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# Cross-Cultural Experimental Economics and Indigenous Management Research – Issues and Contributions





Title:

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**Abstract:**

Cross-Cultural Experimental Economics (CCEE) and Indigenous Management Research (IMR) are dynamic and flourishing disciplines today. Whereas the former lacks a deep understanding of the distinctive factors leading to behavioral differences so far, the latter gives priority to deep contextualization and cultural embeddedness of the research design. This paper argues that both disciplines can mutually benefit from each other. Based on a review of 23 articles, four general research fields are identified that CCEE is concerned with: fairness, cooperation, trust and norm enforcement. In these fields CCEE and IMR can meet and mutually advance knowledge: CCEE can benefit by applying increased contextualization in the future, i.e., by integrating indigenous context-specific variables explicitly into future research designs; IMR can benefit by applying a replicable quantitative research methodology enabling high-quality IMR (Tsui 2004). Both approaches will benefit from increased validity if research designs are systematically integrated in a mixed method design for future research.

**Keywords:**

culture, cross-cultural economic experiments, indigenous management research, research methods, contextualization.

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## 1 Introduction

While experimental research designs, primarily applied in psychology, have become a popular method in various business disciplines (Leung et al. 2005), especially in marketing (Tan 1999; Keller et al. 2003; Van Osselaer et al. 2004), as well as in economics (Cabrales et al. 2010; Falk 2003; Güth et al. 1982; Henrich et al. 2001; Santos 2011), experimental research is underrepresented in business and management science studies exploring cultural related phenomena (Leung et al. 2005).

Cross-cultural studies are a niche in behavioral economics which applies experimental research methods exploring questions relating to behavioral differences between subject pools of different countries. These differences are often attributed to cultural heterogeneity.

The widely believed advantage of experimentation in economics is that they provide empirical results based on decisions made that are directly affected by monetary rewards (incentives). Hence incentivized experiments are believed to positively influence performance (Roth 1995; Smith and Walker 1993).<sup>1</sup> More convincing compared to other means of data gathering, however, is that factors influencing decision-making behavior can be controlled and the data gathering itself can be replicated at the same or in different places (labs) or by using subject pools from different countries (Binmore and Shaked 2010; Gächter 2009; Ottone et al. 2010; Weber and Camerer 2006).

Empirical data derived from experiments can provide an important source for analysing the impact of cross-cultural issues in management, but so far, however, it has not often been applied. The currently flourishing field of IMR aims at better understanding distinctive cultural factors and their influence on management (Leung 2012; Li et al. 2012; Tsui 2007; Van de Ven and Jing 2012). By taking the cultural context explicitly into account, IMR tries to overcome the scientific paradigms developed predominately by Western scholars in the past (Fang 2009; Barney and Zhang 2009; Tsui 2004; Banerjee and Prasad 2008; Lin 2002). Following the call for high-quality IMR (Tsui 2004), this paper argues that an experimental methodology can make a contribution by drawing on the strengths of IMR (i. e. contextualization) and CCEE (i. e. methodology) likewise. In the same way that cross-cultural experiments can benefit IMR, IMR can contribute to the advancement of CCEE. As this analysis will show in what follows, cross-cultural experiments in economics empirically testifies to behavioral differences in the decision-making of test persons from different nations, which is attributed to cultural differences. However, these behavioral differences are often interpreted *en bloc* as cultural differences. As a result, they do not explain much about the distinctive characteristics that lead to the observed differences. Recently in CCEE the call for a deeper understanding of the factors leading to those differences has arisen (Chuah et al. 2007; Oosterbeek et al. 2004).

This paper reviews and classifies 23 studies in the area of CCEE published in economic journals, including the *American Economic Review*, *Journal of Economic Behavior & Organization*, *Experimental Economics*, *Journal of Socio-Economics*, *Journal of Public Economics and Science*. Accordingly it summarizes key lessons and identifies research gaps. Finally, it discusses briefly how CCEE can benefit IMR and vice versa, and provides suggestions for future research fields in the area of IMR by applying experimental methods. As this paper first and foremost presents research designs, reviews and classifies cross-cultural experimental studies in economics, it seeks to present findings and outline advantages to scholars with a background in cross-cultural management or IMR who are so far unfamiliar with cross-cultural research methods used recently in economics.

## 2 Typical Applications and Research Streams of Cross-Cultural Experimental Economic Research

Studies in experimental economics that investigate cultural differences are in a minority today. In order to identify relevant articles the guiding principle was to first confirm whether studies investigate cultural differences, or more precisely, whether studies investigate behavioral differences in decision-making

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<sup>1</sup> It has to be noted that the influence of monetary incentives on the quality of decision-making is contested among economists and between economists and psychologists. For a more detailed discussion see Hertwig and Ortmann (2001) and Read (2005).

behavior across countries, no matter whether a hypothesis explicitly asks for cultural differences or whether the studies were designed as explorative. In a first step, relevant articles were clustered according to research design, i. e., game application applied. In a second step, within each cluster studies were sorted according to the subject of analysis, enabling the identification of the broad research streams within each cluster.

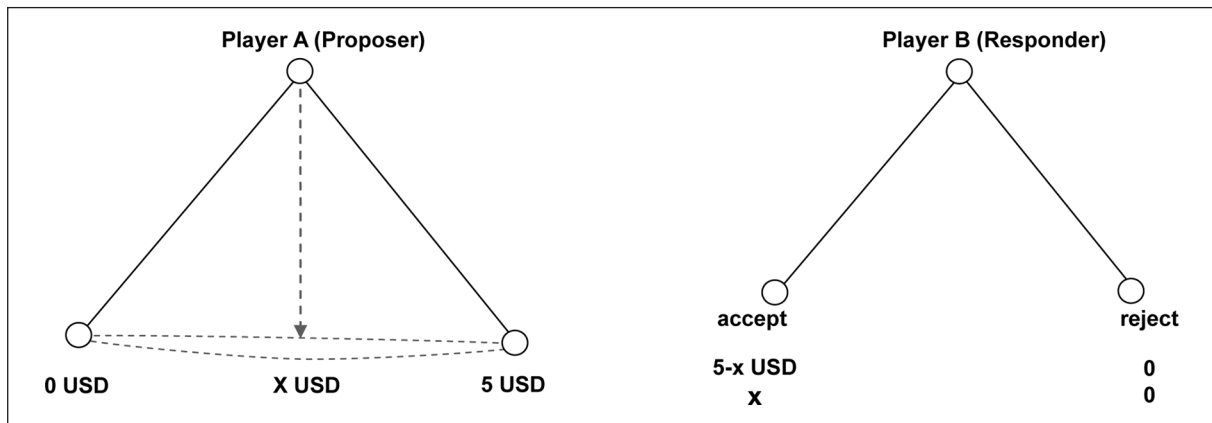
**Table 1: Game theoretical application and corresponding research stream**

Opening question	Application	Research stream
Relevant for cross-cultural research?	Ultimatum Game (UG)	(1) Fairness norms, (2) Fair beliefs, (3) Group-orientation
	Public Good (PG) Game	(1) Cooperation behavior, (2) Sanctioning behavior
	Trust Game (TG)	(1) Social preferences, (2) Corruption behavior
	Mixed Games (MG)	(1) Norm enforcement (e. g. cooperation, fairness/inequality aversion)

## 2.1 The Ultimatum Game (UG) in Cross-Cultural Experimental Economic Research

The UG was introduced by Güth, Schmittberger and Schwarze (1982) in order to study fairness norms. The simplest form of an UG consists of two players, the proposer and the responder. The proposer is given a certain amount of money based on condition to share it with the responder. The responder may then either accept or reject the proposer's offer. If accepted, the amount proposed is paid out and the remainder is kept by the proposer. If the responder rejects, both players receive nothing (see Figure 1).

**Figure 1: Decision options and corresponding results in a standard UG**



Under the assumption of complete rationality there is always a gain for the responder (as long as the offered amount is  $> 0$ ). However, results from the experiments showed that proposals were only accepted when approximately 20–30 % of the total sum was offered (Henrich 2000; Sigmund et al. 2002). Sums below this amount are often rejected with the result that both players receive nothing. The perception of fairness was typically cited as an explanation for this behavior.

Studies which apply cross-cultural experimental economic approaches explore questions concerning whether cultural factors influence the behavior of the proposer and responder. The UG is well suited for the study of cultural differences in decision-making because “it elicits subjects’ monetary as well as social preferences, i. e., preferences both over one’s own payoffs and those of others” (Chuah et al. 2009: 734).

Widely noted culture-exploring studies based on the UG were conducted by Buchan and Croson (2004), Chen and Tang (2009), Chuah et al. (2007), Chuah et al. (2009), Hennig-Schmidt et al. (2008), Henrich et al. (2001), Roth et al. (1991), Valenzuela et al. (2005). These studies can be categorized according to three groups: (1) those which detect cultural differences with regard to norms of fairness, (2) those which analyse differences in fair beliefs and (3) those which include further contextual factors that influence the decision behavior of individuals and groups in the inter- and cross-cultural context. An overview based on these classifications is provided in Table 2.



**Table 2: Cross-cultural studies based on UG applications**

Game Type: Ultimatum Game (UG)				
Author (Year)	Countries involved	Research theme		Major results
Roth / Prasnikar / Okuno-Fujiwara / Zamir (1991)	Israel, Japan, USA, Yugoslavia	Cultural differences in fairness norms	Differences in behavior in four countries	Decision-making behavior deviates compared to the economic standard assumption between the countries examined due to cultural differences.
Henrich / Boyd / Bowles / Camerer / Gintis / McElreath / Fehr (2001)	Peru, Tanzania, Bolivia, Ecuador, Mongolia, Chile, Papua New Guinea, Zimbabwe, Kenya, Paraguay, Indonesia		Differences in behavior between tribal societies	The anticipated behavior of the homo oeconomicus could not be observed in any of the examined culture groups due to cultural differences.
Buchan / Croson (2004)	USA, Japan	Cultural differences in fair beliefs	Attitudes towards fairness in negotiations	Japanese expect the one with the greater negotiation power to share gains with the group, while Americans believe the stronger should take it all.
Chen / Tang (2008)	Tibet, China (Han Chinese from Xiamen), Singapore		Influence of religion on fair beliefs	A higher probability of acceptance irrespective to the amount of the sum proposed could be detected among the Tibetans.
Valenzuela / Srivastava / Lee (2004)	USA, Korea	Cultural differences in group-orientation	Cultural orientation under imperfect information	Koreans react distinctively sensitive to group influences and the situative context.
Chuah / Hoffmann / Jones / Williams (2007)	Malaysia (Malays of Chinese descent), Great Britain		Behavior in inter-cultural UG	Proposals within the Malaysian group are generally higher than in the mixed groups. Britains show no differentiated proposal behavior.
Hennig-Schmidt / Li / Yang (2008)	China		Individual and group decision behavior	Chinese reject high offers due to (1) social concerns and (2) group-specific rules. Also, Confucian values play a role, among others.

### 2.1.1 Fairness Norms

Examples of seminal work in the area of culture-comparative economic experiments include Roth et al. (1991) and Henrich et al. (2001). Both studies attempt to test the behavioral assumption of homo oeconomicus (that is i. a. rational behavior, profit maximization and strict self-interest). Henrich et al. (2001) examine economic behavior in 17 cultures and sub-cultures. Remarkably, the standard behavioral assumption could not be confirmed in any of the societies investigated. In addition, considerable differences in behavior between the respective cultures were observed. A deviation from the standard assumption of human behavior in economics should not be underestimated for theory building. It would have far reaching consequences, influencing, for example, the “optimal design of institutions and contracts, the allocations of property rights, the conditions for successful collective action, [and] the analysis of incomplete contracts” (Henrich et al. 2001: 73). The study conducted by Roth et al. (1991) compares bargaining behavior by applying a simple UG in Israel, Japan, the United States of America (USA) and former Yugoslavia. The results show that observed differences cannot be explained by language, currency or experimental design effects, which are considered to distort behavior (Roth 1995), but rather by cultural differences. Behavioral differences appear to be the result of varying fairness norms. These previous studies highlight the influence of culture on economic behavior that distorts the standard assumption of human behavior in economics and emphasizes the influence of culture on behavior. Other studies build on this, by further investigating cultural heterogeneity of fairness concepts and in-group orientation.

### 2.1.2 Fairness Beliefs

Differences in beliefs about fairness impact the decision-making behavior of individuals and are therefore relevant for management questions, for example, with regard to international negotiation settings or compensation and promotion policies. Buchan and Croson (2004) focused on the influence of fairness

concepts on negotiation behavior. In their study the repeated UG<sup>2</sup> was played in Japan and the USA with fairness norms differing significantly in the countries analysed. Americans believe that the actor with greater negotiation power should be allocated the highest payment, while the Japanese expect the actor with greater negotiation power to share the payment with the weaker actor. Besides those findings, a religious mindset may influence fairness concepts and thus differences in decision-making behavior. Chen and Tang (2009) apply the UG in order to analyse the effect of cultural factors on behavior, with particular regard to beliefs. Tibetans in Lhasa and Han Chinese in Xiamen, as well as in Singapore, were recruited from the groups of pupils, students and professors. While the behavior of the Han Chinese was internally homogenous, the Tibetans demonstrated higher probability of accepting offers per se, which remained largely unaffected by the amount offered. Chen and Tang (2008) ascribe this result to cultural differences which can be explained by the Tibetan's religiousness. In addition to differences in fairness concepts, the group-context in which decisions are made influences the outcome and reflects different levels of social orientation across cultures.

### 2.1.3 Group Orientation

Integrating contextual factors into a research design based on the UG leads to further insights into how decision-making behavior across countries is influenced when, for example, taking the group context into account. This research field has the potential to inform management as to the conditions under which cross-cultural teams may operate effectively and efficiently, and how leaders should behave when managing an international team. Furthermore, studies report on behavioral differences when the decision-making location is changed. For example, Valenzuela et al. (2005) examine the effect of different cultural orientations by means of an UG with an incomplete distribution of information. The test persons are from the USA and the Republic of Korea. In comparison to the Americans, the Korean test persons showed a distinct sensitivity to the influences of the group, as well as to the situational context, as soon as information about them was available.

Chuah et al. (2007, 2009) use the UG in order to explore the behavioral differences of Malays with Chinese or British heritage. The experimental design includes information on the nationality of the proposer and the responder, together with information about the location (Malaysia and Great Britain) of the experiment. The comparison between Malay proposers and responders in Malaysia and British proposers and responders in Great Britain shows significant differences in proposer behavior. The amount offered was generally higher within the Malay treatment. Equally interesting is the result of the mixed scenario. In this case the Malays generally offered lower amounts to the British but not to the Malays. The British, however, did not modify their behavior. The results significantly testify that the location (country) has an impact on bargaining behavior. The location affected the bargaining behavior of the Malays towards the British in the mixed treatment but not vice versa. When the Malays played in Britain, their offers were higher. It may, therefore, be reasoned that certain proposers playing abroad, tend to make higher offers than in their respective home country. However, why this occurs remains an open question for future research.

Both studies lead to the assumption that under certain conditions experiment participants from Asia show a higher social orientation towards their in-group.

While rejecting low offers in UG settings can be explained by perceptions of unfairness, high offers are rather difficult to attribute to a dislike of altruism. In investigating the primary reasons why people reject extraordinary high offers, Hennig-Schmidt et al. (2008) studied the behavior of a sample group in China in the frame of UG decision-making. Experiment participants were grouped and their dialogue was videotaped for analytical content evaluation. The authors report that factors influencing decisions to reject high offers are primarily related to social concerns and group specific rules. The results of the study by Hennig-Schmidt et al. (2008) indicate that the social orientation in decision-making may have a profound influence in Asia. However, questions remain as to which determinants constitute social orientation, or which indigenous independent variable(s) influence social orientation concretely. This question may represent an agenda for future inquiry.

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2 Another advantage of the UG is that it is modifiable, so that context-specific variables can be integrated into the research design.

### 2.1.4 Lessons from Cross-Cultural UG Applications

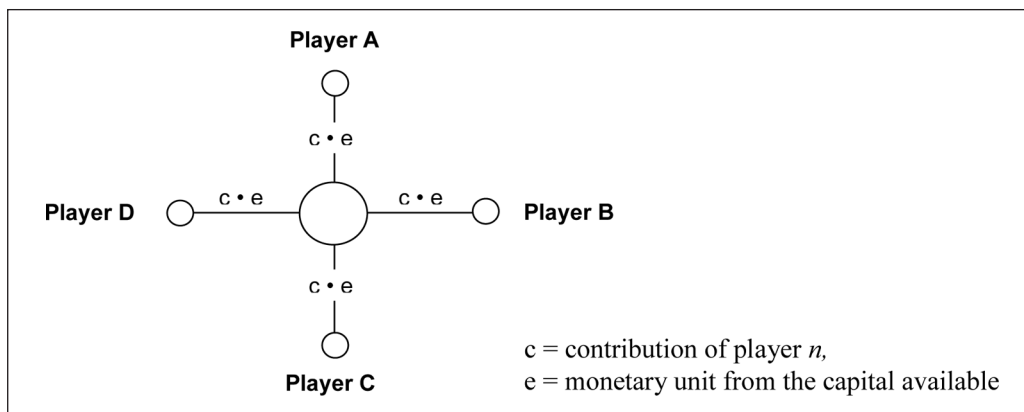
Whereas early cross-cultural experiments discovered cultural differences in decision-making behavior (Henrich et al. 2001; Roth et al. 1991) while leaving the question why they occur open, those following studies find evidence of different norms of fairness and different behavioral expectations across cultures. Moreover the group-context plays a role in decision-making behavior. Though cultural context so far remains a rarely integrated variable, experiments conducted in China and Korea testify that the group context matters in decision-making (Chen and Tang 2009; Hennig-Schmidt et al. 2008; Valenzuela et al. 2005). Unsurprisingly, ‘Confucian Asia’ as it is often referred to (House et al. 2004; Inglehart 1998), tends to make decisions by spending attention to ingroup norms. Collectivistic ideals (Hofstede 1991) can also be confirmed using cross-cultural economic experiments. However, on a more detailed level, variations in collectivistic behavior may in the future be best studied rather by experimental methods than by questionnaire-based surveys in order to understand certain distinctive cultural differences better.

## 2.2 The Public Good Game (PGG) in Cross-Cultural Experimental Economic Research

In a public good game, the players have either the opportunity to donate a certain amount to the community or to keep it. The amount deposited is beneficial to all participants, but since the marginal gain of keeping the money is larger than the marginal gain of the public good, there is an incentive of not contributing and profiting from the contributions of the other players. Due to the fact that the amount deposited is usually multiplied and all players would consequently upgrade their initial financial situation, there is generally an incentive to deposit. This is why in PGGs the aspects of cooperation and freeriding are given special attention.

The outline of the game setting is shown in Figure 2. Each participant is given a certain amount of money ( $e$ ) and each member can put a positive amount of  $c \leq e$  into a common pot.

**Figure 2: Decision options and corresponding results in a standard UG**



The experimenter multiplies the money in the pot by a constant  $\delta > 1$ , which afterwards will be shared equally between the players, independent of the amount of money each has contributed. The share each player receives is:

$$\delta/n (c_i + \sum_{j=1}^{n-1} c_j) = \alpha_i$$

The payoff function of each player  $i$  is:

$$\begin{aligned} \pi_i &= (e - c_i) + \delta/n (c_i + \sum_{j=1}^{n-1} c_j) \\ &= (e - c_i) + \alpha_i \end{aligned}$$

If player  $i$  contributes to the pot, then she will receive  $(e - c_i) + \alpha_i$ . If player  $i$  does not contribute to the pot, then her payoff will be  $e + \alpha_i$ . If all other players  $j$  do not contribute either, then each player receives  $e$ . Based on the conditions outlined above the optimal strategy would be for all players to contribute their whole endowments  $e$ . Then their payoffs will be exactly  $\delta$  times their original endowment (that is  $\delta e$ ).

Seminal work on freeriding was conducted by Andreoni (1988) who played the PGG with two groups, partners and strangers, over several rounds. Partners stay in their group for all the rounds, but strangers were randomly selected in each group so that the group constellation differed in each round. Compared to the test persons in the partners group the ones in the strangers group were unable to establish a reputation. This design has been chosen in order to study to what extent learning and strategic concerns influence contributions to the public good. Andreoni observed that over the rounds contributions declined but in the strangers group they were still higher than in the partners group. Andreoni concludes that learning may contribute to the decline of contributions but higher contribution rates cannot be explained by strategic behavior alone.

Representative studies dealing with foremost cultural factors in PGGs were conducted by Weimann (1994), Burlando and Hey (1997), Cason et al. (2002), Castro (2008), Kocher et al. (2008), Herrmann et al. (2008), Gächter and Herrmann (2009).

The presentation of the following studies is divided according to the respective subject of analysis. Whereas some of the studies are concerned with the rational behavior of the test persons as well as their willingness to cooperate (within the group), the other part of the studies examines sanctioning behavior for norm-divergent contribution behavior. Table 3 provides an overview over the studies analysed.

**Table 3: Cross-cultural studies based on PG game applications**

Game Type: Public Good Game (PGG)				
Author (Year)	Countries involved	Research theme		Major results
Weimann (1994)*	USA, Germany	Cooperation behavior	Rational decision-making behavior	Americans act more rationally than Germans.
Burlando / Hey (1997)*	USA, Great Britain, Germany, Italy		Freeriding behavior	Anglo-Saxons tend to free ride compared to Italians or Germans.
Castro (2008)	Italy, Great Britain		Cooperation and group composition	The proposed amounts were higher in homogeneous groups than in mixed groups.
Kocher / Cherry / Kroll / Netzer / Sutter (2008)	USA, Austria, Japan		Conditional cooperation	The level of conditional cooperation (respective to the willingness to contribute to a public good when others contribute as well) is higher in the USA than in Austria and Japan.
Cason / Saijo / Yamato (2002)	USA, Japan	Sanctioning behavior	Nature of sanctioning behavior	Japanese tend to sanction towards participants who contribute little to the public good.
Gächter / Herrmann (2009)	Russia, Switzerland		Reciprocity and anti-social sanctioning	Culture has a strong influence on reciprocity. Anti-social punishment is more prevalent than expected.
Herrmann / Thöni / Gächter (2008)	USA, Great Britain, Denmark, Germany, Switzerland, Belarus, Ukraine, Russia, Greece, Turkey, Saudi Arabia, Oman, South Korea, China, Austria		Cross-cultural anti-social punishment	The sanctioning of very small as well as very high contributions (anti-social punishment) differs significantly. A connection between civil solidarity and rule of law on the probability of anti-social punishment is assumed.

\* Burlando/Hey (1997) as well as Weimann (1994) refer in their investigation to the results of the Andreoni experiments in which the behavior of American students was examined on the basis of a public goods game.

### 2.2.1 Cooperation Behavior

According to the conventional rationality assumption of economic behavior it can be predicted that the contribution of every player equals zero, regardless of the number of rounds played. In experiments, however, this assumption could not be verified. Test persons instead contribute approximately 50 % of their lot during the first round. This amount indeed decreases with the number of rounds. No contribution is an exception (Weimann 1994). While this conventional observation describes real human behav-

ior, differences in the behavior of test persons from different countries can be compared with the help of PGGs. Hence the course of contributed amounts in the respective rounds can be observed in respectively changing or constant group configurations. Behavioral patterns observed shed light on the test persons' willingness to cooperate, their structure of interaction and social behavior or the extent of their rational behavior. Detected differences are generally attributed to cultural differences.

In his study Weimann (1994) explores whether the offer levels contributed during the game differ between strangers or partners. Subsequently Weimann refines Andreoni's (1988) study which comes to the conclusion that strangers generally contribute more but nevertheless the contribution amount of strangers and partners alike drops to a minimum during the last round. Andreoni assumes that this may be the result of cooperative efforts to establish social norms, which, however, do not prevail. The declining amount is therefore an expression of capitulation. However Weimann could not reproduce Andreoni's results in the sense that strangers always contribute more. It should also be mentioned, however, that Andreoni conducted the experiment with American students and Weimann with German students. Just as Andreoni points out the possibility of cultural influences, Weimann interprets his finding to that effect that the American students act more rationally than the German ones.

Burlando and Hey (1997) repeated the Andreoni experiment too, by means of an American, British, Italian and a German subject pool. Their result corresponds with Weimann's findings. Though the focus of their study picks up Weimann's assumption concerning cultural differences, Burlando and Hey specifically ask if Anglo Saxons instead tend to free ride compared to Italians, and answers this question significantly in the affirmative. The tendency to free ride shows a higher magnitude with Americans and Britains than with Italians and Germans.

Castro (2008) examines cultural differences between Italian and British students using the PGG. The test persons were divided into homogeneous and mixed groups. The result shows that the British students contributed more to the public good than the Italian students. From a cultural perspective the conclusion of the study is interesting as it states that the contributions in the homogeneous groups were higher than in the mixed groups.

Kocher et al. (2008) explored the extent of conditional cooperation in the USA, Austria and Japan. Conditional cooperation is understood as the will to contribute to a public good under the premise that the others contribute as well. The authors reach the conclusion that on one hand the frequency of cooperation and on the other hand the relation between one's own contribution and the ones of the other takers is significantly higher among the US test persons compared to the behavior observed in Austria and Japan. The latter implies that the inclination to contribute to a public good if others contribute as well is fairly high among the American test persons. The higher the contributions of the other actors the higher their own contributions.

### 2.2.2 Sanctioning Behavior

The actions taken by the actors to establish social norms can be examined as an aspect of cooperation behavior. The immense differences of these across different countries are indicated in the following studies. The sanctioning of players is an opportunity to effect a change in behavior. But how can a sanctioning option be integrated into a PGG? While Cason et al. (2002) apply a two-stage version of the PGG in which the player is informed about the decision of the other player and can thus react accordingly, the integration of a specific sanctioning function is applicable. The test person is in this case given the opportunity to sanction the decisions of other players, which is however linked to financial losses for both.

Cason et al. (2002) explore spiteful behavior and cultural differences within the framework of a two-person PGG with American and Japanese test persons. The test persons have, in a departure from conventional modeling of the public goods game, the opportunity to tell the other players if they will contribute to the public good or not before they make their decisions. Thereby the players are given the possibility of taking this information into account when making their own decision. Spitefulness is understood as a sanctioning mechanism towards other members who only contribute very little to the public good. This manifests itself with comparable low contribution amounts among the Japanese test persons as soon as it is known that one player will make no contribution. Next to this a higher participation rate which



provides the reason for the fact that the Japanese test persons generate a more efficient overall result. Efficiency is in this case defined as “the percentage of the maximum available earnings realized by subjects” (Cason et al. 2002: 146). Whereas American test persons contributed higher amounts in general, cooperation was lower in case a player did not make a contribution. As a result the authors conclude that Japanese test persons tend towards spiteful behavior towards free riders expressed by low contributions.

Gächter and Herrmann (2009) also play the PGG with test persons from Switzerland and Russia. In groups of three, a “one-shot” PGG was played in two variants, with, respectively, one option which provided the opportunity to sanction and one which did not provide this opportunity. No difference in sanctioning was observed within the context of the respective cultural circle. However, when compared, both cultural circles show significant behavioral differences: the sanctioning within the Russian group turned out to be more severe than in the Swiss group. Not only was freeriding and the contribution of small amounts punished but also the contribution of amounts that lay within the group average. The latter is described as anti-social reciprocity (punishment) and applies to the punishment of absolutely positive contributions. Gächter and Herrmann suggest that in particular the cultural determinants of negative reciprocity should be investigated more in order to answer the question why punishment also occurs with pro-social behavior.

Herrmann et al. (2008) play the PGG in 16 countries with the goal to examine differences in sanctioning behavior. Next to the regular PGG a variant was played in which the test persons were given the opportunity for punishment after the players made their contribution. In the course of the rounds, the group-constellation remained the same to be able to analyze possible differences in the form of cooperation in the course under equal conditions. Punishment not only resulted in the diminution of the result for the one who is punished but also in costs for the punisher. The modeling of the game is basically identical to the preliminary study presented by Gächter and Herrmann (2009). The results again showed strongly divergent patterns of behavior between the test persons from the respective countries. Whereas in some countries very low contributions were punished, higher-than-average contributions were punished in other countries (anti-social punishment).

The anticipated effect that punishment brings forward cooperative behavior in the course of the rounds, was nullified by the strong peculiarity of anti-social punishment in some countries. Furthermore a connection between a weak occurrence of civic cooperation (based on World Values Survey data) and rule of law (based on World Bank governance indicators)<sup>3</sup> with regard to the probability of anti-social punishment was detected. This indicates that the weaker both these indicators are the harsher the anti-social punishment turns out to be. Anti-social punishment, observed in all countries, can be, according to the authors, a form of revenge or an instrument to force cooperation. The respective distinctions, however, can be a sign of culturally different personality traits like the striving for dominance of a competitive personality or the pursuit of maximum advantage. On the other hand, those who contributed little and were punished by those who contributed a lot, may feel exposed and thus punish them in return. A further explanation, especially in relation to conventions of psychology, would be the striving for normative equality according to which all dissenters from the norm, whether due to very little or very high contributions, experience punishment.

### 2.2.3 Lessons from Cross-Cultural PGG Applications

Cross-cultural PGG applications testify differences in cooperation behavior across countries. Whereas test persons from different countries differ in terms of their willingness to free-ride once enabled to do so, cooperation is also influenced by group composition. Interactions taking place in culturally homogeneous groups (determined by the test persons' country of origin), show a more altruistic behavior compared to mixed settings. Moreover, sanctioning behavior, or the measurements applied to enforce social norms, have been studied by using the PGG. By applying social sanctioning, group efficiency can be increased (Cason et al. 2002), however, the intensity of sanctioning behavior differs across cultures and it can reach levels that are destructive of the overall performance of the group (Herrmann et al. 2008).

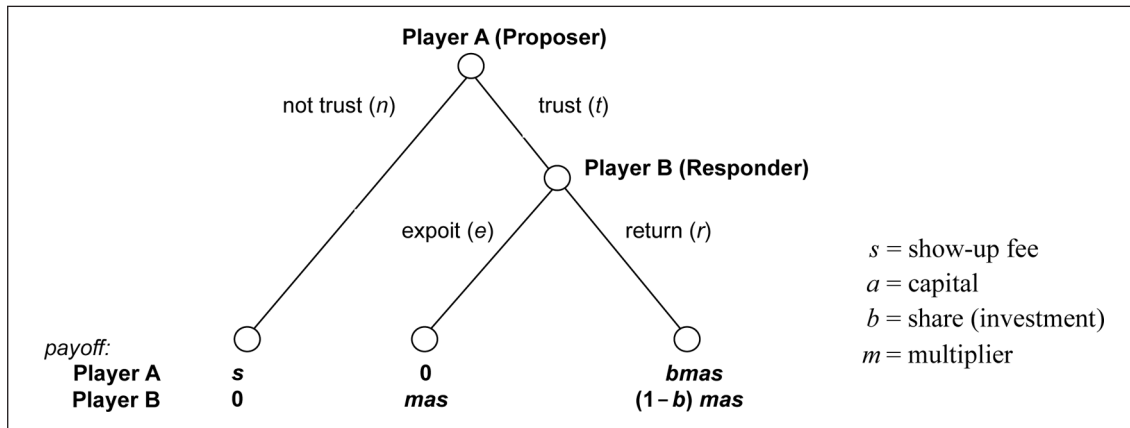
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3 The governance indicators include several variables. For details compare Kaufmann et al. 2007.

### 2.3 The Trust Game (TG) in Cross-Cultural Experimental Economic Research

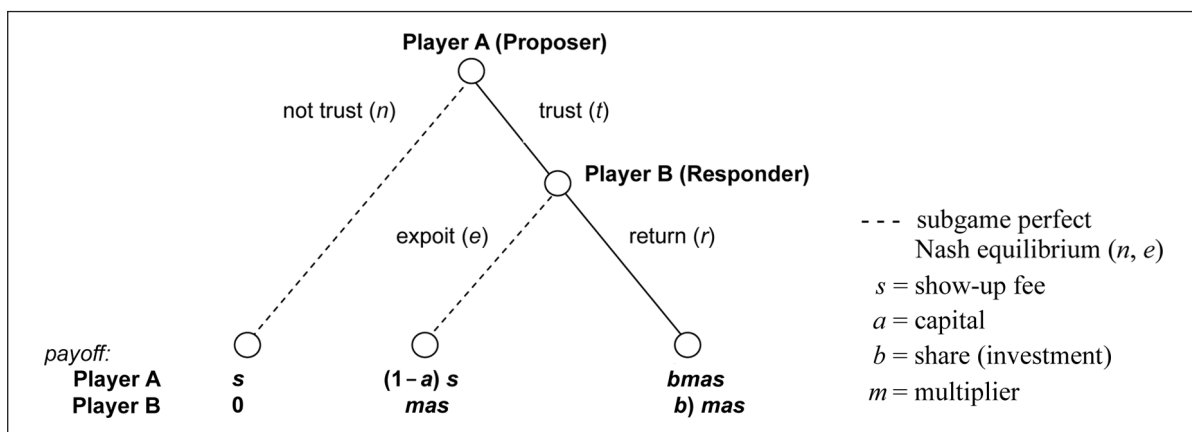
Social situations of dilemma can be analyzed with the help of the TG.<sup>4</sup> The sequence of the TG proceeds as follows: Player 1, i. e. the investor, decides whether to supply player 2 a share  $a$  of an amount of capital  $s$ , which is then multiplied by the experimenter by a multiplier  $m$ , and part  $b$  of it possibly returned. The investor, player A, chooses to trust ( $t$ ) or not to trust ( $n$ ) player B. If she does not trust, the game ends and the payoffs are realized. If she chooses to trust, then she surrenders part  $b$  of  $s$  to player B. In the next stage, player B chooses between exploiting ( $e$ ) the investor or returning ( $r$ ) a share  $b$  of  $ams$  to the investor (see Figure 3).

Figure 3: Decision options and corresponding results in a standard trust game



The game is solved for 'rational' players by inducing backwards: Player B will choose  $e$  (since  $mas > (1-b)mas$ ), player A chooses  $n$  (since  $s > (1-a)s$ ). The subgame perfect Nash equilibrium is  $(n,e)$ . However, due to multiplier  $m$ , both could profit (realizing pareto superiority), if they play  $(t,r)$ . To do so, player A has to trust and player 2 has to act in a trustworthy manner (see Figure 4). Observing  $a$  and  $b$  in experiments (and setting different  $m$ ) allows conclusions on trust and trustworthiness.

Figure 4: The Nash equilibrium in a standard TG



Among much cited cultural relevance research studies based on the trust game are Carpenter et al. (2004), Buchan and Croson (2004), Buchan et al. (2006), Bohnet et al. (2008), Cameron et al. (2009) and Barr and Serra (2010). A differentiation between these studies is identifiable based on those which examine social preferences, especially in combination with the attribution of trust. A further category contains analyses of corrupt behavior. The studies discussed in the following are summarized in Table 4.

4 Seminal work on the study of trust and reciprocity using the TG (more precisely an investment game) was conducted by Berg et al. (1995).

**Table 4: Cross-cultural studies based on TG applications**

Game Type: Trust Game (TG)				
Author (Year)	Countries involved	Research theme		Major results
Carpenter / Daniere / Takahashi (2004)	Thailand, Vietnam	Social preferences and trustworthiness	Cooperation behavior	The cooperation behavior within a culture group is determined by the demographic equality of the participants.
Buchan / Croson (2004) (Investmentspiel)*	USA, China		Trust and trustworthiness	Trust levels differ. The Chinese group showed a higher level of in-group trust compared to the US American group.
Buchan / Johnson / Croson (2006) (Investmentspiel)*	China, Korea, Japan, USA		Other-regarding preferences	A “country-of-origin-effect” is identified, especially between US American and Chinese test persons. Personal contact has a positive effect on decision-making. Individual cultural orientation plays a role.
Bohnet / Greig / Herrmann / Zeckhauser (2007)**	Brazil, China, Switzerland, Turkey, UAE, USA		Fraud aversion	Brazil: evidence of fraud aversion could not be identified. USA/UAE: Fraud aversion is especially distinct.
Barr / Serra (2010)	40 countries	Corruption and corruption behavior	Susceptibility to corruption	The willingness to be corrupt correlates with the spread of corruption in the native country but decreases if an individual integrates itself into a less corrupt environment.
Cameron / Chaudhuri / Erkal / Gangadharan (2009)	Australia, India, Indonesia, Singapore		Tolerance towards corruption and costs of corruption	Different levels of tolerance towards corruption is identified. The perception of costs of corruption is culture-specific.

\* The investment game is a variant of the trust game.

\*\* In order to measure fraud aversion as well as risk behavior, a trust and a dictator game are adopted.

### 2.3.1 Social Preferences

Carpenter et al. (2004) examine the factors of trust and cooperation among urban slum inhabitants in Thailand and Vietnam. This study is remarkable in that the study subjects do not have an academic background.<sup>5</sup> Next to the inquiry of demographic factors like age, education and household size the authors formed same gender and different gender groups in order to examine the different behavior of men and women. In comparison, the authors observe that “[...] behavior varies with many demographic factors and with many associational factors. However, these correlations often differ significantly between our two locations, indicating the role of culture, defined broadly” (2004: 533). The cooperation behavior is determined by factors such as gender, education, age and affiliation time within a culture group. Carpenter et al. (2004) find the experimental methodology better suited than other surveys if the research question is concerned with behavioral economic aspects.

Based on the early studies of Hall (1959), who concluded that in some cultures trust is more highly valued than binding contracts, Buchan and Croson (2004) compare the quality of trust in the USA and China. In their study they make use of a variant of a TG, an investment game, which features the same design as the experiment by Berg et al. (1995). The peculiarity of trust is on a general level comparatively higher within the Chinese ingroup compared to the one in the USA, but on a more detailed level the results are rather heterogenic, leading Buchan and Croson to argue that “the importance of trust (and trustworthiness) to economic relationships and growth suggests that the issue of national differences in trust and trustworthiness is one that we as economists need to better understand” (2004: 498).

Buchan et al. (2006) examine the influence of social distance and communication on trust and reciprocity by means of test persons from China, Korea, Japan and the USA. After previously randomly selected discussion groups, player pairs are composed with the goal of creating in- and out-groups. Some player pairs were composed of people who did know each other from the prior discussion (in-group) and the other player pairs were composed of people who did not have any previous contact (out-group). After

<sup>5</sup> Subject pools in economic experiments typically consist of students (Henrich et al. 2010).



this first stage of the inquiry, the discussion groups and the following pairing of the players, the second step involved the execution of the investment game. In the third step a culture-exploring survey came into operation. The authors came to the conclusion that having previous personal contact and communication leads to significantly more trust, even though no game strategies were agreed upon during the personal discussion.

Contrary to the assumption that the Chinese test persons might show preferences towards their fellow countrymen, they showed more trust and reciprocity towards the out-group, while the American test persons showed an exactly contrary behavior. Buchan et al. assume that the individual cultural orientation plays a role in the case of this unexpected result. A survey conducted in order to analyze this result attests the Chinese participants a high level of collectivistic attitude, while this doesn't especially differ among the other participants (from the USA, Japan and Korea).

Bohnet et al. (2008) analyse the level of betrayal aversion by employing a TG, a decision game as well as a dictator game with test persons from Brazil, China, Switzerland, Turkey, the United Arab Emirates (UAE) and the USA. The study asks how far the level of betrayal aversion is influenced by another person (social risk) or a higher force respectively. They use a risk factor as measure which embodies the minimal probability of acceptance of the test persons within a risk situation which can lead to exposure of betrayal. The results generally confirm that the betrayal aversion is higher as soon as another person influences the outcome, as if this happens by a higher force. The authors detect differences between examined groups but derive no verifiable results due to the small sample as well as due to the high number of variables within conducted games. However, indications can be identified. Within the group of the Brazilian test persons no signs of betrayal aversion could be detected, whereas this was especially distinct among the participants from the USA and the UAE. This can be attributed to the existence in both countries of specific institutions which act to counteract fraudulent intentions and therewith keep the material costs of betrayal rather low. In the USA this kind of betrayal-intention-minimizing institution is embodied by the legislative body, while in the UAE these institutions are mainly those influenced by Islamic culture as well as interpersonal relations.

### 2.3.2 Corruption Behavior

The experiment employed by Barr and Serra (2010) is identical to that of Cameron et al. (2009) which will be described more closely in the following. It is a variant of the double-staged TG with a third stage added in the form of another player, who has the choice to punish the second player for the acceptance of a bribe.

Cameron et al. (2009) analyse cultural differences with regard to tolerance towards corruption in Australia, India, Indonesia and Singapore. The corruption game applied consists of three players who play in each case a "one-shot" game in three rounds. The first player represents a company representative who decides to offer a sum to a public official. He in turn can decide to accept or to refuse the sum. The third player, who embodies a citizen, has the opportunity to punish him if he accepts the sum. The latter is informed about the preceding moves. The punishment however would reduce the total payout. Yet the amount of the reduction varies depending on the play mode. Two variants are used, a welfare-increasing and a welfare-decreasing variant. The reduction is a lot higher in the case of the latter than in the former variant. As a result the authors conclude that the Indian test persons show a higher tolerance towards corruption than the test persons from Australia. Contrary to expectations the test persons from Singapore did show a higher tolerance towards corruption and the test persons from Indonesia by a far lower one. The perception of corruption costs appears to be culture-specific.

Assuming that different social norms and values influence behavior, Barr and Serra (2010) pursue the question of whether these two factors influence people to act in a corrupt instead of an honest manner. In the case of this inquiry test persons were recruited from 40 different countries which were located either very low or very high on the Corruption Perception Index.<sup>6</sup> While applying a corruption experiment among non-graduated students, the authors could predict their behavior on the basis of the position

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6 Based on the Corruption Perception Index by Transparency International ([www.transparency.org](http://www.transparency.org)).

of the home country of the respective student in the Corruption Perception Index. An inquiry among already graduated students however allowed no conclusions to be drawn regarding their corruption behavior. The results of a repeated inquiry two years later led the authors to the finding that the inclination to behave corruptly correlated negatively with the duration of a stay in Great Britain: the longer the students remained in Great Britain, the less they were inclined to act corruptly. Eventually the authors suggest that individual corrupt behavior can be regarded as a cultural phenomena influenced by the environment.

### 2.3.3 Lessons from Cross-Cultural TG Applications

By using the TG evidence the importance of the role of social preferences in establishing trustful relationships could be determined, as well as achieving a better understanding of corrupt behavior. Results imply that homogenous demographic factors (gender, education, age) influence the establishment of trust but to different levels across cultures. Also, prior personal contact significantly increases trust levels compared to trust ascription levels in anonymous interactions. Whereas several studies assume higher trust towards people of the in-group especially in Asian countries (Chen et al. 2002; Heine 2001; Kim and Nam 1998), experimental studies show that this is not a universal rule. The role of individual cultural orientation influences behavior and can be contrary to expected behavior in Asian in-groups. The impact of institutions, formal as well as informal (i. e. culture), may explain national cultural differences towards fraud aversion. Whereas some cultures show a high aversion to fraud others do not. However, more empirical studies are needed in order to better understand how institutions influence the willingness of individuals to engage in fraudulent behavior. Similarly, tolerance of corrupt behavior differs across cultures. Here environmental factors such as distinct social norms and values influence corrupt behavior, but more importantly, when exposed to a highly corruption-intolerant environment, actor behavior adjusts and becomes less vulnerable to corruption.

## 2.4 Mixed Game (MG) Applications in Cross-Cultural Experimental Economic Research

MG designs, i. e. applications that include more than one game application, allow for a broader perspective of analysing decision-making behavior. For example, whereas UG applications are suited to investigating the fairness perception of the responder (second-party) by observing acceptance and rejection behavior of offers of a certain level, they are unable to observe the reaction of third-party behavior when social norms are violated (Fehr and Fischbacher 2004). Though cross-culture economic experiments using a MG approach are still rare, three remarkable studies are presented in the following that use an identical game-mix consisting of an UG, a dictator game (DG) and a third-party punishment game (3PPG).

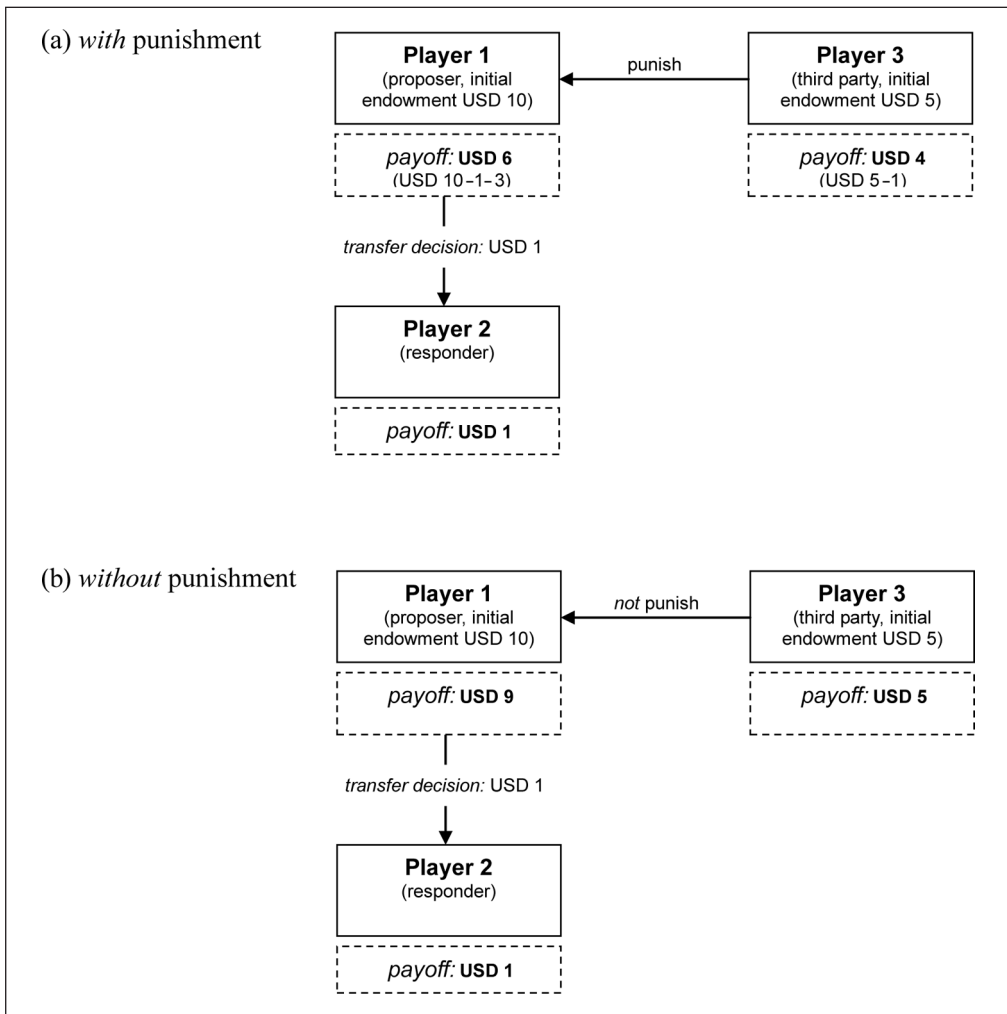
The DG can be regarded as a variant of the UG (see section 2.1), whereby the feedback option is not given to the receiver. Only the proposer makes the decision about the share to be allocated to the receiver, which indicates the measure of fairness.

The 3PPG can be considered a design extension of a DG by including a third player, who is given the option of punishing the decision of the proposer in a DG setting. For example, the third player is given an initial endowment of 50% of the amount the proposer is endowed with. However, punishing the proposer is costly for the third party, e. g. 20% of his or her endowment. Moreover, if the third party decides to punish the proposer, a triple of the amount proposed to the responder is deducted from the proposers' endowment. E. g.: Player 1 (proposer) has a USD 10 stake to share with player 2 (responder); player 3 (third-party) has a USD 5 endowment. Now player 1 decides to keep USD 9 and transfer USD 1 to player 2. Player 3 can decide whether to punish the decision of player 1 or not.<sup>7</sup> If player 3 decides to punish, player 1's payoff is USD 6 (i. e. USD 10 – 1 – 3), player 2's payoff is USD 1 and the third party's payoff is USD 4 (USD 5 – 1). Assuming money-maximizing intentions of player 1 and 3, player 1 would always transfer zero to player 2 and player 3 would never punish player 1 (see Figure 5).

Investigating cultural differences in the frame of a MG design as outlined above were conducted by Henrich et al. (2006), Barr et al. (2009) and Henrich et al. (2010). They are summarized in Table 5.

<sup>7</sup> Some designs provide the punishment option before player 3 becomes to know player 1's decision (Henrich et al. 2010/11), some designs afterwards (Fehr and Fischbacher, 2004).

**Figure 5: Payoffs of three player (a) with punishment and (b) without punishment (example)**



**Table 5: Cross-cultural studies based on mixed game (MG) applications**

Game type: Mixed games (MG)

Games included: Ultimatum game (UG), third party punishment game (3PPG), dictator game (DG)

Author (Year)	Countries involved	Research theme		Major results
Henrich / McElreath / Barr / Ensminger / Barrett / Bolyanatz / Cardenas / Gurven / Gwako / Lesorogol / Marlowe / Tracer / Ziker (2006)	15 tribal populations from Africa, North and South America, Asia and Oceania (non-student subject pool)	Cooperation / norm enforcement	Costly punishment (CP) among non-student populations	Willingness to exert CP increases according to unequal behavior, but the magnitude of CP differs across populations. Altruistic behavior and CP covaries.
Henrich / Ensminger / McElreath / Barr / Barrett / Bolyanatz / Cardenas / Gurven / Gwako / Lesorogol / Marlowe / Tracer / Ziker (2010/11)	15 tribal populations from Africa, North and South America, Asia and Oceania (non-student subject pool)*	Fairness / punishment	The evolution of fairness and punishment	Market integration influences fairness while community size influences punishment.
Barr / Wallace / Ensminger / Henrich / Barrett / Bolyanatz / Cardenas / Gurven / Gwako / Lesorogol / Marlowe / McElreath / Tracer / Ziker (2009)	15 populations from the USA, Amazonas, Artic, Africa (student and non-student subject pool)	Fairness / inequality aversion	Do communities differ in terms of valuing equality?	Differences across societies observed in decision-making behavior can be explained by a different level of inequality aversion respectively.

\* partly overlapping with Henrich et al. 2006.

### 2.4.1 Cooperation and Norm Enforcement

Contrary to most research on cooperation behavior conducted in developed countries by student subject pools, Henrich et al. (2006) use a non-student subject pool including test persons from 15 tribal populations from Africa, North and South America, Asia and Oceania. Broadly formulated, the authors study cooperation behavior, while specifically they focus on the behavior of (high cost) punishment of other test persons for unequal behavior. Results across the subject pools show that people are willing to exert costly punishing but the willingness to punish differs across societies. Moreover some communities punish very low offers but also offers that were very high.<sup>8</sup> Next to these findings, the authors found that communities that show a high willingness to exert costly punishment also show more altruistic behavior. Due to the differences in punishment behavior used to maintain cooperation, Henrich et al. assume that “the same institutional forms may function quite differently in different populations” (Henrich et al. 2010: 1770).

### 2.4.2 Fairness and Punishment

In a follow-up study Henrich et al. (2010) investigate the evolution of fairness and punishment by using a partly overlapping subject pool from the survey in 2006. Findings can be regarded as an extension of those derived from the prior project. The authors find that the observed tribal communities, characterized by a small community size and a low degree of market integration<sup>9</sup>, show little motivation towards punishing unfair offers and were generally less concerned with fair behavior per se. In comparison, the larger the observed communities were, the higher the willingness to engage in punishment. Whereas in smaller societies kinship- and reciprocity-based norms prevail, Henrich et al. summarize that the evolution of social norms in complex societies is influenced by those norms that ensure fair transactions best but not entirely by kinship- and reciprocity-based norms (Henrich et al. 2010).

### 2.4.3 Fairness and Inequality Aversion

Barr et al. (2009) inquire whether differences in inequality aversion can be explained by behavioral diversity. Test persons included in this study comprised of students from the US and hunter-gatherer tribes from the Amazonias, the Arctic and Africa. The authors applied a MG design in the fashion of the one used by Henrich et al. (2006, 2010), in order to study the test persons' appreciation of equality. In order to measure inequality aversion a u-shaped utility function is used that considers the rejection of low offers (negative reciprocity) as well as the rejection of high offers. Evaluations of the games applied resulted in significant differences in decision-making behavior in all three games applied across all communities under investigation. Barr et al. interpret the motivation of the test persons causing these differences as differences placed on valuing equality or in other words: inequality aversion differs across countries. A universal attitude towards equality does not exist.

From a broader point of view the studies of Henrich et al. (2006, 2010) as well as Barr et al. (2009) suggest important implications as to how economic theory may possible develop in the future as it probably underlies a fundamental attribution error. So far most research was conducted using subject pools consisting of typically well-educated, North American and European test persons (Henrich et al. 2010). Results derived from these studies were typically considered to be universally valid. Studies such as the ones by Henrich et al. cast doubts as to whether universality can be claimed without considering a more diverse subjects pool of test persons.<sup>10</sup>

### 2.4.4 Lessons from Cross-Cultural MG Applications

Including several games in a survey design allows for the study of complex behavior phenomena in more detail. Culture comparative studies presented here were able to show that significant differences exist in how societies enforce social norms in order to maintain cooperation. Interestingly, egoistic as well as altruistic behavior is disliked and counteractions in the form of punishing deviant behavior dif-

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8 The phenomenon of punishing high offers (or “advantageous” offers) was also observed by Hennig-Schmidt et al. (2008) by using a Chinese subject pool.

9 Measured by calories purchased on the market.

10 For a more comprehensive discussion see Mesoudi (2011).

fers. Moreover, fairness or fair behavior as well as the aversion to inequality are concepts that need to be better understood as the influence of culture on fairness perception and inequality appears to be sharply different across cultures. Herein lies great potential for future inquiry.

### **3 Transferability of Experimental Results to the Real World – Issues of Control and Subject Pool Selection**

The transferability of results from laboratory or field experiments to answer questions in the real world, poses a challenge to the experimental research methodology. Replicability of experiments as well as the ability to control external factors of influence present a test of experimental methodology as they allow direct conclusion about the effect, and increase internal validity (Davis and Holt 1993). However, human behavior in the real world is guided by a multitude of external factors which differ from laboratory conditions. Even though the ability to control some of the influencing factors is given in laboratory experiments, a laboratory atmosphere is always an artificially created environment that exposes concerns if behavior is conveyed in the same way outside the lab. Levitt and List (2007) name various aspects which counteract the applicability and generalization. A key point of concern is related to the selection of the test persons. People who volunteer for an experiment typically belong to the student body and are perfectly well aware that their behavior is thoroughly analyzed. It can thus be assumed that the behavior is strongly shaped pro-socially which does not necessarily correspond to a natural environment.

The extent of anonymity, either between the test persons and the experimenter or among the test persons is another factor influencing pro-social behavior. Various studies document how a variation in the level of anonymity leads to different results. Hoffman et al. (1994) detect a decline in the amounts distributed in the dictator game when a greater anonymity between the experimenter and test persons exists. Andreoni and Bernheim (2006) discover a higher probability of an equal distribution of the amount (50/50) in the dictator game, the less anonymous the transaction is.

In order to test the applicability of findings from laboratory experiments to the real world, List (2006) conducts an experiment in the laboratory and in the natural environment respectively of the test persons. What results is that different behavior by the test persons in their natural environment could be observed, which leads to doubts concerning the applicability of laboratory experiments. Until now such a comparison of culture-exploring experiments is unknown. Despite the absence of research results it can be assumed that this also holds for cultural experimental research. Levitt and List (2007) and List (2007) suggest a combined research design which examines the test persons in the laboratory as well as under natural conditions in order to generate realistic results. This approach could also be favorable for culture-exploring experiments so as to test the findings from the laboratory or to test observations from the field under controlled conditions.

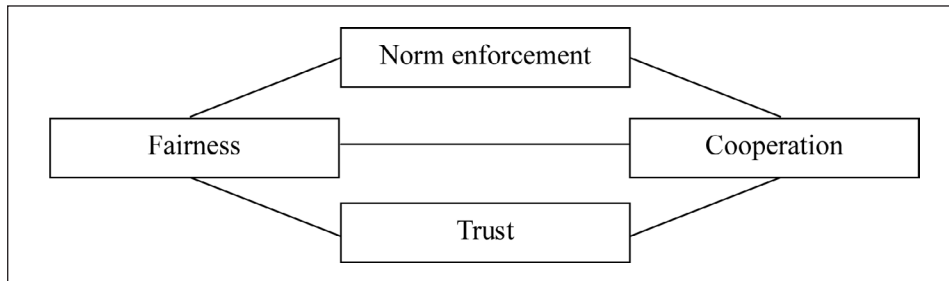
## **4 CCEE – Overall Lessons and Research Gaps**

Lessons from the experiments presented here can be summarized according to their macro-research themes, which are fairness, cooperation, trust and norm enforcement. Those behavioral antecedents show a relative interconnectedness as they influence each other (see Figure 6). The level of fairness prevailing in interactions determines the cooperation level that positively or negatively influences the establishment of trust. Fairness itself leads to the establishment of trust. If fair behavior and norms of cooperative behavior deviate to the respective prevailing social norms in a community, they are enforced with a different intensity. Additionally important, their intensity differs situational and context-specific. On one hand, there is an urge to understand why these differences occur by understanding the context better, on the other side it is getting more and more difficult to classify national cultures according to the conventional categories, such as individualistic, collectivistic, how a national culture deals with uncertain situation or behaves towards power differentials. In the past concerns have been raised that these conventional categories are not sufficiently suitable to explain national cultures in a satisfactory way (Fang 2012; Van de Ven and Jing 2012) moreover it treats national cultures as quite static constructs. While the most popular studies have been conducted between the 1970s and 1990s (Hofstede 1991;



House et al. 2004; Inglehart 1998) but particularly Asian countries are recently developing dynamically (Froese 2013; Jöns et al. 2007), there is a need for a) a re-evaluation and b) an inclusion of a dynamic view on culture. The argument of this paper is that experimental approaches to national culture characteristics help advance knowledge about cultural differences based on sound empirical analysis.

**Figure 6: Interconnectedness of norm enforcement, fairness, cooperation and trust**



However, so far CCEE is at an immature stage. Although cross-cultural economic experiments empirically observe differences in for instance fairness perception, cooperation behavior, the establishment of trust and the enforcement of social norms, they seldom explain why these differences occur and which national culture specific variable(s) can explain those occurring differences.

In order to make the argument clearer in the following studies are presented on typical collectivist cultures that call for a re-evaluation of national culture classification by the example of the collectivism paradigm. Furthermore empirical methods are suggested for how an advancement of cross-cultural management knowledge can be achieved.

Japanese society is generally viewed as highly collectivistic (Hofstede 1991) in which collective in-group norms prevail and guide individual behavior. However, empirical research from the social psychology discipline suggests that this claim should be treated with caution. Most Japanese people regard themselves as individualistic rather than collectivistic, but think that other Japanese people internalize collectivistic norms (Hirai 2000). If collectivistic behavior helps to secure resources, incentives are provided to act in such a manner. In that case collective behavior is rather strategic but not based on internalized norms of collectivism as the conventional cross-cultural management literature indicates. Yamagishi et al. (2008) suggest that the nature of Japanese collectivism evolves through 'pluralistic ignorance'. Empirical evidence for this argument is provided by Ohbuchi and Saito (2007) who found that maintenance of conflict avoidance behavior in Japan is a self-fulfilling prophecy. Other studies provide empirical evidence that Japanese collectivism should be in fact be regarded as an individualistic strategic rather than an internalized norm-based one (Yamagishi et al. 1999; Yamagishi et al. 2007).

Another example is the research by Chang (2006) who studies the effect on employee attitudes towards organizational commitment when a firm introduces an individual pay-for-performance system in Korea. As Korea is, in a manner similar to Japan, regarded as a highly collectivistic culture that values seniority over individual performance (Hofstede 1991), rewarding a better performing individual over group collectivism and age hierarchies is assumed to cause tensions due to the violation of prevailing social norms. Surprisingly the research results could not confirm a negative effect on organizational commitment, although it was perceived that an individual pay-for-performance system increases the overall work effort. This is explained by correcting the general basic assumption of Korea being a purely collectivistic culture. In fact it was found that norms of collectivism and individualism likewise prevail in Korea (Chang 2006; Ungson et al. 1997).

Those studies indicate, first, that implications from conventional dimensions of national culture classification have to be treated with caution as their explanation scope is limited, and, second, that individual and group behavior is determined situationally and is context-specific.

In the following I suggest bridging the gap of cross-cultural experimental studies that currently are insufficient in their use of distinctive national cultural variables in their research design. At the same time Indigenous Management Research (IMR) studies that explain cultural differences by applying deep

contextualization (Tsui 2004) can benefit from high quality empirical research designed in the fashion of cross-cultural experimental designs.

## 5 How Experimental Economics Can be Used to Advance IMR – and vice versa

Since the economic rise of many emerging countries has generated a higher demand for explaining the reasons of their success by, for instance, understanding their management practices better, awareness has grown among the scholarly community that conventional management theories, coined mostly by western scholars' ideas, are not universal or able to fully explain the managerial principles of many emerging market economies (Van de Ven and Jing 2012; Werner 2002; Zhao and Jiang 2009). In particular the importance of the context in which managerial ideals are embedded in is regarded as a crucial variable for understanding management better (Leung 2012; Li et al. 2012; Tsui 2007; Tsui 2004). The growing field of IMR within the international business (IB) discipline aims in particular at understanding context-specific characteristics in order to contribute to the further development of management science.<sup>11</sup>

Typically, IMR works with comparative case analysis, participant observation, interviews, questionnaire-based surveys or ethnographic inquiry (Fang 2012; Ma 2012; Van de Ven and Jing 2012; Wu et al. 2012). Though those methods make a valuable contribution to increase knowledge in this field there is at the same time a call for high quality indigenous research by placing emphasis on the methods applied (Tsui 2004).

I argue in the following that experimental methodology can on one hand contribute to high quality IMR and on the other hand by pursuing an indigenous inquiry IMR will benefit knowledge in the field of experimental economics.

### 5.1 Proposal 1: IMR and Experiments – Advantages of Control and Replicability

IMR is particularly interested in understanding the context better in which management is embedded in. A key strength of economic experiments compared to other methodologies is to observe a) closer to real-world behavior or 'attitudes in action' since it is incentivized by monetary benefits in a b) controlled environment e. g. in an experimental lab in which factors of influence can be controlled and c) controlled experiments are replicable under the same conditions. That fact opens up the possibility of integrating indigenous variables into the game design in order to test their effects in a controlled environment. This proposal is in line with the recent call in economics "to identify the components of particular cultural systems and the respective effects these have on economic behavior" (Chuah et al. 2007: 46).

### 5.2 Proposal 2: Experiments and IMR – Deep Contextualization

Though culture-comparative experiments presented here de facto observe behavioral differences that are explained by cultural differences, they often lack explanation about which concrete factors caused them. Contrary to international business and management studies, which have a rich history of cross- and intercultural research, it can be claimed that the influence of cultural factors is a rather new phenomenon that economics has just recently recognized as being economically relevant. As widely known, the homo oeconomicus, the standard assumption of human economic behavior, is a culture-free model. However, though culture-comparative experimental economics sustainably advances economic theory, so far it explains little concerning why behavior differs across cultures. While analysing several UG experiments conducted in different countries, Oosterbeek et al. (2004) summarize that, though finding evidence for cultural differences, UG-based experiments explain little about the "underlying factors" of behavioral differences in decision making. Chuah et al. regard the UG "a useful tool for the examination of cultural differences precisely because it elicits subjects' monetary as well as social preferences, i. e. preferences both over one's own payoffs and those of others" (Chuah et al. 2009: 4). Moreover the UG design is modifiable. The latter is in fact true for all game applications presented above. However, so far it has not often been used to include country-specific indigenous context factors in its design. Those

11 For a review of typical literature in this field, see Tsui (2007), Tsui (2004) or Van de Ven and Jing (2012).

should be discovered and extracted first (e. g. by qualitative interviews) and in a second step tested in an experiment. As a scholar foreign to a certain culture may run easily into danger by extracting the wrong contextual factors or misinterpreting them, close research cooperation with local scholars familiar with the environment hedges against this risk (Tsui 2007; Van de Ven and Jing 2012; Zhao and Jiang 2009).

## **6 Suggestion: Future Directions for Cross- and Intercultural Oriented International Management Research**

Economic experiments identify behavioral differences derived from cultural differences but seldom provide an explanation based on cultural heritage in the form of (an) indigenous independent variable(s) included in the research design. As a result, various studies lack detail and background concerning the factors from which cultural differences can be derived. On the other hand, IMR seldom uses experimentation in order to test independent variables typical for the country being studied. There is a great possibility that both disciplines may “meet in the middle”. Leung et al. (2005) see the advantage of the experimental methodology especially in its ability to examine the causality of individual and group behavior. Therefore, it is possible to determine in greater detail the circumstances under which culture is and is not influential. The resulting findings can contribute to the advancement of management theory, especially in the area i) of cooperation behavior in individualistic and collectivistic culture groups, ii) what determines the establishment of trust and trustworthiness across and between cultures, iii) how fairness is interpreted across cultures, and iv) how it is enforced across cultures. Those questions can be answered by integrating context-specific variables in the research design. Concretely, by means of experimental methodology, differences in decision behavior can be examined which help to explain questions of practical importance such as why intercultural negotiations are more difficult to conduct or why they fail (Brett and Okumura 1998; Graham 1985; Leung et al. 2005), in how far culturally determined behavior influences the endurance of joint ventures and alliances, or in extension to the paternalistic leadership research stream (Wu et al. 2012), how cross- and intercultural leadership can be improved.

## **7 Conclusion**

As several cross-cultural economic experiments deliver evidence that culture influences decision-making behavior, explaining the variables of why behavior differs have remained unconsidered so far in economics. Conventional categories of culture classification (Hofstede 1991; Inglehart 1998) are often too bi-polar to respond to cultural specifics and may not fully explain cultural dynamics, particularity in fast growing emerging countries. Recently a need for a better understanding of the distinct nature (or underlying factors) that cause cultural induced behavioral differences has been raised in economics (Chuah et al. 2007; Oosterbeek et al. 2004). Dissatisfaction with conventional categories of cultural dimensions and the need to understand distinctive cultural characteristics and their effect better is in particular raised in the international business discipline in the field of IMR that investigates the influence of distinctive local cultural phenomena by exclusively including the indigenous context into research designs. Whereas CCEE is, methodology-wise, fixed to behavioral experiments, IMR includes a large variety of qualitative and quantitative research methods. Following the call by Tsui (2004) for high-quality indigenous research, this paper argued that experimental methodology can advance high-quality IMR by combining the strengths of both approaches. In simpler terms, by pursuing an indigenous research approach, distinctive cultural characteristics can be extracted in a first step, and then in a second step integrated in a controlled behavioral experiment in order to test their effect on behavior. A multi-method design would here be suitable in order to systematically integrate research steps and to increase validity (Maxwell 2005; Onwuegbuzie and Johnson 2006).

This paper asked the question whether CCEE can advance high-quality IMR, and whether IMR can contribute to advance CCEE. The answer is clearly: yes, in both respects. By using experiments, IMR can benefit by applying an increasingly popular quantitative method in IB research that has the potential to contribute to high-quality IMR. Behavioral economics, while showing increasingly interest in questions concerning why behavior differs across countries, benefits from an indigenous research approach



by better understanding cultural influences on behavior. Finally this contributes to a more profound understanding of the nature of informal institutions and to a better understanding of human economic behavior.

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