# AUSTRIAN MONEY ATTITUDES IN INTERNATIONAL COMPARISON: A META ANALYSIS

Reinhard Furtner

University of Applied Sciences Burgenland, Eisenstadt, Austria

Philipp Decker

Turkish-GermanUniversity, Istanbul, Turkey

Anton Aufner

University of Applied Sciences Burgenland, Eisenstadt, Austria

Eva Jančíková

University of Economics, Bratislava, Slovakia

**Reinhard Furtner**

BA, MA, MSc (WU), PhD Student, International Joint Cross-Border PhD Program in International Economic Relations and Management, Department of Business Studies, University of Applied Sciences Burgenland, Eisenstadt, Austria
Research interests: money attitudes, behavioral finance, international relations, finance

E-mail: 1719001129@fh-burgenland.at

**Philipp Decker**

Mag., PhD, Assistant Professor, Faculty of Economics and Public Administration, Department of Political Science and International Relations, Turkish-German University, Istanbul, Turkey
Research interests: European politics, international relations, nationalism

E-mail: philipp.decker@tau.edu.tr

**Anton Aufner**

Mag., PhD Student, International Joint Cross-Border PhD Program in International Economic Relations and Management, Department of Business Studies, University of Applied Sciences Burgenland, Eisenstadt, Austria
Research interests: vocational education, training, occupational educational projects

E-mail: 1719001133@fh-burgenland.at

**Eva Jančíková**

Dr.habil., PhD., Associate Professor, Faculty of International Relations, University of Economics, Bratislava, Slovakia
Research  interests: international relations, trade finance, international finance

E-mail: eva.jancikova@euba.sk

*The purpose of this article is to compare Austrian results of the Money Attitude Scale test (MAS) to international MAS results. Starting from a literature analysis of the most relevant existing quantitative study results, country specific money attitude characteristics should be identified. Many quantitative studies measuring money attitudes in different parts of the world are available. A widely spread comparison based on results of diverse countries with (money) cultural differences should provide further insight regarding the structure of existing differences, especially from the Austrian perspective. MAS-results are extracted from the existing quantitative studies and analyzed on base of mean values, standard deviations and calculated effect sizes. Major findings indicate the existence of country specific differences: Whereby Austrian money attitudes in comparison to the US and Hungary (Western countries) as well as India and Ghana seem to be relatively similar, major differences are identified in comparison to the Malaysian and Southern African studies.*

**Introduction**

Our life is all about making decisions.

One particular aspect is financial decisions, which could lead to strong personal consequences in either a positive or negative way: of course, occasionally buying an overpriced "coffee-to-go" on our way to work will not have a big impact on one's overall wealth. However, this might not be the case for purchasing overpriced real-estate property during a property bubble.

Obviously, personal financial decisions are of huge importance for individuals. Therefore, the question arises which underlying mental structure is the base for these decisions. Research results prove that we develop personal money attitudes: These attitudes are associated with different strong feelings, significance and strivings as money acts as an emotional meaningful object for humans (Krueger, 1986).

In practice, money attitudes can be considered as the framework of our financial decisions. Therefore, different financial decision making can be explained through money attitudes: For example, an unexpected monetary inheritance could be used for the purchase of prestigious goods like a luxury car or a precious watch. Alternatively, one might invest the money on the stock market with the aim of long-term asset generation for financial security in the retirement phase. Other people might fail to decide about the usage decision of disposable monetary resources. This could be the case, when anxious money attitudes dominate the person's money attitudinal mental structure.

It is noticeable that research on money attitudes show country specific (cultural-based) differences. Against this background, selected international quantitative studies on base of the Money Attitude Scale test (MAS) should be compared to Austrian MAS results. Existing study results are selected with the goal of representing a global view on different cultures and countries. Thus, a comparison of broad and diverse international MAS study results should allow the identification of country-specific differences.

The following null hypothesis (H0) is derived from the research goal: Money attitude dimensions in the Austrian reference study do not show differences in comparison with

money attitude dimensions of the selected international studies (money attitude dimensions measured and defined through the MAS-test)

Especially, the results of the meta-analysis should provide further insights for practical appliance. For example, globally active companies could adapt marketing strategies specifically for different national markets.

A basic restriction of the study design is the fact, that existing studies define their sample groups based on different criteria (e.g. certain professional groups or study subjects with a certain educational background). Therefore, the comparison is limited regarding this aspect. For example, a study in a specific country often includes various cultural or professional groups without any further differentiation. This fact might cause statistical blurs in the results of the meta-analysis.

### Literature review

#### *Money attitudes*

In this section, the scope of the literature review provides definitions for money attitudes. Furthermore, the MAS-test is presented in an overview.

The current scientific definition of money originates from a psychological point of view. Accordingly, money represents a powerful source for satisfaction and a future power of buying and possession as well as emotional security (Feldman, 1957).

Moreover, money as an emotional meaningful object is linked to strong feelings, significance and strivings (Krueger, 1986). For example, buying a brand-new sports car might be linked to feelings like power and prestige. From an individual human perspective, the strivings for sportiness, personal attractiveness or youthfulness might be key motivational factors for this costly expenditure.

This psychological view is manifested in individual investment behaviour, which is influenced by socio-demographic factors (e.g. age, education) personality factors, cognitive factors (e.g. finance knowledge) and the personal network (Adelt & Feldmann, 2017; Günther & Detzner, 2009; Harrison, 1994; Müller, 1995; Wärneryd, 2001). As a further consequence, it is indicated that money usage is not just a question of individual money attitudes (or money-related feelings or strivings).

Attitudes in general have their focus on persons, ideas or items. Furthermore, attitudes are related to internal expectations and valuations and they can be described as emotional positions, which are a part of the individual human self-concept (Six, 2009). During the socialization process, human attitudes are established. After their development during childhood, they stay effectively stable in adulthood (Furnham et al., 1994; Mohamad et al., 2006).

In practice, our internal expectations and valuations therefore seem to be primarily influenced by parents, family members and peers in childhood already. For example, if a child perceives a power-prestige dominated parental money attitude and behaviour, it is likely that similar money attitudes are passed on from the parents to the child over time.

In the literature, money attitudes are described as a reference frame which individuals use in order to examine their everyday lives (Tang, 1992). Money attitudes include social status and personal contentment and it influences individual monetary decisions (Taneja, 2012).

In particular, money is linked to human individual fantasies, fears and wishes. Also, money attitudes have to be considered with regard to distortions and denials. Moreover, certain impulses or the defence against impulses are linked to individual money attitudes (Furnham & Argyle, 2013).

To sum up, the presented money attitude definitions refer to two different aspects, which can overlap to some extent:

1. Individual internal aspects: strivings, feelings, emotions, fears, wishes, fantasies, distortions, denials, impulses
2. External aspects: external comparison, evaluation of the reference frame, social status, measurement

Various instruments with either a general or more specific focus have been developed in order to evaluate money attitudes. A widely used and accepted generally oriented and standardized scientific money attitudes testing instrument is the Money Attitude Scale (MAS), which consists of 29 Likert-scaled items in the original (Yamauchi & Templer, 1982). The MAS was tested with various ethnical samples successfully in the past. Therefore, a worldwide applicability is indicated (Roberts & Jones, 2001).

In total, four money attitude dimensions are covered in the actual version of the MAS. Furthermore, the MAS test in most studies is set up either on base of a 7-point Likert-scale (original scale) or on base of a 5-point Likert-scale.

The MAS factors can be described as follows (Yamauchi & Templer, 1982):

1. The first MAS factor power-prestige refers to the tendency of using money as a tool for impressing and influencing others. For persons who value this money attitude factor high, money primarily is linked with competition, status seeking, acquisitions and external recognition. Financial behaviour for high-scorers in this dimension could express itself e.g. through the purchase of high-prestigious luxury goods.

2. In contrast, the MAS factor time-retention focuses on the future use of money. Persons with high-scores in this dimension focus on careful future oriented financial planning and the aim of later financial security. High-scorers in the retention-time dimension tend to show early and careful management of their personal financial situation (e.g. private pension provision, thorough personal investment planning).

3. The MAS distrust factor refers to hesitance with regards to money. Moreover, doubtful and suspicious emotions are linked to money for high-scoring individuals in the distrust dimension. Therefore, high-scorers in this dimension tend to show e.g. behaviours like complaining about costs or they hesitate to spend their money for necessities.

4. Finally, also money related anxiety is evaluated through the MAS (anxiety factor). Persons who score high in this dimension perceive money as well as money related situations as a source of anxiety and worry. For example, such individuals could easily regret monetary decisions or they get easily stressed by decisive financial matters.

MAS results of different continents and countries are presented in the following subsections. For research purposes, scientific databases (ABI/INFORM Global, CINAHL, Emerald, Google Scholar) were used. As far as possible, the highest-ranked (highly cited) results were compared. The standardized MAS test regularly is used with slight adoptions in the different studies. For comparison, mean values of each dimension were analyzed.

Moreover, analyses were conducted on base of 7-point Likert-scaled results (in specific cases, 5-point Likert-scaled MAS results were transformed).

### *MAS-results in Europe (Austria, Hungary)*

It is remarkable that scientific database research shows very few MAS study results for Europe, in contrast to other parts of the world. Starting point is an Austrian MAS study which uses the standardized 29-item MAS test with a student sample (Furtner, 2017). Only one comparable study from Hungary (Mihály et al., 2017) uses a slightly modified MAS version (the quality dimension was not tested in the other studies anymore). Comparable money attitude dimensions of both studies are added in the table. Mean values of the Austrian study had to be standardized, using an online scale-transformation tool (Resolution Research, 2017) as the MAS questionnaire in this study is based on a 5-point Likert-scale (Tab. 1).

Table 1 –Comparison of MAS results Europe (Austria, Hungary)
(Sources: standardized data from Furtner (2017) and Mihály et al. (2017))

|  |  | MASPP (Power-prestige) | MASRT (Retention-time) | MASDT (Distrust) | MASAX (Anxiety) |
|---|---|---|---|---|---|
| Austrian study 2017 Business university student sample $n = 83$ | Mean (*M*) | 2.85 | 5.55 | 3.90 | 3.89 |
|  | Standard deviation (*SD*) | 5.44 | 4.60 | 4.68 | 3.22 |
| Hungarian study 2017 University student sample $n = 305$ | Mean (*M*) | 2.59 | 4.46 | 3.73 | 4.05 |
|  | Standard deviation (*SD*) | 1.03 | 1.42 | 1.33 | 1.52 |

### *MAS-results in North America*

A relatively wide range of MAS study results is available for North America. Two studies with high relevance in the databases are used for comparison purpose: Especially, one study with a relatively large sample size at a US Northwestern university (various cultural and socio-demographic backgrounds) offers an ideal reference point (Lostutter et al., 2019). Furthermore, another US MAS study focusing on bicultural border Hispanic American college business students (Chi& Banerjee, 2013) provides data for an identification of potential cultural differences within the US (5-point Likert-scaled results were standardized as 7-point Likert-scaled results to allow comparison) (Tab. 2).

Table 2–Comparison of MAS results North America (United States)
(Sources: standardized data from Nga & Yeoh (2015) and Rimple et al. (2015))

|  |  | MASPP (Power-prestige) | MASRT (Retention-time) | MASDT (Distrust) | MASAX (Anxiety) |
|---|---|---|---|---|---|
| US study 2017 College student sample *n* = 2534 | Mean (*M*) | 2.43 | 3.94 | 3.68 | 3.42 |
|  | Standard deviation *(SD)* | 0.96 | 1.08 | 0.98 | 0.96 |
| US study 2013 Hispanic college student sample *n* = 224 | Mean (*M*) | 3.04 | 4.83 | 4.32 | 4.44 |
|  | Standard deviation *(SD)* | 6.55 | 5.78 | 5.08 | 4.86 |

### *MAS-results in Asia*

In order to allow an overview on Asia, two highly cited MAS studies comprising a Malaysian sample (Nga & Yeoh, 2015) and an Indian sample (Rimple et al., 2015) are presented in the following table (data was standardized for comparison) (Tab. 3).

Table 3–Comparison of MAS results Asia (Malaysia, India)
(Sources: standardized data from Nga& Yeoh (2015) and Rimple et al. (2015))

|  |  | MASPP (Power-prestige) | MASRT (Retention-time) | MASDT (Distrust) | MASAX (Anxiety) |
|---|---|---|---|---|---|
| Malaysian study 2015 Under-graduate student sample *n* = 248 | Mean (*M*) | 4.63 | 2.74 | 2.51 | 4.17 |
|  | Standard deviation *(SD)* | 5.48 | 2.62 | 2.57 | 3.77 |
| Indian study 2015 Consumer sample *n* = 164 | Mean (*M*) | 3.70 | 4.94 | 4.06 | 3.92 |
|  | Standard deviation *(SD)* | 1.16 | 0.97 | 0.85 | 0.96 |

### MAS-results in Africa

African MAS results are considered in the analysis on base of a MAS studies from South Africa (Burgess et al., 2005) and from Ghana (Bonsu, 2008) (data was standardized in order to allow comparison) (Tab. 4).

Table 4–Comparison of MAS results Africa (South Africa, Ghana)
(Sources: standardized data from Bonsu (2008) and Burgess et al. (2005))

| | | MASPP (Power-prestige) | MASRT (Retention-time) | MASDT (Distrust) | MASAX (Anxiety) |
|---|---|---|---|---|---|
| South African study 2005 South African city residents $n = 221$ | Mean (*M*) | 1.78 | 3.84 | 2.69 | 2.84 |
| | Standard deviation (*SD*) | 0.70 | 0.78 | 0.74 | 0.89 |
| Ghanaian study 2008 Professionals and student sample $n = 314$ | Mean (*M*) | 2.68 | 6.11 | 3.94 | 4.02 |
| | Standard deviation (*SD*) | 1.88 | 1.96 | 1.51 | 1.66 |

### Methodology of the study

For meta analysis, statistical techniques are used to provide specific results which are derived from individual studies. These results can be embedded in a systematic review to answer a specific research question (Moher et al., 2015).

After the definition of the research question, systematic literature research was conducted. The following prerequisites were defined for this process step:

1. Starting point was a systematic literature research in scientific databases (ABI/INFORM Global, CINAHL, Emerald, Google Scholar).

2. Furthermore, a focus was to provide comparative MAS data from high impact journal articles to the greatest possible extent. This requirement should ensure the methodological quality of the included single studies.

3. As far as possible, MAS data with a high degree of topicality (studies with data collection within the last 10 years) was used for meta analysis.

4. Regarding the samples, the approach was to focus on student samples as student samples were found to be widely spread in the literature databases. The objective was to provide a comparison of homogeneous samples as far as possible.

5. In order to provide a broad and global overview, it was aimed for analysing a selection of MAS studies from different parts of the world.

6. Only studies with English language were included in the meta analysis. For meta analysis, minimum requirements of available statistical results had to be considered with regard to the single MAS studies (prerequisites of the quantitative method: stated mean values, standard deviations and sample sizes).

Although the literature research showed a relatively large number of MAS studies in the scientific databases, only a limited number of single studies met the demands stated

above. In the next step, data of the selected single MAS studies were prepared for further processing, including the following procedures:

1.  Likert-scales could be found on different levels (5-point, 6-point and 7-point). Therefore, it was necessary to standardize the values on base of 7-point Likert-scale using an Excel conversion tool (Resolution Research, 2017).

2.  Moreover, mean values for MAS dimensions could be found in two different ways: Either they were specified for each dimension in total or they were calculated as an average value (division of total MAS dimension score by the dimension item number). To standardize the results of the single studies, consistently all mean values were standardized following the second approach. Another advantage of this method is that MAS surveys which used adoptions regarding the item number (skipped items, modified items) also could be processed for meta analysis purposes.

The statistical method for meta analysis was selected based on the research goal (identification of possible differences between the Austrian MAS study and other MAS studies) on the one hand and on the available data from the single studies (mean values, standard deviations, sample sizes) on the other hand. Due to the fact that full data sets for the comparative studies were not available, the meta analysis was carried out based on effect sizes, which were calculated based on two-tailed *Cohen's d*.

*Cohen's d* provides a "pure" number which is free from the original measurement unit. The raw effect is standardized through dividing the difference of two comparative mean values by the standard deviation (Cohen, 2013). Because of the unequal sample sizes in the selected single studies, *Cohen's d* was calculated based on a pooled standard deviation (weighted average of the two compared standard deviations) (Cohen, 2013). Effect sizes for *Cohen's d* values in this meta-study are interpreted as suggested by Cohen: small (*Cohen's d* >= 0.20*), medium (*Cohen's d* >= 0.50**) and large (*Cohen's d* >= 0.80***) (Cohen, 2013).

**Findings**

The electronic database research identified a large quantity of MAS studies. Due to the restrictions which are mentioned in the methodology section, in total results of seven international single studies (Bonsu, 2008; Burgess et al., 2005; Chi& Banerjee, 2013; Lostutter et al., 2019; Mihály et al., 2017; Nga& Yeoh, 2015; Rimple et al., 2015) were compared to the Austrian reference study (Furtner, 2017).

As far as possible, MAS data not older than 10 years was gained from studies which were published in high impact sources. In order to provide relatively homogeneous samples, comparative single studies with student sample groups were selected if available.

Effect sizes outgoing from the Austrian reference study in comparison to the international comparative studies as well as underlying data for the statistical analysis are presented in the Tab.5.

Table 5–Effect sizes (Austrian study comparison)
(Sources: data basis of single studies and statistical results)

| | | MASPP (Power-prestige) | MASRT (Retention-time) | MASDT (Distrust) | MASAX (Anxiety) |
|---|---|---|---|---|---|
| Austrian study 2017 (Reference study) Furtner 2017 $n = 83$ (University students) | *M* | 2.85 | 5.55 | 3.90 | 3.89 |
| | *SD* | 5.44 | 4.60 | 4.68 | 3.22 |
| Hungarian study 2017 Mihaly et al. 2017 $n = 305$ (University students) | *M* | 2.59 | 4.46 | 3.73 | 4.05 |
| | *SD pooled* | 1.03 | 1.42 | 1.33 | 1.52 |
| | *M Diff* | 0.26 | 1.09 | 0.17 | -0.16 |
| | *SD pooled* | 3.92 | 3.40 | 3.44 | 2.52 |
| | *Cohen's d* | 0.07 | 0.32* | 0.05 | -0.06 |
| US study 2017 Lostutter et al. 2019 $n = 2534$ (College students) | *M* | 2.43 | 3.94 | 3.68 | 3.42 |
| | *SD pooled* | 0.96 | 1.08 | 0.98 | 0.96 |
| | *M Diff* | 0.42 | 1.61 | 0.22 | 0.47 |
| | *SD pooled* | 3.91 | 3.34 | 3.38 | 2.38 |
| | *Cohen's d* | 0.11 | 0.48* | 0.07 | 0.20* |
| US study 2013 Chi, Banerjee 2013 $n = 224$ (Hispanic college stud.) | *M* | 3.04 | 4.83 | 4.32 | 4.44 |
| | *SD pooled* | 6.55 | 5.78 | 5.08 | 4.86 |
| | *M Diff* | -0.19 | 0.72 | -0.42 | -0.55 |
| | *SD pooled* | 6.02 | 5.22 | 4.88 | 4.12 |
| | *Cohen's d* | -0.03 | 0.14 | -0.09 | -0.13 |
| Malaysian study 2009 Nga , Yeoh 2015 $n = 248$ (Undergraduate students) | *M* | 4.63 | 2.74 | 2.51 | 4.17 |
| | *SD pooled* | 5.48 | 2.62 | 2.57 | 3.77 |
| | *M Diff* | -1.78 | 2.81 | 1.39 | -0.28 |
| | *SD pooled* | 5.46 | 3.74 | 3.78 | 3.51 |
| | *Cohen's d* | -0.33* | 0.75** | 0.37* | -0.08 |
| Indian study 2015 Rimple et al. 2015 $n = 164$ (Consumers) | *M* | 3.70 | 4.94 | 4.06 | 3.92 |
| | *SD pooled* | 1.16 | 0.97 | 0.85 | 0.96 |
| | *M Diff* | -0.85 | 0.61 | -0.16 | -0.03 |
| | *SD pooled* | 3.93 | 3.32 | 3.36 | 2.38 |
| | *Cohen's d* | -0.22* | 0.18 | -0.05 | -0.01 |
| South African study 2005 Burgess et al. 2005 $n = 221$ (Residents) | *M* | 1.78 | 3.84 | 2.69 | 2.84 |
| | *SD pooled* | 0.70 | 0.78 | 0.74 | 0.89 |
| | *M Diff* | 1.07 | 1.71 | 1.21 | 1.05 |
| | *SD pooled* | 3.88 | 3.30 | 3.35 | 2.36 |
| | *Cohen's d* | 0.28* | 0.52** | 0.36* | 0.44* |
| Ghanaian study 2008 Bonsu 2008 $n = 314$ (Professionals/students) | *M* | 2.68 | 6.11 | 3.94 | 4.02 |
| | *SD pooled* | 1.88 | 1.96 | 1.51 | 1.66 |
| | *M Diff* | 0.17 | -0.56 | -0.04 | -0.13 |
| | *SD pooled* | 4.07 | 3.54 | 3.48 | 2.56 |
| | *Cohen's d* | 0.04 | -0.16 | -0.01 | -0.05 |

Note: * small effect size (Cohen's d >= 0.20), ** medium effect size (Cohen's d >= 0.50), *** large effect size (Cohen's d >= 0.80), positive effect sizes show that the mean value of the comparative single study is lower, negative effect sizes express a higher mean value in the comparative single study.

For the power-prestige dimension, notable differences (small effects showing lower or higher mean values) in comparison with the Austrian reference study ($M = 2.85$) can be found in the Malaysian ($M = 4.63$, *Cohen's d* = -0.33*), the Indian ($M = 3.70$,

*Cohen's d* = -0.22*) and the South African (*M* = 1.78, *Cohen's d* = 0.28*) comparative studies.

Most obvious are the differences (Austrian study: *M* = 5.55) regarding the retention-time dimension (small and medium sized effects expressing lower mean values for the comparative studies): The Hungarian study (*M* = 4.46, *Cohen's d* = 0.32*), one US study (*M* = 3.94, *Cohen's d* = 0.48*), the Malaysian study (*M* = 2.74, *Cohen's d* = 0.75**) and the South African study (*M* = 3.84, *Cohen's d* = 0.52**) all show comparatively lower mean values for retention-time to a significant extent.

Less pronounced are the differences for the distrust dimension (Austrian study: *M* = 3.90): Only two studies showed small differences in one direction, in fact, lower mean values (Malaysian study: *M* = 2.51, *Cohen's d* = 0.37* and South African study: *M* = 2.69, *Cohen's d* = 0.36*). Also, differences for the anxiety dimension seem relatively modest (Austrian study: *M* = 3.89): One US study showed slightly lower mean values (*M* = 3.42, *Cohen's d* = 0.20*), while the difference was stronger for the South African study (*M* = 2.84, *Cohen's d* = 0.44*).

**Discussion**

*Power-prestige*
Effect sizes for the power-prestige money attitude dimension are visualized in Fig.1.
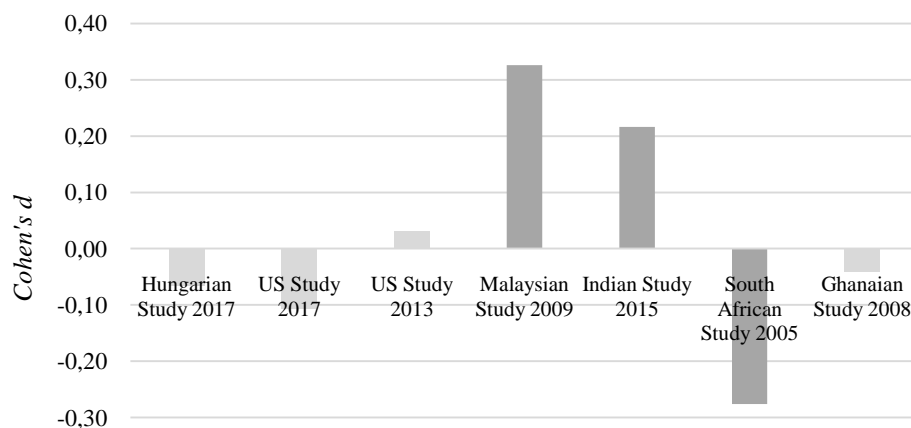


Effect size bars refer to the Austrian reference study (2017). In order to improve presentability, values are reversed

Figure 1 – Effect sizes (power-prestige)
(Source: data basis of single studies and statistical results)

First, it must be pointed out that the results of the meta study for the tested samples indicate that the power-prestige dimension for money is perceived relatively similar in Austria, Hungary, the United States and in Ghana.

A stronger emphasis on this dimension can be found in Malaysia and India, which implies that in those Asian countries people tend to link money to competition, status seeking, acquisitions and external recognition (Yamauchi & Templer, 1982) to a greater extent.

16

Remarkable is the fact that the South African sample showed, compared to these two studies and the Austrian reference study, a much weaker focus is on the power-prestige dimension. For India and South Africa, the differences might also be able to be caused (at least partially) by the different sample structures (consumers and city residents instead of students in the sample).

Conclusions based on the power-prestige results can be especially made for business purposes: For example, luxury goods, which typically approach the power-prestige money attitude dimension, might be able to be sold more successfully in Malaysia and India and, to a smaller extent, in the tested Western countries (US, Austria, Hungary).

Also, Ghana shows comparable values in this dimension. However, results indicate that luxury goods might be harder to distribute in South Africa. Of course, the power-prestige money attitude results do ignore other main conditions like income level or general wealth in the countries compared.

That means that based on the MAS results, e.g. in India basically a greater willingness for purchasing high prestigious luxury goods could be found, though disposable incomes do not allow the purchase of power-prestige related goods for most of the population. Therefore, considering the power-prestige money attitude dimension in a specific country could (among other relevant factors) contributes to the decision finding whether or to what extent a market entry for luxury goods promises potential success in case of international business expansion.

### *Retention-time*

The most significant differences can be identified for the retention-time dimension in the international comparison (Fig. 2).



Effect size bars refer to the Austrian reference study (2017). In order to improve presentability, values are reversed
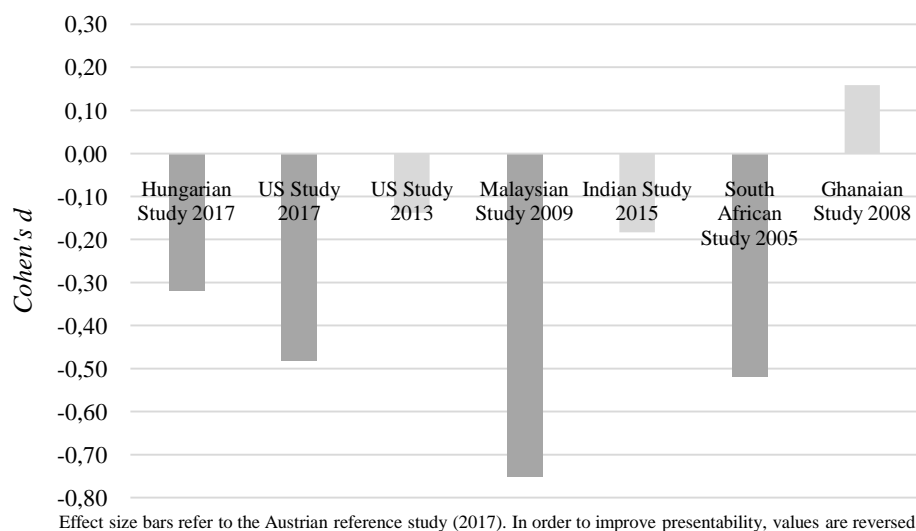
Figure 2 – Effect sizes (retention-time)
(Source: data basis of single studies and statistical results)

In all comparative studies (except Ghana) the retention-time money attitude dimension is less important for the tested persons compared to the Austrian reference study.

Study results indicate the comparatively high valuation of the retention-time money attitude dimension in the Austrian and Ghanaian sample.

Especially, retention-time results are potentially relevant for savings behaviour in a business context: Countries with generally future-oriented money attitudes provide high potential for the banking industry in the fields of investment products.

Conversely, countries with a weaker focus on the retention-time dimension in the population could be a much more promising field for credit business. Although, the results of meta study should be valued as a first indication, the potential relevance of this factor for the banking industry (i.e. country specific focus on certain business fields) seems obvious. Especially, due to the fact that differences in the retention-time dimension are larger than those in the other money attitude dimensions.

### *Distrust*

Less difference could be identified for the distrust money attitude dimension with two exceptions (Fig. 3).



Effect size bars refer to the Austrian reference study (2017). In order to improve presentability, values are reversed
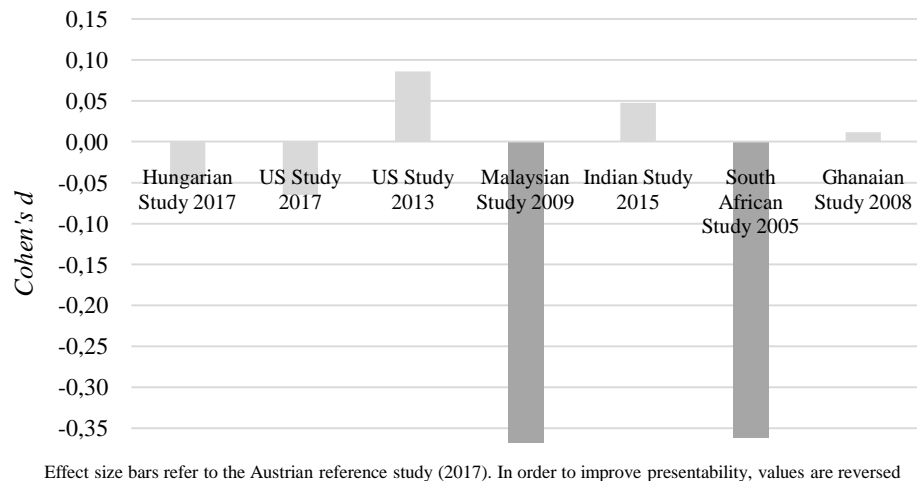
Figure 3 – Effect sizes (distrust)
(Source: data basis of single studies and statistical results)

The Malaysian and the South African study again show significant differences. Distrust is less linked to money in these two comparative studies, whereas between the other studies no relevant differences occur.

Practical implications of these results could be found in spending habits. The less pronounced distrust money attitudes in the Malaysian and South African sample indicate that people in these countries tend to spend money less hesitant and doubtful. Therefore, consumption spending and investment decisions in such countries might be fixed faster and with fewer considerations.

This potentially implies the development of different (country specific) marketing strategies for companies dependent on the national distrust money attitude characteristic.

*Anxiety*

Regarding the anxiety money attitude dimension, effect sizes in comparison with the Austrian reference study point out a less anxiety focus for one US study and, even less pronounced, for the South African study (Fig. 4).



Effect size bars refer to the Austrian reference study (2017). In order to improve presentability, values are reversed
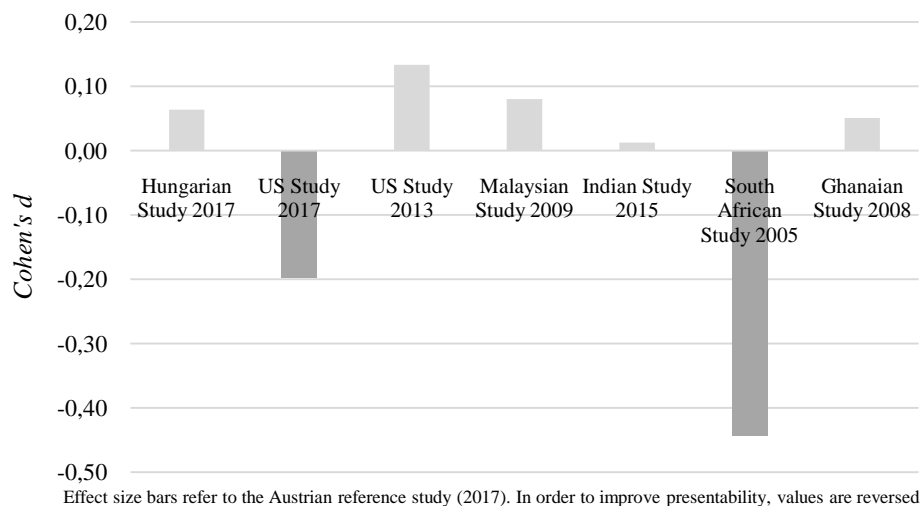
Figure 4 – Effect sizes (anxiety)
(Source: data basis of single studies and statistical results)

Based on meta analysis results, anxiety and worry related money attitudes seem to be stronger in the US (not for the Hispanic student sample) and even more pronounced in South Africa (non-student sample). Again, bias potential cannot be excluded because of the different sample group in the South African (city resident's sample). Differences between the Austrian reference study and the other comparative studies are of negligible extent.

Again, these results could be considered as relevant for consumption and investment decisions: If people tend to hesitate on financial decisions which seem to be more likely in the US and in South Africa, it might be harder for businesses to gain new customers or to convince people about the benefits of a certain investment or consumer product. Awareness of such money related psychological differences could support business decisions.

**Conclusions**

In meta analysis, money attitude dimensions (based on the MAS test) of one Austrian reference study were related to the results of international comparison studies (gained from scientific database research) on base of effect sizes (*Cohen's d*).

The results of meta analysis provide a first indication about country specific money attitude characteristics. In particular, country specific differences and national characteristics in money attitudes allow an adaption towards the country specific money attitude characteristics and, therefore, a more target oriented market development for business purposes (e.g. country specific marketing strategies or country specific product range).

Especially, for the international banking industry, data provides support for evaluating country specific needs and preferences in the context of money attitudes (e.g. countries with

a more power-prestige oriented consumer behaviour vs. countries with a stronger pronounced future oriented investment behaviour).

The most significant differences (significance in this context is defined based on Cohen's interpretation of *Cohen's d* values) between the Austrian reference study (Furtner, 2017) and the international comparative studies (Bonsu, 2008; Burgess et al., 2005; Chi & Banerjee, 2013;Lostutter et al., 2019; Mihály et al., 2017; Nga & Yeoh, 2015; Rimple et al., 2015) can be summarized as follows:

1. Austria-Hungary: The neighbouring countries show widely comparable money attitudes in the analyzed study samples. An exception is the retention-time money attitude which is slightly stronger in the Austrian sample (*Cohen's d* = 0.32*).

2. Austria-US: Also the comparison with two studies from the USindicate that just small differences exist between the countries of Central and Eastern Europe (like Austria and Hungary) and the US. Small differences are found regarding the retention-time dimension (*Cohen's d* = 0.48*) and anxiety (*Cohen's d* = 0.20*) in one of the US studies; both dimensions show lower values in the US study.

3. Austria-Malaysia: Major differences to Austria seem to exist in comparison with the Malaysian sample. Especially, the value for retention-time is less strong in Malaysia (*Cohen's d* = 0.75**). Moreover, the dimensions power-prestige (higher mean values: *Cohen's d* = -0.33*) and distrust (lower mean values: *Cohen's d* = 0.37*) are slightly different in the Malaysian sample.

4. Austria-India: Notable are the similarities for the money attitudes between the Austrian and the Indian sample, despite the different general cultural background. Only the power-prestige money attitude dimension seem to play a slightly stronger role in India (*Cohen's d* = -0.22*).

5. Austria-South Africa: Also for the Southern African sample, relatively remarkable differences can be observed. Power-prestige (*Cohen's d* = 0.28*) and retention-time (*Cohen's d* = 0.52**) mean values are lower in the Southern African sample. Furthermore, also comparatively lower values are calculated for the distrust (*Cohen's d* = 0.36*) and the anxiety dimensions in South Africa (*Cohen's d* = 0.44*). However, study results for this comparison are restricted due to the different South African sample structure (city residents instead of students).

6. Austria-Ghana: Also the comparison with Ghana shows a remarkable result. Despite the different general culture in both countries, significant differences for money attitudes between the two samples could not be identified.

In conclusion, money attitudes in the Western world (US, Austria, Hungary) seem to be relatively comparable, whereby Austria in comparison shows a stronger focus on the retention-time dimension. Remarkable are the broad similarities between Austria, India and Ghana.

Based on the comparison of the Austrian sample to the Malaysian (significant effects for three dimensions) and Southern African (significant effects for all four dimensions) studies, major differences could be identified.

Solely analysing the results of the Western countries (US, Austria, Hungary), it is indicated that Austrian money attitudes can be characterized through a stronger focus on retention-time and a weaker manifestation of the power-prestige dimension.

Major limitations of the meta analysis can be found in the potential influence of unidentified moderator variables. This could be especially relevant for the studies with

non-student sample groups (India, South Africa), as homogeneity between the compared samples is not assured.

For future research, a cross-national MAS study focusing on homogeneous and large sample groups could provide further insights as the current meta analysis results should be valued just as a first indication of international differences.

**References:**

Adelt, P. & Feldmann, B. (2017).Spar- und Anlageentscheidungen älterer Menschen. In L. Fischer, T. Kutsch, & S. Ekkehard (Eds.). *Finanzpsychologie* (2017, 250–272). Berlin, Boston: Oldenbourg Wissenschaftsverlag.

Bonsu, S. K. (2008).Ghanaian attitudes towards money in consumer culture. *International Journal of Consumer Studies*, 32(2), 171–178.

Burgess, S. M., Battersby, N., Gebhardt, L. & Steven, A. (2005). Money attitudes and innovative consumer behavior: Hedge funds in South Africa. *Advances in Consumer Research*, 32, 315–321.

Chi, Y. N. & Banerjee, G. (2013). Empirical analysis of bicultural border college students' attitudes toward money. *Journal of Applied Business and Economics*, 14(3), 70–82.

Cohen, J. (2013). *Statistical power analysis for the behavioral sciences*. Londong: Routledge.

Feldman, F. L. (1957). A new look at the family and its money. *Journal of Home Economics*, 49(10), 767–772.

Fischer, L., Kutsch, T. & Ekkehard, S. (Eds.) (2017). *Finanzpsychologie* (Reprint 2017). Berlin, Boston: Oldenbourg Wissenschaftsverlag.

Furnham, A. & Argyle, M. (2013).*The psychology of money*. Hoboken: Taylor and Francis.

Furnham, A., Kirkcaldy, B. D. & Lynn, R. (1994). National attitudes to competitiveness, money, and work among young people: First, second, and third world differences. *Human Relations*, 47(1), 119–132.

Furtner, R. (2017). *Personality traits and money attitude: A quantitative empirical study or why you invested your capital in mutual funds while your neighbour bought a brand-new Porsche sportscar* (Master thesis). Vienna: Vienna University of Economics and Business.

Günther, T. & Detzner, M. (2009).Risikoverhalten von Managern: Ergebnisse empirischer Controllingforschung. *CFO aktuell*, 3(3), 127.

Harrison, T. S. (1994). Mapping customer segments for personal financial services. *International Journal of Bank Marketing*, 12(8), 17–25.

Krueger, D. W. (Ed.) (1986). *The last taboo. Money as symbol and reality in psychotherapy and psychoanalysis*. New York: Brunner/Mazel.

Krueger, D. W. (1986). Money, success, and success phobia. In D. W. Krueger (Ed.). *The last taboo. Money as symbol and reality in psychotherapy and psychoanalysis* (3–16). New York: Brunner/Mazel.

Lostutter, T. W., Enkema, M., Schwebel, F., Cronce, J. M., Garberson, L. A., Ou, B. & Larimer, M. E. (2019). Doing it for the money: The relationship between gambling and money attitudes among college students. *Journal of Gambling Studies*, 35(1), 143–153.

Mihály, N., Kovács, É. I., Madarász, I. & Mészáros, A. (2017). Correlations between attitude to money and demographic variables on a sample of university students. *Regional'naia Ekonomika*, 3(17).

Mohamad, F. S., Hayhoe, C. R.&Goh, L. A. (2006). Attitudes, values and belief towards money: Gender and working sector comparison. *Pertanika Journal of Social Sciences and Humanities*, 14(2), 121–130.

Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M. & Stewart, L. A. (2015). Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Systematicreviews*, 4(1), 1.

Müller, H. (1995). Zur Risikobereitschaft privater Geldanleger. Kredit und Kapital, 28(1), 134–160.

Nga, K. H. & Yeoh, K. K. (2015).Affective, social and cognitive antecedents of attitude towards money among undergraduate students: a Malaysian study. *Pertanika Journal of Social Sciences & Humanities*, 23(1), 161–180.

Resolution Research (2017). *Skalentransformator*. Available online: from https://www.marktforschung-stuttgart.de/skalentransformator/

Rimple, M., Srikant, M., Naseem, A. & Kumar, M. J. (2015). A study of interaction of materialism and money attitude and its impact on car purchase. *Management & Marketing*, 10(3), 245–269.

Roberts, J. A. & Jones, E. (2001). Money attitudes, credit card use, and compulsive buying among American college students. *Journal of Consumer Affairs*, 35(2), 213–240.

Six, B. (2009). Attitudes. In F. Dorsch, H. Häcker, K. H. Stapf, C. Becker-Carus (Eds.): *Dorsch psychologisches Wörterbuch* (15[th]ed., 247). Bern: Huber.

Taneja, R. M. (2012). Money attitude-an abridgement. *Researchers World*, 3(3), 94.

Tang, T. L. (1992). The meaning of money revisited. *Journal of Organizational Behavior*, 13(2), 197–202.

Wärneryd, K. E. (2001). *Stock-market psychology: How people value and trade stocks*. Cheltenham: Elgar.

Yamauchi, K. T. & Templer, D. J. (1982). The development of a Money Attitude Scale. *Journal of Personality Assessment*, 46(5), 522–528.