Evangelical investors and the evolution of local bias

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Abstract

In this paper, we examine how local bias, the predisposition of investors to invest in local firms is affected by the physical distances from other types of investors, specifically evangelical investors. We show that physical distances to these investors appears as, if not more important than the physical distance to the firm in influencing investment in a novel financial instrument, micro-bonds directly issued by the firm to its investors without a financial intermediary involved. The density of evangelical investors within a five km radius to the investor significantly influences the amount invested in the micro-bonds, the frequency of investment, and the likelihood of making repeat investments. We also identify a potential channel through which this influence operates – co-attendance at corporate information events.

Keywords: Local bias; Peer effects; Social effects; Social distance

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Empirical research in behavioural finance and consumer behavior has shown that investors are pre-disposed to investing in companies located close to where they live (see for example, Huberman, 2001). This "local bias" has been shown in the literature to be a significant determinant of price formation (Pirinsky and Wang, 2006 and Hong, Kubik and Stein, 2008), trading activity (Ivkovic and Weisbenner, 2007, Jacobs and Weber, 2012, Shive, 2012, Brown, Stice, and White, 2015), and investor diversification (Goetzmann and Kumar, 2008, Cao, Han, Hirshleifer, and Zhang, 2011, and Bernile, Kumar, and Sulaeman, 2015).

Typically, the literature has attributed the existence of local bias either to rational investor behavior resulting from access to superior information on local firms, or to emotional investor behavior resulting from a familiarity bias. For example, Goetzmann and Kumar (2008) show that the level of under-diversification for investors in their sample is partly driven by over-confidence and local bias, but they also show that a small subset of investors under-diversify because of superior information. The prior research has provided mixed evidence on whether this bias hurts or helps investors. Seasholes and Zhu (2010) show for example, that purchases of local stocks significantly underperform sales of local stocks and conclude that individuals do not help incorporate information into stock prices. Similarly, Grinblatt and Keloharju (2001) document that physical distance from the firm is negatively related to investment savviness in a sample of investors in Finland. In contrast, Bernile, Kumar, and Sulaeman (2015) show that local investor performance increases with the degree of local bias and with the local economic exposure of portfolio firms.

However, there is very little evidence in the literature is how local bias actually forms. Most research has focused on *physical* distance from the *firm* as the primary determinant of local bias. For example, Bodnaruk (2009) analyzes the portfolios of individual investors who have changed their place of residences. As the distance from a company they invest in changes, investors adjust their portfolio composition. The farther investors move away from the closest establishment of a company in their portfolio, the more of its shares they sell compared to investors who do not move. Parwada (2008) shows that the location of fund startups is based close to the geographic origins of their founders. Massa and Simonov (2006) also examine the impact of professional similarity - if the investor's profession is in the same area of activity as the company whose stock is under consideration in addition to geographic proximity, in determining the portfolio composition of the

investor. In contrast, there is little research on the impact of physical distance from *other investors*, a measure of what we term social distance.

In this paper, we examine the incremental impact of physical distance from a particular type of investor – who we call evangelical investors - in influencing purchases of a novel financial instrument directly issued by a firm to local investors. Specifically, we analyze the buying behavior of investors in micro-bonds directly issued by a small carbon chemicals firm in Germany. The instrument is novel because this firm was the first firm in Germany to self-issue micro bonds directly to individual investors. Micro bonds are listed or unlisted debt issues of less than €50 million – smaller than the minimum size for debt capital markets, and were marketed directly by the company to investors. Since 2001, the firm has made 51 bond issues with an average issue size of €15 million. It has a current investor base of 8,000 with over 90% of its bonds being purchased directly by individual retail investors. The average investment exposure per individual investor is on the order of €17,000. Importantly, since the firm markets all its bonds itself, it has detailed time-series records on over 80% of the investors who bought its bonds since 2001 with data on the postal code, the amount purchased, the coupon offered, and other financial information. The data spans two different types of listing statuses (listed and unlisted) and two types of financial instruments (*anleihen* bonds, bonds paying a fixed rate of interest with a fixed maturity, and *genussscheine* bonds, bonds paying a variable rate of interest with no fixed maturity).

Social distance as an explanatory factor for investments has been relatively neglected in the literature. Among the rare exceptions, Banerjee, Chandrashekhar, Duflo, and Jackson (2013) examine the diffusion of information about microfinance and participation in a microfinance loan program in villages in Southern India. They find that participants are more likely to pass on information than non-participants. Oddly however, there is no endorsement effect – once a household is informed that microfinance is available, it does not matter whether the information came from a participant or a non-participant.

Our study differs from this along several dimensions. We study investors, not borrowers. We examine the impact of relatively sophisticated participating investors on other investors in a developed market, Germany. Our instrument, though novel in the sense of being a direct bond issue from a company, is simple to evaluate. It only requires information on the solvency of the firm and unlike equity, requires no information on the growth prospects of the firm. Investments

made by individual investors are relatively large in magnitude (the average amount invested is €14,000), large enough to form significant parts of investor portfolios.

We first examine the nature of investors using a rolling cluster analysis, clustering on three dimensions – the amount of investment till that point in time, the frequency of investment and the inter-purchase time index. All three dimensions are time-variant in that we reconstruct the clusters each year based only on the information available to that point in time. The cluster analysis shows that three types of clusters emerge rapidly in the data. Evangelical investors comprise about 8% of the data and invest significantly more than medium- or low-commitment investors. Evangelical investors invest a mean amount of €215,000 in comparison to €38,000 and €14,600 invested by medium and low-commitment groups respectively. They invest 8 times over the 11-year period, while medium-commitment groups invest thrice and low-commitment investors invest only once. They are significantly more likely to attend company events, and bring guests to these events. They are faster to buy repeat issues and they live closer to the issuers than the other two types.

We next examine whether these evangelical investors have an incremental impact on the investments by all investors, specifically in the amount invested, the investment frequency, and the likelihood of being a repeat investor. In all three cases, they do. While the distance to the issuer is strongly negatively related to all three dependent variables, consistent with the local bias effect documented previously, we find that the number of evangelical investors in the 5 km radius around a particular investor hugely increases the amount she invests, the frequency with which she invests, and the likelihood that she will invest again. The coefficients associated with the evangelical investors are of an order of magnitude higher than those associated with the distance to the firm and significantly increase the explanatory power of the models.

Evangelical investors also appear to have a significantly lower impact on the first time investors invest. In other words, they do not appear to influence whether an investor will invest at all. However, after the investor invests for the first time, they have a significant effect on subsequent investments. This contrasts with the evidence in Banerjee, Chandrashekhar, Duflo, and Jackson (2013) who find that borrowers do not exhibit an endorsement effect. Our investors do appear to be influenced by potential endorsement effects from other evangelical investors.

The impact of evangelicals also appears to substitute for the local bias effect in that the effect of the number of evangelicals in the 5-km area around the investor significantly increases when the distance to the issuer also increases. At larger distances to the issuer, the number of evangelicals

in the 5-km area significantly positively influences the total amounts invested and the inter-purchase time between subsequent investments.

We examine what causes an investor to become evangelical. Distance to the issuer matters. Evangelical investors live closer to the issuer. The number of other evangelicals also matters. Both the number of other evangelicals in a 5km radius and over 20km significantly affect the likelihood of becoming evangelical. Most important, justifying our classification that physical distance to evangelical investors is a measure of social distance, we find that attending corporate events where other evangelical investors are also invited strongly positively influences the probability of becoming evangelical. The larger the number of events attended with other evangelical investors present, the larger the likelihood of becoming evangelical. Social attendance at these events also strongly increases the amounts investors invest and reduces the inter-purchase time between repeat investments.

One potential problem with our analysis is that the firms targeted particular types of investors differently, turning them evangelical. In other words, firm treatment of particular investors causes the evangelical effect, not the behavior of motivated investors. To address this issue, we examine a set of two bond issues that were issued immediately after the onset of the financial crisis, in December 2008 and October 2009. Unlike all the other bond issues, these bonds were directly placed with investors who were approximately evenly distributed among the three clusters. There appears to be little evidence that the firm even knew of the existence of evangelical investors. Investors targeted directly by the firms reacted precisely as the non-targeted investors in prior bond issues with evangelical investors significantly more likely to invest in later bond issues, increasing the amount of investment and attending more events than the other two types of investors.

Overall, we conclude that the primary determinant of local bias is not just the geographical distance of an investor to a firm. It is also driven by the distance to other influential investors. Evangelical investors invest significantly more, significantly more frequently, and significantly faster than the other investors. Even after controlling for the local bias effect, the effect of the distance to these evangelical investors dominates the amounts invested, the frequency of investment and the inter-investment time for the other investors. Our results add a new unexplored dimension to the local bias puzzle.

The rest of the paper proceeds as follows. Section I describes the data. Section II discusses our main results and Section III presents the results of various robustness tests. Section IV concludes.

I. Data description

We use unique hand-collected data from a carbon chemicals firm in Germany with a current annual revenue of €600 million. This firm is unusual because it was the first firm in Germany to self-issue micro bonds directly to individual investors. Micro bonds are listed or unlisted debt issues of less than €50 million – smaller than the minimum size for debt capital markets. Self-issued micro bonds are marketed directly by the company to investors. Unlike bonds placed with investors via intermediaries, self-issuers know the identity of their bond investors. Small and mid-sized Germany firm began issuing unlisted micro bonds following the onset of the 2008 financial crisis as they sought to diversify their sources of debt financing beyond bank lenders. The first exchange listed segment launched in 2010 in Germany (a Stuttgart Mbond). The regulatory framework is relatively 'light touch' – while a prospectus must be approved by the BaFIN (the financial services regulator in Germany) for micro bond issuances, unlike the U.S. there is little or no restriction in marketing the securities to investors not qualified as 'sophisticated'.

However, this firm entered the self-issued market before any other firm in Germany. In response to a contraction in the bank lines of credit for one of its Central European subsidiaries after the emerging markets crisis in 1997, this firm placed 2 million DM directly to individual depositors in 1998. Given that the firm's default risk was largely unaffected by the emerging market crisis, the crisis formed an exogenous event that drove the firm's decision to offer term deposits directly to individuals. The BaFIN ruled that non-bank firms could not offer term deposits to investors, so in 2001, the firm began issuing self-issued corporate bonds directly to investors, to the best of our knowledge, the first firm to do so. In 2005, it began listing the bonds it placed with investors on the Open Exchange in Frankfurt. However, it continued to issue unlisted bonds for varying amounts even after the 2005 period. After the 2008 financial crisis, over 150 firms have followed this firm into self-issuing bonds, raising over €8 billion in around 200 listed and unlisted bond issues.

Between 1998 and 2013, the firm made 40 bond issues (Unlisted: 20 issues, Listed: 20 issues) with an average issue size of €15 million. At the end of 2013, it had a cumulative investor base of 9,000 with an individual /institution split of 90%/10%. The average individual investment is on the order of €14,000.

Since the firm markets all its bonds itself, it has detailed time-series records on over 80% of the investors who bought its bonds since 1998 with data on the postal code, the amount purchased, the coupon offered and other financial information.

The data is extremely rich – it spans three different regimes in the data: 2001-2005, 2001-2008 and the current 2009-2012 periods, the self-issue of the unlisted corporate bond in 2001, the issue of contemporaneous listed and unlisted bonds in 2005 and the financial crisis in 2008. These periods span different types of financial instruments (bonds with and without fixed maturity), two types of listing statuses (listed and unlisted) and two types of markets (before and after the financial crisis). The data on investor purchases of micro-bonds comes directly from the company. In addition, the firm provided us data on attendance at its 'investor information events', consisting of road shows and the annual investor day. The attendance data includes information about invitations - i.e. who came as a guest and who invited a guest and subsequent purchase behavior.

We use a Local Administrative Unit database at an 8-digit sub-post code level. A 5-digit postcode in Germany has an average of 10,000 inhabitants (with a range from 0 to 50,000) and an 8-digit postcode has an average of about 1,000 inhabitants (500 households), so there is much higher homogeneity within an 8-digit postal code versus a 5-digit postal code. The 8-digit postcodes are not used in the German postal system, but are a standardised geographic classification developed for use by commercial entities.

A. The bonds

Table I provides the summary statistics for the sample of 35 bonds issued on 28 dates, between October 2002 and December 2013 (7 bonds were issued on the same issue date). The sample excludes 5 bonds issued prior to October 2002 because the firm assigned different ID numbers to the investors purchasing bonds issued during that period. In total, there were 22,269 investments made by individual investors, i.e. excluding investments made by institutional investors, in the bonds issued during the sample period, with an average investment of €14,000. The firm issued two types of bonds: all of the bonds except one are *anleihen* bonds, bonds paying a fixed rate of interest with a fixed maturity, and one bond is a *genussscheine* bond, which pays a variable rate of interest with no fixed maturity. Twenty of the bonds in the sample period were listed on the Open Exchange in Frankfurt, with the listings occurring after the firm had placed the bonds with investors.

B. The investors

Table II compares investor characteristics by year across the sample period from 2002-2013. Table II shows the unique number of investors for each year. In other words, even if investors invested in two issues within one year, they are counted only once. There were a total of 19,211 individuals purchasing a bond during the sample period, including repeat purchases over the period by a given investor. In any given year, the investors, on average, purchased 1.12 bonds in a given year with an average inter-purchase time of 226 days. Individual investors are located in 16,648 8-digit postal code areas, representing about 20% of the 8-digit postal code areas in Germany. The mean maturity of bonds issued during the sample period is 1,4556 days, or 3.9 years.

To classify the investors into different groups, we run a cluster analysis on three dimensions: the amount of investment, the frequency of investment, and the inter-purchase time between subsequent bond purchases. All three dimensions are treated as time-variant variables over the sample period (2002-2013). In other words, the clusters are formed issue by issue based on information only available till the time of classification, and are not based on ex post data. The optimal number of clusters was determined with the Calinski–Harabasz and Duda–Hart methods. These two indexes evaluate cluster validity based on the average between- and within-cluster sum of squares. Distinct clustering is characterized by large Calinski–Harabasz pseudo-F values, large Duda–Hart Je(2)/Je(1) values, and small Duda–Hart pseudo-T^2 values. The most distinct solution classified investors into three clusters, high-commitment investors, who we term evangelicals, medium- and low-commitment investors.

Table III counts investors per each issue (after summing for each year). It is important to count investors per issue, because investor behaviour and evangelical status are both likely to change within a year. For instance, for the January issue, an investor could belong to the low-commitment group, but this investor could become evangelical for the November issue later that year. All models on evangelical investors track this change in investor behaviour from issue to issue (not from year to year). This implies that the number of investors in Table II do not match those in Table III. There are 606 unique evangelical investors, 4,792 medium commitment investors, and 9,267 low commitment investors. There is some double counting here because of the overlap: the investors who transit in status (from medium commitment to evangelical status for example) are counted twice.

Table IV contains the summary statistics for the investor clusters (evangelical, medium-commitment and low-commitment groups). Evangelical investors invest a mean amount of €214,474 in comparison to €38,090 and €14,626 invested by medium and low-commitment groups respectively. They invest 8.4 times over the 11-year period, while medium-commitment groups invest 3.1 times and low-commitment investors invest once. The evangelical investors attend 0.655 investor events and bring 0.39 guests on average, while medium and low commitment groups attend 0.17 events on average with 0.11 guests and 0.018 events with 0.094 guests, respectively. Evangelicals have a significantly lower mean inter-purchase time (0.234 years versus 0.519 years for the medium commitment group), and they live closer to the firm than the other groups (194.91 km versus 225.13 km and 239.55 km respectively).

II. Main Results

In this section, we examine the incremental effect of evangelical investors on the invested amount, the investment frequency, and the likelihood of becoming a repeat investor. The proxy we use for the presence of evangelical investors is the number of evangelical investors (classified using prior year data) within a 5km distance, 5-10km distance, 11-20km distance and a distance over 20km. We use this proxy as a measure of investment density. We next examine how the evangelical investor effect interacts with the local bias effect. Finally, we ask why investors become evangelical.

A. Do evangelical investors affect investment by other investors?

To illustrate the effect of evangelical investors, Figures 1-4 depict clusters of evangelical investors relative to the location of the issuer over time. Figure 1 shows that the first group of evangelical investors appear in 2004 and a larger concentration appears right around the location of the issuer. By 2013 (Figure 4), while the evangelical investors are much more spread out, it is easy to see clusters of investors appearing around the evangelical investors, not just around the firm. Figure 5 shows the final spatial distribution of the issuer and the evangelical investors.

To more formally investigate this process, Table V presents three sets of models in three separate panels documenting the effect of evangelical investors on the invested amount in micro-bonds by other investors over time (Panel A, Generalized Least Squares (GLS) regression), the investment frequency by other investors (Panel B, a Poisson regression) and the likelihood of

becoming a repeat investor (Panel C, a panel logit regression). All analyses are carried out on an issue level e.g. the amount invested is the amount invested in a particular issue of bonds while the frequency of investment is measured in terms of the number of bond issues each investor participates in. In each panel, Model 1 presents the baseline estimation results of the reduced equation without including the key variable of the density of evangelical investors. Model 2 adds the density of evangelical investors to the baseline model. Model 3 repeats Model 2 but is run only on the sample of non-evangelical investors so classified based on data until the year in question. All regressions include issue fixed effects and postcode fixed effects.

Model 1 in Panel A confirms the local bias effect found in the prior literature. The distance to the firm is strongly negatively related to the amount invested. The other variables appear to be related to the invested amount as common sense would dictate. For example, repeat investors are significantly more likely to invest more. The clients of the Karlsruhe advisor who were directly advised to invest in these bonds also invest significantly more than other investors. Bond characteristics, specifically the coupon rate, appears to matter significantly. Fixed maturity bonds attract more investment, which is not surprising since these are new financial instruments for these investors. It is not unreasonable that they should be more willing to invest when the payoff is fixed-term. Investor characteristics also appear to matter. Richer areas (where the average purchasing power is higher) appear to invest larger amounts. The one unusual result in Model 1 is that investors in urban postcodes appear to invest less than investors in non-urban codes.

Model 2 shows that, while the other variables all retain their sign and significance, a higher density of evangelical investors in the 5 km area surrounding each individual investor has a significant positive effect on the amount invested. In addition, the investment amount also appears to be related to the presence of investors in the larger area (beyond the 20 km zone) though the magnitude of this effect is much smaller than the effect for the evangelical investors located in the immediate region.

The magnitude of the evangelical investor effect is strikingly large. The addition of the key evangelical density variables in Model 2 leads to a significant improvement in model fit (its statistical power) with a near-doubling in adjusted R^2 from 0.118 to 0.213. We formally test the improvement in explanatory power using likelihood ratio tests. The coefficients for the likelihood ratio test reported at the bottom of the panel compares the change in goodness-of-fit after addition

of the evangelical density variable from Model 1 to Model 2. The test computes the incremental goodness-of-fit on an identical sample of investors and the dependent variable and shows strong evidence that adding evangelical investor density has significant explanatory power beyond the local bias effect. In addition, we also report Aikike Information Criterion (AIC) and Bayesian Information Criterion values at the bottom of the panel. The AIC and BIC comparison criteria for models with the same dependent variable attribute a smaller value of both criteria to a more efficient (i.e., better fitted) model. The strength of evidence is evaluated with the absolute difference in the BIC criteria between two compared models (Raftery, 1996; Long, 1997; Long and Freese, 2001).[1] In our case, $\Delta BIC = BIC_{M(1)} - BIC_{M(2)} = 555{,}955.80 - 555{,}936.90 = 18.90 > 10$, suggesting very strong evidence in favor of including the evangelical density proxies as explanatory variables.

Model 3 reports coefficient results using the same model as (2) only for the subsample of non-evangelical investors. As in Model 2, all estimates remain consistent in sign and significance.

Panel B estimates the effect of the density of evangelical investors on the investment frequency by other investors over time, following the same presentation as in Panel A. As before, Model 1 reports evidence consistent with the local bias effect. The distance to the firm is significantly negatively related to the frequency of investment. Closer investors invest more frequently. There are some minor differences for the other variables when compared with the results in Panel A. We do not include repeat investors in this model because by definition, all these investors have invested more than once. The clients of the Karlsruhe advisor do not invest more frequently. As before, some bond characteristics, specifically the coupon rate, appears to matter significantly. Fixed maturity bonds attract more frequent investment, but this is perhaps due to the fact that the firm rolls over these investments more frequently. Investors invest more frequently in listed bonds, which is not surprising since these bonds are more likely to be tradable. Investor characteristics also appear to matter largely similar to the previous panel. Richer areas (where the average purchasing power is higher) appear to invest more frequently. While investors in urban postcode areas do not appear to invest more frequently, investors in areas with a high affinity to speculative investments are less likely to invest frequently in these bonds.

[1] Usually, a ΔBIC={0-2} indicates weak evidence, ΔBIC={2-6} indicates positive evidence, ΔBIC={6-10} indicates strong evidence and ΔBIC={>10} indicates very strong evidence.

However, even after controlling for all these variables, the density of evangelical investors in a 5km radius to all investors (Model 2) and non-evangelical investors (Model 3) is strongly positively related to the frequency of investment by other investors in these micro-bonds. Again, beyond a 5 km radius, the presence of evangelical investors becomes largely insignificant. As in Panel A, both the likelihood ratio tests and the AIC and BIC criteria indicate a significant increase in explanatory power once the evangelical density variables are included in Model 2.

Finally, Panel C reports coefficients from a panel logit regression on the likelihood of reinvesting in micro-bonds (after the first purchase). Since by definition, none of these investors are repeat investors, we do not include the repeat investor variable in the regression. Interestingly, the local bias effect reverses its sign in all the models. The closer the investor is to the firm, the *less* likely the investor is to repeat the initial investment. The other variables are similar to those reported in prior panels. As in Model 2, the clients of the Karlsruhe advisor are not more likely to repeat their initial investment. As before, the coupon rate is significantly positively related to the likelihood of investing a second time. Investors are more likely to invest again if the bond is listed. While largely consistent with prior panels, investor characteristics appear to matter less. While richer areas appear to repeat their investment, this effect disappears once we include evangelical investor density. Non-evangelical investors in urban areas are marginally more likely to repeat their initial investment (Model 3 but only significant at the 10% level). Finally, investors in areas with a high affinity to speculative investments do not appear to be more likely to repeat their initial investment, once evangelical density is included in Models 2 and 3.

Again, however, even after controlling for bond characteristics, aggregate investor characteristics, and the local bias effect, the density of evangelical investors in the immediate 5km distance around each investor has a significant positive effect on the propensity to re-invest in micro-bonds (after the first purchase). New investors are more prone to re-invest, if a larger number of evangelical investors are present in the immediate neighbourhood. The presence of evangelical investors in the larger 11-20lm and over 20km area also has a significantly positive effect in models 2 and 3. Finally, as in Panels A and B, both the likelihood ratio tests and the AIC and BIC criteria indicate a significant increase in explanatory power once the evangelical density variables are included in Model 2.

A.1. How does local bias interact with the evangelical investor effect?

In Table VI, we explicitly examine how the local bias effect interacts with the local bias effect. As in Table V Panel A, we report coefficients from a GLS regression on the investment amount for the first and subsequent investment in micro-bonds. The model is constructed by interacting the evangelical density in a 5km radius (as in Model (2) of Table V Panel A) with an indicator variable for the first investment by an investor in the micro-bonds. The interaction term estimates whether the effect of evangelicals in the 5 km radius is significantly different for the first investment decision and for subsequent decisions to invest in micro-bonds. The reference category is the subsequent investment.

The coefficients on the control variables in Table VI are largely similar to those in Table V Panel A with a couple of exceptions. The local bias effect manifest as usual, with the distance to the firm strongly negatively related to the amount invested. The clients of the Karlsruhe advisor also invest significantly more than other investors. Interestingly the coupon rate is significantly *negatively* related to the amount of the first investment. Fixed maturity bonds attract more investment. Richer areas appear to invest smaller amounts and investors in urban postcodes also appear to invest less than investors in non-urban codes.

The three variables of interest are the number of evangelical investors in the immediate radius (0-5km) of the investor, an indicator variable for the first investment by an investor, and the interaction term between the two. As expected, investors invest considerably smaller amounts in the first investment than in subsequent investments (negative and significant coefficient on the first investment variable). The density of evangelical investors is also negatively related to the amount of investment. Most important, the effect of evangelical investors within a 5 km area on the amount invested in micro-bonds is significantly lower for the first investment, than for repeat investments, as evident from the negative and significant interaction coefficient. What this table suggests is that evangelical investors are not as significant in explaining the amount of investment the first time an investor chooses to invest in the firm.

Does the effect of evangelical investor density change as the distance to the firm changes? We investigate this question in Table VII. This table is similar to Table VI (and Model 2 in Panel A, Table V) with the exception that we interact the evangelical density in the 5 km area with the distance of investors to the issuer. Since the coefficients on the control variables are largely similar

to those reported in Table V Panel A and Table VI, we focus on the three key variables here: the number of evangelical investors in the immediate radius (0-5km) of the investor, the distance to the issuer, and the interaction term between the two. As before, the number of evangelical investors is strongly positively related while the distance to the issuer is strongly negatively related to the amount invested in micro-bonds in a particular bond issue. Importantly, the evangelical effect substitutes for the local bias effect at greater distances to the issuer. The positive significant coefficient on the interaction term shows that the effect of evangelicals within the immediate 5 km area significantly increases at larger distance from the issuer. To put this more simply, the effect of the density of evangelical investors within the 5 km radius significantly decreases for investors located near the issuer. The larger the distance to the issuer, the stronger the effect of the number of evangelical investors located within 5 km.

B. Does the presence of evangelical investors affect the time to the next investment?

One of the issues with the measures we have used so far is the truncation of possible investment opportunities. Our sample terminates in 2013 but unobserved to us, investors could have chosen to invest even after 2013. Hence our results in Table V Panels B and C where we measure the frequency of investment and the likelihood of becoming a repeat investor, could be biased. Hence, we repeat our analysis modeling the inter-purchase time between subsequent investments in micro-bonds as our dependent variable using both a Cox hazard model and a Weibull survival time model. The results are reported in Table VIII. The estimated models test the effect of the determinants on the duration between investments in micro-bonds over the 2002-2013 period. The dependent duration variable is calculated as the number of months between sequential investments in micro-bonds. The independent variables in the survival models are identical to those in previous tables and defined in the Appendix.

The coefficients from the regressions are largely consistent across both the estimated Cox and Weibull survival-time models. They suggest that the shorter durations between sequential investments in micro-bonds are associated with a greater number of evangelical investors located in 5 km area (hazard ratio >1), a shorter distance to the issuer (hazard ratio <1), location in an urban area (hazard ratio >1), investor location in an area with a higher purchasing power (hazard ratio >1), and location in an area with a lower propensity for speculative investments (hazard ratio <1). In addition, Model 2 additionally interacts the effect of evangelicals in 5 km area with the

distance of investors to the issuer. As in Table VII, the effect of evangelicals becomes more important at the larger distances to the issuer.

C. Why do investors become evangelical?

Table IX estimates transition probability models and tests the effect of all determinants on the probability of becoming an evangelical investor in micro-bonds. The dependent variable is constructed as a two-state variable, indicating a transition to the evangelical status. The dependent variable is regressed against the standard control variables included in the prior tables and defined in the Appendix.

The model specification follows the idea that the neighbourhood structure (in terms of the investment behaviour of individuals residing in it) exerts an influence on the investment behaviour of other investors. The neighbourhood is a key concept in SIR models, explaining how epidemic processes evolve in space and time. An SIR model is an epidemiological model that computes the theoretical number of people infected with a contagious illness in a closed population over time. The name of this class of models derives from the fact that they involve coupled equations relating the number of susceptible people $S(t)$, number of people infected $I(t)$, and number of people who have recovered, $R(t)$. The essential assumption in SIR models is that the probability to transiting to a state (in our case, to becoming an evangelical investor) is determined by the state of an investor (his personal attributes) *and* the state of other investors in the neighbourhood. In other words, if the investors are residing in neighbouring areas, they exert influence on the state (i.e., the investment behaviour) of other investors, possibly by conveying reliable information, increasing trust in an investment, and other routes of social interaction. This model is also motivated by our data structure. In particular, only one investor in the sample behaves similarly to an evangelical investor at the time of his first investment (in 2012). All other investors become evangelicals (i.e., transit to the evangelical status) after their first investments.

The estimated panel logit regressions suggest that the transition to evangelical status is more likely in the neighbourhoods where other evangelical investors reside. As before, Model 1 is our baseline model. Model 2 adds the density of evangelical investors. Model 3 adds a new variable – the number of evangelical investors who attended corporate events along with the investor in question. This variable adds a direct potential interaction route to the evangelical investor effect. In the prior regressions, we provided no evidence that the investors interacted with each other, let

alone with evangelical investors. The number of evangelical investors who attended corporate events along with the investor in question provides one potential direct channel of investment.

Estimated coefficients in Model 1 suggest that investors are more prone to become evangelical (i.e., simultaneously invest a greater amount, invest more frequently, and with shorter durations between sequential investments in micro-bonds), if they are located at a shorter distance to the issuer (the local bias effect), if they are located in an area with a higher purchasing power, and if they buy listed bonds with high coupons and with no fixed maturity (they are willing to commit to a long-term relation with the borrower). Model 2 shows that while these effects remain, the number of other evangelical investors within the investors' neighbourhood has a strong positive effect on the likelihood of becoming evangelical. In other words, the more evangelicals reside in a neighbourhood, the more likely that other investors will become evangelical. However, both the likelihood ratio tests and the AIC and BIC criteria indicate a significant *decrease* in explanatory power once the evangelical density variables are included in Model 2.

Finally, Model 3 adds the number of corporate events the investor attends where evangelical investors are present. This appears to be strongly significantly related to the probability that an investor becomes evangelical. The more events an investor attends where other evangelicals are present, the higher is the probability that this particular investor becomes evangelical. The attendance variables strongly add to the explanatory power of the model. Both the likelihood ratio tests and the AIC and BIC criteria indicate a significant *increase* in explanatory power over Model 1 once the evangelical attendance variables are included in Model 3.

D. What is the effect of interacting with evangelicals at corporate events?

What happens once investors interact with other evangelical investors at corporate events? Table X reports the effects on the investment amount (Panel A, using a GLS regression), and the time to a subsequent investment (Panel B, using a Weibull parametric survival-time model). As in Table IX, we report 3 models – our baseline model (Model 1), a model including the density of evangelical investors (Model 2), and a model adding the number of corporate events attended where other evangelical investors were present (Model 3). An evangelical investor is considered as present at an event if he attended the corporate event within one year after becoming evangelical. The variable Number of attended events with evangelical investors is measured as a time-variant

number of attended events at which evangelical investors were present. Other explanatory variables are as defined in previous tables.

Panel A estimates whether a potential interaction with evangelical investors at corporate events prompts investors to invest a larger amount in micro-bonds. The answer is yes. As before, Model 1 suggests that investors are more prone to invest a greater amount in micro-bonds if they are located at a shorter distance to the issuer, if they are clients of the Karlsruhe advisor, and if they buy bonds with high coupons. Model 2 shows that while these effects remain, the number of other evangelical investors within the investors' 5km neighbourhood has a strong positive effect on the amount of investment. In other words, the more evangelicals reside in a neighbourhood, the more likely that investors will subsequently invest. Model 3 includes the variable of interaction with evangelical investors at corporate events. The more events investors attend with other evangelical investors, the greater amount they tend to invest in micro-bonds.

Panel B estimates whether the interaction with evangelical investors at the corporate events prompts the investors to decrease the time between subsequent purchases of micro-bonds. The duration variable is calculated as a number of months elapsed between the sequential investments in micro-bonds. Attendance of corporate events with evangelical investors is also significantly associated with a shorter duration between sequential investments in micro-bonds (hazard ratio >1). The more events investors attend with other evangelicals, the faster they tend to invest in subsequent issues of micro-bonds.

III. Robustness Tests

A. Omitted bond issues

One potential problem with our analysis is that the firms targeted particular types of investors differently, turning them evangelical. In other words, it is the specific firm treatment of particular investors that causes the evangelical effect, not self-generated behavior. Under this explanation, all investors are potentially large investors. Investors targeted by the firm invest more, invest more frequently, and repeat investments. Classifying these investors as evangelical is hence not based on innate investor characteristics but on firm treatments.

To address this issue, we examine a set of two bond issues that were issued immediately after the onset of the financial crisis, in December 2008 and October 2009. Unlike all the other bond

issues, these bonds were directly placed with a random sample of investors who were approximately evenly distributed among the three clusters. There appears to be little evidence that the firm even knew of the existence of evangelical investors (subsequently borne out in our discussions with the firm).

Table XI reports the composition of clusters for the two direct placements of bonds. Panel A shows that the numbers of investors across the three categories are reasonably randomly distributed. None of the investors who purchased micro-bonds from the December 2008 issue had ever attended a corporate event. Only 14 investors had attended a single corporate event prior to the October 2009 issue. Panel B documents that these investors were significantly more likely to make subsequent investments, though it was the first investment for only a small percentage of them.

Panel C shows that these investors reacted precisely as the non-targeted investors in prior bond issues with evangelical investors significantly more likely to invest in later bond issues, increasing the amount of investment and attending more events than the other two types of investors. Overall, there appears to be little evidence that the firm targeted different investors differently.

IV. Conclusions

Prior literature has extensively documented that investors are pre-disposed to investing in companies located close to where they live. In this paper, we examine how this local bias effect is affected by the distances investors are located from each other. Specifically, we examine the incremental impact of physical distance from a particular type of investor – who we call evangelical investors - in influencing purchases of a novel financial instrument directly issued by a German firm to local investors. We show that physical distances to these investors appears as, if not more important than the physical distance to the firm. The density of evangelical investors within a five km radius to the investor significantly influences the amount invested in the firm's micro-bonds, the frequency of investment and the likelihood of making repeat investments. We also identify a potential channel through which this influence operates – co-attendance at corporate events.

Our paper leaves several unanswered questions, in particular, the precise way in which the evangelical investor effect operates. Do evangelical investors convey information on the quality of the investment to other information? Does the information that they have invested convey social

information on investments made by neighbours? Further research is necessary to answer these questions.

References

Banerjee, Abhijit, Arun G. Chandrasekhar, Esther Duflo, and Matthew O. Jackson, 2013, The diffusion of microfinance, *Science* 341, [doi: 10.1126/science.1236498].

Bernile, Gennaro, Alok Kumar, and Johan Sulaeman, 2015, Home away from home: Geography of information and local investors, *Review of Financial Studies* 28, 2009-2049.

Bodnaruk, Andriy, 2009, Proximity always matters: Local bias when the set of local companies changes, *Review of Finance* 13, 629-656.

Brown, Nerissa C., Han Stice, and Roger M. White, 2015, Mobile communication and local information flow: Evidence from distracted driving laws, *Journal of Accounting Research* 53, 275-329.

Cao, H. Henry, Bing Han, David Hirshleifer, and Harold H. Zhang, 2011, Fear of the unknown: Familiarity and economic decisions, *Review of Finance* 15, 173-206.

Goetzmann, William N., and Alok Kumar, 2008, Equity portfolio diversification, *Review of Finance* 12, 433-463.

Grinblatt, Mark, and Matti Keloharju, 2001, How distance, language, and culture influence stockholdings and trades, *Journal of Finance* 56, 1053-1073.

Hong, Harrison, Jeffrey D. Kubik, and Jeremy C. Stein, 2008, The only game in town: Stock-price consequences of local bias, *Journal of Financial Economics* 90, 20-37.

Huberman, Gur, 2001, Familiarity breeds investment, *Review of Financial Studies* 14, 659-680.

Ivković, Zoran, and Scott J. Weisbenner, 2007, Information diffusion effects in individual investors' common stock purchases: Covet thy neighbors' investment choices, *Review of Financial Studies* 20, 1327-1357.

Jacobs, Heiko, and Martin Weber, 2012, The trading volume impact of local bias: Evidence from a natural experiment, *Review of Finance* 16, 867-901.

Long, J. Scott, and Jeremy Freese, 2001, Predicted probabilities for count models, *Stata Journal* 1, 51-57.

Massa, Massimo, and Andrei Simonov, 2006, Hedging, familiarity and portfolio choice, *Review of Financial Studies* 19, 633-685.

Parwada, Jerry T., 2008, The genesis of home bias? The location and portfolio choices of investment company start-ups, *Journal of Financial and Quantitative Analysis* 43, 245-266.

Pirinsky, Christo, and Qinghai Wang, 2006, Does corporate headquarters location matter for stock returns?, *Journal of Finance* 61, 1991-2016.

Raftery, Adrian E., 1996, Approximate Bayes factors and accounting for model uncertainty in generalised linear models, *Biometrika* 83, 251-266.

Seasholes, Mark S., and Ning Zhu, 2010, Individual investors and local bias, *Journal of Finance* 65, 1987-2010.

Shive, Sophie, 2012, Local investors, price discovery, and market efficiency, *Journal of Financial Economics* 104, 145-161.

Appendix – Data definitions

Variable name	Definition of the variable	Variance over time
Dependent variables:		
Invested Amount	**A continuous variable**, calculated as the amount invested in bonds by investor	Time-variant
Repeat Investor	**A two-state variable**, set equal to 1 if the investor purchased more than one bond issue, and 0 if investor purchased only one bond issue.	Time-variant
Investment Frequency	**A count variable**, calculated as the number of purchases of bonds changing over years.	Time-variant
Key variables:		
Number of Evangelical Investors in area	Count variables, calculated as the number of evangelical investors present in areas of: 0-5km, 5-10km, 11-20km, and >20 km	Time-variant
Control variables:		
Investor-level effects:		
Distance to the Issuer	A continuous variable, measured as distance (in km) from investor to the issuer's location.	Const.
First Investment	A binary variable, set equal to 1 for the first purchase of a bond issue, and 0 for repeat purchase of a bond issue.	Time-variant
Client of financial advisor	A binary variable, set equal to 1 if the firm investor is a client of a financial advisor who recommended the micro bond investment, and 0 otherwise.	Const.
Number of attended events	A count variable, calculated as the cumulative number of investor information events attended by investor during current and previous years.	Time-variant
Number of guests	A count variable, calculated as the cumulative number of guests invited by investor to issuer investor information events during current and previous years.	Time-variant
Inter-purchase time index	A continuous variable, measured as time (in years) elapsed between purchases of bonds by investor, weighted by the bond duration.	Const.
Bond effects:		
Listed	A binary variable, set equal to 1 if the instrument is listed, and 0 otherwise.	Time-variant
Instrument Type	A binary variable, set equal to 1 for Genussscheine bonds (with no fixed maturity), and 0 for Anleihen bonds (with fixed maturity).	Time-variant

Coupon	Calculated as the annual coupon rate of bond issue.	Time-variant
Time to bond maturity	Calculated as number of years from date at which bond was issued and maturity date when bond will be repaid	Time-variant
Postcode area-level effects:		
Urban postcode area	A binary variable, set equal to 1 for urban 5-digit postcode areas, and 0 for non-urban 5-digit postcode areas.	Const.
Population density	A continuous variable, calculated as population density in 5-digit postcode area (per sqr. km)	Const.
PP per household	A continuous variable, calculated as purchasing power per household in 8-digit postcode area	Const.
Percentage of highest affinity to speculative investment	A continuous variable, calculated as percentage of households in 8-digit postcode area with 'highest' affinity to purchase speculative financial investment	Const.
Fixed effects:		
Issue	The date when the bond was issued	
Postcode (8 digits)	8-Digit postcode of investor	

Table I – Bond descriptive statistics: Across the micro-bond issues

Table 1 reports summary statistics for sample of micro-bonds issued by the firm over the sample period from 2002-2013. All variables are defined in the Appendix.

Micro-bond characteristics [by year of issue]	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2010**	**2011**	**2012**	**2013**	Summary: all issues	
Number of issues	1	3	5	1	1	2	2	2	4	3	4	28	total
Number of purchases	966	893	3,196	1,542	1,123	1,969	497	2,144	2,789	3,264	3,886	22,269	total
Amount invested [th. euro]:													
min	1.00	2.00	1.00	3.00	3.00	3.00	3.00	3.00	4.00	3.00	3.00	3	average
mean	11.01	13.01	12.66	13.92	15.45	16.17	11.97	16.00	17.04	15.37	14.33	14	average
median	7.00	9.00	8.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9	average
max	104.00	350.00	400.00	580.00	300.00	480.00	110.00	580.00	387.00	300.00	430.00	366	average
total	10,600.00	11,600.00	40,400.00	21,500.00	17,300.00	31,800.00	5,950.00	34,300.00	47,500.00	50,200.00	55,700.00	326,850	total
Type of financial instruments (number):													
Anleihen (bond with fixed maturity)	966	893	3,196	1,542	1,123	1,504	497	2,144	2,789	3,264	3,886	21,804	total
Genussscheine (no fixed maturity)	0	0	0	0	0	465	0	0	0	0	0	465	total
Listed instruments (number):													
Listed	966	893	2,619	0	0	0	497	491	99	0	0	5,565	total
Not listed	0	0	577	1,542	1,123	1,969	0	1,653	2,690	3,264	3,886	16,704	total
Macaulay duration:													
mean	3.26	1.23	2.45	4.19	4.11	4.48	4.50	4.00	3.43	2.84	3.06	3.41	average
median	3.69	1.19	2.48	4.19	4.11	4.19	4.50	3.73	3.55	3.47	3.91	3.54	average
Annual coupon rate of bond issue:													
mean	6.59	7.00	6.85	7.00	7.00	7.29	7.25	6.11	6.96	6.45	6.22	6.79	average
median	6.50	7.00	7.00	7.00	7.00	7.00	7.25	6.00	6.88	7.25	7.00	6.90	average
Benchmark savings rate in month of issuance:													
mean	3.75	2.95	3.01	2.35	2.63	2.93	3.39	2.22	2.71	2.14	1.57	2.70	average
median	3.75	2.93	3.15	2.35	2.63	2.98	3.39	2.22	2.73	1.93	1.48	2.69	average

Difference in coupon amount between bond coupon and benchmark:													
mean	2.84	4.05	3.84	4.65	4.37	4.36	3.86	3.89	4.25	4.30	4.65	4.10	average
median	2.75	4.07	3.85	4.65	4.37	4.02	3.86	3.78	4.10	5.14	5.48	4.19	average
Maturity date when bond will be repaid (in days):													
mean	1,366	474	997	1,826	1,796	1,983	2,038	1,699	1,087	1,193	1,295	1,432	average
median	1,553	458	1,004	1,826	1,796	1,827	2,038	1,553	762	1,491	1,703	1,455.5	average

Table II – Investor descriptive statistics across investment, spatial, and social characteristics

This table compares investor characteristics by year across the sample period from 2002-2013. All variables are defined in the Appendix.

Investor characteristics [by year]	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2010**	**2011**	**2012**	**2013**	Summary: all investors	
Investment behaviour													
Number of investors	928	781	2,507	1,542	1,123	1,666	497	1,968	2,350	2,706	3,143	19,211	total
Average number of bond purchases per investor	1.04	1.14	1.27	1.00	1.00	1.18	1.00	1.09	1.19	1.21	1.24	1.12	average
Average amount invested [th. euro]:	11.42	14.85	16.11	13.94	15.41	19.09	11.97	17.43	20.21	18.55	17.72	16.06	average
Inter-purchase time [days]:													
mean	228	205	226	236	221	225	220	231	225	230	240	226	average
median	238	191	230	236	224	232	222	234	231	231	238	228	average
Spatial distribution													
Number of 8-digit postcode areas	764	713	2,141	1,373	988	1,422	466	1,706	2,001	2,323	2,751	16,648	total
Average number of investors per 8-digit postcode area	1.21	1.10	1.17	1.12	1.14	1.17	1.07	1.15	1.17	1.16	1.14	1.15	average
Distance to the issuer [km]:													
mean	228	205	226	236	221	225	220	231	225	230	240	226	average
median	238	191	230	236	224	232	222	234	231	231	238	228	average
Purchasing power per HH[1] in 8-digit postcode area [th. euro]:													
mean	44.52	44.47	44.55	45.39	45.68	45.06	45.55	45.39	45.44	44.85	44.72	45.06	average
median	44.15	43.92	43.92	44.86	45.04	44.23	44.85	44.95	45.07	44.20	44.13	44.48	average
Percentage of HH[1] with highest affinity to speculative investment:													
mean	45.96	46.91	46.64	51.19	49.53	48.39	49.56	51.94	51.17	49.69	49.65	49.15	average
median	40.77	45.36	42.72	51.77	46.29	47.08	49.07	52.11	50.56	48.94	48.43	47.55	average
Social interaction at corporate events													
Number of attendees at investor information events	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	607	757	10,067	9,682	21,113	total
Number of guests invited by investors at investor information events	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1,102	0	186	967	2,255	total

Table III – The emergence of evangelical investors

This table reports summary statistics for investor types as defined by a rolling cluster analysis procedure, clustering on three dimensions: the amount of investment till that point in time, the frequency of investment and the inter-purchase time index. The cluster analysis is performed with a *k*-means partition clustering method which allows creating a specified number of clusters. All three dimensions are time-variant, i.e. constructed only on the basis of information available at that time. The optimal number of clusters is determined by two alternative tests: Calinski–Harabasz and Duda–Hart methods. Distinct clustering is characterized by large Calinski–Harabasz pseudo-F values, large Duda–Hart Je(2)/Je(1) values, and small Duda–Hart pseudo-T-squared values.

Number of investors in 3 clusters	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2010**	**2011**	**2012**	**2013**	Total
1: Evangelicals	0	0	19	23	37	122	33	161	420	451	516	1,812
2: Medium-commitment group	38	318	1,465	497	624	1,282	284	1,166	1,535	1,750	1,911	10,870
3: Low-commitment group	928	575	1,682	1,022	462	565	180	817	834	1,063	1,459	9,587
Total	**966**	**893**	**3,166**	**1,542**	**1,123**	**1,969**	**497**	**2,144**	**2,789**	**3,264**	**3,886**	**22,269**

Table IV – Comparison of clusters in investment behavior

This table reports summary statistics the evangelical investors as defined by a rolling cluster analysis procedure, clustering on three dimensions: the amount of investment till that point in time, the frequency of investment and the inter-purchase time index. The cluster analysis is performed with a k-means partition clustering method which allows creating a specified number of clusters. All three dimensions are time-variant, i.e. constructed only on the basis of information available at that time. The optimal number of clusters is determined by two alternative tests: Calinski–Harabasz and Duda–Hart methods. Distinct clustering is characterized by large Calinski–Harabasz pseudo-F values, large Duda–Hart Je(2)/Je(1) values, and small Duda–Hart pseudo-T-squared values.

3 clusters of investors	**Amount of Investment**	**Frequency of Investment**	**Number of attended events**	**Number of guests**	**Inter-purchase time index**	**Time to bond maturity (in years)**	**Distance to the issuer (km)**	**% of HH with spec. investment**
1: *Evangelicals*								
mean	214,473.50	8.406	0.655	0.390	0.234	3.724	194.915	48.347
median	148,000	8	0	0	0.174	4.2	177.528	48.470
Number of investors	**1,812**	1,812	1,812	1,812	1,812	1,783	1,812	1,812
2: *Medium-commitment group*								
mean	38,090.16	3.134	0.170	0.114	0.519	3.710	225.126	49.325
median	29,000	3	0	0	0.328	4.2	229.470	47.835
Number of investors	**10,870**	10,870	10,870	10,870	10,870	10,582	10,870	10,870
3: *Low-commitment group*								
mean	14,625.74	1.114	0.018	0.015	.	3.659	239.546	49.575
median	10,000	1	0	0	.	4.2	239.611	47.890
Number of investors	**9,587**	9,587	9,587	9,587	0	9,439	9,587	9,587
Total for all investors								
mean	42,340.61	2.693	0.144	0.094	0.478	3.689	228.876	49.353
median	20,000	2	0	0	0.281	4.2	232.148	47.900
Number of investors	**22,269**	22,269	22,269	22,269	12,682	21,804	22,269	22,269
Kruskal-Wallis test of equality of clusters								
chi^2:	11041.73[a]	17635.37[a]	1972.09[a]	1972.09[a]	632.88[a]	5.96	121.56[a]	1.93
p-value:	[<0.00005]	[<0.00005]	[<0.00005]	[<0.00005]	[<0.00005]	[0.0507]	[<0.00005]	[0.3810]

[a] The null hypothesis that the clusters are the same is rejected at any level below 0.01%.

Table V – The effect of density of evangelical investors on the investment in micro-bonds.

This table reports regression estimates for the effect of the density of evangelical investors on the investment in micro-bonds over the period 2003-2012. Panel A reports coefficients from a GLS regression on investment amounts, Panel B coefficients from a Poisson regression on investment frequency, and Panel C coefficients from a panel logit model on whether an investor becomes a repeat investor. In each panel, t-statistics are reported in parentheses. In each panel, Model 1 is the base model, run on the whole sample, without including the key explanatory variables for the density of evangelical investors. Model 2 is run on the same sample as model 1, including variables for the density of evangelical investors. Model 3 is run only on the subgroup of non-evangelical investors. The likelihood ratio test compares the change in goodness-of-fit after addition of the key variable across the nested models: i.e., Model (1) is compared with the full Model (2). All pairs of models are compared on identical samples of investors and the dependent variable. The AIC and BIC comparison criteria for models with the same dependent variable: a smaller value of both criteria is attributed to a more efficient (i.e., better fitted) model.

Panel A: GLS regression estimates for invested amount (in thousands of Euros) with investor random effects

DV:	**Invested Amount** [thousands, euros]		
Model:	**Model (1)**	**Model (2)**	**Model (3)**
	coeff. (*t*-statistic)	coeff. (*t*-statistic)	coeff. (*t*-statistic)
Key variable:			
Number of Evangelical Investors in area:			
0-5 km	-	3.059***	2.991***
		(5.64)	(5.48)
5-10 km	-	-0.342	-0.330
		(-0.94)	(-0.91)
11-20 km	-	-0.008	-0.007
		(-0.06)	(-0.05)
>20 km	-	0.030**	0.031***
		(2.46)	(2.65)
Control variables:			
Investor-level effects:			
Distance to the Issuer	-0.026***	-0.020***	-0.020***
	(-7.23)	(-5.05)	(-4.92)
Repeat Investor	44.800***	45.017***	41.465***
	(38.15)	(38.12)	(35.50)
Client of financial advisor	11.655***	11.228***	11.030***
	(3.88)	(3.73)	(3.70)
Bond effects:			
Listed	0.024	0.381	0.017
	(0.01)	(0.22)	(0.01)
Instrument Type (no fixed maturity)	-7.766*	-7.000	-8.069*
	(-1.81)	(-1.63)	(-1.89)
Coupon	7.165***	7.153***	6.840***
	(8.84)	(8.83)	(8.45)

Postcode area-level effects:			
Urban postcode area	-4.679***	-5.726***	-5.567***
	(-3.22)	(-3.86)	(-3.77)
Population density (5-digit postcode)	0.0004	0.0003	0.0003
	(1.41)	(0.91)	(1.12)
PP per household (8-digit postcode)	0.0003***	0.0004***	0.0004***
	(3.96)	(4.04)	(4.10)
Percentage of highest affinity to speculative investment (8-digit postcode)	0.008	0.008	0.005
	(0.35)	(0.36)	(0.24)
Fixed effects:			
Issue	Yes	Yes	Yes
Postcode (8 digits)	Yes	Yes	Yes
R^2	0.1185	0.2130	0.1220
Likelihood Ratio test *chi*^{2}:		59.00	
p-value:		[<0.00005]	
AIC	555,835.70	555,784.70	-
BIC	555,955.80	555,936.90	-
Number of observations [investor-year pairs]	22,262	22,262	21,646
Number of groups [investors]	9,297	9,297	9,297

Panel B: Poisson regression estimates for investment frequency with investor random effects

DV:	**Investment Frequency [count var.]**		
Model:	**Model (1)**	**Model (2)**	**Model (3)**
	coeff. (*t*-statistic)	coeff. (*t*-statistic)	coeff. (*t*-statistic)
Key variable:			
Number of Evangelical Investors in area:			
0-5 km	-	0.015***	0.016***
		(3.07)	(3.19)
5-10 km	-	-0.003	-0.003
		(-0.89)	(-0.86)
11-20 km	-	0.001	0.001
		(0.67)	(0.87)
>20 km	-	-0.001***	-0.001***
		(-6.41)	(-6.92)
Control variables:			
Investor-level effects:			
Distance to the Issuer	-0.00025***	-0.00026***	-0.00025***
	(-4.82)	(-5.07)	(-4.82)
Repeat Investor	-	-	-
Client of financial advisor	0.042	0.048	0.042
	(1.07)	(1.21)	(1.07)
Bond effects:			
Listed	0.103***	0.104***	0.103***
	(6.92)	(7.15)	(6.92)
Instrument Type (no fixed maturity)	-0.059*	-0.052	-0.059*
	(-1.68)	(-1.54)	(-1.68)
Coupon	0.048***	0.044***	0.048***
	(7.13)	(6.79)	(7.13)
Postcode area-level effects:			
Urban postcode area	0.001	0.013	0.001
	(0.50)	(0.65)	(0.50)
Population density (5-digit postcode)	-0.000003	-0.000002	-0.000003
	(-0.78)	(-0.78)	(-0.78)
PP per household (8-digit postcode)	0.000003**	0.000003**	0.000003**
	(2.31)	(2.34)	(2.31)
Percentage of highest affinity to speculative investment (8-digit postcode)	-0.001***	-0.001***	-0.001***
	(-3.54)	(-3.49)	(-3.54)
Fixed effects:			
Issue	Yes	Yes	Yes

Postcode (8 digits)		Yes	Yes	Yes
R^2		0.0752	0.1371	0.1228
Likelihood Ratio test	*chi*^{2}:		53.10	
	p-value:		[<0.00005]	
AIC		76,295.54	76,250.44	-
BIC		76,391.67	76,378.61	-
Number of observations [investor-year pairs]		22,262	22,262	21,646
Number of groups [investors]		9,297	9,297	9,297

Panel C: Panel logit regression estimates for repeat investors with investor random effects

DV:	**Repeat investor [binary var.]**		
Model:	**Model (1)**	**Model (2)**	**Model (3)**
	coeff. (*t*-statistic)	coeff. (*t*-statistic)	coeff. (*t*-statistic)
Key variable:			
Number of Evangelical Investors in area:			
0-5 km	-	0.048**	0.044**
		(2.42)	(2.31)
5-10 km	-	0.002	0.001
		(0.13)	(0.11)
11-20 km	-	0.014**	0.013**
		(2.81)	(2.68)
>20 km	-	0.004***	0.004***
		(20.21)	(18.66)
Control variables:			
Investor-level effects:			
Distance to the Issuer	-0.00032***	-0.00046***	-0.00044***
	(-6.88)	(-3.03)	(-3.06)
Repeat Investor	-	-	-
Client of financial advisor	0.057	0.178	0.136
	(1.46)	(1.59)	(1.28)
Bond effects:			
Listed	0.105***	0.073***	0.722***
	(7.16)	(2.82)	(14.18)
Instrument Type (no fixed maturity)	-0.027	0.178	0.171
	(-0.80)	(1.34)	(1.32)
Coupon	0.041***	0.073***	0.075***
	(6.26)	(2.82)	(2.98)
Postcode area-level effects:			
Urban postcode area	0.024	0.091	0.091*
	(1.24)	(1.59)	(1.68)
Population density (5-digit postcode)	-0.000002	-0.00002*	-0.00002*
	(-0.53)	(-1.91)	(-1.85)
PP per household (8-digit postcode)	0.000003**	0.000004	0.000004
	(2.41)	(1.29)	(1.28)
Percentage of highest affinity to speculative investment (8-digit postcode)	-0.0010***	-0.0015	-0.0014
	(-3.46)	(-1.72)	(-1.76)
Fixed effects:			
Issue	Yes	Yes	Yes

Postcode (8 digits)		Yes	Yes	Yes
R^2		0.0539	0.0562	0.0529
Likelihood Ratio test	*chi*^{2}:		713.38	
	p-value:		[<0.00005]	
AIC		28,776	28,070.71	-
BIC		28,872	28,198.88	-
Number of observations [investor-year pairs]		22,262	22,262	21,646
Number of groups [investors]		9,297	9,297	9,297

Table VI – Comparing the effect of density of evangelical investors on the first and subsequent investments in micro-bonds

This table reports GLS regression estimates for the effect of the density of evangelical investors on the first and subsequent issues in micro-bonds. All variables are defined in the Appendix.

DV: *Invested Amount* [th. euro]	**Coef.**	***t*-statistics**
Key variables:		
Number of Evangelical Investors in area: 0-5 km	-4.630***	(9.00)
First Investment [compared to reference category: Repeat Investment]	-40.906***	(-32.31)
Interaction term:		
Number of Evangelical Investors in 5 km area × First Investment [compared to reference category: Repeat Investment]	-6.890***	(-7.92)
Control variables:		
Investor-level effects:		
Distance to the Issuer	-0.019***	(-5.09)
Client of financial advisor	10.701***	(3.57)
Bond effects:		
Listed	0.163	(0.01)
Instrument Type (no fixed maturity)	-7.442*	(-1.74)
Coupon	-0.014***	(8.82)
Postcode area-level effects:		
Urban postcode area	-6.120***	(-4.17)
Population density (5 digit postcode)	0.0003	(0.94)
PP per household (8 digit postcode)	-0.0003***	(3.95)
Percentage of highest affinity to speculative investment (8 digit postcode)	0.009	(0.41)
Fixed effects:		
Issue	Yes	
Postcode (8 digits)	Yes	
Number of observations [investor-year pairs]	22,262	
Number of groups [investors]	9,297	

Table VII – Testing how the effect of the density of evangelical investors changes with the distance to the issuer.

This table reports GLS regression estimates for how the effect of the density of evangelical investors changes with distance to the issuer. All variables are defined in the Appendix.

DV: *Invested Amount* [th. euro]	**Coef.**	***t*-statistics**
Key variables:		
Number of Evangelical Investors in area:		
0-5 km	0.847*	(1.69)
Distance to the Issuer	-0.014***	(-3.66)
Interaction term:		
Number of Evangelical Investors in 5 km area		
× Distance to the Issuer[a]	0.063*	(1.75)
Control variables:		
Investor-level effects:		
Repeat Investor	42.188***	(35.77)
Client of financial advisor	10.517***	(3.51)
Bond effects:		
Listed	0.816	(0.48)
Instrument Type (no fixed maturity)	-6.211	(-1.46)
Coupon	7.129***	(8.85)
Postcode area-level effects:		
Urban postcode area	-7.040***	(-4.84)
Population density (5 digit postcode)	-0.00004	(-0.14)
Percentage of highest affinity to speculative investment (8 digit postcode)	5.799***	(4.37)
Fixed effects:		
Issue	Yes	
Postcode (8 digits)	Yes	
Number of observations [investor-year pairs]	22,262	
Number of groups [investors]	9,297	

[a] The coefficient is scaled for the change in each 10 km of distance to the issuer.

Table VIII – Survival models: testing the effect on the duration between investments in micro-bonds

This table reports coefficients from panel Cox regressions and a Weibull survival time model with investor random fixed effects. The dependent variable is measured as a number of days between sequential purchases of micro-bonds by individual investors. The panel Cox regression is run using the Breslow method for ties. The results are similar with an alternative method of handling tied events times (Efron method). Hazard ratios <1 imply a lower hazard and, therefore, a longer survival time (i.e., longer duration between sequential bond purchases by an individual investor). T-statistics are reported in parentheses. All variables are defined in the Appendix.

DV: *Inter-purchase time* [days]	**Cox model**		**Weibull survival-time model**
	haz. ratio (*t*-statistic)	haz. ratio (*t*-statistic)	haz. ratio (*t*-statistic)
Key variable:			
Number of Evangelical Investors in area:			
0-5 km	1.031***	1.022***	1.026***
	(4.01)	(2.66)	(2.41)
5-10 km	0.996	0.996	1.003
	(-0.73)	(-0.82)	(0.42)
11-20 km	1.003*	1.005*	1.006**
	(1.69)	(2.19)	(2.25)
>20 km	0.999***	0.999***	0.999***
	(-6.94)	(-7.16)	(-3.13)
Interaction term:			
Number of Evangelical Investors in 5 km area × Distance to the Issuer	-	1.00035**	-
		(2.50)	
Control variables:			
Investor-level effects:			
Distance to the Issuer	0.9996***	0.9995***	0.9995***
	(-6.54)	(-6.89)	(-4.55)
Client of financial advisor	0.870***	0.860***	1.099
	(-2.77)	(-2.98)	(1.19)
Bond effects:			
Listed	0.934**	0.934**	0.960
	(-2.40)	(-2.40)	(-1.29)
Instrument Type (no fixed maturity)	1.163**	1.163**	1.199**
	(2.39)	(2.38)	(2.45)
Coupon	1.066***	1.066***	1.071***
	(5.32)	(5.31)	(4.53)
Postcode area-level effects:			
Urban postcode area	1.085***	1.084***	1.103**
	(3.51)	(3.50)	(2.51)
Population density (5-digit postcode)	0.999*	0.999*	0.999*
	(-1.85)	(-2.38)	(-1.68)

PP per household (8-digit postcode)	1.000***	1.000***	1.000
	(2.79)	(2.75)	(1.60)
Percentage of highest affinity to speculative investment (8-digit postcode)	0.9987***	0.9986***	0.9987**
	(-3.74)	(-3.93)	(-2.14)
Fixed effects:			
Issue	Yes	Yes	Yes
Postcode (8 digits)	Yes	Yes	Yes
Number of observations [investor-year pairs]	22,262	22,262	22,262
Number of failures	13,099	13,099	13,103

Table IX – Becoming evangelical: testing the effect of the interaction with evangelical investors at investor information events

This table reports panel logit regression estimates with investor random effects, testing the probability of becoming an evangelical investor based on attendance at investor information events. All models are run on the whole sample including both evangelical and non-evangelical investors. The likelihood ratio test compares the change in goodness-of-fit after addition of the key variable across the nested models: i.e., reduced Model (1) is compared with Model (2), and Model (3) is compared with Model (2). All pairs of the models are compared on the identical sample of investors and the dependent variable. The AIC and BIC comparison criteria are computed for models with the same dependent variable: a smaller value of both criteria is attributed to a more efficient (i.e., better fitted) model. The strength of evidence is evaluated with the absolute difference in the BIC criteria between two compared models (Raftery, 1996; Long, 1997; Long and Freese, 2001), where ΔBIC={0-2} indicates weak evidence, ΔBIC={2-6} indicates positive evidence, ΔBIC={6-10} indicates strong evidence, and ΔBIC={>10} indicates very strong evidence.

DV:	**Becoming Evangelical** [binary var.: 0,1]		
Model:	**Model (1)**	**Model (2)**	**Model (3)**
	coef. (*t*-statistic)	coef. (*t*-statistic)	coef. (*t*-statistic)
Key variables:			
Number of events attended with Evangelical Investors:			
1	-	-	1.724***
			(6.50)
2	-	-	3.111***
			(8.35)
3	-	-	4.274***
			(6.76)
4	-	-	5.437***
			(5.22)
5	-	-	4.775
			(1.43)
Number of Evangelical Investors in area:			
0-5 km	-	0.100*	0.065
		(1.86)	(1.04)
5-10 km	-	-0.051	-0.080**
		(-1.38)	(-1.87)
11-20 km	-	0.0036	-0.017
		(0.25)	(-1.00)
>20 km	-	0.0041***	0.004***
		(3.10)	(3.01)
Control variables:			
Investor-level effects:			
Distance to the Issuer	-0.003***	-0.003***	-0.009**
	(-4.37)	(-4.23)	(-2.38)

Client of financial advisor	0.277	0.193	0.353
	(0.41)	(0.29)	(0.54)
Bond effects:			
Listed	0.613***	0.456**	0.524***
	(3.08)	(2.32)	(2.67)
Instrument Type (no fixed maturity)	1.091***	1.077***	1.218***
	(-2.77)	(2.80)	(3.10)
Coupon	0.225***	0.195***	0.211***
	(3.39)	(2.93)	(3.05)
Postcode area-level effects:			
Urban postcode area	0.295	0.322	0.311
	(1.16)	(1.24)	(1.13)
Population density (5-digit postcode)	-0.00002	-0.000033	-0.000021
	(-0.43)	(-0.63)	(-0.34)
PP per household (8-digit postcode)	0.00003**	0.000036**	0.000034**
	(2.24)	(2.43)	(2.19)
Percentage of highest affinity to speculative investment (8-digit postcode)	-0.006	-0.007	-0.005
	(-1.54)	(-1.79)	(-1.25)
Fixed effects:			
Issue	Yes	Yes	Yes
Postcode (8 digits)	Yes	Yes	Yes
McKelvey & Zavoina's R^2	0.3787	0.3816	0.3642
Likelihood Ratio test *chi²*:	-	-28.22	165.99
p-value:	-	[1.000]	[<0.0005]
AIC	6,797	6,833	6,677
BIC	6,901	6,969	6,853
ΔBIC (Relative to model 1)		-68.26	47.67
Number of observations [investor-year pairs]	22,262	22,262	22,262
Number of groups [investors]	9,297	9,297	9,297

Table X – Testing the effect of the interaction with evangelical investors at investor information events.

This table reports regression estimates for the effect of the interaction with evangelical investors at investor information events on the invested amount (Panel A) and the inter-purchase time in days (Panel B). All regressions are run on the whole sample, including evangelical and non-evangelical investors. Panel A reports coefficients from a GLS regression on investment amounts, and Panel B coefficients from a panel Weibull parametric survival-time model with investor random effects. The dependent variable in Panel B is the number of days between sequential purchases of micro-bonds by individual investors. Hazard ratios <1 in the survival model imply a lower hazard and, therefore, a longer survival time (i.e., longer duration between sequential bond purchases by an individual investor). T-statistics are reported in parentheses. All variables are defined in the Appendix.

Panel A: GLS regression estimates for invested amount (in thousands of Euros) with investor random effects

DV:	**Invested Amount** [th. euro]		
Model:	**Model (1)**	**Model (2)**	**Model (3)**
	coef. (*t*-statistic)	coef. (*t*-statistic)	coef. (*t*-statistic)
Key variable:			
Number of attended events with Evangelical Investors:			
1	-	-	40.672***
			(13.42)
2	-	-	36.417***
			(9.61)
3	-	-	61.798***
			(10.89)
4	-	-	89.545***
			(13.46)
5	-	-	102.764***
			(3.42)
Number of Evangelical Investors in area:			
0-5 km	-	3.392***	2.313***
		(6.06)	(4.15)
5-10 km	-	-0.438	-0.596
		(-1.17)	(-1.61)
11-20 km	-	-0.022	-0.417***
		(-0.15)	(-2.87)
>20 km	-	-0.022*	-0.020
		(-1.74)	(-1.59)
Control variables:			
Investor-level effects:			
Distance to the Issuer	-0.033***	-0.026***	-0.019***
	(-8.97)	(-6.26)	(-4.70)

Client of financial advisor	11.192***	10.474***	11.215***
	(3.61)	(3.38)	(3.65)
Bond effects:			
Listed	2.123	1.812*	2.966*
	(1.21)	(1.04)	(1.71)
Instrument Type (no fixed maturity)	-6.260	-7.150	-5.086
	(-1.42)	(-1.61)	(-1.16)
Coupon	8.602***	8.635***	8.572***
	(10.29)	(10.34)	(10.36)
Postcode area-level effects:			
Urban postcode area	-3.560**	-4.902***	-4.933***
	(-2.40)	(-3.20)	(-3.26)
Population density (5-digit postcode)	0.00029	0.00013	0.00023
	(1.03)	(0.46)	(0.82)
PP per household (8-digit postcode)	0.00039***	0.0004***	0.00039***
	(4.41)	(4.44)	(4.40)
Percentage of highest affinity to speculative investment (8-digit postcode)	-0.0104	-0.011	-0.00081
	(-0.45)	(-0.48)	(-0.03)
Fixed effects:			
Issue	Yes	Yes	Yes
Postcode (8 digits)	Yes	Yes	Yes
R^2	0.2105	0.2058	0.1776
Number of observations [investor-year pairs]	22,262	22,262	22,262
Number of groups [investors]	9,267	9,267	9,267

Panel B: Weibull parametric survival-time model testing recurrent investments within a panel of individual investors

DV:	**Inter-purchase time** [days]		
Model:	**Model (1)**	**Model (2)**	**Model (3)**
	coef. (*t*-statistic)	coef. (*t*-statistic)	coef. (*t*-statistic)
Key variable:			
Number of attended events with Evangelical Investors:			
1	-	-	9.854*** (59.39)
2	-	-	13.783*** (53.50)
3	-	-	13.987*** (37.47)
4	-	-	16.145*** (33.77)
5	-	-	38.443*** (10.00)
Number of Evangelical Investors in area:			
0-5 km	-	1.031*** (4.20)	1.0034 (0.51)
5-10 km	-	0.9984 (-0.32)	0.993 (-1.55)
11-20 km	-	1.0074*** (3.86)	0.994*** (-3.46)
>20 km	-	1.0006*** (4.35)	1.00024* (1.65)
Control variables:			
Investor-level effects:			
Distance to the Issuer	0.99961*** (-8.14)	0.99980 (-3.68)	0.99989 (-2.18)
Client of financial advisor	0.99983 (-0.00)	0.991 (-0.23)	0.973 (-0.74)
Bond effects:			
Listed	0.868*** (-6.70)	0.872*** (-6.34)	0.890*** (-5.68)
Instrument Type (no fixed maturity)	1.058	1.075	1.139**

	(1.02)	(1.30)	(2.47)
Coupon	1.032***	1.034***	1.022**
	(2.97)	(3.19)	(2.20)
Postcode area-level effects:			
Urban postcode area	1.075***	1.044**	1.048**
	(3.69)	(2.14)	(2.54)
Population density (5-digit postcode)	0.999996	0.999994	0.999998
	(-0.98)	(-1.52)	(-0.50)
PP per household (8-digit postcode)	1.000003**	1.000002**	1.000003**
	(2.15)	(2.02)	(2.31)
Percentage of highest affinity to speculative investment (8-digit postcode)	0.99918***	0.99921**	0.99948*
	(-2.69)	(-2.59)	(-1.84)
Fixed effects:			
Issue	Yes	Yes	Yes
Postcode (8 digits)	Yes	Yes	Yes
Number of observations [investor-year pairs]	22,262	22,262	22,262
Number of groups [investors]	9,267	9,267	9,267

Table XI – Composition of clusters for two direct placements of bonds.

This table reports investor characteristics for two bond issues that were directly placed with investors on 1 December 2008 and 1 October 2009. All variables are defined in the Appendix.

Panel A: Investors classified according to clusters

Number of investors across clusters	**01-Dec-08**	**01-Oct-09**	Total
1: Evangelicals	22	30	52
2: Medium-commitment group	44	62	106
3: Low-commitment group	43	13	56
Total	**109**	**105**	**214**

Number of investors attending events before investing in the issue	**01-Dec-08**[1]	**01-Oct-09**[2]	Total
1: Evangelicals	0	7	7
2: Medium-commitment group	0	6	6
3: Low-commitment group	0	1	1
Total	**0**	**14**	**14**

[1] None of the investors, who purchased micro-bonds from this issue, had attended corporate events before investing.

[2] Only 14 investors, who purchased micro-bonds from this issue, had attended corporate events before investing. All 14 investors attended only one corporate event.

Panel B: Investor types for omitted bond issues

Bond Issue: 1 Dec 2008

Investors	Last investment	Not last investment	Total
First investment	4	31	35
Repeat investment	5	69	74
Total	**9**	**100**	**109**

Bond Issue: 1 Oct 2009

Investors	Last investment	Not last investment	Total
First investment	3	6	9
Repeat investment	8	88	96
Total	**11**	**94**	**105**

Panel C: Bond investment behavior over time subsequent to investing in direct placement issue

Investor clusters	Amount of Investment	Frequency of Investment	Number of attended events	Number of guests	Inter-purchase time index	Bond duration (in days)	Distance to the issuer (km)	% of HH with spec. investment
1: *Evangelicals*								
mean	359,692.30	5.962	0.135	0.000	0.596	549.77	182.833	40.726
median	264,000	6	0	0	0.526	730	145.003	41.255
Number of investors	**52**	52	52	52	52	52	52	52
2: *Medium-commitment group*								
mean	111,594.30	2.943	0.057	0.000	0.793	553.17	236.222	58.277
median	100,000	3	0	0	1.000	730	250.267	59.755
Number of investors	**106**	106	106	106	106	106	106	106
3: *Low-commitment group*								
mean	113,053.60	2.036	0.018	0.000	.	402.89	216.927	46.049
median	50,000	1	0	0	.	304	265.080	42.900
Number of investors	**56**	56	56	56	0	56	56	56
Total for all investors								
mean	172,261.70	3.439	0.065	0.000	0.728	513.0187	218.200	50.812
median	105,000	3	0	0	1.000	304	225.498	51.715
Number of investors	**214**	214	214	214	158	214	214	214
Kruskal-Wallis test of equality of clusters								
chi^2:	96.57[a]	102.79[a]	6.25	n.a.	18.62[a]	20.19[a]	2.69	9.89[a]
p-value:	[<0.00005]	[<0.00005]	[<0.05]		[<0.00005]	[<0.00005]	[0.2604]	[<0.005]

[a] The null hypothesis that the clusters are the same is rejected at any level below 0.01%.

Figure 1

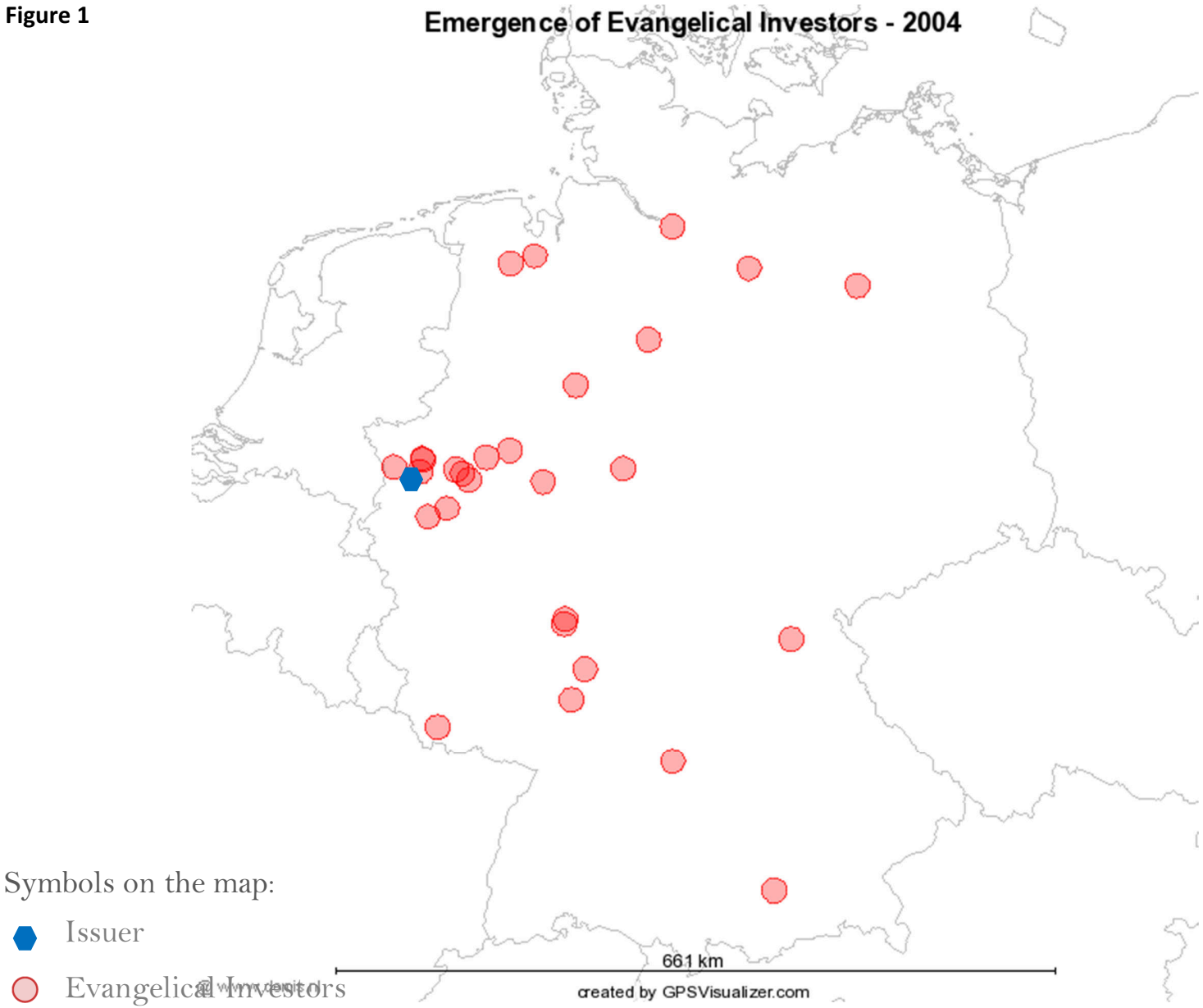
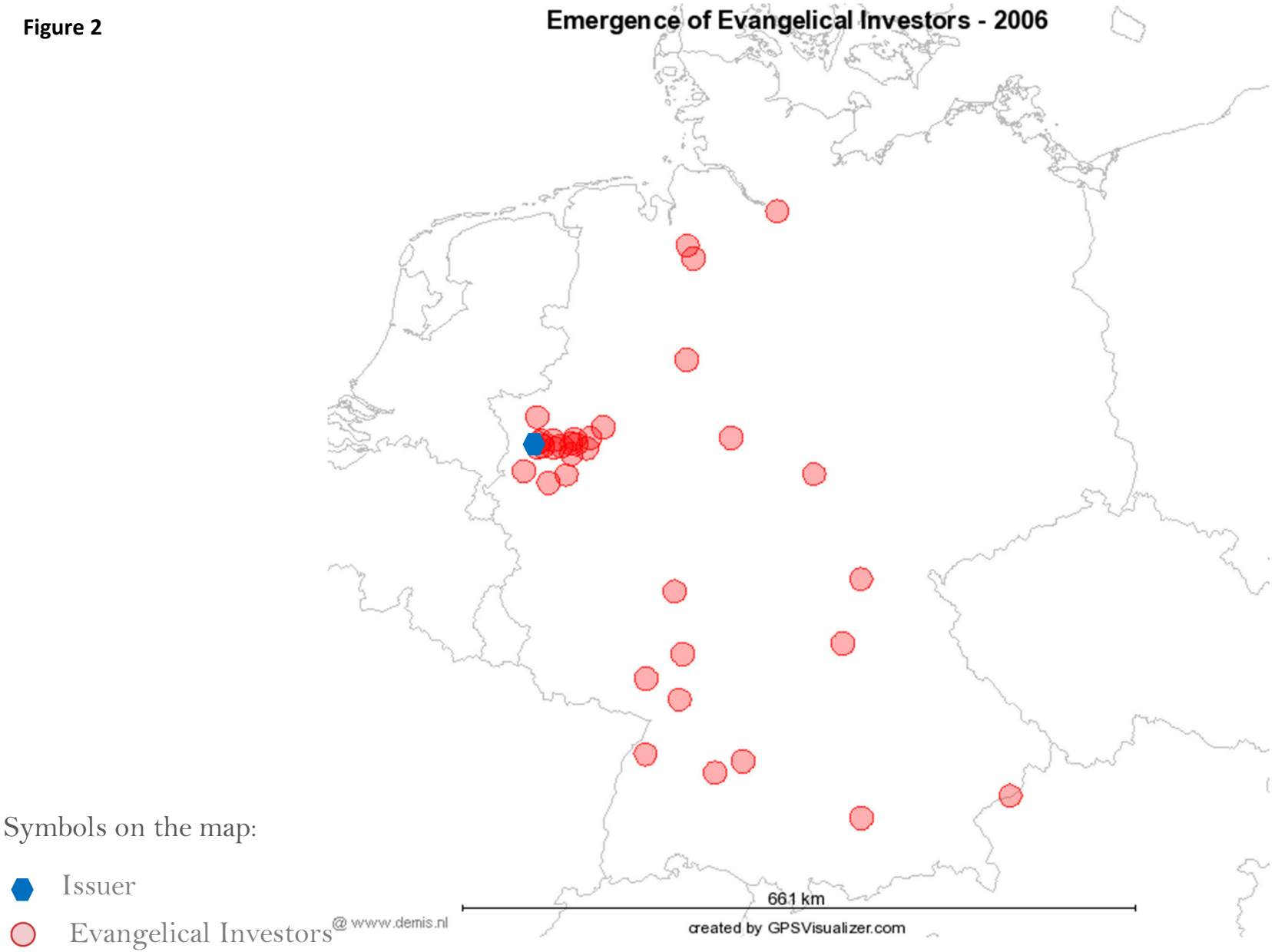

Emergence of Evangelical Investors - 2004
Symbols on the map:
Issuer
Evangelical Investors
661 km
created by GPSVisualizer.com

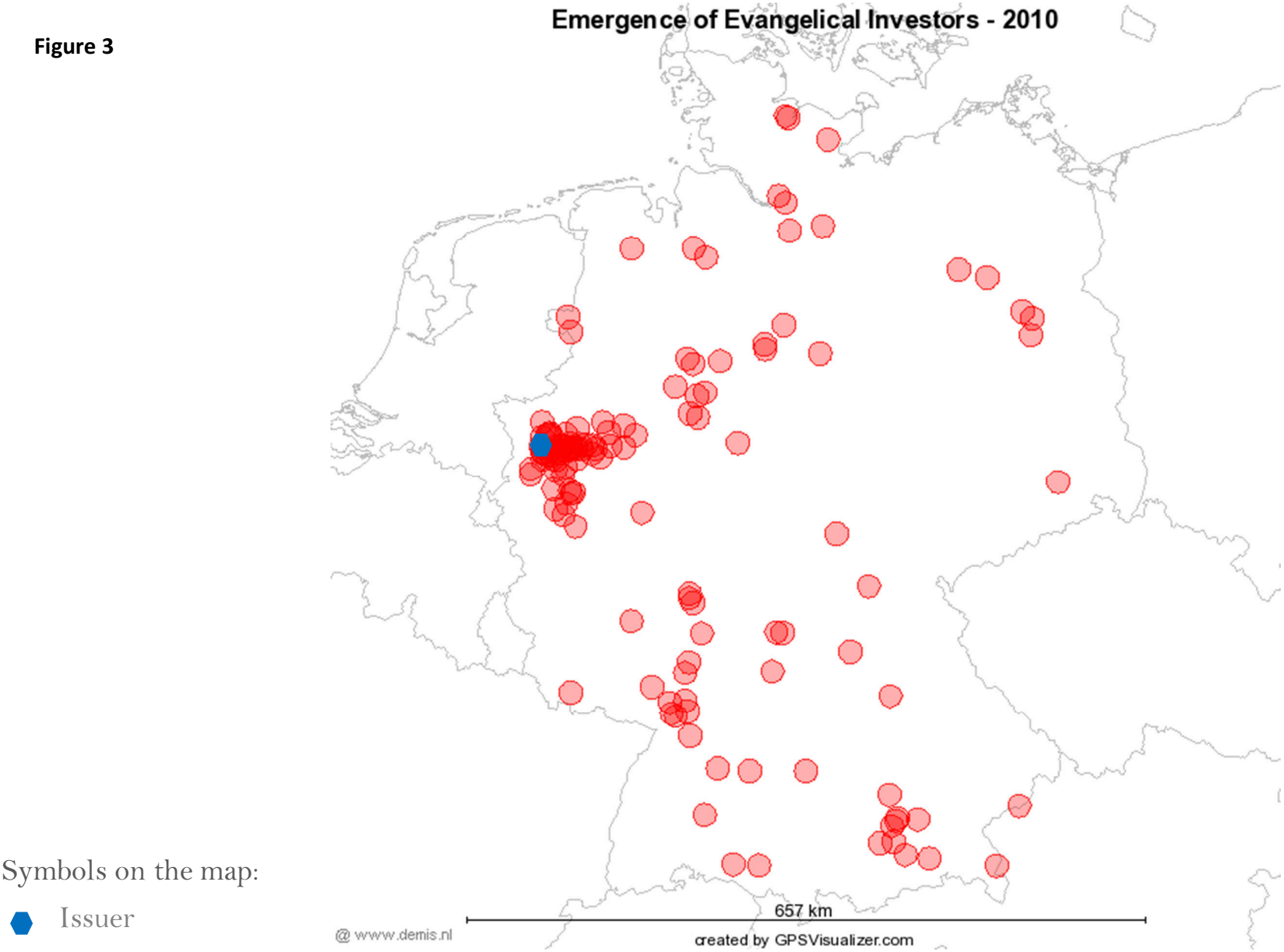
Figure 2



Symbols on the map:

- Issuer
- Evangelical Investors

Figure 3



Symbols on the map:

- Issuer
- Evangelical Investors

Figure 4

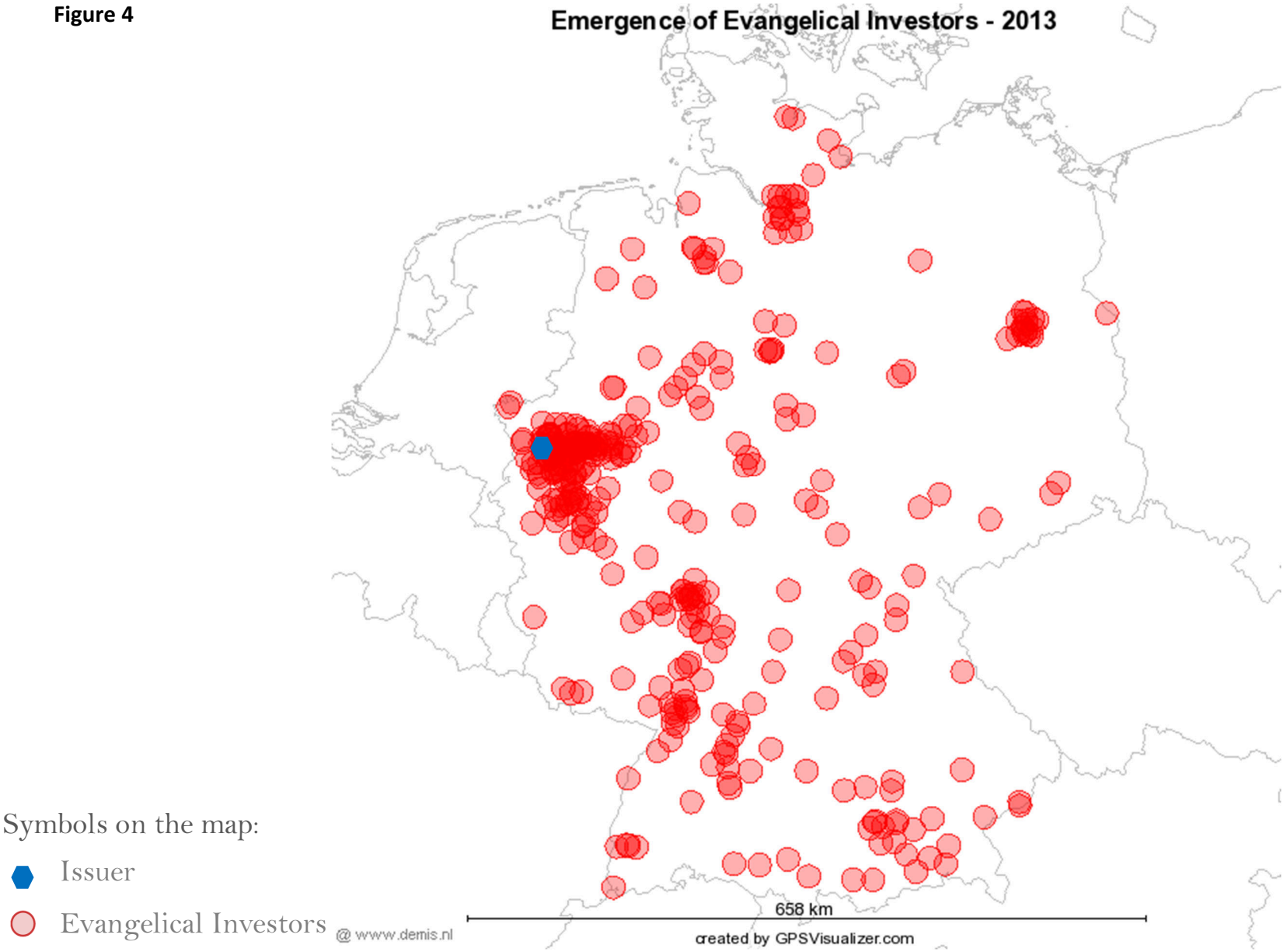
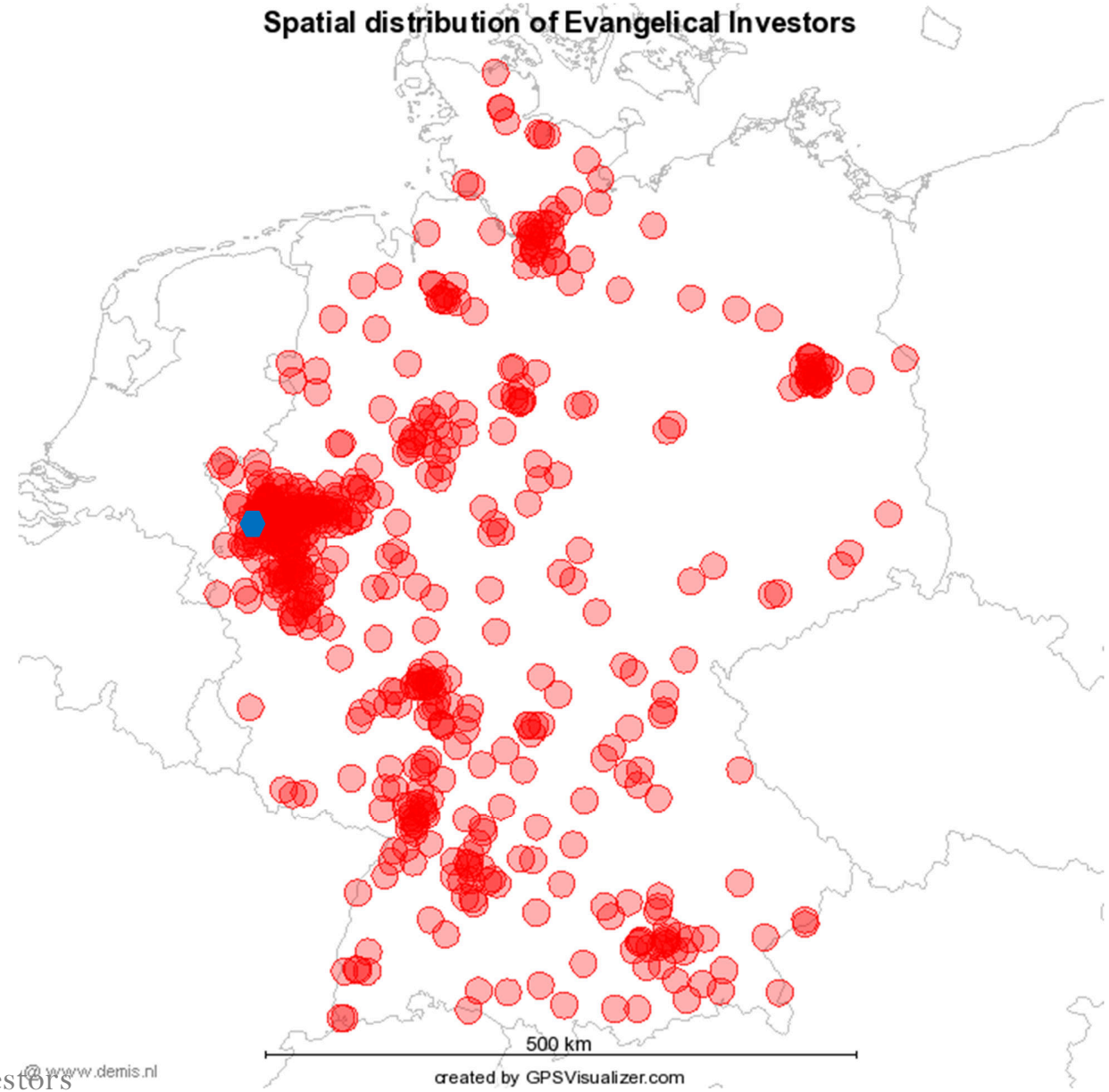

Emergence of Evangelical Investors - 2013
Symbols on the map:
Issuer
Evangelical Investors
@ www.demis.nl
658 km
created by GPSVisualizer.com

Figure 5



Symbols on the map:

- Issuer
- Evangelical Investors