of all papers using Hofstede, see Sect. 3.2.2).

Another (minor) application field corresponding to the revisiting function establishes a link between Cultural Finance parameters and market frictions by making use of these parameters as proxies for agency cost assessments (see also Sect. 3.2).

Table 6 Revisiting and supplementing function specified for Schwartz cultural dimensions

Cult. dim.		Subject of empirical analysis (= dependent variable):	1. Revisiting function: culture as proxy for…	2. Supplementing function: culture includes additional characteristics
EG	A	Cross-national investment (bonds, equity) (+)	Home bias	
		Deposit assets (−)		Wealth, humbleness
		Earnings management (−)		Tolerance for power abuse
HI	A	Deposit assets (+)		Wealth, humbleness
	P	Financial intermediation (−)	Transparent ownership structure	
EM	A	Debt securities (+)		Wisdom, moderation
		Life insurance demand, pensions funds (−)		Pleasure, freedom
		Dividend payouts (+)	Risk aversion, signaling, agency costs	Social harmony, perseverance of public image
		Earnings management (−)		Perseverance of social harmony
	P	Bond financing (+)	Time preferences	
		Household debt maturity (−)	Time preferences	
		Corporate leverage (−)	Risk aversion, signaling, agency costs	Social harmony, perseverance of public image
AU	A	Debt securities (−)		Wisdom, moderation
		Life insurance demand, pensions funds (+)		Pleasure, freedom
	P	Bank financing (+)	Time preferences	
		Household debt maturity (+)	Time preferences	
		Financial intermediation (−)	Control through exit	Flexibility, freedom
MA	A	Dividend payouts (−)	Agency costs	Ambition for success
	P	Corporate leverage (−)	Corporate control	Aggressiveness
HA	P	Corporate Leverage (−)	Risk aversion	
		Financial intermediation (+)	Control through voice	

Cult. dim. cultural dimension in column 1 (abbreviations UA, IN… as in Table 1); *A* Allocation of funds, *P*: Procurement of funds as the financial decision type in column 2. Column 3 lists the dependent variables that are subject to positive (+)/negative (−) cultural impacts as the respective independent variables, here with culture either as a proxy for the elements listed in column 4 and/or culture containing additional characteristics as displayed in column 5

The second function of Cultural Finance—we name it the *supplementing function*—relates to the fact that cultural parameters do not only function as more precise proxies in already established research fields, but may contain additional information not yet captured by traditional finance.

In the following, we will apply the same examples already given for the revisiting function—life insurance demand and corporate leverage as dependent variables—to explain the supplementing function. Breuer and Salzmann (2012), e.g., evaluate life insurance demand in different countries and find that the Schwartz cultural dimension of autonomy is positively related to the differing demand for life insurance across the world. They argue that the main cultural values behind the cultural dimension of autonomy are pleasure and freedom. Thus, the authors add another piece to the puzzle why different countries show different preferences for life insurance by supplementing hedonic and social aspects not yet evaluated in other financial disciplines. Concerning the second example, corporate leverage, Chui et al. (2002: 103), find that debt ratios in corporations throughout different countries are negatively linked to the Schwartz dimensions of embeddedness and mastery. The authors develop a detailed causal chain between the respective cultural dimension and the corporate debt level by explaining how social harmony, the tendency to preserve the public image, striving for security, conformity and tradition, locus of control and emphasis on individual success influence the financial decision on corporate leverage. All of these characteristics mentioned in Chui et al. (2002) relate to certain *social preferences*. Whereas the latter are subsumed under 'anomalies' in traditional finance, in the more heterodox and broad approach of Sustainable Finance social preferences are perfectly rational and included in financial decision-making as an important promoter of sustainable development. However, due to the broad approach of Sustainable Finance still being in its infancy, these research questions are far less explored and still lack a common body of knowledge, therefore constituting a true supplement. Certainly we have to admit that any distinction between traditional and non-traditional finance is to some degree arbitrary and additionally exposed to changes over time, as research is progressing. As a consequence, the differentiation between the revisiting and the supplementing function of Cultural Finance is subjective as well. Nevertheless, we see differences in the application of cultural aspects in these two research branches.

In particular, integrating social preferences via cultural parameters might be the first step towards a systematic approach to derive a—frequently proclaimed but never elaborated (Soppe 2009: 10)—multi-dimensional goal function for prosocial financial decision-makers. The example of Breuer and Salzmann (2012), however, suggests that the supplementing function of Cultural Finance may reach beyond social aspects. We will return to this thought in our concluding section.

When we finally compare Tables 5 and 6, it becomes obvious that the focus of the cultural dimensions of Hofstede and Schwartz seems to differ depending on the two functions. The Hofstede dimensions are most frequently applied as proxies for decision-makers' either (un-) certainty or time preferences in research questions of traditional finance, therefore playing a dominant role for the revisiting function. On the contrary, the Schwartz dimensions seem to be more suitable to fulfill the supplementing function: On the level 4 of the individual decision-maker, the Schwartz dimensions add the cultural impact by including social preferences. Concerning the other model levels, the Schwartz dimensions seem to be especially suitable for capturing and measuring indirect cultural impacts as well.

Concluding, we can sum up our findings concerning the added value of Cultural Finance in the following ways: (1) With regard to *traditional finance*—namely neoclassical models, agency theory and Behavioral Finance—Cultural Finance parameters contribute to analyzing earlier research questions more precisely in a different cultural light. In addition, Cultural Finance parameters can enable or facilitate empirical analyses of financial decision-making. This revisiting function relates especially to the Hofstede cultural dimensions.

(2) However, compared to traditional finance, Cultural Finance goes one step beyond by supplementing new characteristics to the level of the decision-maker particularly in the form of social preferences. Thus, the supplementing function might be of outstanding interest in the context of the—yet rather unexplored—broad approach of Sustainable Finance, since decision-makers adapting the three-dimensional goal function described above face the challenge of integrating also ecological and social targets next to traditional economic targets. Here, cultural parameters might be helpful, since culture itself is a much broader concept that already contains those additional factors, especially when the cultural dimensions of Schwartz are applied. By integrating culture in financial decision-making, a further problem yet unsolved could be met.

4.2 Assessing prosocial behavior by decomposing the Schwartz cultural dimensions—results from an experiment

We now explore on a methodological base how Cultural Finance parameters can contribute to the—yet rather unexplored—broad approach of Sustainable Finance. This approach focuses on the impact of social preferences on financial decision-making as a perfectly rational choice and no longer as an 'anomaly' as in the field of traditional finance. Based on our findings in the previous section, especially the Schwartz dimensions show potential to contribute to this broader perspective by displaying social preferences. However, despite this advantage, our literature review shows that the Schwartz dimensions are still rarely applied in contrast to the Hofstede dimensions. To our mind, the reason for the scarce use of the Schwartz data is the missing direct link of dimensions like mastery, embeddedness, and egalitarianism to financial decisions. Therefore, we now follow a different path and propose a new method how to "translate" the Schwartz cultural dimensions into financial language in order to integrate them into financial models and to spur in particular the supplementing function of Cultural Finance.

In contrast to all literature contributions analyzed in Sect. 3, we no longer try to establish a relation between certain financial outputs as dependent variables and the six Schwartz cultural dimensions as independent variables. Instead, we go back to the roots of Schwartz's cultural dimensions and decompose the six *cultural dimensions* into the underlying 57 *cultural values* of the SVS. In his survey, the subjects had to rate each of the 57 values as "a guiding principle in my life" on a 9-point scale from 7 (of supreme importance) to 0 (not important) or − 1 (opposed to my values, see Schwartz 1992, 1994). The six well-known Schwartz cultural dimensions have evolved from cluster analyses of the 57 cultural values. As an example, the

cultural dimension of egalitarianism contains seven cultural values: social justice, equality, being helpful, honest, loyal, responsible, and accept one's portion in life. However, since Schwartz wanted to capture any value that to his mind was constituent for a society as a whole, not every value might be relevant in a specific context. Therefore, in our approach we proceed by only selecting those cultural values that connect to the financial decision in question.

In order to demonstrate our idea, we (1) define the research question for the experiment, then we (2) select the relevant cultural values, and finally we (3) test our hypothesis empirically. We try to keep the experiment simple by defining a very straightforward research question—decision-making in dictator games. This setting may be interpreted as the highly abstracted decision situation of a manager who has to determine how much money she wants to pay out to her shareholders, if there are no corporate governance mechanisms forcing her to do so. In a standard dictator game, the decision-maker (the "dictator", i.e. our manager) receives a certain budget and freely decides how much she is willing to offer to a recipient (i.e. the shareholder) who has to accept the decision without saying (Forsythe et al. 1994). In a rational model with egoistic players the decision is very easy: In order to maximize utility, the dictator offers a zero amount by keeping the whole budget to herself, no sanctions attached. However, empirical evidence clearly contradicts such a kind of utility maximization by the dictator: In his meta study on dictator games, Engel (2011) analyzes the results of 130 empirical studies on decision-making in dictator games in a worldwide range and finds out that dictators on average offer 28.3% of their given budget to the recipient, the average percentage of those dictators offering a zero amount is only 36.1%. In order to explain this finding of dictators partially sharing the received budget with the recipient, hypotheses either assume irrational behavior on part of the dictator or try to find other (rational) reasons. One very popular assumption is that dictators do not act merely in an egoistic way, but their decision is also under the influence of a certain form of *social preferences* (Engel 2011). As this may also be relevant for managers and potential incentive problems on their side, prosocial behavior might help to understand why financial decision-making almost always contradicts the outcome of traditional finance models. The SVS might be able to assess this influence of social preferences on financial decisions by fulfilling its *supplementing function*.

In order to do so, we proceed to the second step: We now try to establish a causal link between those cultural values that appear to be appropriate to measure a prosocial versus a proself motivation for the decision in question. Therefore, we select 20 cultural values from the SVS that describe either prosocial or proself character traits. For prosocial (proself) motivations, we select the following 11 (9) Schwartz values:

Prosocial^{+}*: equality, politeness, reciprocation of favors, social justice, moderate, loyal, humble, preserving public image, helpful, devout, responsible.*

Proself^{+}*: social power, pleasure, wealth, authority, independent, ambitious, choosing own goals, enjoying life, successful.*

For our selection, we follow Schwartz and only take into consideration those (45 out of 57) values with equivalent meaning for all cultural zones that have proven to be stable (Schwartz 1992: 52). Out of the differences of the chosen 11 prosocial values (v_{soc}) and 9 proself values (v_{self}) we create a new (aggregated) Value ($V_{soc\text{-}self}$)

that suits our special purpose to link cultural differences in prosocial/proself motivations to differences in decision-making in dictator games:

$$V_{soc\text{-}self} = \frac{1}{11} \cdot \sum_{i=1}^{11} v_{soc} - \frac{1}{9} \cdot \sum_{i=1}^{9} v_{self}. \tag{1}$$

Finally, in our third step, we empirically test whether differences in dictator games' offering can be explained by cultural (value) differences. We perform an experiment with 80 students in our university lab. The students have to fill in an electronic questionnaire composed of two parts: In the first part, we replicate the SVS by asking each individual to rate the 57 cultural values according to their importance for one's life. Out of the answers given, we select those 20 cultural values that form part of our Prosocial–Proself-dimension and calculate $V_{soc\text{-}self}$ according to Eq. (1) for each subject. In the second part, we play a one-shot standard dictator game asking each individual to decide how much of a 10-Euro-budget received she is willing to offer to an anonymous recipient from the same subject pool. We remunerate each participant by the amount she decides to keep as the dictator.

In order to test for the cultural influence in the dictator game we develop the following hypothesis:

The dictator's offer to the recipient in standard dictator games is higher for decision-makers with a high score on the $V_{soc\text{-}self}$ scale.

We follow the literature on standard dictator games (Engel 2011) and collect all personal data (age, number of university semesters already completed, sex, study program, nationality, current wealth (financial and tangible assets)) that might have an influence on the willingness to offer part of the budget to the recipient. To ensure that our results are robust against the presence of outliers we remove observations with variables that depart more than three times the standard deviation from the mean. Thus, we end up with 75 electronic questionnaires (4 outliers were removed and 1 questionnaire was returned empty). Table 7 summarizes some general descriptive statistics and Table 8 shows correlations among our variables, also testing for multicollinearity among the independent variables, however with no result:

The mean dictator's offer to the recipient in our sample is 14.90% of the initial endowment, the mean value for our calculated Prosocial–Proself-dimension $V_{soc\text{-}self}$ is negative with -0.38 indicating that the average subject is slightly more proself than prosocial. For our analysis, we apply a Tobit regression model to account explicitly for the corner solution problem related to our dependent variable, as the mean dictator's offer to the recipient can only assume non-negative values. Our regression model is of the form:

$$Offer * = \alpha + \beta \cdot V_{soc\text{-}self} + \sum \gamma \cdot C + \varepsilon \; with \; offer = \begin{cases} offer * & if \; offer * > 0, \\ 0 & if \; offer * < 0. \end{cases} \tag{2}$$

We present a Tobit regression of the dependent variable, the dictator's offer to the recipient, on our key variable of interest, culturally based prosocial ("net")

preferences measured by $V_{soc\text{-}self}$, and our set of control variables C consisting of the students' features presented above (see Table 9).

The hypothesis is supported by the regression results: The Prosocial–Proself-dimension $V_{soc\text{-}self}$ has a positive impact on the dictator's offer to the recipient, which is highly significant ($P \leq 1\%$). Apart from the Prosocial–Proself-Dimension, only the variable "university semesters completed" is also significant ($P \leq 5\%$). As a robustness check, we also perform a regression analysis using the standard OLS method. However, there is no difference worth mentioning between the results of the Tobit and the OLS regression. The adjusted R^2 is 0.200.

In order to find out whether the $V_{soc\text{-}self}$ approach truly creates an added value compared to applying the original six Schwartz dimensions, as is the standard procedure in the literature, we perform a second Tobit regression and OLS regression as a robustness check, but this time we substitute our $V_{soc\text{-}self}$ dimension by the commonly used six Schwartz dimensions autonomy *AUT*, embeddedness *EMB*, harmony *HARM*, mastery *MAST*, egalitarianism *EGAL*, and hierarchy *HIER* (see Table 2 in Sect. 3.1). We follow Schwartz (2004) and calculate the difference of each bipolar cultural dimension, since a higher value for a certain dimension (e.g., autonomy) comes along with a lower value of its counterpart (here: embeddedness):

$$\begin{aligned} offer^* &= \alpha + \beta_1 \cdot (AUT - EMB) + \beta_2 \cdot (HARM - MAST) \\ &\quad + \beta_3 \cdot (EGAL - HIER) + \sum \gamma \cdot C + \varepsilon \qquad \text{with } offer = \begin{cases} offer^* & \text{if } offer^* > 0, \\ 0 & \text{if } offer^* \leq 0. \end{cases} \end{aligned} \tag{3}$$

The regression results—Tobit as well as OLS—show that besides the variable "university semesters completed" only egalitarianism versus hierarchy is significant on a lower level ($P \leq 5\%$), both other cultural bipolar dimensions show no significance. The adjusted R^2 of the second OLS regression is only 0.148, which means that in this second regression, the cultural influence can explain dictators' offerings to a lesser extent than in the first regression.

However, in addition to the stronger *statistical relation* in the first regression containing our specific $V_{soc\text{-}self}$ dimension, the main advantage stems from the *causal relation* between the independent cultural variable and the dependent variable *offering* which is obvious for the first regression: We only included those cultural values in the $V_{soc\text{-}self}$ dimension that are connected to the hypothesis to be tested. This is not true for the second regression that shows significant results for the bipolar dimension of egalitarianism versus hierarchy, since Schwartz derived these dimensions out of factor analyses without any specific link to the hypothesis here in question. If we now compare the underlying Schwartz values of the significant bipolar dimension, egalitarianism versus hierarchy, we find that it is composed of 11 values, seven for egalitarianism (*equality, social justice, loyal, helpful, responsible*, accept my portion in life, honest) and four for hierarchy (*social power, pleasure, wealth, authority, humble*). Interestingly, the nine values in italics also form part of our $V_{soc\text{-}self}$ dimension (six prosocial, three proself values), however on opposite sides as far as "humble" is concerned. All other 11 values that show a relation to prosocial or proself behavior and are therefore part of our $V_{soc\text{-}self}$ dimension, are scattered across three other original Schwartz dimensions, namely embeddednes (five values), mastery

Table 7 Descriptive statistics for the experiment

	Age (years)	University semesters accomplished (#)	Wealth (€)	Offer dictator game (€)	Cultural dim. $V_{soc\text{-}self}$	Sex		Study program	
Minimum	18	2	0.00	0.00	− 3.05	74.67%	Male	33.34%	Business adm.
Maximum	63	24	500,000.00	5.00	1.58	25.33%	Female	41.33%	Industrial engin.
Mean	24.11	5.4	23,906.34	1.49	− 0.38			25.33%	Others
Median	22	4	10,000.00	0.00	− 0.20				
SD	6.50	4.39	63,927.88	1.85	1.04				

SD standard deviation, *cultural dim.* cultural dimension, $V_{soc\text{-}self}$ Prosocial–Proself-dimension, *adm*. administration, *engin*. engineering

Table 8 Correlation coefficients and corresponding significance levels for the variables

		1	2	3	4	5	6	7
1	Offer	1.00						
2	$V_{soc\text{-}self}$	0.409***	1.00					
3	Sex	− 0.095	0.036	1.00				
4	Age	0.079	0.241**	0.071	1.00			
5	Study program	− 0.081	− 0.044	0.157	− 0.338***	1.00		
6	Semester	− 0.155	0.105	0.173	0.521***	0.005	1.00	
7	Wealth	− 0.155	− 0.159	− 0.023	− 0.003	− 0.129	− 0.098	1.00

*** $p \leq 1\%$, ** $p \leq 5\%$, * $p \leq 10\%$; $V_{soc\text{-}self}$: Prosocial–Proself-dimension

Table 9 Tobit regression results for alternative cultural parameters

	Prosocial-proself-dimension			Original Schwartz dimensions		
$V_{soc\text{-}self}$	1.553***	(0.461)	0.00			
AUT_EMB				− 0.475	(0.544)	0.38
HARM_MAST				0.383	(0.379)	0.31
EGAL_HIER				0.853**	(0.391)	0.03
Age	0.051	(0.066)	0.44	0.039	(0.075)	0.60
University semesters completed	− 0.220**	(0.105)	0.04	− 0.212*	(0.112)	0.06
Wealth	0.000	(0.000)	0.41	0.000	(0.000)	0.38
Sex	− 0.961	(0.877)	0.27	− 0.297	(0.947)	0.75
Study program Economics	− 0.438	(1.096)	0.69	− 0.483	(1.212)	0.69
Study program Engineering	0.370	(1.025)	0.72	0.335	(1.049)	0.75
Constant	1.780*	(1.936)	0.36	0.812	(1.334)	0.545
# Probands		75			75	

*** $p \leq 1\%$, ** $p \leq 5\%$, * $p \leq 10\%$, abbreviations for cultural dimensions as in Table 1

(four values), and autonomy (two values). Hence, our approach to recompose the Schwartz values to match specific hypotheses in economic decision-making has rendered an added value and may help to understand why traditional financial decision models deviate to a great extent from empirical financial decisions for certain (e.g., social) reasons.

Although we cannot deepen the subject of decomposing the Schwartz dimensions for the formal level 2 and the corporate level 3 of our theoretical framework in this paper, we can at least outline the idea exemplified also for level 3, the corporate governance level. As already referred to in Sect. 3.2, a relevant research question would be to analyze whether differences in ownership structure—one dominant shareholder versus dispersed ownership—can be explained against a cultural background. In this context, decomposing the Schwartz dimensions according to this specific research question could render a new "ownership dimension" with seven Schwartz values (social power, social order, authority, ambitious, influential, choosing own goals, daring) in favor of a dominant shareholder and with five (opposed)

values in favor of dispersed ownership (social justice, equality, freedom, independent, moderate).

To recap, recomposing the Schwartz values as a new methodology may be helpful. As our literature survey has already shown, the Schwartz cultural dimensions are especially suitable to assess the impact of social preferences on financial decision-making, thus contributing to especially those research questions that emerge from the broader view on Sustainable Finance and have so far been outside the focus of traditional finance. However, our approach of decomposing the Schwartz dimensions into their constitutional values also seems favorable to analyze research questions in traditional finance more precisely in a different cultural light—e.g., by constructing an overconfidence-dimension out of suitable Schwartz values—that is up to now the domain of the Hofstede dimensions. As a disadvantage, the Hofstede dimensions do not consist of underlying individual cultural values in a similar way as the Schwartz dimensions, so that it is not possible to adapt the existing Hofstede dimensions to the respective special financing problem in question. Against this background, we propagate to utilize the Schwartz cultural values to construct in a tailor-made way new cultural dimensions according to the specific decision problem under consideration, since the Schwartz values are able to fulfill both functions, the revisiting and the supplementing function. By doing so on the individual level, we can also contribute to one of the most frequently discussed scholarly debates in Cultural Economics, since we avoid the (mal-) appliance of country-level cultural dimensions to questions related to the level of the individual decision-maker as already demonstrated in our simple experiment, where variations in dictators' offers (as the dependent variable, individual data level 4) are related to prosocial preferences (individual model level 4) assessed by the specific cultural $V_{soc\text{-}self}$ dimension (independent variable, individual data level 4).

5 The future of Cultural Finance as a research field—outlook

The main intention of our paper was to correspond to a stated backlog demand in the literature concerning Cultural Finance as a yet unstructured young research field, especially compared to half a century of thorough research in Cultural Economics and to contribute knowledge to its added value. Concerning the latter, our main findings that address the future research field of Cultural Finance are threefold, reaching from a rather narrow view on how to best measure culture on to a broader view into the future importance of the discipline in relation to adjacent research fields.

First, our paper contributes to the ongoing scholarly debate on how to best *measure cultural impacts* taking into account the existing approaches to cultural dimensions. Here we are able to demonstrate on a theoretical as well as an empirical base the advantages of the less prominent Schwartz approach over the omnipresent Hofstede approach. Due to modeling the impact of *social preferences* on financial decision-making, the Schwartz values can fulfill both functions elaborated in the paper, namely the revisiting function and the supplementing function. In particular, the 57 Schwartz cultural values of the Schwartz Value Survey can be combined in specific ways depending on the decision problem under consideration and retrieved on the

individual level in order to circumvent any problems of a certain mismatch of model level and data level perspectives.

Second, when we take a broader view on how to measure culture, we have to state a certain *time-lag* in Cultural Finance compared to Cultural Economics. Already more than a decade ago, researchers in Cultural Economics urged to explore additional concepts on assessing cultural impacts beyond the dimensionalist perspective (Kirkman et al. 2006: 313) leading to a shift of research interests to more qualitative approaches (Caprar et al. 1013; Luiz 2015). As our literature survey has shown, Cultural Finance papers of the last decade are clearly dominated by dimensionalist approaches. However, the subtle renaissance to measure culture by *proxies*—indicated in four of the five conference papers that we added to our survey and also proven by the high number of total citations p.a. for papers applying proxies—might indicate a new trend towards broader measurement concepts. Despite this, to our mind, it remains questionable whether a thorough quantitative discipline as Cultural Finance is not rather "dimensionalist by nature" than by trend.

Third, we leave the within-discipline-view and take an outside perspective on Cultural Finance by looking at the general link between *culture* and *sustainability*. Exploring the relation between the two concepts renders interesting results. Throsby (1995: 201) interprets sustainability as the missing link that brings economic and cultural systems together. Other approaches even define culture as the "fourth pillar" (besides the economic, ecologic and social dimension, Hawkes 2001) in sustainable development, which according to the OECD is "only achievable if there is harmony and alignment between the objectives of cultural diversity and social equity, environmental responsibility and economic viability" (Nurse 2007: 28). This means that culture is not only suitable to mirror social preferences, but also functions as an independent pillar by introducing additional (here: hedonic) aspects—namely pleasure—as elaborated above.

What are the implications for Cultural Finance? As our survey clearly states, Cultural Finance—and finance in general—is still deeply rooted in traditional finance models. However, with sustainability as a guiding theme emerging to top priority on national and international political agendas, the role of finance is changing, too. Whereas traditional finance only carries economic responsibility in the utility maximizing sense, finance is assigned a new role as the essential promoter of sustainable development implying an ethical responsibility as embodied in the broad approach of Sustainable Finance (Salzmann 2013: 566). Thus, Cultural Finance might help to deliver a precise approach how to deal with the challenges of financial decision-making against a multi-dimensional goal function of prosocial decision-makers that may eventually go even beyond social preferences.

References

Aggarwal R, Goodell JW (2014) National cultural dimensions in finance and accounting scholarship: an important gap in the literatures? J Behav Exp Financ 1:1–12

Ahern KR, Daminelli D, Fracassi C (2015) Lost in translation? The effect of cultural values on mergers around the world. J Financ Econ 117:165–189

Barberis N, Thaler R (2003) A survey of behavioral finance. In: Constantinidis G et al (eds) Handbook of economics of finance. Elsevier, Chicago, pp 1053–1128
Beckmann D, Menkhoff L, Suto M (2008) Does culture influence asset managers' views and behavior? J Econ Behav Organ 67:624–643
Beugelsdijk S, Maseland R (2011) Culture in economics—history, methodological reflections, and contemporary applications. Cambrigde University Press, Cambrigde
Beugelsdijk S, Kostova T, Roth K (2017) An overview of Hofstede-inspired country-level culture research in international business since 2006. J Int Bus Stud 48:30–47
Brealey RA, Myers SC, Marcus AJ (2015) Fundamentals of corporate finance, 8th edn. McGraw-Hill Education, New York
Breuer W, Quinten B (2009) Cultural finance. SSRN Working paper series: Aachen
Breuer W, Salzmann A (2012) National culture and household finance. Glob Econ Financ J 5:37–52
Breuer W, Haase M, Breuer C (2013) Editorial for special issue on "Sustainable Finance". J Bus Econ 83:551–554
Burtch G, Ghose A, Wattal S (2014) Cultural differences and geography as determinants of online pro-social lending. MIS Q 38:773–794
Caprar CV, Devinney TM, Kirkman BL, Caligiuri P (2015) Conceptualizing and measuring culture in international business and management: from challenges to potential solutions. J Int Bus Stud 46:1011–1027
Castro C, Desender K, Escamilla S (2011) Earnings management and cultural values. J Econ Sociol 70:639–670
Chang K, Wee S, Yi HC (2012) Does national culture influence the firm's choice of debt maturity? Asia Pac J Financ Stud 41:424–457
Chui A, Kwok C (2008) National culture and life insurance consumption. J Int Bus Stud 39:88–101
Chui A, Lloyd A, Kwok C (2002) The determination of capital structure: is national culture a missing piece to the puzzle? J Int Bus Stud 33:99–127
Chui A, Titman S, Wei J (2010) Individualism and momentum around the world. J Financ 65:361–392
De Jong E, Semenov R (2006) Cultural determinants of ownership concentration across countries. Int J Bus Gov Ethic 2:145–165
Dragota IM, Tatu-Cornea D, Tulbure N (2016) Determinants of development of the mutual fund industry. A socio-cultural approach. Prague Econ Pap 25:476–493
Engel C (2011) Dictator games: a meta study. Exp Econ 14:583–610
Fidrmuc J, Jacob M (2010) Culture, agency costs, and dividends. J Comp Econ 38:321–339
Forsythe R, Horowitz JL, Savin NE, Sefton M (1994) Fairness in simple bargaining experiments. Games Econ Behav 6:347–369
Giannetti M, Yafeh Y (2012) Do cultural differences between contracting parties matter? Evidence from Syndicated Bank loans. Manag Sci 58:365–383
Gleason K, Mathur L, Mathur I (2000) The Interrelationship between culture, capital structure, and performance: evidence from European retailers. J Bus Res 50:185–191
Griffin J, Ji X, Martin S (2003) Momentum Investing and business cycle risk: evidence from pole to pole. J Financ 58:2515–2547
Grinblatt M, Keloharju M (2001) How distance, language and culture influence stock-holdings and trades. J Financ 56:1053–1073
Guillén MF (2000) Corporate governance and globalization. Adv Int Comp Manag 13:175–204
Guiso L, Sapienza P, Zingales L (2008) Trusting the stock market. J Financ 63:2557–2600
Harzing AWK, van der Wal R (2008) Google scholar as a new source for citation analysis. Ethics Sci Environ Politics 8:61–73
Hawkes J (2001) The fourth pillar of sustainability: culture's essential role in public planning, common ground: Melbourne.
Hens T, Wang M (2007) Does finance have a cultural dimension? NCCR Finrisk working paper series: Zurich
Hofstede G (1980) Culture's consequences. Sage Publications, New York
Hofstede G (1984) Cultural dimension in management and planning. Asia Pac J Manag 1:81–99
Hofstede G (2001) Culture's consequences, 2nd edn. Sage Publications, New York
Hofstede G (2010) The GLOBE debate: back to relevance. J Int Bus Stud 41:1339–1346
House RJ, Hanges PJ, Javidan M, Dorfman PW, Gupta V (2004) Culture, leadership, and organizations: the GLOBE study of 62 societies. Sage Publications, Thousand Oaks
Inglehart R (1990) Culture shift in advanced industrial society. Princeton University Press, Princeton

Karolyi GA (2016) The gravity of culture for finance. J Corp Financ 41:610–625
Khambata D, Liu W (2005) Cultural dimensions, risk aversion and corporate dividend policy. J Asia Pac Bus 6:31–43
Kirkman BL, Lowe KB, Gibson C (2006) A quarter century of culture's consequences: a review of the empirical research incorporating Hofstede's cultural value framework. J Int Bus Stud 36:285–320
Kirkman BL, Lowe KB, Gibson C (2017) A retrospective on culture's consequences: the 35-year journey. J Int Bus Stud 48:12–29
Li K, Griffin D, Yue H, Zhao L (2011) National culture and capital structure decisions: evidence from foreign joint ventures in China. J Int Bus Stud 42:477–503
Li K, Griffin D, Yue H, Zhao L (2013) Cultural values and corporate risk-taking. J Corp Financ 23:1–22
Lin A (2009) Law, culture and investment performance: a cross-country analysis. Glob Financ J 19:323–341
Luiz JM (2015) The impact of ethno-linguistic fractionalization on cultural measures: dynamics, endogeneity and modernization. J Int Bus Stud 46:1080–1098
Malul M, Shoham A (2008) A global analysis of culture and imperfect competition in banking systems. Int J Financ Serv Manag 3:124–135
Massa M, Wang C, Zhang H, Zhang J (2016) Investing in low-trust countries. Trust in the global mutual fund industry. SSRN working paper series: Singapore
Mian A (2006) Distance constraints: the limits of foreign lending in poor economies. J Financ 61:1465–1505
Minkov M (2007) What makes us different and similar: a new interpretation of the world values survey and other cross-cultural data. Klasika i Stil, Sofia
Morosini P, Shane S, Singh H (1998) National culture distance and cross-border acquisition. J Int Bus Stud 29:137–158
Nurse K (2007) Culture as the fourth pillar of sustainable development. In: Commonwealth Secretariat (ed) Small states: economic review and basic statistics, vol 11. Commonwealth Secretariat, London, pp 28–40
Park H (1998) The effect of national culture on the capital structure of firms. Int J Manag 15:204–211
Reuter CH (2011) A survey of culture and finance. Finance: revue de L'association Française de Finance 32:76–152
Ross SA, Westerfield R, Jordan BD (2013) Fundamentals of corporate finance, 9th edn. Tata McGraw-Hill Education, New York
Salzmann AJ (2013) The integration of sustainability into the theory and practice of finance: an overview of the state of the art and outline of future developments. J Bus Econ 83:555–576
Schwartz SH (1992) Universals in the content and structure of values: theoretical advances and empirical tests in 20 countries. Adv Exp Soc Psychol 25:1–65
Schwartz SH (1994) Beyond individualism/collectivism: new cultural dimensions of values. In: Kim U et al (eds) Individualism and collectivism: theory, method and application. Sage Publications, Newbury Park, pp 239–250
Schwartz SH (2004) Mapping and interpreting cultural differences around the world. In: Vinken H, Soeters J, Ester P (eds) Comparing cultures—dimensions of culture in a comparative perspective. Brill, Leiden, pp 43–73
Shao L, Kwok C, Guedhami O (2010) National culture and dividend policy. J Int Bus Stud 41:1391–1414
Siegel J, Licht A, Schwartz S (2011) Egalitarianism and international investment. J Financ Econ 102:621–642
Soppe A (2009) Sustainable finance as a connection between corporate social responsibility and social responsible investing. SSRN working paper: Rotterdam
Stahl GK, Tung RL (2015) Towards a more balanced treatment of culture in international business studies: the need for positive cross-cultural scholarship. J Int Bus Stud 46:391–414
Stephan U, Uhlaner LM (2010) Performance-based vs socially supportive culture. A cross-national study of descriptive norms and entrepreneurship. JIBS 41:1347–1364
Stulz R, Williamson R (2003) Culture, openness, and finance. J Financ Econ 70:313–349
Taras V, Rowney J, Steel P (2009) Half a century of measuring culture: review of approaches, challenges, and limitations based on the analysis of 121 instruments for quantifying culture. J Int Manag 15:357–373
Taras V, Kirkman BL, Steel P (2010) Examining the impact of culture's consequences: a three-decade, multilevel, meta-analytic review of Hofstede's cultural value dimensions. J Appl Psychol 95:405–439

Taras V, Steel P, Kirkman BL (2012) Improving national cultural indices using a longitudinal meta-analysis of Hofstede's dimensions. J World Bus 47:329–341
Throsby D (1995) Culture, economics and sustainability. J Cult Econ 19:199–206
Wang M, Rieger MO, Hens T (2016) How time preferences differ: evidence from 53 countries. J Econ Psychol 52:115–135
Weber Y, Shenkar O, Raveh A (1996) National and corporate cultural fit in mergers/acquisitions: an exploratory study. Manag Sci 42:1215–1227
Williamson OE (2000) The new institutional economics: taking stock, looking ahead. J Econ Lit 38:595–613
Zingales L (2015) Editorial: the "Cultural Revolution" in finance. J Financ Econ 117:1–4