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People Financing Entrepreneurs within and outside the Family: Pandemic Decline and Resilience in Cultures around the World

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Abstract: People may finance entrepreneurs, often family members. Here, the question is: how has the COVID-19 pandemic affected people's funding of family-related entrepreneurs and non-family-related entrepreneurs? The pandemic predictably reduced the funding of family-related entrepreneurs and especially the financing of non-family-related entrepreneurs. However, a culture supportive of family businesses may alleviate the declining funding of family-related entrepreneurs, predictably, while a secular–rational culture supportive of non-family businesses may alleviate the declining financing of non-family-related entrepreneurs. Similar to a field experiment, a globally representative survey was conducted before and after the disruption in 42 countries, interviewing 266,983 adults either before or after the disruption. The individual-level data are combined with national-level data on culture, amenable to hierarchical linear modeling. People's financing of family-related entrepreneurs and especially of non-family-related entrepreneurs are found to have declined with the COVID-19 pandemic. However, culture provides resilience, in that the declining funding of family-related entrepreneurs was alleviated where the culture supports family businesses, and the declining funding of non-family-related entrepreneurs was alleviated in societies with a secular–rational culture. The findings contribute to contextualizing business angel financing temporally, as embedded in time before and after the COVID-19 pandemic disruption, and societally, as embedded in culture providing resilience.

Keywords: business angels; family-related entrepreneurs; non-family-related entrepreneurs; COVID-19; culture; family business culture; secular-rational culture; resilience

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Mrs. Gür was sitting with an inheritance from her husband who had just died from the COVID-19 pandemic which was ravaging Istanbul. Now, her nephew needed funding to start his own bakery delivering bread and baklava to people self-isolating in their neighborhood. She and her sisters discussed baking, and immediately, she funded her nephew's startup. By funding the family-related entrepreneur, Mrs. Gür became a business angel. Another example is Mr. Smith, who had retired with some savings. Through his network, he heard about a carpenter in the forest outside Vancouver who wanted to use local wood to craft furniture for home offices, which was in demand during the pandemic. Upon elaborating a business plan for the carpenter, they contracted to finance the startup. By financing the non-family-related entrepreneur, Mr. Smith became a business angel. What made Mrs. Gür fund the baker, and what made Mr. Smith finance the carpenter? Did it matter that Mrs. Gür had a family relationship with the baker, whereas Mr. Smith was considering an idea pitched by a stranger? Did it matter that Mrs. Gür lived in Turkey, while Mr. Smith was in Canada?

1. Introduction

The above vignette depicts the phenomenon that a person becomes a business angel by funding a startup, whether by a family-related entrepreneur or a non-family-related entrepreneur (DeGennaro 2010; Landström and Mason 2016; Maxwell et al. 2011; Shane 2008; Sørheim 2003; Sørheim and Landström 2001; Sudek 2006; White and Dumay 2017). The funding may be an investment or a loan with a contractual obligation to return the

investment in a timely fashion, and the business angel may have partial ownership and may participate in managing the startup, somewhat typical when financing a non-family-related entrepreneur. At another extreme, the funding may be a gift without any expectation for payback or involvement in the startup, somewhat typical when funding a family-related entrepreneur.

Business angel funding occurs in the context of the environment, culture, and time (Ding et al. 2014, 2015; El Kolaly et al. 2021; Ramadani 2009; Wong et al. 2004; Wong and Ho 2007). The funding situation raises numerous questions. Which kinds of entrepreneurs do they select for funding? Do they select family-related entrepreneurs such as close family and less close relatives? Or do they select non-family-related entrepreneurs such as co-workers, neighbors, friends, and strangers pitching a good business idea? How is the business angel's funding embedded in the temporal context of the pandemic? Does the pandemic discourage funding all kinds of entrepreneurs, or does the pandemic change their criteria for selecting entrepreneurs for funding? How is their funding embedded in the cultural context of societies around the world? Does the culture promote funding some rather than others, e.g., family-related entrepreneurs rather than non-family-related entrepreneurs? Several of these questions have been addressed in research.

Most research on business angel funding focuses on the funding endeavor of the individual business angel and the process and arrangements of funding. Some research analyzes the immediate context of the angel and the funding. Occasionally, research has focused on the macro-level context such as national culture and institutions shaping funding, and occasionally, the approach involves a cross-national comparison (e.g., Ding et al. 2014, 2015; Li and Zahra 2012; Samsami 2021). It is time to go further with a global contextualization, considering culture as it varies around the world in its impact on funding, and with a temporal contextualization, considering the change in funding during the pandemic.

These considerations frame our research question: In cultures around the world, how has the pandemic disruption impacted people's endeavors as business angel funding for family-related entrepreneurs and non-family-related entrepreneurs?

This question is addressed like a field experiment (Davidsson et al. 2021). A globally representative survey was conducted in 42 countries before and after the disruption, interviewing 266,983 adults (18 to 64 years old) either before or after the disruption. The individual-level data are combined with national-level data on culture, amenable to hierarchical linear modeling to test the effects of people's attributes and context upon funding.

The findings contribute to contextualizing business angel financing temporally, as embedded in time before and after the pandemic disruption, and societally, as embedded in cultures providing resilience.

The following sections provide, first, a theoretical perspective, then develop hypotheses, describe our research design, report results, and conclude by discussing findings.

2. Theoretical Perspective

A crisis such as the pandemic disrupts life. Typically, the economy slows down, demand declines, businesses close, employees are dismissed, and family incomes shrink (Bosma et al. 2021). Does a crisis change people's inclination to be business angels and support startups? Conceivably, the shrinking economy makes people reluctant to be business angels and put money into a startup. However, conversely, a crisis opens new opportunities and is an enabler for starting businesses with a chance of success (Davidsson et al. 2021). Thereby, the crisis is also an enabler for investment and people may spot entrepreneurs pitching good ideas and decide to be business angels and fund them despite the crisis and its otherwise devastating impact (Burke et al. 2010). In the next section, we develop hypotheses about the impact of the pandemic on the likelihood that people become business angels and fund entrepreneurs, both family-related entrepreneurs and their non-family-related counterparts.

To understand people becoming business angels and the funding of family-related entrepreneurs and their non-family-related counterparts, we draw on the theory of the

family as an institution in society. The nucleus of the family as an institution in society is a partnership between two persons, typically institutionalized as marriage between a woman and a man, regulated by social norms and laws in society. Another important characteristic is that the partners procreate and are responsible for supporting their children, also regulated by social norms and laws. Social norms prescribe mutual and lifelong support. The children are expected, morally if not legally, to support their parents in old age. 'Family member' is institutionalized as a social role in which the expectation is to participate in the life of the family and to support the family. Playing the role of a family member by supporting other members of the family rather than supporting others is considered legitimate and is expected in society. This implies that a business angel can legitimately fund a family-related entrepreneur rather than a non-family-related entrepreneur. The legitimacy is even an expectation. A business angel is expected to fund a family-related entrepreneur rather than a stranger pitching a good idea (Au and Kwan 2009).

The family as an institution differs across cultures. In the modern or secular-rational culture, which dominates in Europe and European settler societies around the world, the family is weaker than the family is in traditional culture (Inglehart and Welzel 2005). The family is institutionalized in the secular-rational culture primarily as the nuclear family of the married couple and their children, in which the parents have a responsibility to support the children until the age of 18. Socialization is a task shared by the family and the educational system. Children are expected to lend some support to their parents at old age. However, the expectation is limited, in that the needy and elderly are typically supported by public healthcare, elder care, and welfare arrangements and the state, especially in the most modern welfare societies. The secular-rational culture is supportive of the professional management of businesses, in that the secular-rational culture supports much business education and training and professional advisory services for businesses. Secular-rational culture thus supports professional involvement rather than family involvement in the business. Conceivably, the modern or secular-rational culture has implications for people when they, as business angels, decide to fund entrepreneurs (Perkins 2000; Samsami et al. Forthcoming). In the next section, we develop a hypothesis concerning the effect of secular-rational culture upon people becoming business angels and providing financing for entrepreneurs, specifically in a situation of disruption.

Family involvement in business is supported more in traditional culture, where the family is the primary actor in life and the individual is immersed in the family. Family business as a legitimate way of organizing business is more elaborately institutionalized in societies that have a traditional culture supportive of the family as the center of life (Berrone et al. 2021). Conceivably, such a family business culture has implications for people who, as business angels, decide to fund entrepreneurs. In the next section, we develop a hypothesis concerning the effect of family business culture upon people becoming business angels and providing financing for entrepreneurs, specifically in a situation of disruption.

This brief theorizing contextualizes funding in time, specifically before and after the pandemic disruption, and contextualizes business angel funding in culture, specifically in family business culture, as this differs around the world, and in secular-rational culture, as also this varies around the world. The theorizing can be formalized as a conceptual scheme, Figure 1. Time affects people becoming business angels and funding family-related entrepreneurs; this effect is labeled 1 in the figure. Time also affects people's funding of non-family entrepreneurs, labeled 2. Family business culture influences the impact of time on people's funding of family-related entrepreneurs; this influence is labeled 3. Secular-rational culture influences the impact of time on people's funding of non-family entrepreneurs; this influence is labeled 4.

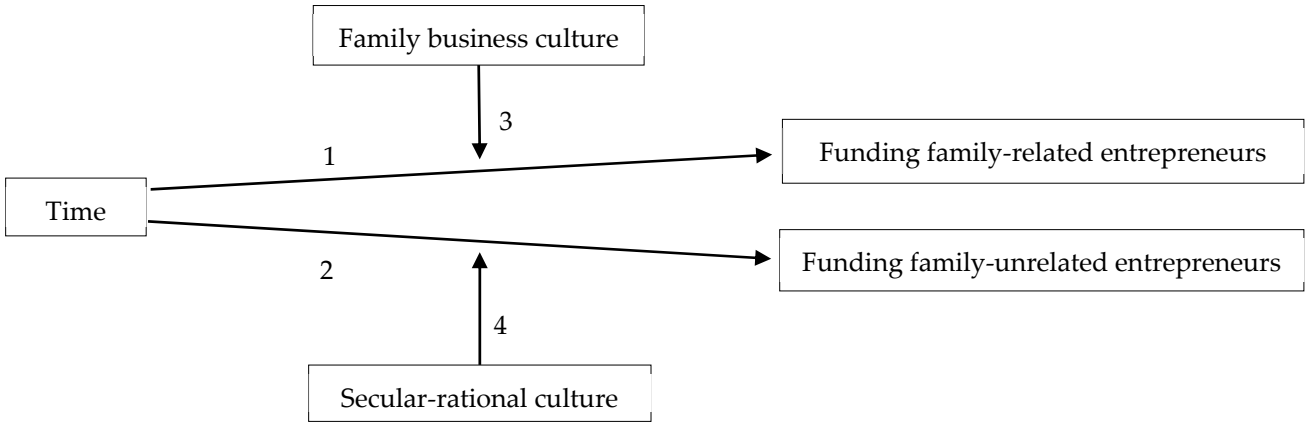

Figure 1. Conceptual scheme of effects on funding.

Many other conditions and effects shape funding. Notably, people, specifically business angels and entrepreneurs, form a large network of relations, specifically funding relations (e.g., Samsami 2018). Funding relations are formed partly by homophily, i.e., a business angel tends to select an entrepreneur who is similar to him/herself, and partly by contagion, either between people who are already tied to one another (e.g., by a family tie) or who occupy the same position and therefore compete and may imitate one another's funding decision. Several other conditions and effects will be included in the analysis as controls. The four depicted effects are those that are selected for analysis here.

3. Hypotheses

For each of the four effects depicted in Figure 1, we developed a hypothesis.

3.1. Impact of the Pandemic

A crisis typically slows down the economy. Business owners lose their businesses, employees lose their jobs, and families lose income, which occurred with the COVID-19 pandemic disruption (Bosma et al. 2021). Uncertainty increases, specifically uncertainty about the future, future income, and investments. People save their money and become reluctant to spend and invest their money. Therefore, we hypothesize that people become less inclined to fund entrepreneurs starting a business, both family-related entrepreneurs and their non-family-related counterparts. Accordingly, we hypothesize:

Hypothesis 1 (H1). *The COVID-19 pandemic disruption caused a decline in the likelihood that people fund family-related entrepreneurs.*

Hypothesis 2 (H2). *The COVID-19 pandemic disruption caused a decline in the likelihood that people fund non-family-related entrepreneurs.*

Should we predict the decline in funding family-related entrepreneurs to be similar to the decline in funding non-family-related entrepreneurs? The expectation upon a family member to support the family would be especially strong during a crisis. During a crisis, indeed, the expectation to support family-related entrepreneurs would become even more prioritized over supporting entrepreneurs outside the family. This theoretical argument, which combines the theory of the family with thinking about a crisis, thus leads us to predict that support for family declines less than support for non-family individuals. We hypothesize.

Hypothesis 3 (H3). *The likelihood of funding family-related entrepreneurs declined less than the likelihood of funding non-family-related entrepreneurs.*

3.2. The Cultural Context Influencing Funding

Resilience, the ability of a society to resist disruption, may derive from culture in that culture promotes certain abilities in society. A family business culture with an intertwining of family and business amplifies the expectation to support the family in business matters such as support for a family-related entrepreneur. The expectation will predictably be especially amplified during a crisis. Therefore, we hypothesize:

Hypothesis 4 (H4). *Family business culture alleviated the decline in funding family-related entrepreneurs.*

The argument can be extended to cover other dimensions of culture. A secular-rational culture that values cost–benefit considerations, rather than family expectations, amplifies support for non-family-related entrepreneurs, especially in times of crisis, when cost–benefit consideration may become especially important (Samsami et al. Forthcoming). Therefore, we specify that:

Hypothesis 5 (H5). *Secular-rational culture alleviated the decline in funding of non-family-related entrepreneurs.*

These hypotheses are tested in the following.

4. Research Design

Our ideas concern people acting in the context of their culture differing from one society to another. We thus study the 'population' of societies and the 'population' of adults around the world. The adult population survey conducted annually by the Global Entrepreneurship Monitor, GEM, asks people whether they fund entrepreneurs (Bygrave et al. 2003). GEM makes its surveys publicly available (www.gemconsortium.org accessed on 1 December 2021). We use the surveys conducted before the pandemic and shortly after the pandemic disruption, around mid-2020.

4.1. Design: Experiment

The pandemic disruption in early 2020 can be regarded as a global field experiment (Davidsson et al. 2021). The disruption is an experimental intervention. There is a time before and a time after the intervention. The population is the adults in each society. The behavior of the population after the intervention is expectedly different from the behavior before, and the difference is essentially attributed to the intervention. The experiment is conducted once in each society, so the experiment is conducted several times, as many times as we have societies. The experimental conditions differ from one experiment to another, in that culture differs from one society to another, and therefore the change in behavior differs among the experiments.

4.2. Sampling Societies and Adults

The GEM survey was conducted in 42 countries both before the pandemic and in 2020, shortly after the disruption. These 42 countries are our sample of societies, listed in the first table. For each country, we used the surveys conducted in mid-2020 and in the most recent year before the disruption when the country was surveyed. Their diversity in economy and culture indicates that they are fairly representative of the societies around the world.

In each society, GEM randomly samples adults, age 18 to 64 years old, for an interview with a questionnaire that has included the same questions about financing in every country and every year. The surveys before and after the disruption in each of the 42 societies yield a total sample of 266,983 adults, surveyed either before or after the disruption, as listed in the first table.

Representativeness of sampling, both in the phase of selecting countries and in the phase of selecting adults, implies that the resulting sample of adults and subsample of

business angels is representative. Therefore, findings can be generalized, with usual statistical uncertainty, to the world's adults and business angels as embedded in cultures around the world.

4.3. Measurements

4.3.1. Secular-Rational Culture

The great variety of human values around the world is measured in the global survey of adults named the World Values Survey (www.worldvaluessurvey.org accessed on 1 December 2021). The primary dimension, ascertained by factor analysis, has traditional culture at one end and modern or secular-rational culture at the other end (Inglehart and Welzel 2005). Traditional culture is characterized by tradition as a guide to life, and the family and religious authorities are the carriers and custodians of the tradition. Modern or secular-rational culture is the opposite and is characterized by science and cost–benefit considerations as a guide to life, and teachers, consultants, and other experts are promoting this. Each society is in between the extremes, with a culture that to some degree is traditional and to some degree is modern or secular-rational. The extent of secular-rational culture (contrasted traditional culture) in each society is measured numerically (as the factor score on the first dimension), and standardized. Traditional culture dominates in Qatar, Morocco, Egypt, Arab Emirates, and Oman, with negative scores. Modern or secular-rational culture dominates in Sweden, South Korea, Russia, Slovakia, and Taiwan, with highly positive scores. This measure of secular-rational culture is used to test whether secular-rational culture alleviated the declining funding for non-family-related entrepreneurs.

4.3.2. Family Business Culture

Some societies have a strong family business culture, in that social values are highly supportive of family businesses. Other societies have a weaker family business culture, with social values that are less supportive of family businesses. Family business culture is measured numerically by the so-called Family Business Legitimacy Index (Berrone et al. 2021). The index is a formative index combining five indicators of intergenerational survival orientation, continuity orientation, network-based relations, in-group solidarity, and patriarchal domination. The index is thus quite distinct from the prevalence of family businesses, but the index turns out to be positively associated with the prevalence of family businesses. Family business culture is strong in the United Arab Emirates, Burkina Faso, Egypt, Angola, and Kuwait, with high scores. Family business culture is weak in Sweden, Norway, Finland, Switzerland, Netherlands, and Germany, with low scores. Family business culture is associated with traditional culture and thus negatively correlated with secular-rational culture, as is listed in the table of correlations.

4.3.3. Adults Funding Family-Related Entrepreneurs and Family-Unrelated Entrepreneurs

The annual GEM survey uses an operational definition of a 'business angel' when asking each adult whether or not they have funded entrepreneurs,

> *Have you, in the past three years, personally provided funds for a new business started by someone else, excluding any purchases of stocks or mutual funds?*

Note that funding is a broadly defined phenomenon, encompassing investing, borrowing, and gifts. Note also the limitation that there is no question about, for example, the sector of the startups that are funded.

If the respondent answers affirmatively, a follow-up question asks,

> *What was your relationship with the person that received your most recent personal investment?*
>
> *Was this a*
>
> - *close family member, such as a spouse, brother, child, parent, or grandchild; or*
> - *some other relative, kin, or blood relation; or*

- *a work colleague; or*
- *a friend or neighbor; or*
- *a stranger with a good business idea; or*
- *another?*

The answers are here used to construct a dummy variable for whether or not the adult has funded a family-related entrepreneur (close family or relative), and another dummy variable for whether or not the adult has funded a family-unrelated entrepreneur (work colleague, friend, neighbor, stranger, or other). These two variables are our dependent variables, the outcomes, one variable measuring whether or not an adult has funded a family-related entrepreneur (coded 1 if funding a family-related entrepreneur and 0 if not), and the other variable measuring whether or not an adult has funded an entrepreneur outside the family (coded 1 if funding a non-family-related entrepreneur and 0 if not).

4.3.4. Time

Time is the dichotomous variable for the time before disruption, coded 0, and after disruption, coded 1.

4.3.5. Controls

The tests of hypotheses ought to control for conditions likely to affect funding. The GEM survey has measures enabling us to control for

- gender, coded 0 for men and 1 for women;
- age, coded in years, from 18 to 64;
- education, coded in years for the highest completed degree;
- income, measured on a scale of 1, 2, and 3 for being in the lowest third, the middle third, or the highest third of family incomes among the respondents in each country;
- experience as owner–manager; a 0–1 dummy for whether or not the adult had stopped owning and managing a business within the last three years; and
- occupation, a categorical variable for whether the respondent at the time of the interview was self-employed, an employee, unemployed, a homemaker, or a student.

4.4. Techniques for Analyzing the Data

The sample is described, first, by the counts of the countries and people sampled before and after the pandemic disruption, then by the people's background characteristics (with a t-test of differences between the means and chi-square test of differences between frequency distributions) and by the Pearson correlations and the variables of interest and with the control variables (with the t-test of the significance of correlations).

For a first look at changes in funding, we calculated the percentages of adults funding family-related entrepreneurs and percentages funding non-family-related entrepreneurs. To analyze the effects of time, personal background, and cultural context, we analyzed the data on individuals and society. These data are hierarchical, with individuals nested within societies, so we used hierarchical linear modeling (Snijders and Bosker 2012). Hierarchical linear modeling is more appropriate than regression for testing the influence of macro-level conditions on micro-level behavior. An effect is tested by a coefficient like in a regression, the direction of the effect is shown by the sign of the coefficient, and the size of the effect is indicated by the magnitude of the coefficient. The hierarchical linear modeling is used, like linear regression, for ascertaining the main effects (here, especially time) and moderating effects (the interaction of time and family business culture and secular-rational culture).

5. Results

Here, we first list the sample sizes, then describe the background of the adults, then look at the changes in funding, and finally test our hypotheses about the effects on funding.

To examine the changes caused by the pandemic disruption, we used the surveys in those countries that were surveyed in 2020 and an earlier year, Table 1, as described in Section 4.

Table 1. Samples of societies and people surveyed.

Society	Years of Surveys Used	Sample of Adults before Pandemic	Sample of Adults in 2020	Sample of Business Angels before the Pandemic	Sample of Business Angels in 2020
Angola	2018, 2020	2014	1958	197	279
Arab Emirates	2019, 2020	1954	1980	163	54
Austria	2018, 2020	4377	4427	336	262
Brazil	2019, 2020	2000	2000	71	134
Burkina Faso	2016, 2020	2325	2320	296	150
Canada	2019, 2020	7336	2306	515	148
Chile	2019, 2020	8091	8349	1711	1800
Colombia	2019, 2020	2097	2096	170	177
Croatia	2019, 2020	1975	1962	85	87
Cyprus	2019, 2020	2012	2003	95	70
Egypt	2019, 2020	2537	2780	79	96
Germany	2019, 2020	2991	2998	183	175
Greece	2019, 2020	1991	1992	91	72
Guatemala	2019, 2020	2958	2903	435	385
India	2019, 2020	3201	3194	133	53
Indonesia	2018, 2020	3031	2445	64	70
Iran	2019, 2020	3100	3134	213	126
Israel	2019, 2020	1968	1955	64	58
Italy	2019, 2020	1994	1995	14	6
Kazakhstan	2017, 2020	1784	1140	184	303
S. Korea	2019, 2020	1994	1996	44	55
Kuwait	2014, 2020	1836	2091	324	166
Latvia	2019, 2020	1593	1609	85	72
Luxemburg	2019, 2020	2055	1985	156	113
Morocco	2019, 2020	3506	3512	105	63
Netherlands	2019, 2020	1742	1694	87	136
Norway	2019, 2020	1994	1993	111	94
Oman	2019, 2020	1942	1932	282	149
Panama	2019, 2020	2018	1997	128	166
Poland	2019, 2020	7961	7992	283	225
Qatar	2019, 2020	2993	3003	373	261
Russia	2019, 2020	1994	1983	105	84
Saudi Arabia	2019, 2020	3978	3978	596	599
Slovakia	2019, 2020	1986	1988	132	113
Slovenia	2019, 2020	1571	1559	79	58
Spain	2019, 2020	23,164	25,993	683	757
Sweden	2019, 2020	3556	3583	297	220
Switzerland	2019, 2020	1543	1501	153	77

Table 1. *Cont.*

Society	Years of Surveys Used	Sample of Adults before Pandemic	Sample of Adults in 2020	Sample of Business Angels before the Pandemic	Sample of Business Angels in 2020
Taiwan	2019, 2020	2339	2225	102	88
United Kingdom	2019, 2020	1606	1587	45	36
United States	2019, 2020	2657	1762	209	125
Uruguay	2018, 2020	1604	1715	91	95
Totals		135,368 adults	131,615 adults	9569 business angels	8257 business angels

5.1. Background

The adults' background is described by the means and frequencies of their characteristics, Table 2. The adults are rather similar before and after the disruption. The major changes are the decline in the percentage of adults who are employees, and the increase in the percentage who are unemployed.

Table 2. Frequencies and means of characteristics of the adults.

	Before Disruption	After Disruption
Number of adults surveyed	135,368	131,615
Percentage of females	49.4%	48.8% **
Mean years of age	40.2 years	40.2 years
Mean years of education	12.8 years	12.9 years ***
Percentage of former owner–managers	5.0%	5.3% ***
Mean income on a scale of 1 to 3	2.03	1.98 ***
Percentage self-employed	12%	13% ***
Percentage of employees	58%	54% ***
Percentage unemployed	11%	14% ***
Percentage of homemakers	12%	11% ***
Percentage of students	7%	8% ***

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ in test of difference between the two percentages or means.

The background of the adults is described further by the correlations among the variables, as shown in Table 3.

Table 3. Correlations.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1														
2	0.02													
3	0.01	−0.63												
4	−0.01	0.05	−0.03											
5	−0.01	0.00	0.00	−0.03										
6	−0.01	−0.02	0.06	−0.01	−0.06									
7	0.00	−0.18	0.19	0.00	−0.02	0.02								

Table 3. *Cont.*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
8	0.01	−0.10	0.03	0.02	0.04	−0.02	−0.06							
9	−0.03	−0.02	−0.04	0.06	0.06	−0.09	−0.01	0.26						
10	0.01	0.10	−0.09	0.09	0.07	−0.02	−0.02	−0.01	0.00					
11	0.02	0.05	−0.01	0.00	0.01	−0.09	0.07	−0.03	0.06	0.00				
12	−0.04	−0.15	0.07	0.02	0.02	−0.10	−0.03	0.23	0.14	−0.03	−0.43			
13	0.04	0.10	−0.07	−0.01	−0.01	0.07	−0.02	−0.13	−0.16	0.06	−0.14	−0.42		
14	−0.01	0.03	0.00	−0.01	−0.03	0.16	0.28	−0.17	−0.11	−0.01	−0.14	−0.41	−0.14	
15	0.01	0.06	−0.04	−0.02	−0.01	0.01	−0.36	−0.02	−0.02	−0.01	−0.11	−0.32	−0.10	−0.10

1 Time (before disruption 0; after disruption 1). 2 Family business culture (numerical, culture supporting family business has high score). 3 Secular-rational culture (numerical, secular-rational or modern culture has high score). 4 Funding family-related entrepreneur (not funding family-related entrepreneur 0; funding family-related entrepreneur 1). 5 Funding non-family-related entrepreneur (not funding non-family-related entrepreneur 0; funding non-family-related entrepreneur 1). 6 Gender (male 0; female 1). 7 Age (years, between 18 and 64). 8 Education (year of schooling to highest completed degree). 9 Income (lowest third 1; middle third 2; highest third 3). 10 Experience (did not discontinue as owner–manager 0; recently discontinued as owner–manager 1). 11 Occupation self-employed (currently not self-employed 0; currently self-employed 1). 12 Occupation employee (currently not employee 0; currently employee 1). 13 Occupation unemployed (currently not unemployed 0; currently unemployed 1). 14 Occupation homemaker (currently not homemaker 0; currently homemaker 1). 15 Occupation student (currently not student 0; currently student 1).

The strongest association is the negative correlation between the family business culture and secular-rational culture. Another substantial association is the negative correlation between being a student and age, naturally. Being in one occupation is of course negatively correlated with being in another occupation. None of the correlations are strong, indicating that no problem of multicollinearity will occur.

5.2. Change in Adults' Funding of Family-Related Entrepreneurs and Non-Family-Related Entrepreneurs

Our first substantive question is whether the pandemic disruption changed people's likelihood of funding family-related entrepreneurs and non-family-related entrepreneurs. First, we look at the rates of adults who funded family-related and non-family-related entrepreneurs, as shown in Table 4.

Table 4. Change in funding family-related entrepreneurs and non-family-related entrepreneurs.

	Before Disruption	After Disruption	Change
Percent of adults funding family-related entrepreneurs	3.90%	3.60%	−0.30% ***
Percent of adults funding non-family-related entrepreneurs	3.12%	2.64%	−0.48% ***
N adults	135,368	131,615	
Percentage of business angels funding family-related entrepreneurs	55.2%	57.4%	2.2% ***
Percentage of business angels funding non-family-related entrepreneurs	44.8%	43.6%	−2.2% ***
Sum	100%	100%	
N business angels	9569	8257	

† $p < 0.10$ * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$.

We see that funding declined for both family-related and non-family-related entrepreneurs. The two declines were predicted by Hypotheses 1 and 2. We also see that adult funding for family-related entrepreneurs declined less than funding for family-unrelated entrepreneurs declined. Such a difference between the two declines was predicted by Hypothesis 3. The percentages, though, ignored other conditions, so the percentages

are not good tests of the hypotheses. Better tests will control for other conditions, as performed below.

The shift toward funding family-related entrepreneurs rather than non-family-related entrepreneurs is seen clearly when we look at the percentages of business angels who fund family-related entrepreneurs and who fund non-family-related entrepreneurs, listed in the bottom panel in Table 4. This increased focus on family was predicted by Hypothesis 3. The percentage, though, ignores other conditions, so the percentage is not a good test of the hypothesis. A better test controls for other conditions, as reported in a table below.

5.3. Effects on Funding of Family-Related Entrepreneurs and Non-Family-Related Entrepreneurs

The major question is, how has funding been affected by the disruption and culture? Effects upon adults' funding of family-related entrepreneurs and non-family-related entrepreneurs are ascertained in the models in Table 5.

Table 5. Adults' funding of family-related entrepreneurs and non-family-related entrepreneurs, affected by disruption and culture.

	Adults' Funding of Family-Related Entrepreneurs		**Adults' Funding of Non-Family-Related Entrepreneurs**	
	Main Effects	**Moderation Included**	**Main Effects**	**Moderation Included**
	Model A	**Model B**	**Model C**	**Model D**
Time (before 0, after 1)	−0.002 ** (0.001)	−0.002 ** (0.001)	−0.005 *** (0.001)	−0.005 *** (0.001)
Family business culture	0.007 (0.005)	0.006 (0.005)	−0.004 (0.004)	−0.004 (0.004)
Secular-rational culture	−0.002 (0.005)	−0.005 (0.005)	0.000 (0.003)	−0.003 (0.003)
Time * Family business culture		0.002 † (0.001)		0.001 (0.001)
Time * Secular-rational culture		0.005 *** (0.001)		0.005 *** (0.001)
Gender: female	−0.001 (0.001)	−0.001 (0.001)	−0.020 *** (0.001)	−0.020 *** (0.001)
Age	0.002 *** (0.001)	0.002 *** (0.001)	−0.004 *** (0.001)	−0.004 *** (0.001)
Education	0.004 *** (0.001)	0.004 *** (0.001)	0.005 *** (0.001)	0.005 *** (0.001)
Income	0.009 *** (0.001)	0.009 *** (0.001)	0.007 *** (0.001)	0.007 *** (0.001)
Experience as owner–manager	0.064 *** (0.002)	0.064 *** (0.002)	0.047 *** (0.002)	0.047 *** (0.002)
Occupation: Employee	−0.002 * (0.001)	−0.002 * (0.001)	−0.004 *** (0.001)	−0.004 *** (0.001)
Occupation: Unemployed	−0.018 *** (0.002)	−0.018 *** (0.001)	−0.012 *** (0.002)	−0.012 *** (0.002)
Occupation: Homemaker	−0.002 (0.002)	−0.002 (0.002)	−0.008 *** (0.002)	−0.008 *** (0.002)
Occupation: Student	−0.013 *** (0.002)	−0.013 *** (0.002)	−0.015 *** (0.002)	−0.015 *** (0.002)
Country	Yes	Yes	Yes	Yes

Table 5. *Cont.*

	Adults' Funding of Family-Related Entrepreneurs		Adults' Funding of Non-Family-Related Entrepreneurs	
	Main Effects	**Moderation Included**	**Main Effects**	**Moderation Included**
	Model A	**Model B**	**Model C**	**Model D**
Intercept	0.040 *** (0.005)	0.040 *** (0.005)	0.050 *** (0.003)	0.051 *** (0.003)
N countries	42		42	
N adults	211,432		211,432	

Hierarchical linear models, with random effect of country. For occupations, the reference is the self-employed, to whom each other occupation is compared. The dichotomous variables are coded as 0 and 1 dummies. The macro-level numerical variables are standardized. The micro-level numerical variables are standardized and centered within country. † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Hypothesis 1 posits that the pandemic caused a decline in people's funding of family-related entrepreneurs. This effect of time is tested in model A, controlling for several other conditions. The negative coefficient shows that funding of family-related entrepreneurs was less after the disruption than it had been before the disruption. This supports Hypothesis 1. The decline, though, is quite small.

Hypothesis 2 claims that the disruption also caused a decline in people's funding of non-family-related entrepreneurs. This effect is tested in model C. The negative coefficient shows that the disruption caused a decline in funding for non-family-related entrepreneurs. This supports Hypothesis 2. The decline is small.

However, the funding of non-family-related entrepreneurs appears to have declined more than the funding of family-related entrepreneurs, as we had also hypothesized. This Hypothesis 3 is tested later, in Table 6.

Table 6. Business angels' funding of family-related entrepreneurs (contrasted with non-family-related entrepreneurs), affected by disruption and culture.

	Business Angels' Funding of Family-Related Entrepreneurs (Contrasted Funding of Non-Family-Related Entrepreneurs)	
	Main Effects	**Moderation Included**
	Model E	**Model F**
Time (before 0, after 1)	0.016 * (0.008)	0.016 * (0.008)
Family business culture	0.058 *** (0.058)	0.049 * (0.021)
Secular-rational culture	−0.022 (0.021)	−0.020 (0.022)
Time * Family business culture		0.020 * (0.009)
Time * Secular-rational culture		−0.004 (0.009)
Gender: female	0.142 *** (0.008)	0.143 *** (0.008)
Age	0.028 *** (0.004)	0.028 *** (0.004)
Education	−0.023 *** (0.005)	−0.023 *** (0.004)

Table 6. *Cont.*

	Business Angels' Funding of Family-Related Entrepreneurs (Contrasted Funding of Non-Family-Related Entrepreneurs)	
Income	0.003 (0.004)	0.004 (0.004)
Experience as owner–manager	0.016 (0.011)	0.015 (0.011)
Occupation: Employee	0.052 *** (0.012)	0.052 *** (0.012)
Occupation: Unemployed	−0.014 (0.017)	−0.016 (0.017)
Occupation: Homemaker	0.084 *** (0.017)	0.083 *** (0.017)
Occupation: Student	0.015 (0.021)	0.014 (0.021)
Country		
Yes	0.429 *** (0.021)	0.429 *** (0.021)
N countries	42	
N business angels	15,371	

Hierarchical linear models, with random effect of country. For occupations, the reference is self-employed, to whom each other occupation is compared. The dichotomous variables are coded as 0 and 1 dummies. The macro-level numerical variables are standardized. The micro-level numerical variables are standardized and centered within country. † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Hypothesis 4 holds that family business culture alleviated the decline in adults funding of family-related entrepreneurs. This hypothesis was tested by including the interaction term, the product of the time dummy, and the variable for family business culture, as shown in model B. The coefficient is positive, showing that the funding of family-related entrepreneurs after the disruption got a boost where family business culture is strong (relative to where family business culture is weaker). This supports Hypothesis 4. The boost, though, is small.

Hypothesis 5 asserts that secular-rational culture alleviated the decline in adults funding of non-family-related entrepreneurs. This hypothesis is tested by including the interaction of time and secular-rational culture, model D. The positive coefficient shows that the funding of non-family-related entrepreneurs after the disruption got a boost where secular-rational culture is strong (compared to where secular-rational culture is weaker). This supports Hypothesis 5, though the boost is small.

The changing focus toward funding family-related entrepreneurs rather than non-family-related entrepreneurs is clearer when we analyze only the business angels, rather than the adults like we did in Table 5.

Effects on business angels' funding of family-related entrepreneurs, contrasted with their funding of non-family-related entrepreneurs, were ascertained by linear modeling, Table 6. This enabled some more tests of our hypotheses.

Hypothesis 3 posits that business angel funding of family-related entrepreneurs, rather than non-family-related entrepreneurs, increased. This hypothesis is tested in model E in Table 6. The positive coefficient for Time shows that funding of family-related entrepreneurs, compared to the funding of non-family-related entrepreneurs, increased. This supports Hypothesis 3.

Hypothesis 4 holds that family business culture boosted funding for family-related entrepreneurs after the disruption. This hypothesis was already tested and supported (Model B in Table 5). The hypothesis is tested again in model F as the interaction between time and family business culture. The positive coefficient shows that family business

culture boosted funding of family-related entrepreneurs after the disruption. This lends additional support for Hypothesis 4.

Hypothesis 5 claims that secular-rational culture boosted funding of non-family-related entrepreneurs, i.e., negatively affected funding of family-related entrepreneurs after the disruption. This hypothesis was already tested and supported (model D in Table 5). The hypothesis is tested again in Model F as the interaction between time and secular-rational culture. The estimated negative coefficient is consistent with Hypothesis 4. However, the coefficient is not significant, so this test does not lend additional support for Hypothesis 5.

Further insights can be obtained by graphing effects. Disruption and family business culture both affect the funding of family-related entrepreneurs, as we found in model B in Table 5. These effects are graphed in Figure 2. Figure 2 shows three conclusions.

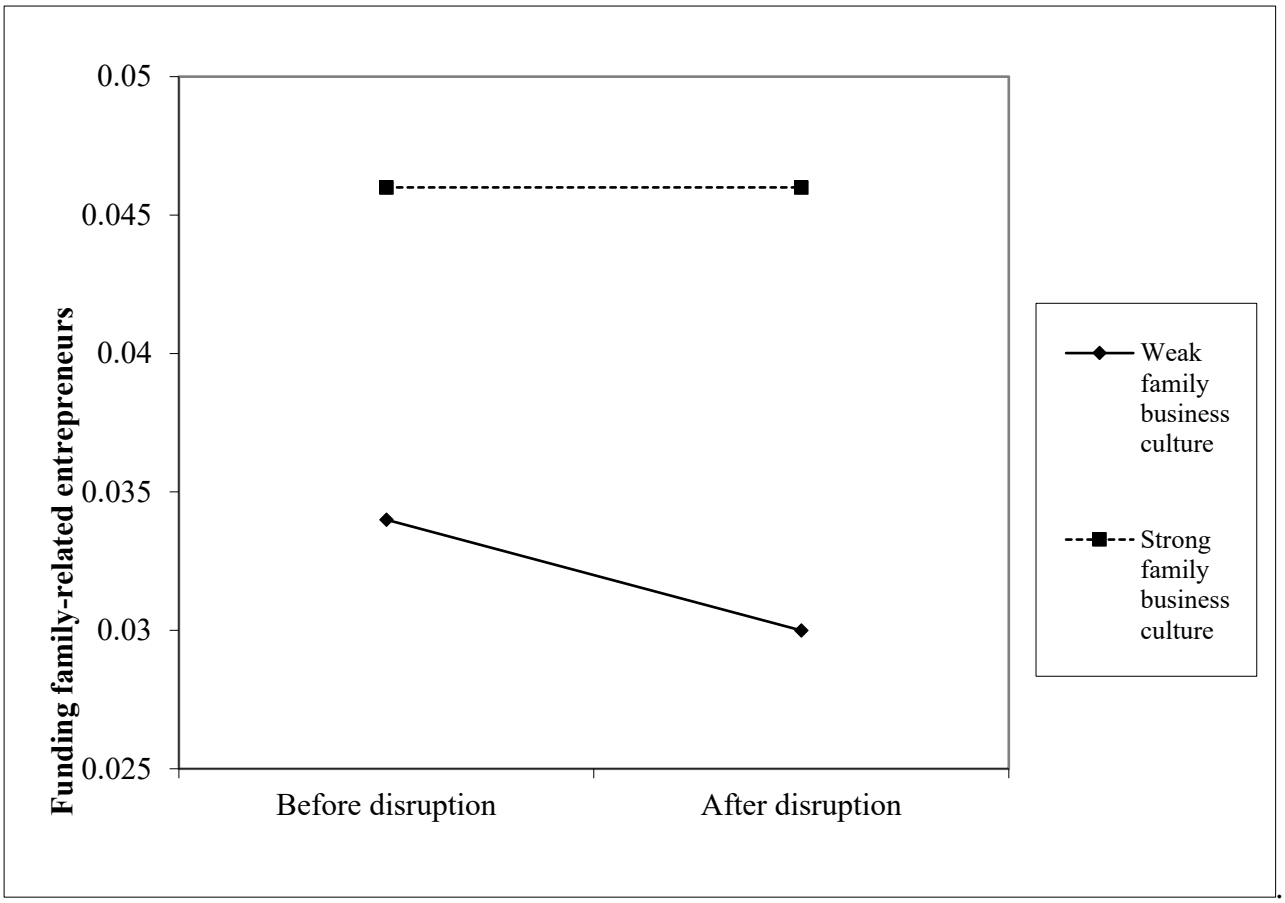

Figure 2. Effects of disruption and family business culture on funding of family-related entrepreneurs.

First, funding of family-related entrepreneurs is more likely where family business culture is strong than where family business culture is weak. Second, disruption caused a decline in funding family-related entrepreneurs where family business culture is weak. Third, disruption did not cause a change in funding family-related entrepreneurs where family business culture is strong.

This dynamic can be conceptualized in terms of resilience. Strong family business culture provided an ability to resist the pandemic disruption of funding for family-related entrepreneurs, whereas weak family business culture did not provide such resilience.

Disruption and secular-rational culture both affect funding for non-family-related entrepreneurs, as we found in model D in Table 5. These effects are graphed in Figure 3. Figure 3 shows two conclusions.

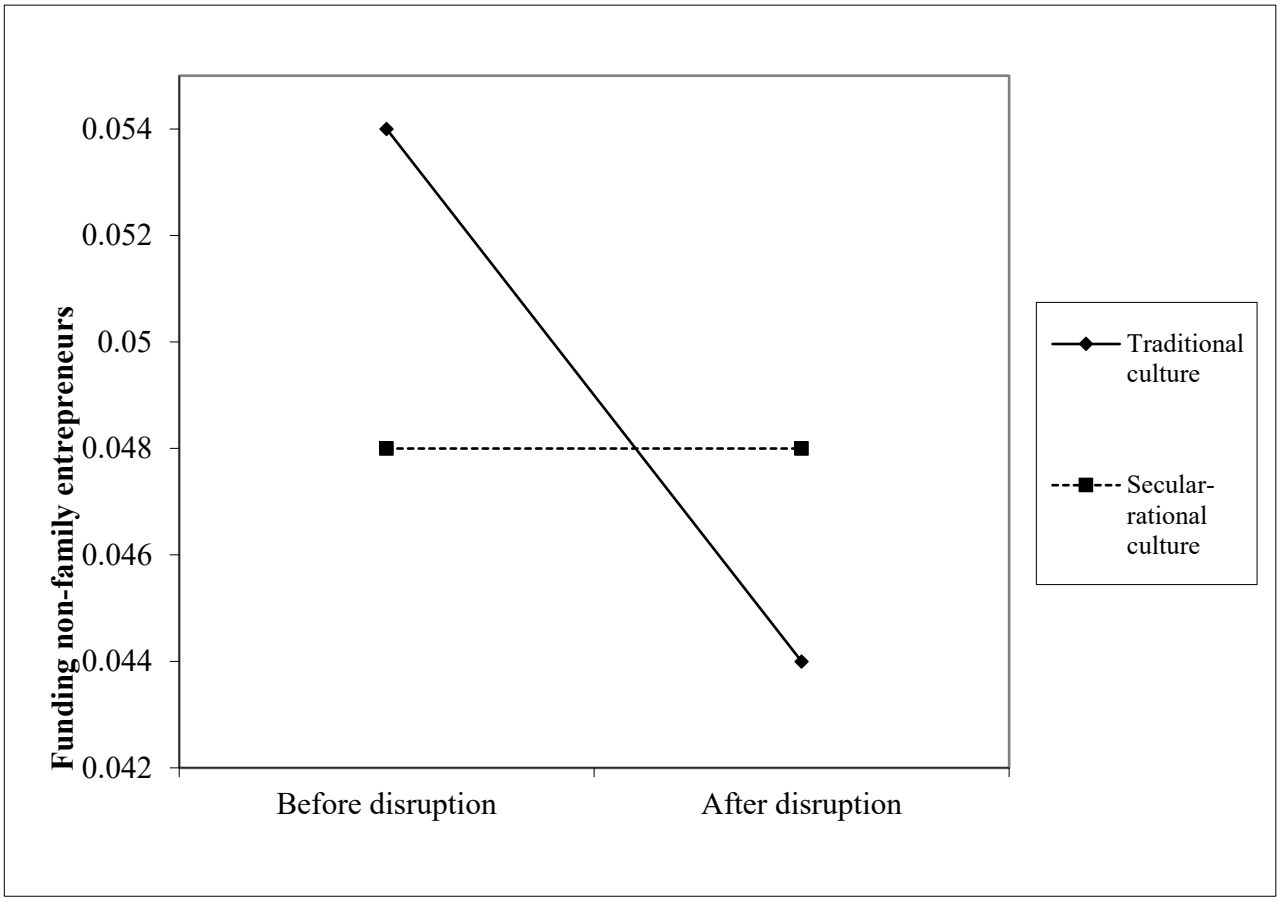

Figure 3. Effects of disruption and secular-rational culture on funding of non-family-related entrepreneurs.

First, disruption caused a decline in funding non-family-related entrepreneurs where the culture is traditional. Second, disruption did not cause a change in funding family-unrelated entrepreneurs where the culture is modern or secular-rational.

This dynamic can be conceptualized in terms of resilience. Modern or secular-rational culture provided the ability to resist the pandemic's disruption of funding non-family-related entrepreneurs, whereas traditional culture did not provide such resilience.

In short, the pandemic disruption caused a decline in people's funding of family-related entrepreneurs and especially in the funding of non-family-related entrepreneurs, but the decline was heterogeneous across cultures that provided varying resilience. Strong family business culture, in contrast to weaker family business culture, provided some resilience, in that it alleviated the decline in funding of family-related entrepreneurs. Secular-rational culture, in contrast to more traditional culture, provided some resilience, in that it alleviated the decline in funding of non-family-related entrepreneurs.

6. Discussion

The above analyses addressed the research question: In cultures around the world, how has the pandemic disruption impacted people's endeavors in business angel funding of family-related entrepreneurs and of non-family-related entrepreneurs? Here, we discuss findings, contributions, relevance, limitations, and further research.

6.1. Findings

The pandemic disruption caused a decline in people's funding of family-related entrepreneurs and especially in the funding of non-family-related entrepreneurs, but the decline was heterogeneous across cultures which provided varying degrees of resilience for various endeavors. Strong family business culture, in contrast to weak family business

culture, provided resilience, in that it alleviated the decline in funding of family-related entrepreneurs. Secular-rational culture, in contrast to traditional culture, provided resilience, in that it alleviated the decline in funding of non-family-related entrepreneurs. Our focus on secular-rational culture and family business culture complements earlier studies of institutional conditions, notably trust (Ding et al. 2014, 2015), and on formal institutions (Li and Zahra 2012).

The findings have socio-economic significance. The fact that the pandemic reduced funding for non-family-related entrepreneurs more than it reduced funding for family-related entrepreneurs strengthens family bonds or weakens non-family socio-economic relations, relatively. Likewise, the fact that a strong family business culture amplifies funding for family-related entrepreneurs also strengthens bonding within families. Analogously, the fact that a strong secular-rational culture enhances funding for non-family-related entrepreneurs strengthens universalistic socio-economic relations in societies and weakens family bonding.

6.2. Contributions

The findings indicate the innovativeness of the study in terms of accounting for the intertwining of financing with the family as an institution in society for the societal contextualization of financing in culture, the temporal contextualization of financing in a crisis, and resilience of financing provided by culture.

Contemporary research on entrepreneurship contextualizes entrepreneurship. Earlier research focused on entrepreneurship as an economic endeavor, driven by a motive of profit, investing financial, human, and social capital in innovation and growth of the business, failing or succeeding in yielding profits for owners, and creating jobs and economic growth for society (e.g., Mason and Harrison 2000; Mason and Stark 2004; Van Osnabrugge and Robinson 2000; Paul et al. 2007). Current efforts at contextualizing entrepreneurship focus on the intertwining of entrepreneurial venturing with various institutions in society, especially with culture (White and Dumay 2017). Our study makes four contributions to this contextualization.

The first contribution is to the understanding of financing as intertwined with the family, in that business angels are expected to fund family-related entrepreneurs, with an expectation that rises during a crisis.

The second contribution is the societal contextualization, understanding how business angel funding is embedded in culture, as family business culture promotes business angel funding of family-related entrepreneurs, whereas secular-rational culture promotes business angel financing of non-family-related entrepreneurs.

The third contribution is the temporal contextualization, understanding how business angel funding is embedded in time and constrained by a crisis, constraining non-family-related entrepreneurs more than family-related entrepreneurs.

The fourth contribution is to the understanding of the resilience of societies, a resilience to resist a crisis, as resilience is provided by culture, in that family business culture alleviated the pandemic decline in funding of family-related entrepreneurs, and secular-rational culture alleviated the decline in the financing of non-family-related entrepreneurs.

6.3. Limitation

The GEM data has several limitations. Notably, the GEM questionnaire did not distinguish among the types of funding such as investing, lending, and gifts. Also, the questionnaire did not ask about the sector of the funded startups.

A major limitation is that our study examined only the early phase of the pandemic crisis, the phase of resistance to the disruption only a few months into the pandemic. The study does not examine the later phase, the phase of recovery from the crisis.

6.4. Further Research

The limitations in the GEM data, notably the lack of information on types of funding and on sectors, suggest that it may be worthwhile to investigate such differences. This, though, would require another survey than GEM.

The limitation on time, that of years of the survey, suggests that it may be insightful to investigate business angel funding during the phase of recovery, as will become feasible with the next annual global GEM surveys. A question is whether business angel funding will continue the increased focus on the funding of family-related entrepreneurs or whether business angels will revert to the financing of non-family-related entrepreneurs like before the pandemic.

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