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ABSTRACT

We exploit demographic variation to identify the effect of dividend demand on firm payout policy. Retail investors tend to hold local stocks and older investors prefer dividend-paying stocks. Together, these tendencies generate geographically-varying demand for dividends. Firms headquartered in areas in which seniors constitute a large fraction of the population are more likely to pay dividends, initiate dividends, and have higher dividend yields. However, the fraction of seniors is uncorrelated with share repurchases, investment, or profitability, suggesting that geographic variation in dividend payout is not driven by some unmeasured firm characteristic affecting the ability or willingness to distribute cash to shareholders. We also provide indirect evidence as to why firm managers may cater to the demand for dividends from local seniors. Overall, these results suggest that the composition of a firm's investor base affects corporate policy choices.

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This paper examines the role of investor demand in shaping firm payout policy. Miller and Modigliani (1961) suggest that matching takes place between investor clienteles who demand dividends and those firms that find it less costly to pay them, that is, firms set payout policy and investors sort based on their preferences for dividends. On the other hand, firms may actively respond to the preferences of their *current* shareholders. The empirical patterns will be the same regardless of the direction of the underlying causal relation—firm payout policies match investor preferences, but the implications for understanding firm policy are dramatically different. For example, if firms adjust policy in response to the composition of their current investors, then it clearly matters who the firm owners actually are.

This paper addresses the direction of causality between investor preferences and firm policies by testing the second possibility, that is, that shareholder preferences influence corporate policy choices. Specifically, we test whether shareholder demand for dividends influences firm payout policy. The challenge is to quantify dividend *demand* and, in particular, find a variable that likely reflects investor demand for dividends, but does not, at the same time, also proxy for dividend *supply* from firms (e.g., firms are more likely to pay or supply dividends because of a lack of investment of opportunities).

We seek to identify the effect of dividend demand on firm policy by exploiting geographical variation in the population of retail investors. Our identification strategy is based upon two notions. First, seniors have a preference for dividend-paying stocks.[1] Several reasons why seniors might prefer dividend-paying stocks have been proposed. Miller and Modigliani (1961) and Shefrin and Thaler (1988), among others, stress the role of life-cycle considerations—older investors may prefer dividend-paying stocks for consumption purposes. Thaler and Shefrin (1981) further point out that self-control and regret avoidance may motivate a dividend preference (i.e., consume from dividends and thus avoid the temptation to liquidate shares). Shefrin and Statman (1984) stress mental accounting (dividends and capital gains are in two separate "mental accounts" and thus potentially viewed and treated differently), while Scholz (1992) highlights a tax rationale. In this paper, we do not address the exact reason (or reasons) for the senior preference for dividends; what we build upon is the strong empirical evidence provided in Graham and Kumar (2006) of the existence of an age-based dividend clientele

[1] We follow Graham and Kumar (2006) in our definition of senior investors as individuals 65 years of age or order.

among retail investors. The substantial demographic variation across the U.S. (see, e.g., Becker (2007)) thus lays a foundation for a potentially powerful identification strategy.

Second, household stock ownership tends to be local. The tendency of individual investors to hold stocks of local firms in the U.S. has been reported by Huberman (2001) and Ivković and Weisbenner (2005); it has been documented in other countries as well (e.g., Grinblatt and Keloharju (2001) and Massa and Simonov (2006)). Variation in the local-age structure, therefore, induces differential dividend preferences across locations. Firms in locations with more seniors will face higher demand for dividends. Thus, we can identify a component of the dividend demand facing individual firms. Our proxy for this demand is the variable Local Seniors, defined henceforth as the fraction of residents who are 65 years old or older in the county in which a firm is headquartered. We use Local Seniors to test whether geographically-varying dividend demand is a determinant of payout policy for U.S. firms, thus building upon the Miller and Modigliani (1961) framework.[2]

Our dividend demand hypothesis requires that a couple of conditions be satisfied. First, there must be a sorting friction such as geographically-segmented markets. This assumption seems less appropriate for a well-known member of the S&P 500 index such as Microsoft or IBM. However, a growing research suggests that location matters for many firms in terms of their access to financing (Becker (2007)), their market valuation (Hong, Kubik, and Stein (2008)), the correlation pattern in their stock returns (Pirinsky and Wang (2006)), their liquidity (Loughran and Shultz (2005)), and the composition of their shareholders (Ivković and Weisbenner (2005)). Second, the firm management must perceive some benefit to catering to the dividend demand from local seniors, or at least some cost in not doing so. We will provide suggestive evidence for this later in the paper. Our strongest results is the finding of a lower turnover by local senior investors. Moreover, we tease out valuation effects on the ex-dividend

[2] Local senior investors likely are non-trivial owners of shares in firms (particularly smaller firms, more likely to face geographically-segmented markets). A compilation of data from multiple sources enables a crude estimate. At the middle of our sample period, direct ownership of stock by households in the U.S. (i.e., not including indirect stock ownership though mutual funds) was roughly 55% (see Flow of Funds Accounts from the Federal Reserve Board). According to the 1992 Survey of Consumer Finances (SCF), senior households accounted for roughly two-fifths of total direct household stock ownership. Authors' calculations using the database of brokerage accounts for retail investors over the period from 1991 to 1996 (see Section 2 for a description of this data set) suggest that about one-quarter of senior stock holdings are local firms. Taking these numbers together leads to a rough approximation that local-senior direct stock ownership comprises about five to six percent of total stock ownership and about ten percent of total household stock ownership (i.e., non-institutional ownership).

day, consider the effect of local seniors on the dividend policy of firms with the dual-class share structure, and analyze shareholder-sponsored proposals at annual shareholder meetings.

Our identification strategy follows a three-tiered approach (upon which we elaborate extensively in the following section). First, we establish a strong correlation between firm dividend policy and the fraction of seniors in the local community. Second, we provide a wide range of robustness tests to establish that dividend demand is what really provides the causation behind the correlation (i.e., firms pay dividends in response to the demand from their shareholders, who are more likely to be local seniors in the areas in which the fraction of seniors is relatively high), as opposed to the dividend-supply alternative (i.e., the presence of local seniors proxies for the firm's poor investment opportunities, which compels it to pay dividends). We also employ specifications that require a much higher hurdle to identify this "local seniors effect," such as examining how firm dividend policy adapts to a change in the local environment (e.g., when the fraction of seniors in the county changes or when the firm moves). Finally, we provide indirect evidence as to why firm managers may care about adjusting their dividend policy to match the demand generated by local seniors. Taken in its totality, we believe this three-tiered identification strategy provides both a strong result (i.e., dividend policy is correlated with the fraction of seniors in the surrounding community) and, more importantly, a compelling explanation for the result (demand for dividends, at least in part, *causes* firms to adopt a particular payout policy).

In the first tier of our identification strategy (identifying the underlying correlation), we show that firms headquartered in counties with a large fraction of seniors are more likely to pay dividends, are more likely to initiate dividends if they previously were non-payers, and pay a higher dividend yield. Increasing the proportion of seniors in a county by one standard deviation (an increase by 3.1% of the population in the county) increases the probability that a local firm is a dividend payer by approximately 1.8 percentage points, the probability that it might initiate dividends over the next year by approximately 1.0 percentage points, and the dividend yield by approximately 0.23% of market value.

The effect of Local Seniors on dividend initiations is particularly strong given the dividend initiation rate is roughly 2% per year over our sample—a one-standard deviation increase in Local Seniors increases the likelihood of a dividend initiation by 50% of the baseline effect. To put this in perspective, a one-standard deviation increase of the fraction of seniors in a

firm's community has the same effect on the likelihood that a firm initiates dividends as does a one-standard deviation increase in firm market capitalization, or a firm ageing from being publicly-listed for 6-10 years to being publicly-listed for 16-20 years. Determinants of the dividend initiation decision are particularly relevant because, given the general "stickiness" of dividends (Lintner (1956) and Brav, Graham, Harvey, and Michaely (2005)), the decision to initiate dividends, practically speaking, really is a decision to commit to a long stream of cash outlays (as opposed to a simple one-year commitment that can be easily reversed).

In the next section, we fully describe the battery of tests we conduct and the various specifications we employ to help identify the correct interpretation of the correlation between firm dividend policy and local seniors. This evidence is highly consistent with the dividend demand hypothesis, but not the dividend supply alternative. In other words, firms appear to face varying incentives to pay dividends depending on their location. This implies that the preferences of firm investors can be an important determinant of corporate decisions, at least when it comes to payout policy. Finally, we shed some light as to why firm managers may care about catering to this dividend demand.

This paper touches upon many other recent studies. It is related to research on the time-series variation in the demand for dividends (Baker and Wurgler (2004a, 2004b)). Similar to Baker and Wurgler, we conclude that dividend demand drives some part of the variation in payout policy (in our case, cross-sectional variation). Our paper is also related to Perez-Gonzales (2003) and Brown, Liang, and Weisbenner (2007), which examine firms' responses to tax changes based on the presence of large shareholders and CEOs as owners, respectively, examples of the type of research called for in Graham (2003). Similar to these papers, we conclude that owners matter for firm policies, but, in this case, these are retail investors. Finally, our findings confirm that there is important geographical variation in the financial conditions facing firms, as argued by, for example, Jayaratne and Strahan (1996), Guiso, Sapienza, and Zingales (2004), Becker (2007), and Hong, Kubik, and Stein (2008).

At first blush, the general ageing of the baby-boomers and the decreasing tendency of firms to pay dividends in the aggregate (Fama and French (2001)) may appear to be at odds with our cross-sectional findings. However, there is no tension between these aggregate trends and the findings presented in this paper. The dividend-demand hypothesis has strong *cross-sectional* predictions (firms located in the areas with larger fractions of seniors are more likely to

pay dividends), but is unlikely to have affected the aggregate time series of dividend payments. Over the period from 1980 to 2000, the average fraction of seniors in the counties in which firms are located has changed little (from 11.1% of county population in 1980 to 11.8% in both 1990 and 2000). As Fama and French (2001) point out, changes in the industry composition of firms over time have led to a strong time-series pattern in dividend payouts—this certainly overwhelms any demographic tendencies over the sample period. However, in a given cross-section, there is substantial variation in demographics across counties in the U.S.[3] It is this cross-sectional variation in demographics that we find to be strongly related to dividend policy, particularly the decision to start paying dividends, a decision that has long-lasting consequences for the firm.

The rest of the paper is organized as follows. Section 1 discusses our identification strategy in detail. Section 2 describes our data sources. Section 3 presents evidence on the effect of Local Seniors on firm dividend policy with several robustness checks. It also examines whether firms change dividend policy as the local environment changes. Section 4 describes evidence as to why firm managers may care to cater to this dividend demand, and Section 5 concludes.

1. The Identification Strategy

In an ideal econometric framework, we would use our Local Seniors variable as an instrument for dividend demand in payout policy regressions. Because we do not have an explicit measure for dividend demand, we instead estimate payout policy regressions with the Local Seniors variable (i.e., essentially "reduced-form" regressions). Thus, we are primarily focused on the soundness of our identification strategy (i.e., the presence of seniors in the local community is related to the demand from seniors, but not the supply of dividends) and on the significance of the relation between firm dividend policy and Local Seniors. We regard the actual point estimate, given that Local Seniors is a noisy proxy for dividend demand in the first place, as less crucial.

Nonetheless, we do find both statistically and economically significant effects of Local Seniors on firm dividend policy. As highlighted in the introduction, there is a strong correlation

[3] In each census-year cross-section, the standard deviation of the fraction of seniors is around 3 percentage points, the interquartile range is around 3.5 percentage points, and the difference between the maximum and minimum fraction of seniors across all U.S. counties is 30 percentage points.

between the presence of seniors in the county in which a firm is located and whether the firm pays dividends, whether the firm starts to pay dividends, and the firm's dividend yield.

Besides controlling for firm-specific characteristics, we also include state-year fixed effects in all regressions. Accordingly, any variable that varies only by state and year is absorbed in the state-year fixed effects and cannot explain any of our regression findings. Simply put, our results are not obtained by comparing firms, for example, in Florida (the most senior state) with those in Alaska (the least senior state). Rather, they are identified by differences in the proportion of seniors across counties *within* a state in a given year.[4] Thus we accomplish the first tier of our identification strategy, establishing the correlation.

An obvious concern with these results, and the associated dividend-demand interpretation, is that some omitted variable might be the true driver of dividend policy. If such a variable were correlated with the presence of seniors in communities, our results would be spurious. For example, Local Seniors might proxy for areas with low growth prospects, in which case it would characterize the areas in which firms are paying dividends because they are facing limited future economic prospects (i.e., a dividend supply-based alternative theory).

In the second tier of our identification strategy, we provide evidence that differentiates our demand-based explanation from the supply-based alternative theories. We carefully construct and conduct nine additional tests or sub-analyses of our baseline results. Some of these additional analyses simply add additional control variables to the baseline model. Others seek to identify subsets of firms for which the correlation between firm dividend policy and Local Seniors should be stronger (or weaker, or absent) under the dividend-demand hypothesis, whereas the supply-based alternative predicts no variation in the effect of Local Seniors across these various tests.

We also examine other dependent variables for which the supply-based explanation predicts significant effects, but the demand-based explanation does not. For example, we test how the local population is related to a firm's share repurchases, investment, and net income (see Section 3.2 and Table 4). One might hypothesize that the presence of "old" people in a community is related to the presence of mature firms in the area. These firms may generate high

[4] In Section 3.5, we present evidence that even the change in the proportion of seniors over time in a *given* county is related to firm dividend policy for the subset of firms most likely to care about local shareholders (i.e., small firms and the firms located in counties in which the residents have strong preferences for local stocks).

cash flows, but have limited investment opportunities. Therefore, under this supply-based alternative, the firms located in counties with large fractions of seniors might have high profitability, low investment, and high payouts (perhaps both in the forms of dividends and share repurchases). Our robustness tests find no effect of Local Seniors upon share repurchases, investment, and profitability.

To further rule out the supply-based alternative, we exclude the observations likely to be associated with economically stagnating counties (counties in a given year in which the number of people less than 40 years of age has declined since the last census), and estimate our results on the subsample of remaining, growing counties (these counties may or may not have a high fraction of seniors, but the population of young people has increased in absolute terms since the last census). According to the alternative, supply-based theory about stagnating areas, the growing county sample should not be affected by the presence of local seniors, whereas, under the demand-based theory, the local-seniors effect should be present. We find significant results for the subsample of firms in growing counties, matching those obtained from the full sample (see Section 3.3 and Table 5).

In still further robustness tests, we return to the full sample and add a wide range of county-level controls to the baseline regression (including county-level averages of all the firm characteristics, as well as industry shares of firms in the county, proxies for wealth of the county's residents such as median income, educational composition, and median house prices). These additional county-level variables do not alter the effect of Local Seniors (see Section 3.3 and Table 5), and are generally insignificant and economically unimportant in their own right.

Implicit behind the dividend-demand explanation is the presence of a market friction such as geographically-segmented markets (e.g., firms relying on "locals" as the shareholders/financiers of the firm). Huberman (2001), Ivković and Weisbenner (2005) and Hong, Kubik, and Stein (2008) provide evidence of geographically-segmented markets in terms of household portfolio selection and firm valuation, respectively. These frictions likely are likely very strong for some firms, yet non-existent for others. In particular, the dividend policy of small firms and of firms located in the counties in which there is a strong preference for owning local stocks in general (unrelated to local seniors' demand for dividends) should be most sensitive to the presence of local seniors. The reverse should also be true. Large firms that have a "national" following and those located in the counties in which there is lower tendency

toward local bias in stock holdings should exhibit little sensitivity in their dividend payouts to the presence of local seniors, if any. This is exactly what we find when we examine these particular subsets of firms (see Section 3.4 and Table 6). Thus, sample splits based upon a firm-based measure (firm size) as well as a county-based measure (the local bias in non-senior retail investors' portfolios in that county) yield the results predicted under the dividend-demand hypothesis. The supply-based alternative has no such predictions along these two dimensions because the supply of dividends by firms (i.e., their ability to pay dividends) should not depend upon the role of local investors.

We find that the effect of Local Seniors is stronger for banks, particularly small banks (see Section 3.4 and Table 7). From the perspective of local seniors, banks are an interesting group of firms because these local seniors also likely are important customers of the firm (in terms of providing a large share of the bank's deposits). Thus, not catering to the local seniors' demand for dividends not only makes the local seniors unhappy as shareholders, but also perhaps unhappy as important bank customers.

As a further extension, we test whether local dividend demand is more important for local firms when there are few other firms around (similar to the "only-game-in-town" effect of Hong, Kubik, and Stein (2008), cast therein in terms of firm valuation). The answer we find is in the affirmative, especially for dividend initiations (see Section 3.4 and Table 8). Evaluated at the median level of Local Seniors (0.115), a firm headquartered in a country with only three firms is 2.8 percentage points more likely to pay dividends than an otherwise similar firm located in a county with ten firms is. The effect is particularly strong for dividend initiation, a 2.5 percentage-point increase (the same magnitude as the average unconditional dividend initiation rate over the sample).

In addition to the aforementioned robustness checks, we also employ different specifications that substantially raise the hurdle of finding any effect of Local Seniors on payout policy by examining how firm dividend policy adapts to a change in the local environment. For example, we estimate regressions over our three pooled cross sections (1980, 1990, and 2000, corresponding to the three most recent census years that give detailed age breakdown by county) with fixed effects at the *county level* (see Section 3.5 and Table 9). In this framework, we are identifying the effect of Local Seniors by relating how firms adapt their dividend policy to changes in the age of the county (controlling, of course, for all other firm-specific factors that

may vary over time). We do not find a significant effect for the full sample of firms in the county-level-fixed-effects regression (*p*-value = 0.21), though the magnitude of the point estimate is very similar to that obtained in the pooled-cross-sectional regression, but we do find significant effects on the subsamples of firms for which we *a priori* would expect the dividend demand motivation to be the strongest (i.e., among small firms and firms in the counties in which the residents have high local-bias tendencies in their portfolios). We also examine a sample of just under 150 firms that moved their corporate headquarters to a different state over the period from 1997 to 2000 and find that the change in dividend policy of these movers is related to the change in the proportion of local seniors across their new and old communities (controlling for other firm characteristics that also may have changed over time). Not surprisingly, the effects strengthen as we increase the time frame after the move from one to five years (see Section 3.6 and Table 10). Admittedly, this sample of movers is small, which calls for caution in interpreting these results (or extrapolating these results to the general population of firms), but, nonetheless, these results are consistent with the dividend-demand hypothesis.

Finally, we explore why firm managers may wish to respond to shareholder demand for dividends. Addressing the questions as to whether there are benefits to such catering—or costs to not catering—as well as what the mechanisms through which retail investor demand affects corporate policy are is the third and final tier of our identification strategy. We consider three channels. None of them require that firms explicitly be informed about local retail investors' age, or that they should feel goodwill toward local investors in general, or local seniors in particular.

First, we present evidence that local seniors' demand for dividends likely lowers the turnover in the stock, which, presumably, is desirable to firm management (who can benefit in certain circumstances from having a loyal shareholder base). Graham and Kumar (2006) establish that seniors are more likely to buy dividend-paying stocks in the two weeks leading up to the ex-dividend day and are more likely to buy stocks after they start to pay dividends. We build on their result by showing that, conditional on holding a given stock, local seniors are substantially less likely, relative to other types of retail investors, to sell that stock in the future (see Section 4.1, Figure 1, and Table 11). Thus, it is plausible that the payment of dividends

attracts local senior investors and then, once they have bought the stock, local seniors continue to hold it for a long time.

Second, we tease out valuation effects by studying stock price movements around the ex-dividend day (see Section 4.2 and Table 12). Firms in locations with a large fraction of seniors experience larger ex-dividend day drops in their share prices. This is consistent with higher dividend demand facing these firms, which compels price drops to be higher and thus compensate ex-dividend buyers for missing out on the dividends. Further, this relation between ex-dividend day price movements and the presence of local seniors is present only for small firms (as one might suspect, given our earlier results). These results extend nicely the findings from Graham and Kumar (2006), who find that the price drops more on the ex-dividend day if the shareholders of the firm are older.

Third, using two additional data sets (one identifying firms that have dual-class shares, and the other documenting whether shareholder-sponsored proposals were brought up at annual shareholder meetings), we examine potential governance channels of influence. The link between local seniors and firm dividend policy is only present for firms with one class of shares (see Section 4.3 and Table 13). The effect is insignificant and generally close to zero for firms with a dual-class share structure (i.e., firms in which some owners, represented by the management team, possess disproportional voting rights and, hence, are likely less sensitive to the preferences of shareholders with small voting rights).

We also find that whether a firm pays dividends has little effect on the likelihood of shareholder-sponsored proposal at an annual shareholder meeting for firms located in counties with a small fraction of seniors, but, a dividend-paying firm headquartered in a county with a large fraction of the senior population is much less likely to have such complaints relative to a similar firm in the same county that does not pay dividends (see Section 4.3 and Figure 2). Admittedly, this result is only suggestive; it is consistent with activism by disgruntled owners (which managers may want to avoid, to curtail nuisance costs), but we are not in a position to show that this activism is a public relations concern to firms or is otherwise effective in changing firm behavior.

2. Data

2.1. Basic Firm-Level and Demographic Data

We compile the data from several sources. Stock returns and ex-dividend date information come from the Center for Research in Security Prices (CRSP). Firm-level accounting information, as well as firm location information (the county in which the headquarters are located), come from Compustat. Our use of the location of corporate headquarters follows previous studies in the locality literature (Coval and Moskowitz (1999, 2001) and Ivković and Weisbenner (2005)).

Geographic data on seniors at the county level and other county-level demographic variables come from the 1980, 1990, and 2000 U.S. Censuses. As discussed before, we define the variable Local Seniors as the population of individuals aged 65 or older living in a county divided by the total population of that county. The Local Seniors variable is slowly-moving and consecutive cross sections generally are very similar (e.g., the correlation between the county-level fraction of seniors in the 1990 and 2000 censuses is 0.94, and the correlation between the 1980 and 2000 censuses is 0.84). Nonetheless, we will later exploit variation in demographics over time to test whether changes in the fraction of local seniors over time affect firm payout policy. We also collect median house prices, median income, and educational composition of the county (i.e., the fraction of the population completing grades 1-8, grades 9-11, high school, some college, and finished a bachelor's degree or higher) for each census year.

2.2. Other Data Sources

Some of our analyses involve additional data sets. We use a data set of the positions and trades made by tens of thousands of individuals through a large discount broker in the period from 1991 to 1996.[5] These data are used for two primary purposes. First, we use it to establish the degree of local bias that prevails in a county. Second, we use detailed trade data to draw inferences regarding the trading propensities of local seniors relative to those exhibited by other individual investors who invested through the discount broker.

[5] For a detailed description of the data set, see Barber and Odean (2000).

In our analyses of dividend policy changes for firms that moved their corporate headquarters, we use Compact Disclosure to ascertain likely movers. The information provided through this data source was cross-checked with other sources to confirm the moves.[6]

We use data on dual-class share status from Gompers, Ishii, and Metrick (2008). We take from this database an indicator variable Dual Class, equal to 1 for firms with two or more classes of shares, and to 0 otherwise. In the typical case, a dual-class firm has a special class of shares with ten votes (instead of one), and cash flow rights identical to those of shareholders of ordinary shares.

Finally, we also use VotingAnalytics, produced by RiskMetrics. VotingAnalytics is a database on proposals and voting outcomes at annual shareholder meetings. The data cover firms included in the Russell 3000 index over the period from 2001 to 2007. We identify proposals originated by shareholders at the annual shareholder meetings for each firm. Over the seven-year span, just over one-fifth of the firms covered by VotingAnalytics have had at least one proposal originated by shareholders. The proposals often concern governance (e.g., bylaws), executive compensation, and accounting (e.g., options expensing); they are almost always opposed by management. In Section 4, we relate the likelihood of a proposal to the interaction of the presence of seniors in the community and the dividend policy of the firm.

2.3. Main Sample Overview

Table 1 presents summary statistics for payout policy variables and key county-level variables. The sample consists of pooled cross-sections for 1980, 1990, and 2000. Summary statistics for payout policy variables are presented in Panel A. Dividend Payer is an indicator variable equal to 0 for non-payers and equal to 100 for dividend payers. Dividend Initiation is an indicator variable defined for non-payers at the end-of-year *t*. Its values are 0 for the firms that remain non-payers in year *t+1*, and 100 for non-payers at the end-of-year *t* who start to pay a dividend in year *t+1*. Dividend Yield is the dollar amount of dividends paid out in year *t+1* divided by the end-of-year *t* equity-market value. Repurchase Yield is defined analogously for share repurchases in year *t+1*. All of our payout policy variables (i.e., our left-hand side variables) are measured the year after our firm-level and county-level controls (i.e., the right-

[6] We thank Jun-Koo Kang and Jin-Mo Kim for providing us with the data concerning headquarter moves in the period from 1997 to 2000.

hand-side variables). Thus, the payouts in 1981, 1991, and 2001 are related to the firm-level and county-level characteristics in the 1980, 1990, and 2000 cross sections, respectively. The average value of 47.4 for the variable Dividend Payer indicates that 47.4% of firms paid dividends in the following year. Similarly, in our sample 2.0% of firms not paying any dividends in a given year paid dividends the next year (Dividend Initiation). The average dividend yield across all firms (non-payers as well as payers) is 1.9%, and the repurchase yield is 1.1%.

Summary statistics for key geographical variables are presented in Panel B of Table 1. The Local Seniors variable (the proportion of county population aged 65 or older) across all sample observations averages 0.116. The range is wide, from 0.022 to 0.321, and the standard deviation is 0.031. Aside from summary statistics pertaining to the percentage of seniors in counties, the table also lists summary statistics for the inverse of the number of firms in the county (the number of firms from Compustat with their headquarters—"company location"—located in the county). The average is 0.102 (corresponding to 10 firms in the county), and the range is from 0.002 to 1 (corresponding to 500 firms and one firm in the county, respectively).

3. Results

3.1. Baseline Results

Our baseline test of the hypothesis that local dividend demand determined by demographics helps explain firm payout policy is to verify whether there is a positive relation between our three dividend payout policy variables and Local Seniors. We test this in a linear regression framework on the sample of pooled observations from the 1980, 1990, and 2000 cross-sections, using three measures of dividends: an indicator variable for paying dividends (Dividend Payer), an indicator variable for paying dividends conditional upon having not paid dividends the previous year (Dividend Initiation), and the dividend yield variable (Dividend Yield).[7]

Our payout policy dependent variables, defined in the previous section, are measured one year after our Local Seniors variable and our firm-level controls. In addition to Local Seniors, all the specifications feature a multitude of other firm-specific controls. Net Income,

[7] For robustness, we have estimated all relevant regressions in logit, probit, and tobit frameworks and have obtained very similar results, with statistical significance obtained for the Local Seniors variable at the one-percent level in all specifications. For key estimates based upon these specifications, please refer to footnote 9.

Cash, and Debt (long-term) are all normalized by total firm assets. Q is defined as the market-to-book ratio, that is, the market value of equity plus the book value of liabilities (using the book value of liabilities as an approximation for the market value of liabilities) divided by the book value of assets. Volatility refers to the standard deviation of monthly stock returns over the preceding two years. Two-Year Lagged Return refers to monthly stock returns over the preceding two years. Asset Growth is the logarithm of the growth rate of assets over the prior year. Age-group indicator variables (for firms publicly listed 1-5, 6-10, 11-15, 16-20, and 21+ years ago), industry-year interaction indicator variables (fixed effects for 2-digit level SIC industries interacted with year), and state-year interaction indicator variables are also included in all three specifications. All independent variables, when appropriate, are winsorized at the 1st and 99th percentile levels.

State-year interaction indicator variables play a particularly important role because they absorb all variation in dividend behavior between states in a given year. This implies that none of our results are identified from, for example, differences across Florida and Utah, but, rather, from county-to-county variation within states. Similarly, industry-year interaction indicator variables ensure that our results are not identified from, for example, technology firms being located in the areas with many young people, and construction firms being located in the areas with many seniors. Finally, to address potential challenges to standard regression assumptions (e.g., errors should be independent and identically distributed) we allow for heteroskedasticity and potential correlation across the observations associated with the same firm when estimating the standard errors. Specifically, we use the Huber and White sandwich estimator to estimate robust standard errors with clustering by firm.

The results are presented in Table 2. Column (1) reports the results for the Dividend Payer dependent variable. The estimated coefficients pertaining to traditional independent variables line up with expectations and previous studies. For example, firm-level volatility, asset growth, and leverage all reduce the probability of paying dividends, while firm size (market value) and firm age (unreported in the table for brevity) increase the likelihood of paying dividends. The coefficient associated with Local Seniors is 59.3 and highly significant (*p*-value < 0.01). The interpretation of the coefficient is that moving from a county with no seniors to a county with only seniors increases the likelihood that the firm pays dividends by 59.3 percentage points. Because the Local Seniors variable is a noisy proxy for dividend demand, we

note that the crucial finding is that the coefficient associated with Local Seniors is statistically significant (more so than the exact magnitude of the Local Seniors effect).

Column (2) examines dividend initiations. The sample is smaller because it includes only last year's non-dividend payers. The coefficient on Local Seniors is large and significant, implying that the probability of initiating dividends is much higher for firms located in counties with a large fraction of seniors.[8] The dependent variable in column (3) is Dividend Yield, that is, total dividend payout divided by market value. Once again, Local Seniors has a positive and significant effect.[9, 10]

In Table 3, we provide the economic magnitude of the effects of Local Seniors and various firm-specific controls on firm dividend policy by analyzing how a one-standard deviation change in a variable is predicted to affect the dividend policy of the firm (using the estimated coefficients from Table 2). For the simple Dividend Payer variable, Panel A of Table 3, the effect of Local Seniors is larger than those of some firm characteristics commonly included in payout policy regressions, but it is smaller than those of stock return volatility, firm size, Q, and firm leverage. A one-standard deviation increase in Local Seniors (0.031) boosts the likelihood of paying dividends by 1.8 percentage points, or four percent of the sample average likelihood of paying dividends. The coefficient on Local Seniors in the Dividend Payer specification may be biased downward because the dividend initiation decision of the firm perhaps had been made many years earlier, when the demographic characteristics of the community may have been somewhat different (combined with the "stickiness" of dividends in

[8] The R-squared is lower in this regression than in the other analyses reported in Table 2, reflecting the fact that dividend initiations are harder to predict than dividend payer status and the dividend yield are.

[9] We present linear regression estimates for ease of interpretation. We also estimated regressions of the binary variable Dividend Payer using probit and logit models and obtained coefficients on the Local Seniors variable of 2.7 (SE = 0.8) and 4.1 (SE = 1.4), respectively. We estimated regressions of the binary variable Dividend Initiation using probit and logit models and obtained coefficients on the Local Seniors variable of 9.2 (SE = 2.5) and 16.2 (SE = 4.7), respectively. Finally, we estimated the Dividend Yield in a tobit model and obtained a coefficient of 13.4 (SE = 2.5) and estimated a OLS regression of the Dividend Yield only for those firms paying dividends and obtained a coefficient of 9.6 (SE = 4.8). These coefficients are not directly comparable to their OLS counterparts because of the different functional form assumptions. In sum, regardless of the model, all three dividend payout measures are positively related to the presence of Local Seniors and are highly significant.

[10] The regression results displayed in Table 2 include industry-year fixed effects with industry measured at the two-digit SIC level (this results in the inclusion of 207 industry-year fixed effects in the pooled cross-sections sample). Results are very similar if we instead measure industry at the four-digit SIC level. The coefficients on the Local Seniors variable from linear regressions using the 4-digit industry measure (which results in 1,221 industry-year fixed effects) are 44.8 (SE = 15.6) for the Dividend Payer regression, 30.1 (SE = 8.9) for the Dividend Initiation regression, and 7.3 (SE = 2.7) for the Dividend Yield regression.

general). This may explain why the economic magnitude of the local-seniors effect in the dividend initiation regressions are stronger (at least compared with the baseline effects).

In Panel B of Table 3, we document the magnitude of the effect of Local Seniors on the dividend initiation decision. An increase of one standard deviation in Local Seniors is associated with a 1.0 percentage-point increase in the probability of dividend initiation for non-payers, an economically substantial effect that is equal to one-half of the average rate of initiation of 2.0% over the sample. To put the effect of Local Seniors on dividend initiations in perspective, it is of the same magnitude as a one-standard deviation increase in firm size (market capitalization), and twice the magnitude of one-standard deviation changes in cash holdings, debt, volatility, and prior two-year returns. Panel C of Table 3 examines the dividend yield. An increase Local Seniors by one standard deviation is associated with the increase in the dividend yield by 0.23%, a 12 percent increase relative to the sample average yield of 1.9%.

These results provide evidence of an effect of local seniors on dividend policy.[11] The estimated coefficients suggest an economically important effect of local dividend demand on firm payout behavior, particularly for *dividend initiations*. Given the "stickiness" of dividend policy, understanding what causes firms to start paying dividends in the first place is crucial to better understanding why firms are paying dividends today. Whereas these findings are consistent with individual-investor demand driving corporate payout policy decisions, this clearly is not the only plausible interpretation of our results. We next consider potential alternative explanations for these results and rule them out.

3.2. Toward Ruling Out Supply-Based Alternative Hypotheses

Upon establishing the baseline result—the presence of a strong correlation between firm dividend payout behavior and Local Seniors—we proceed with the second tier of our

[11] Besides analyzing dividend-payer status, dividend initiations, and the dividend yield, we also studied the determinants of dividend omissions, that is, whether firms, conditional upon paying dividends in year *t*, stopped paying them next year, in year *t*+1. Accordingly, we defined the indicator variable Dividend Omission as 100 for dividend-paying firms that stopped paying dividends next year, and 0 for dividend-paying firms that continued to pay. The coefficient associated with Local Seniors in this regression is -6.3 (SE = 13.2). Firm-level characteristics that were particularly important predictors of dividend omissions were: Net Income (-52.6; SE = 14.9); Volatility (113.1, SE = 11.3), and Two-Year Lagged Return (-2.8; SE = 0.5). Thus, dividend omissions were concentrated among firms that were clearly in financial distress, with low profitability, high stock-return volatility, and low past performance. Brav, Graham, Harvey, and Michaely (2005, p. 521) report in their survey concerning payout policy that executives "do not cut dividends except in extreme circumstances" and that there is a "big market penalty for reducing and omitting [dividends]." Perhaps, in light of this, it is not surprising that Local Seniors does not have a strong or statistically significant effect on dividend omissions—in these dire circumstances, when firm survival may be at stake, the preferences of local shareholders probably are not first-order considerations.

identification strategy, in an effort to differentiate our demand-based explanation from the supply-based alternative theories. Indeed, it is possible that some omitted variable, correlated with Local Seniors, might be the true driver of dividend policy. For example, Local Seniors might proxy for areas with low growth prospects and, perhaps, high profitability. A supply-based alternative explanation would suggest that the firms located in counties with many seniors might have high profitability, low investment, and high payouts (perhaps both in the forms of dividends and share repurchases). On the other hand, our demand-based hypothesis predicts a positive effect of Local Seniors on dividends, as established in the previous section, and no effect of Local Seniors on supply-based alternatives—share repurchases, profits, and investment.

To differentiate between these alternative explanations, we relate firm share repurchase behavior, investment, and net income to Local Seniors (as well as the same set of independent variables as in the analyses reported in Table 2 and discussed in the previous section). The dependent variables in these analyses are Repurchase Yield (the dollar amount of stock repurchases made in year *t+1* divided by the end-of-year *t* equity market value), Investment (capital expenditure in year *t+1* divided by the end-of-year *t* assets), and Net Income (net income in year *t+1* divided by the end-of-year *t* assets).

In short, the results, presented in Table 4, do not offer any support for the supply-based alternative. Indeed, there is no effect of Local Seniors on the Repurchase Yield (taken as is, as in column (1), or averaged across three years to address the greater fluctuations in share repurchases on a year-to-year basis, as in column (2)), Investment, or Net Income.

3.3. Economically Growing Areas and Additional County-Level Controls

Another way to differentiate between demand- and supply-based explanations is to consider a local economic environment that, very likely, is growing (or, at least, is not stagnating). Governed by the notion that the decline in the total number of young residents in the county is a proxy for economic stagnation (e.g., rural, declining areas with mature, "old economy" firms), for the purposes of these analyses we remove the observations associated with such county-year combinations from the sample.[12] That is, in a given cross-section, we drop firms located in the counties in which the number of seniors may be high because young

[12] There are approximately twice as many observations associated with firms headquartered in counties with positive growth of young people than those in the counties with negative growth of young people.

people left to find better opportunities elsewhere. If the relation between dividends and the presence of local seniors is driven by mature firms in declining areas, the effect of Local Seniors should now disappear when estimating over the "growing" subsample. The demand-based explanation, however, still applies in the remaining sample, and thus predicts a positive relation between dividends and Local Seniors.

Table 5 features the results of regressions by subsample. For ease of comparison, columns (1), (4), and (7) replicate Table 2. The columns featuring the regressions analogous to those reported in Table 2, but estimated over the growing-county subsample—columns (2), (5), and (8)—report coefficients associated with Local Seniors that are similar in magnitude to those resulting from the estimation based upon the full sample (and are also highly statistically significant). These results further strengthen the evidence in favor of the dividend-demand based explanation.

Returning to the full sample, a further robustness test serves to rule out the possibility that Local Seniors might proxy for some observable demographic and economic variables that capture the local environment in which firms operate. The remaining three columns in Table 5—columns (3), (6), and (9)—feature the results based upon such a specification, in which the set of independent variables has been augmented by additional demographic controls (logarithm of county population, the educational composition of the county—the fraction of the population having finished college, and fraction having finished high school, etc.) and economic controls (the average of each of the firm-level variables across all firms located in the county, as well as the share of local firms in each industry as classified by the two-digit SIC code, median house prices in the county, and median income in the county). Once again, the regression coefficients are similar, both in terms of their magnitude and significance, to those resulting from the baseline specification.[13]

[13] The other county-level demographic and economic controls generally are statistically insignificant and small in economic magnitude. Focusing on the Dividend Payer regression, the coefficient associated with the logarithm of county population is statistically significant (-2.0; SE = 0.5). However, the magnitude is small: quadrupling the county population is associated with only a 2.8 percentage-point decline in the likelihood of paying dividends. The coefficient associated with median income in the county, measured in units of $100,000, is -6.2 (SE = 10.3), and the coefficient associated with median house prices in the county, also measured in units of $100,000, is -0.8 (SE = 1.5). Similarly, none of the county-level educational composition variables were significant (the *F*-test of their joint significance yielded a *p*-value of 0.54).

3.4. Subpopulations for Which Local Dividend Demand Should be Stronger

As discussed in the introduction, the effect of local-senior demand for dividends requires some geographical friction. We use cross-sectional variation in such friction to identify the effect of Local Seniors. First, we consider small stocks and stocks of firms headquartered in the areas in which there is a higher degree of local bias. Individual investors are likely more important for small firms and local bias, though present among institutional investors as well (Coval and Moskowitz (1999)), is considerably more pronounced among individual investors (Ivković and Weisbenner (2005)).

The dividend-demand hypothesis predicts that the dividend policy of small firms and of firms located in the counties in which there is a strong preference for owning local stocks in general (unrelated to local seniors' demand for dividends) should be very sensitive to the presence of local seniors. By contrast, dividend policies of large firms or firms located in the counties in which there is lower tendency toward local bias in stock holdings should not exhibit sensitivity to Local Seniors. On the other hand, the supply-based alternative offers no predictions along these two dimensions because the supply of dividends by firms should not depend upon the role of local investors.

Table 6 features the related results. In addition to all the independent variables from the baseline specification, these analyses feature two indicator variables. The first indicator variable, featured in column (1), is Small Firm; it is equal to 1 for firms with below-median market capitalization, and to 0 otherwise. The second indicator variable, featured in column (2) is High Local Bias County; it is equal to 1 if the firm is headquartered in a county in which the extent of local bias among the non-senior local retail investors from the brokerage data sample is above median, and 0 otherwise.[14]

The results line up with the predictions very closely. Column (1) suggests that the effect of Local Seniors is concentrated among small firms (there essentially is no effect for large firms, with a point estimate of 7.6; SE = 24.0), with a highly statistically significant point estimate of 99.8 for the total effect of Local Seniors for small firms (i.e., the baseline effect of Local Seniors, 7.6, plus the interaction of Local Seniors and Small Firm, 92.2, gives the total effect of Local

[14] In constructing this measure, we consider non-senior household portfolios (specifically, those held by investors younger than 40 years of age) to avoid endogeneity issues (that is, that the local bias of seniors might be strong in those locations in which firms' dividend policies correspond to local senior preferences). The identifying assumption is that non-seniors' local bias captures some aspect (other than dividend preference) that affects the local bias of seniors as well, such as exposure to the same business news or advertising.

Seniors for small firms). Column (2), similarly, shows that the effect is concentrated among the firms headquartered in high local-bias counties (the total effect of Local Seniors for firms in high local-bias counties is 144.0, with a high level of statistical significance).

Next, we consider firms in the banking industry.[15] Banks, particularly small ones, have a particularly relevant feature—local seniors likely are important customers of the firm. As Becker (2007) documents, seniors are important among bank retail customers. Compared with other age groups, seniors tilt their financial portfolios disproportionately toward bank deposits; they are the only age group in which more than 90% of individuals have transaction accounts and in which more than 20% hold certificates of deposits. Moreover, seniors have much higher mean and median shares of their wealth held in checking accounts, saving accounts, and certificates of deposit than any other age group (Becker (2007, Figure 1)). Because of this, and their higher financial wealth, although their population fraction is only 12%, seniors own 33% of total household money in checking accounts, 27% of the money in savings accounts, and 37% of the money in CDs (even though they receive only about 14% of total income, including pensions), and hold 25% of total household wealth.[16]

The median distance between a borrower and a bank over the period from 1973 to 1993 period is no more than five miles (Petersen and Rajan (2002)), that is, lending from small banks to small borrowers is a very local affair. Assuming the same closeness exists for the bank-depositor relationship, there is potentially a significant cost associated with not catering to the dividend demand by local seniors—the risk of not only making local seniors unhappy as shareholders, but also as depositors, that is, bank customers (with a credible threat that such unsatisfied local seniors might withdraw their deposits and proceed to bank elsewhere).

We present the related analyses in Table 7. The specifications are similar to those from the baseline analysis (Table 2, column (1)), with the addition of two indicator variables. The first indicator variable, featured in column (1), is Bank; it is equal to 1 for firms in the banking industry (2-digit SIC code equal to 60), and to 0 otherwise. The second indicator variable, featured in column (2), is the aforementioned Small Firm. The specification from column (2) also features the interaction between the Local Seniors, Small Firm, and Bank variables.

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[15] We thank the Co-Editor John Graham for this suggestion.

[16] Calculations are based on the 2001 Survey of Consumer Finances (SCF), using the SCF-provided sampling weights to calculate estimates for the U.S. population as a whole and the U.S. Bureau of the Census figures.

According to column (1) of Table 7, as predicted, the effect of Local Seniors is about two and one-half times larger for banks than it is for other firms (the coefficient associated with the total effect of Local Seniors on banks is 134.5 and is highly statistically significant, whereas the effect of Local Seniors on other firms is 52.2; the difference between the two is statistically significant at the 5% level). The second column further refines this result by showing that the effect of Local Seniors is particularly pronounced for small banks (the total effect of Local Seniors for small banks is 226.5; it is highly statistically significant and is substantially larger than the coefficient pertaining to non-bank small firms). As for the full sample, there is no relation between the likelihood of paying dividends and Local Seniors for big banks—as one would expect, the relation is only present for small banks.

We conclude this section with a test of whether local dividend demand matters more for firms in counties with fewer surrounded firms, in the spirit of the "only-game-in-town" effect of Hong, Kubik, and Stein (2008). Hong, Kubik, and Stein (2008) find that firms located in areas with fewer other firms around receive higher valuations; we extend their study with an inquiry into whether such an effect is present for firm dividend policy. The results, presented in Table 8, indeed suggest that the effect of Local Seniors is stronger in the areas with a lower density of firms. Specifically, for all three measures of dividend payout policy, the effect of the interaction between Local Seniors and the inverse of the number of firms in the county is positive, large in magnitude, and highly statistically significant. As a gauge of economic significance, among the firms located in the counties with the median level of Local Seniors (0.115), those headquartered in a county with three firms are 2.8% more likely to pay dividends than those headquartered in a county with ten firms. The effect is particularly pronounced for dividend initiation, with the increase in probability of 2.5%, which roughly equals the unconditional dividend initiation rate over the sample.

3.5. County-Level Fixed Effects

We now employ analyses that represent a much higher hurdle to identify the local-seniors effect. The first such analysis is analogous to the baseline analysis (see Section 3.1 and Table 2) and to the analyses on the subsample of small firms and the firms headquartered in high local-bias counties (see Section 3.4 and Table 6), with the additional inclusion of fixed effects *at the county level*. Thus, the identification of the effect of Local Seniors on dividend policy comes from changes in the fraction of seniors in the county (controlling, as before, for all other

firm-specific factors that may vary over time). In other words, the coefficient on Local Seniors in this specification is identified from the payout policy decisions of firms headquartered in counties in which the age composition is changing over time.

The results, presented in Table 9, do not feature a significant effect of Local Seniors on dividend payer status for the full sample of firms in the county-level-fixed-effects regression (column (1))—the magnitude of the effect is similar to that in the cross-sectional regression in Table 2 but the *p*-value of the coefficient is 0.21. However, there are significant effects for the subsamples among which, *a priori*, the dividend-demand motivation should be strong—small firms (column (2)) and firms in the counties in which the residents have high local-bias tendencies in their portfolios (column (3)).

3.6. Corporate Headquarter Moves

As a further source of identification, we now examine the subset of firms that moved their corporate headquarters to a different state, a proxy for sufficient distance to assume comfortably that the two local individual investor pools (the "old" one and the "new" one) are not overlapping. We examine a sample of just under 150 such firms, obtained from Compact Disclosure, that moved their corporate headquarters in the period from 1997 to 2000 and that have sufficient data pre- and post-move to conduct our analyses.[17]

The analyses relate the changes in dividend policy in the aftermath of the move (relative to the dividend policy before the move) to the changes in proportion of seniors across the new and old communities, controlling also for changes in the other firm characteristics over that time period. For the purposes of these analyses, we incorporated the observations in off-Census years that occurred both before and after the move. For such observations, we use linear interpolations of Census figures from the 1990 and 2000 Censuses (and extrapolations for years after 2000). For a firm that moved its headquarters, for example, some time between 1999 and 2000 (the firm has an address in a different state in 2000 compared to 1999 in Compact Disclosure), we record whether the firm paid dividends in 1998, one full year before the move (and the characteristics of the firm and the fraction of seniors in the "old" community at that

[17] We thank Jun-Koo Kang and Min-Jo Kim for providing us these data. Their original data have 418 moves across states over the period from 1997 to 2000, as recorded by Compact Disclosure. Of these 418 potential firm moves, 227 firms can be linked with Compustat and have data on dividend policy both one year before and one year after the move. Further requiring data on all the changes in the control variables over the pre-move to post-move period results in the final sample of 145 firm moves displayed in column (1) of Panel A, Table 10.

time) and whether the firm paid dividends after moving to its new location (recording firm characteristics and the fraction of local seniors at the "new" community). We measure whether the firm paid dividends one to five years after the move—in the 2000 move example, the first full year after the move would be 2001, and the fifth year after the move would be 2005.

Column (1) of Table 10 presents the results, provided in five panels that allow for increasingly longer post-move periods, ranging from one to five years, respectively.[18] Two key results stand out. First, even for a one-year post-move horizon, there is a strong relation between the change in dividend-payer status and the change in Local Seniors (the point estimate, 111.2, is large and is statistically significant at the 5% level). Second, perhaps not surprisingly, the effect strengthens as the post-move horizon increases; the effect of Local Seniors roughly doubles for the three-year horizon, and increases still further to 343.2 for the five-year horizon (statistically significant at the 1% level). A firm moving to a county in which Local Seniors is one standard deviation higher than it was at its original location (that is, the Local Seniors variable increases by 0.031) is 3.4 percentage points more likely to be a dividend payer one year after the move, 5.9 percentage points more likely to be a dividend payer three years after the move, and 10.6 percentage points more likely to be a dividend payer five years after the move.

The second column features the complete sample of firms in existence during the pre- and post-move years of the 1997 to 2000 movers sample. To be specific, in the first column we relate changes in dividend policy to changes in Local Seniors and firm-level characteristics for the sample of movers only. In column (2), we also include in the regression the changes in dividend policy and firm-level characteristics for all the non-moving firms over the same time period. Aside from testing whether the change in Local Seniors affected the dividend policy of moving firms in column (1), the specifications in column (2) allow us to test further whether the change in dividend policy differed across mover and non-mover firms (also controlling for the effect of changes in the firm-specific characteristics on both the movers and non-movers). These specifications thus include the indicator variable Firm Moved (it is equal to 1 if the firm's headquarters moved in year *t*, and 0 otherwise). The findings offer additional reassurance—by

[18] Aside from the change in dividend-payer status and the change in Local Seniors across the two communities, regressions include changes in all of the firm-level covariates displayed in Table 2 (Net Income, Cash, Q, Debt, Volatility, Two-Year Lagged Return, Log of Market Value, Log of Assets, and Asset Growth), as well as the age-group indicator variables at the time of the move.

itself, the fact that the company headquarter locations have changed (controlling for everything else, of course) played no role in the change in dividend policy.[19] Moreover, the sizes and significance levels of the coefficients associated with Local Seniors in the two analyses are highly comparable.

Naturally, the small sample size of the set of "movers" calls for caution in interpreting these results and, thus, extrapolating these results to the general population of firms. Nonetheless, the direction, magnitude, and significance of these results all line up in a manner consistent with the dividend-demand hypothesis and our results presented elsewhere in the paper, thus offering further evidence obtained with a completely different identification strategy.

4. Benefits and Mechanisms of Catering

Upon consistently finding the effects predicted by the dividend demand hypothesis, we proceed with the third and final tier of our identification strategy. In this section, we explore why firm managers might cater to local seniors by responding to their demand for dividends,[20] whether there are benefits to such catering (or costs to not catering), as well as the mechanisms through which individual investor demand may affect corporate policy. We consider three possible channels and offer highly suggestive evidence. At the outset, we remark that the channels we discuss in this section are not mutually exclusive. Moreover, none of these channels require that firms explicitly be informed about local retail investors' age, or that they should feel goodwill toward local investors in general, or local seniors in particular.

4.1. Lower Turnover

Graham and Kumar (2006) report that seniors are more likely to buy dividend-paying stocks in the two weeks leading up to the ex-dividend day, and are more likely to buy stocks

[19] Coefficients associated with changes in the firm-level variables in these change regressions line up as expected. For example, the change in Volatility coefficient in the one-year mover regression is -21.5 (SE = 3.0), and is substantially larger in the five-year mover regression (-58.9; SE = 7.1). Similarly, the change in Log of Market Value coefficient in the one-year mover regression is 3.5 (SE = 0.5), and is substantially larger in the five-year mover regression (6.8; SE = 0.9). These coefficients indicate that the sensitivity of firm dividend-payer status to characteristics such as its stock-return volatility and size increases as the time at the new location passes, suggesting that these effects take a few years to manifest themselves fully after the firm moves its headquarters.

[20] Firms generally are known to care, at least to some extent, about retail investors. According to Brav, Graham, Harvey, and Michaely (2005), firm executives believe attracting retail investors to purchase their stock is an important motivation behind a firm's dividend policy.

after they start to pay dividends.[21] We use the same brokerage data as in Graham and Kumar (2006) and build upon their result that seniors buy stocks after a firm initiates dividends (or just before a firm is to pay dividends) by studying individuals' propensity to sell the stock they hold *already* (i.e., what local seniors do *after* they buy the stock). The brokerage data are extremely well suited for this purpose—to study the sale decision of a given investor and a given stock holding. That is, given the many observations of potential sale behavior across many investors, we can obtain strong and robust results regarding holding periods and thus ascertain, with a lot of precision, what happens once investors (particularly local seniors) purchase stock—given their characteristics (in this case geographic location and age), whether they are more likely, relative to others, to keep on holding the stock, which, presumably (and anecdotally confirmed in our conversations with CEOs, CFOs, and treasurers) firm management should find very desirable.

We test whether, conditional on owning the stock, local seniors have a substantially longer holding period than other types of investors do. This lower turnover may be attractive to a firm's management, and a way to attract such loyal investors to own the stock in the first place is by paying dividends. To test the "lower turnover" channel, we first conduct a completely non-parametric analysis in which we estimate the cumulative likelihood of sale of a given stock holding for four investor groups (comprising around 31,000 households): potential sales by all households, potential sales by seniors (65 years of age or older), potential sales by local investors (the distance between the household and corporate headquarters is 250 miles or fewer—the local-distance metric used in Ivković and Weisbenner (2005)), and potential sales by local senior investors.

Tallying of the sales made in a given month since purchase relative to the total number of potential sales at the beginning of the month produces non-parametric hazard rates for each month (i.e., probability of selling in that month conditional on not having sold the stock up to that point), and cumulating those monthly hazard rates yields the cumulative probability distribution of sale as a function of time since purchase. The four cumulative probability

[21] Our unreported analyses along the lines of Graham and Kumar (2006) find that, for example, compared to all seniors, the propensity to buy dividend-paying stocks in the two weeks leading up to the ex-dividend day is twice as strong among local seniors. Nonetheless, we are hesitant to draw overreaching conclusions because the brokerage data employed in their calculations simply are not voluminous enough to enable broader inferences about whether local seniors are marginal investors and whether their demand for dividends suffices to induce catering behavior by firms (see Section 2 for further details regarding the brokerage data).

distributions are presented in Figure 1. Whereas the median holding period for all investors (the first sample) is 15 months, the median holding period for local-senior investors is substantially longer, 37 months.

This analysis, though compelling, does not take into consideration other potential motivations for sale, including stock performance since purchase, nor potential selection issues based on preferences for holding different kinds of stocks (each of which, by themselves, could lead to different selling patterns across the individuals). Therefore, we proceed with a more stringent analysis by incorporating several covariates that capture investor sensitivity to past performance (be it for behavioral reasons or because of tax motivations).

Our econometric framework for these analyses follows Ivković, Poterba, and Weisbenner (2005) closely. We use the Cox proportional hazards model, which employs non-parametric estimates of baseline monthly hazards (i.e., the probabilities of selling the stock in month t after purchase, conditional on no prior sale). The results are presented in Table 11. The first column features a common baseline hazard $\lambda_0(t)$ for all stocks (and, thus, the monthly hazard function of the form $\lambda_0(t) * e^{X_{i,t}\beta}$), whereas the next two columns report results that allow for stock-specific baseline hazards $\lambda_i(t)$, that is, we allow for the baseline rates of sale in a given month to differ across stocks. The proportional hazards model is defined as:

$$X_{i,t}\beta = \beta_1 * GAIN_{i,t-1} + \beta_2 * GAIN_{i,t-1} * December_{i,t} + \beta_3 * LOSS_{i,t-1} + \beta_4 * LOSS_{i,t-1} * December_{i,t} + \beta_5 * December_{i,t} + \beta_6 * Local_i + \beta_7 * Senior_{i,t} + \beta_8 * Local_i \times Senior_{i,t} + \varepsilon_{i,t}. \quad (1)$$

The independent variables included in the regressions include GAIN = max(return, 0) and LOSS = min(return, 0), where return is defined as the capital appreciation of the stock since purchase, as well as an indicator variable December (it is equal to 1 for December observations, and is equal to 0 otherwise). The variables central for our inquiry are Local, an indicator variable equal to 1 if the company headquarters are located within 250 miles from the household and equal to 0 otherwise, and Senior, an indicator variable equal to 1 if the investor is 65 years of age or older and equal to 0 otherwise. All regressions are estimated over the full sample of 1,409,587 observations (i.e., potential monthly sale decisions).

The first column of Table 11, based upon the common baseline $\lambda_0(t)$, suggests that, consistent with the findings in Odean (1998) and Ivković, Poterba, and Weisbenner (2005),

individuals are more likely to sell stocks with a gain since purchase than stocks with a loss since purchase (except during the month of December). Controlling for investor sensitivity to stock performance since purchase, Local and Senior each have a strong negative effect on the probability of sale, as does their interaction. For example, a local senior is 32% less likely to sell the stock at any given point in time ($e^{-0.14\ -0.13\ -0.11} - 1 = -0.32$) relative to the typical non-local, non-senior individual investor.

A potential concern with these results is that they rely upon the common baseline (assuming the same probability of trade across different types of stocks, controlling for past performance and the type of investor); the inherent propensity to trade, however, may vary across stocks. To alleviate this concern, we replicate the analysis with firm-level baselines and report the results in column (2)—the coefficients are virtually unchanged. Still another potential concern is that locals and seniors may feature responses to past performance that differ from those exhibited by other investors. To address this, we augment the specification with additional covariates that aim to capture the possibility that local seniors may respond differently to the performance- and seasonality-related covariates (GAIN, GAIN x December, LOSS, LOSS x December, and December) by allowing interactions between Local x Senior and all such variables. The results, presented in column (3) of Table 11, show not only that local seniors' response to past performance does not differ from the response exhibited by other investors (probability of sale is not statistically significantly related to Local x Senior x GAIN, for example; the same is true of the remaining four performance- and seasonality-related variables), but also that none of the results established in the first two columns changed—the point estimates associated with Local, Senior, and the Local x Senior interaction are very similar across the three columns. For example, according to the estimates from column (3), compared to a non-local non-senior investor, a local senior is 31% percent ($e^{-0.14\ -0.05\ -0.18} - 1 = -0.31$) less likely to sell. Aggregated over time, this results in a much longer holding period and much lower turnover for the of investors who likely are attracted by firms paying dividends.

4.2. Price Channel—Ex-Dividend Day Reaction

Our second line of inquiry considers valuation effects. Rather than trying to explain the *level* of stock prices, we employ a cleaner identification strategy by studying stock price

movements around the ex-dividend day.[22] We relate ex-dividend day returns to Local Seniors, a technique used previously to infer marginal tax rates (see, e.g., Elton and Gruber (1970), Perez-Gonzales (2003), and Graham and Kumar (2006)), as well as dividend demand valuation effects for non-tax reasons (Graham and Kumar (2006)). Elton and Gruber (1970) divide ex-dividend price drops by the amount of the dividend and report that this ratio averages 0.78. Depending upon the subpopulation of firms they consider, Graham and Kumar (2006) report that this ratio in their study averages from 0.67 to 0.79. The price drop is less than the dividend paid, presumably because, for many investors, dividends face higher taxes than capital gains do. As Elton and Gruber (1970) point out, in a rational market, the price drop when the stock goes ex-dividend reflects the relative value of dividends and capital gains to the marginal stockholders. Thus, a firm whose owners face a lower dividend tax rate (or a higher tax rate on capital gains) should experience a bigger drop in the share price when the stock goes ex-dividend.

We apply a similar logic to the firms facing investors with a dividend preference: the ex-dividend day price drop, as a fraction of the dividend amount, should be large when demand for dividends is high. As before, we use Local Seniors to proxy for dividend demand. Alternative explanations for our findings on payout policy (e.g., Local Seniors proxies for local economic conditions that lead to dividend supply by firms) do not predict such a relation between ex-dividend day price behavior and Local Seniors.

We adjust the ex-dividend methodology of Elton and Gruber (1970) along two dimensions. First, we use price changes from market close on the last cum-dividend day to the opening trade the following, ex-dividend day, and thereby focus more narrowly on the price change related to the loss of a dividend right, thus not confounding the inference with the price changes taking place during the following, ex-dividend day. Second, whereas the original Elton and Gruber (1970) methodology normalizes the price change by the dividend amount (this ratio can then be related, for example, to taxes or firm ownership structure), our dependent variable is the relative price drop—the negative of the price change from the close of the last cum-dividend day to the open of the ex-dividend day divided by the closing price on the last cum-dividend day.[23] Accordingly, our independent variables are the dividend amount scaled by the closing price, Local Seniors, and the interaction between the two (we also include median

[22] We thank Denis Gromb for suggesting this approach.
[23] This methodology avoids normalizing by any small quantity (such as the dividend amount) and, therefore, is more statistically robust.

income of the county in which the firm is headquartered and its interaction with the amount of the dividend).[24] We estimate these regressions over the sample of stock returns surrounding ex-dividend days in the period from 1992 to 2007. Local Seniors and Median Income in off-census years have been estimated by linear interpolation (and extrapolation) of the figures from the Census years.

Table 12 reports the results. The first column provides a simple gauge; it features only $\mathrm{Div}_{i,t} / \mathrm{P}_{i,t-1}^{close}$ (abbreviated in the table as Div/P for readability). The regression coefficient estimate is 0.73, suggesting that, absent further controls, a one-dollar dividend is associated with a 73-cent price drop on the ex-dividend day, a figure that is very similar to the baseline figures from Elton and Gruber (1970) and Graham and Kumar (2006).

The second column features $\mathrm{Div}_{i,t} / \mathrm{P}_{i,t-1}^{close}$ and its interaction with the indicator variable Small Firm (defined as in Table 6), thereby allowing for differential valuations of dividends across the shareholders of small and large firms. The results match intuition and extant findings very well. For large firms, the price drop on the ex-dividend day associated with a one-dollar dividend is 86 cents, whereas for smaller firms, more likely to be held by individuals, and thus subject to higher marginal tax rates, the price drop is 60 cents (the difference between the two is 26 cents, and is statistically significant at the 1% level).

In the third column, we present evidence that the ex-dividend day price drop, that is, the valuation of dividends, varies across communities. We add to the specification Local Seniors, an interaction between Div/P and Local Seniors, Median Income, and the interaction between Div/P and Median Income. In light of the primary interest in how characteristics of the community affect the relation between the ex-dividend day price drop and the amount of the dividend (i.e., the interactions of Local Seniors and Median Income with Div/P), the coefficients associated with Local Seniors and Median Income themselves are suppressed from the table for readability.[25] Median Income, measured at the county level, is a geographically-based measure of income intended to capture tax-related motivations from potential local shareholders. Consistent with seniors' demand for dividends, the price drop is positively related to Local

[24] The Elton and Gruber (1970) estimation corresponds to estimating this regression and weighting observations by the inverse of their dividend yield (that is, putting the most weight on the observations pertaining to stocks with the lowest yields). Therefore, our methodology generalizes the original approach from Elton and Gruber (1970).

[25] The coefficient associated with Local Seniors in the specification presented in column (3) is 0.004 (SE = 0.005) and the coefficient associated with Median Income is 0.009 (SE = 0.004).

Seniors (the coefficient estimate is 3.0, statistically significant at the 10% level), that is, the ex-dividend day price drop is larger in the areas with a higher fraction of seniors. The magnitude of this effect is substantial—a one-standard-deviation increase in Local Seniors is associated with an increase in the ex-dividend day price drop as a fraction of the dividend of 0.09, one-eighth of the average price drop from column (1). The relation between the ex-dividend day price drop and the interaction (Div/P) x Median Income is negative and is statistically significant, consistent with smaller ex-dividend day price drops in regions in which the income, and presumably tax rates, are higher. However, given the unit of measurement of Median Income (in units of $100,000), its economic importance is very modest (a one-standard-deviation increase in the median income of the county, $15,500 in our sample, is associated with an ex-dividend day price drop as a fraction of the dividend that is only 0.01 smaller).

Finally, in the fourth column, all the variables from the third column are interacted with the indicator variable Small Firm (defined as in Table 6) to allow for differential effects across small and large firms.[26] Our prediction is that the sensitivity of the valuation of dividends to the presence of Local Seniors should be much stronger for small firms than for large firms. This is exactly what we find. As shown in column (4), there is zero relation between the ex-dividend day price drop and the presence of Local Seniors in the community (or the median income of the county) for large firms. Adding the coefficient on Div/P x Local Seniors and the coefficient pertaining to Div/P x Local Seniors x Small Firm provides the total effect of Local Seniors on the ex-dividend day price drop for small stocks and, compared to the estimate across all stocks of 3.0 from column (2), shows a larger effect of 4.7 for small stocks (statistically significant at the 10% level; the associated *p*-value is 0.06). A one-standard-deviation increase in Local Seniors is associated with an increase in the ex-dividend day price drop as a fraction of the dividend of 0.15 for small stocks, one-quarter of the average price drop from column (2). For small firms, more likely to be reliant on local shareholders, the ex-dividend price fall is also related to the median income of the county in which the firm is headquartered in the direction predicted, but the economic magnitude of this "local-income" effect again is very small.

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[26] Once again for readability, in Table 12 we do not report the coefficients associated with Local Seniors and Median Income, respectively, nor their interactions with Small Firm, the small-firm indicator variable. The coefficient associated with Local Seniors in the specification presented in column (4) is -0.001 (SE = 0.003) and the interaction of Local Seniors and Small Firm is -0.001 (SE = 0.011). The coefficient associated with Median Income is 0.001 (SE = 0.001) and the interaction of Median Income with Small Firm is 0.016 (SE = 0.070).

In sum, these results extend nicely the findings from Graham and Kumar (2006) that the price fall on the ex-dividend day is positively related to the age of the shareholders of the firm and negatively related to the income of the shareholders of the firm. Our ex-dividend results are consistent with the notion that firms located in counties with higher fractions of seniors face stronger demand for dividends, and that such demand is associated with larger stock-price drops on ex-dividend days, but only for the small firms, those most likely to be affected by this geographically-varying demand for dividends from the local-senior population. Whereas consistent with a demand-based explanation for the effect of local seniors on dividend policy, these results are not consistent with supply-based alternatives.

4.3. Governance Channels

The last two collections of evidence we present pertain to potential governance channels of influence. First, we provide an indirect test of the governance channel—we compare the effect of Local Seniors on firm policy for firms that may have varying incentives to cater to such demand for dividends. Specifically, we identify firms with dual-class share structures (see Gompers, Ishii, and Metrick (2008)). Such firms typically have controlling shareholders who own shares with higher voting rights and, therefore, wield considerable influence over corporate policy. In this context, retail investors' influence through governance channels (if at all it is present) is unlikely to be of significant importance for the dividend policy.

Dual-class firms are not common (in 2000, about 6% of listed firms had dual-class shares), which makes identification of the effect challenging, but the identification by means of dual-class share status has a considerable advantage over the potential use of other variables that might proxy for close control by a large owner (e.g., ownership stakes or Herfindahl index of ownership concentration)—there is great stability in this measure over time. Indeed, the dual-class share status usually is determined at the initial public offering and not altered since, and, therefore, is not very likely to reflect current dividend policies for our sample firms. We use the data on the dual-class share status from Gompers, Ishii, and Metrick (2008)).

To examine the effect of multiple share classes, we conduct a variant of the baseline analyses with the additional inclusion of the indicator variable Dual-Share Class (equal to 1 for firms that have more than one share class, and equal to 0 for firms with a single share class). The results are presented in Table 13 (for clarity, the table provides only the coefficients associated with Local Seniors and its interactions with Dual-Share Class). The three columns in the table

parallel those from Table 2. The effects of Local Seniors on single-class firms in all three columns are very similar to those reported in Table 2 (not surprisingly, given that roughly 94% of the observations in the full sample used in Table 2 are single-class firms). The interaction of Local Seniors and Dual-Share Class is related negatively to all three dividend payout policy variables in Table 13 (two of the three coefficients associated with the interaction terms are statistically significant). More importantly, the total effect of Local Seniors for dual-share class firms (obtained by adding the coefficients associated with Local Seniors and Local Seniors x Dual-Share Class) is insignificant in all three cases. Thus, the link between firm dividend policy and Local Seniors is only present for firms with one class of stock; the effect is insignificant and generally close to zero for firms with a dual-class share structure (i.e., firms in which some owners, represented by the management team, possess disproportional voting rights and, hence, are likely less sensitive to the preferences of shareholders with small voting rights).

The final analysis in this section pertains to another potential avenue of retail investors' access to governance tools—proposals at annual shareholder meetings. These meetings are a key arena in which shareholders, especially individuals with relatively small ownership stakes, can make their voices heard and seek to influence firm policy.[27] The shareholder-originated proposals generally are hostile to management, are almost always opposed by management, and typically do not win support at the meeting. Nonetheless, such shareholder-proposal activity likely is unwelcome by management because, at a minimum, it could result in poor publicity. We seek to test whether local senior investors influence the relative intensity of proposal activity facing dividend payers and non-payers—our prediction is that there is a negative relation between the intensity of proposal activity and the interaction between Local Seniors and Dividend Payer status.

Our implementation of this test relies upon data from the VotingAnalytics database, containing shareholder-originated proposals in the period from 2001 to 2007. In light of data availability, we conduct a cross-sectional analysis in which we relate proposal activity to Local Seniors, two payout-related indicator variables (Dividend Payer and Repurchase Stock), their interactions and, in some specifications, other firm-level and community-level controls. We

[27] Attending shareholder meetings may be more convenient for the investors located near corporate headquarters than for those who live far away. Also, older individuals may have more time to spare to attend these meetings. We confirmed this intuition in our informal conversations with CEOs, CFOs, and treasurers—in their words, "looking at the room, it was full of grey hair, so to speak, and many of those in attendance likely were from the local community."

construct the dependent variable as an indicator variable, Shareholder Proposals, setting it to 100 for a firm that has had at least one shareholder-originated proposal over the seven-year period, and to 0 otherwise. The average of this variable is 21, suggesting that about one-fifth of the firms in the 2000 cross-section have had such a proposal between 2001 and 2007.[28]

Ideally, we would consider only the proposals made by local-senior individual investors, but the data do not feature any information on the originators of the proposals, other than that they are shareholders (as opposed to management). Thus, our data include proposals by any shareholder (including institutions, unions, distant retail investors, and so on). Although this generates some noise in the measurement of our ideal dependent variable (proposals originated by local seniors), Gillan and Starks (2000) do report that individual investors tend to originate a large fraction of shareholder proposals.

We implement two cross-sectional regressions. The first one relates Shareholder Proposals to the interactions of Local Seniors with the indicator variables Dividend Payer and Stock Repurchase (which reflect whether the firm paid dividends or repurchased shares, respectively). The second one adds to the list of independent variables a wide range of firm- and community-level controls, similar to those described in Table 2 (e.g., past 2-year returns, profitability, and firm size, as well as industry and county-level fixed effects). In both cases, we find a significant and negative effect of the Dividend Payer x Local Seniors interaction, whereas there is no statistically significant effect of the Stock Repurchase x Local Seniors interaction. For example, the coefficient on Dividend Payer x Local Seniors is -159 (SE = 61) in the specification without firm-specific and county-level controls and -144 (SE = 72) in the specification with these additional controls (the corresponding coefficients are -13 (SE = 53) and 35 (SE = 64), respectively, for the interaction of Stock Repurchase and Local Seniors). Focusing on the coefficient obtained from the full specification, for firms located in the 25th percentile of the distribution of Local Seniors (0.097), the difference in the likelihood of a shareholder-sponsored proposal across firms paying and not paying dividends is 14.0 percentage points (i.e., dividend-paying firms are 14 percentage points less likely to have such a proposal brought up at their annual shareholder meetings from 2001 to 2007), with this difference across firms paying and

[28] Among the firms that had at least one such proposal, the mean number of proposals over the seven-year period is 5.7, about one proposal per year on average.

not paying dividends increasing to 19.0 percentage points for firms located in counties at the 75th percentile of Local Seniors (0.132).

These results match our prediction that the presence of local seniors should reduce shareholder-sponsored proposals for dividend payers relative to non-payers. We have taken the coefficient estimates associated with the two payout policy variables from both regressions (both without additional controls and with additional controls) and have used the distribution of the Local Seniors variable to further illustrate the differences in "complaints" in Figure 2.

The black bars in the figure represent the difference in the likelihood of a shareholder-sponsored proposal for firms paying dividends relative to those not paying dividends at various points in the distribution of the fraction of seniors in the county. The bars are solid for the specification featuring no other firm-specific controls, and striped for the specification featuring extensive controls. As discussed above, the inclusion of extensive controls does not appear to make a difference—the dividend-related coefficients from the two specifications and the resulting distributions of changes in likelihoods line up very closely. For a firm located in an area with a low fraction of seniors, paying or not paying dividends has little effect on whether shareholder-sponsored proposals are brought up at the annual shareholder meeting. However, for a firm located in a county with the median fraction of seniors, the likelihood of a proposal is 17-18% lower for dividend-paying firms than it is for non-payers. The grey bars in the figure represent the difference in the likelihood of a shareholder-sponsored proposal for firms that repurchased stock relative to those that did not. Once again, the bars are solid for the specification featuring no other firm-specific controls, and striped for the specification featuring extensive controls. The figure suggests that there are no noticeable effects of share repurchases on shareholder-sponsored proposals.

We conclude this subsection on the potential governance mechanism by noting that the result concerning the proposals at annual shareholder meetings is only suggestive. Whereas it is consistent with activism by disgruntled owners (which a manager may want to avoid, to curtail nuisance costs), we are not in a position to show that this activism is a public relations concern to firms or is otherwise effective in changing firm behavior.

The pieces of evidence concerning lower turnover, valuation effects detected on the ex-dividend day, the lack of an effect of Local Seniors upon the dividend policy for dual-class firms, and the "nuisance" result concerning shareholder-sponsored proposals at annual

shareholder meetings, while each suggestive on their own, come together nicely to reinforce the dividend-demand hypothesis. Moreover, none of these channels require that firms explicitly be informed about local retail investors' age.

5. Conclusion

Miller and Modigliani (1961) raise the question whether firms set policies and investors sort accordingly, or firms respond to the preferences of their current shareholders. In this paper, we provide evidence for the latter. Specifically, we test for the effect of dividend demand on payout policy. The tendency of older investors to hold dividend-paying stocks in combination with individual investors' inclination to hold local stocks results in stronger dividend demand for firms located in areas with many seniors. Demographics thus provides an empirical proxy for dividend demand, which we exploit in this paper to examine the broader question whether the preferences of a firm's current owners influence corporate actions.

As predicted, we find a significant positive effect of Local Seniors, the fraction of seniors in the county in which a firm is located, on the firm's propensity to pay dividends, its propensity to initiate dividends, and on its dividend yield. The effect of Local Seniors on the firm decision to start paying dividends is particularly strong, of the same economic magnitude as other key determinants such as firm size and firm age.

Because demographics is only a rough proxy for demand, our results, in some sense, place a lower bound on the impact of investor preferences on payout policy. If there are other components of demand, the total effect of investor preferences on firm policies may be larger. Our results are robust to various methodologies and identification strategies. We rule out alternative explanations (e.g., that firms located in the areas with many seniors have low growth opportunities and, therefore, are more likely to pay out cash to shareholders), and we explore some of the potential mechanisms through which investor preferences affect corporate decision-making.

The main implication of our findings is that, at least in part, firms respond to the preferences of their owners when setting payout policy. We confirm that age determines dividend demand, consistent with the hypothesis of Miller and Modigliani (1961) and the evidence presented by Graham and Kumar (2006). We further show that there are dividend clienteles that vary geographically. Our findings thus confirm that there is important

geographical variation in the financial conditions facing firms, as argued by, for example, Jayaratne and Strahan (1996), Guiso, Sapienza, and Zingales (2004), Becker (2007), and Hong, Kubik, and Stein (2008).

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Table 1: Summary Statistics for Payout Policy Variables and Key County-Level Variables

The sample consists of the pooled cross-section for 1980, 1990, and 2000. Summary statistics for payout policy variables are presented in Panel A. Dividend Payer is an indicator variable equal to 0 for non-payers and equal to 100 for dividend payers. Dividend Initiation is an indicator variable defined for non-payers at the end-of-year *t*. Its values are 0 for the firms that remain non-payers in year *t+1*, and 100 for non-payers at the end-of-year *t* who start to pay a dividend in year *t+1*. Dividend Yield is the dollar amount of dividends paid out in year *t+1* divided by the end-of-year *t* equity-market value. Repurchase Yield is defined analogously for share repurchases in year *t+1*. Summary statistics for key geographical variables are presented in Panel B. Aside from summary statistics pertaining to Local Seniors (the fraction of residents who are 65 years old or older in the county in which a firm is headquartered, as reported by the U.S. Bureau of Census), the table also lists summary statistics for the number of firms in the county (firms with their headquarters located in the county).

Panel A: Summary Statistics for Payout Policy Variables

	Mean	25th Percentile	Median	75th Percentile	Standard Deviation
Dividend Payer	47.4	0	0	100	49.9
Dividend Initiation	2.0	0	0	0	14.2
Dividend Yield	1.9	0	0	3.0	3.7
Repurchase Yield	1.1	0	0	0.4	3.9

Panel B: Summary Statistics for Key County-Level Variables

	Mean	Min.	25th %	Median	75th %	Max.	Std. Dev.
Local Seniors (% 65 years +)	0.116	0.022	0.097	0.115	0.132	0.321	0.031
Inverse of Number of Firms in County	0.102	0.002	0.008	0.022	0.059	1.000	0.220

Table 2: Dividend Payout and Local Seniors

This table presents regression results for firm dividend payout behavior, estimated over the sample of pooled observations from the 1980, 1990, and 2000 cross-sections. Dependent variables are measured one year after the firm-level and the county-level controls (i.e., in 1981, 1991, and 2001, respectively). Dividend Payer is an indicator variable equal to 0 for non-payers and equal to 100 for dividend payers. Dividend Initiation is an indicator variable defined for non-payers at the end-of-year *t*. Its values are 0 for the firms that remain non-payers in year *t+1*, and 100 for non-payers at the end-of-year *t* who start to pay a dividend in year *t+1*. Dividend Yield is the dollar amount of dividends paid out in year *t+1* divided by the end-of-year *t* equity-market value. Our key independent variable is Local Seniors, the fraction of residents who are 65 years old or older in the county in which a firm is headquartered, as reported by the U.S. Bureau of Census. Besides Local Seniors, the regressions include firm-specific controls. Net Income, Cash, and Debt (long-term) are all normalized by total firm assets. Q is defined as the market-to-book ratio, that is, the market value of equity plus the book value of liabilities (using the book value of liabilities as an approximation for the market value of liabilities) divided by the book value of assets. Volatility refers to the standard deviation of monthly stock returns over the preceding two years. Two-Year Lagged Return refers to monthly stock returns over the preceding two years. Asset Growth is the logarithm of the growth rate of assets over the prior year. Age-group indicator variables (for firms publicly listed 1-5, 6-10, 11-15, 16-20, and 21+ years ago), industry-year interaction indicator variables (fixed effects for 2-digit level SIC industries interacted with year), and state-year interaction indicator variables are included in all three specifications. Standard errors (shown in parentheses) allow for heteroskedasticity and are clustered by firm.

Table 2: Dividend Payout and Local Seniors (continued)

	(1) Dividend Payer	(2) Dividend Initiation	(3) Dividend Yield
Local Seniors	**59.3*****	**32.9*****	**7.4*****
	(16.3)	(8.7)	(2.6)
Net Income	**-1.1**	**0.04**	**-0.1**
	(1.3)	(0.49)	(0.3)
Cash	**-9.7*****	**3.7*****	**0.9***
	(2.5)	(1.3)	(0.5)
Q	**-2.5*****	**-0.4*****	**-0.06****
	(0.3)	(0.1)	(0.03)
Debt	**-16.9*****	**-2.6*****	**-1.1*****
	(2.1)	(0.8)	(0.3)
Volatility	**-131.4*****	**-6.3*****	**-6.3*****
	(5.0)	(1.9)	(0.5)
Two-Year Lagged Return	**-0.05**	**0.32***	**-0.04**
	(0.44)	(0.18)	(0.04)
Log of Market Value	**9.3*****	**0.44****	**0.04**
	(0.5)	(0.19)	(0.05)
Log of Assets	**-3.0*****	**-0.04**	**0.11****
	(0.5)	(0.18)	(0.05)
Asset Growth	**-4.2*****	**-0.54**	**-0.35**
	(1.2)	(0.56)	(0.22)
Adjusted R-squared	0.528	0.086	0.295
Number of Observations	12,107	6,200	12,107

***, **, * denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively.

Table 3: Economic Magnitudes of Effects of Local Seniors and Various Firm-Specific Controls on Dividend Policy

This table is based upon the coefficients reported in Table 2. It presents the effects of a one-standard deviation increase in a given independent variable upon firm dividend policy. Each panel in this table, pertaining to one dividend payout variable, corresponds to a column in Table 2. The first column of this table replicates the coefficients and significance levels of Local Seniors and key firm-level independent variables. The second column features the standard deviations of the independent variables in the sample. The third column presents the effects of a one standard-deviation increase of the independent variable upon the firm dividend policy. Finally, the fourth column presents the ratio of that effect to the sample average of the respective dividend-policy variable.

	Panel A: Dividend Payer (sample average = 47.4)			
	Regression Coefficient	Std. Dev of Variable	1-Std. Dev Effect	1-SD Effect / Avg. of Div. Payer
Local Seniors	59.3***	0.031	1.8	3.9
Cash	-9.7***	0.17	-1.6	-3.5
Q	-2.5***	1.9	-4.7	-10.0
Debt	-16.8***	0.19	-3.2	-6.7
Volatility	-131.4***	0.09	-11.8	-24.9
Two-Year Lagged Return	-0.05	1.08	-0.1	-0.1
Log of Market Value	9.2***	2.3	21.2	44.6
	Panel B: Dividend Initiation (sample average = 2.0)			
	Regression Coefficient	Std. Dev of Variable	1-Std. Dev Effect	1-SD Effect / Avg. of Div. Initiation
Local Seniors	32.9***	0.031	1.0	51.0
Cash	3.7***	0.17	0.6	31.5
Q	-0.4***	1.9	-0.8	-38.0
Debt	-2.6***	0.19	-0.5	-24.7
Volatility	-6.3***	0.09	-0.6	-28.4
Two-Year Lagged Return	0.32*	1.08	0.4	17.3
Log of Market Value	0.44**	2.3	1.0	50.6
	Panel C: Dividend Yield (sample average = 1.9)			
	Regression Coefficient	Std. Dev of Variable	1-Std. Dev Effect	1-SD Effect / Avg. of Div. Yield
Local Seniors	7.4***	0.031	0.23	12.1
Cash	0.9*	0.17	0.15	8.1
Q	-0.06***	1.9	-0.11	-6.0
Debt	-1.1***	0.19	-0.21	-11.0
Volatility	-6.3***	0.09	-0.57	-29.8
Two-Year Lagged Return	-0.04	1.08	-0.04	-2.3
Log of Market Value	0.04	2.3	0.09	4.8

***, **, * denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively.

Table 4: Repurchases, Corporate Performance, and Local Seniors

This table presents regression results for pooled regressions for the 1980, 1990, and 2000 cross-sections. Dependent variables are measured one year after the firm-level and the county-level controls. Repurchase Yield is the dollar amount of stock repurchases made in year *t+1* divided by the end-of-year *t* equity market value. Investment refers to capital expenditure in year *t+1* divided by the end-of-year *t* assets. Net Income refers to net income in year *t+1* divided by the end-of-year *t* assets. See Table 2 for a description of the independent variables. Standard errors (shown in parentheses) allow for heteroskedasticity and are clustered by firm.

	Repurchases		Corporate Performance	
	(1) Repurchase Yield	(2) Repurchase Yield (three-year average)	(3) Investment	(4) Net Income
Local Seniors	**2.17**	**0.57**	**-1.30**	**-6.56**
	(1.70)	(1.09)	(2.49)	(11.1)
Net Income	**0.39*****	**0.39****	**-0.03**	
	(0.20)	(0.23)	(0.28)	
Cash	**2.23*****	**1.46*****	**-2.74*****	**-4.90**
	(0.39)	(0.23)	(0.44)	(3.06)
Q	**-0.04**	**-0.01**	**-0.18*****	**-2.03*****
	(0.03)	(0.02)	(0.05)	(0.44)
Debt	**-0.39**	**-0.41****	**1.24*****	**2.21**
	(0.26)	(0.18)	(0.38)	(2.21)
Volatility	**-1.31****	**-0.71**	**0.02**	**-115.8****
	(0.74)	(0.50)	(0.97)	(6.89)
Two-Year Lagged Return	**0.12****	**0.066****	**0.60*****	**5.72*****
	(0.05)	(0.033)	(0.09)	(0.47)
Log of Market Value	**-0.30*****	**-0.20*****	**1.21*****	**1.77*****
	(0.08)	(0.05)	(0.08)	(0.55)
Log of Assets	**0.32*****	**0.30*****	**-1.10*****	**-0.71**
	(0.08)	(0.05)	(0.09)	(0.59)
Asset Growth	**-0.38****	**-0.42*****	**1.26*****	**0.76**
	(0.21)	(0.16)	(0.26)	(2.29)
Adjusted R-squared	0.021	0.036	0.367	0.243
Number of Observations	10,513	9,020	10,924	12,115

***, **, * denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively.

Table 5: Dividend Payout and Local Seniors, with Growing Counties, and Demographic and Economic Controls

This table presents regression results for firm dividend payout behavior, estimated over the sample of pooled observations from the 1980, 1990, and 2000 cross-sections, with additional considerations. Dependent variables are measured one year after the firm-level and the county-level controls. See Table 2 for a description of dependent variables and for the independent variables included in the regressions. Columns (1), (4), and (7) replicate Table 2. Columns (2), (5), and (8) are based upon the same baseline specifications, but the sample is limited to the firms that, relative to the preceding census, have experienced population growth in the number of residents in the county who are less than 40 years of age (the "Growing County Sample"). Finally, Columns (3), (6), and (9) feature specifications similar to those from columns (1), (4), and (7), respectively, with additional demographic and economic controls. Demographic controls are the logarithm of county population and the educational composition of the county (i.e., the fraction of the population having finished college, the fraction of the population having finished high school, etc.). Economic Controls are the average of each of the firm-level variables across all firms located in the county, as well as the share of local firms in each industry (2 digit SIC), median house prices in the county, and median income in the county. For clarity, the table provides only the coefficients associated with the Local Seniors variable. Standard errors (shown in parentheses) allow for heteroskedasticity and are clustered by firm.

	Dividend Payer			Dividend Initiation			Dividend Yield		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Local Seniors	**59.3*****	**59.1*****	**35.6****	**32.9*****	**26.3*****	**36.1*****	**7.41*****	**7.39****	**7.15*****
	(16.4)	(20.8)	(18.3)	(8.8)	(9.8)	(9.5)	(2.67)	(3.78)	(3.04)
Baseline Regression Controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Growing County Sample?	No	Yes	No	No	Yes	No	No	Yes	No
Demographic Controls?	No	No	Yes	No	No	Yes	No	No	Yes
Economic Controls?	No	No	Yes	No	No	Yes	No	No	Yes
Adjusted R-squared	0.520	0.525	0.525	0.055	0.101	0.061	0.283	0.300	0.290
Number of Observations	12,107	7,899	12,103	6,200	4,409	6,197	12,107	7,899	12,103

***, **, * denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively.

Table 6: Dividend Payout and Local Seniors, Interactions with Small Firms and High Local-Bias Counties

This table presents regression results for firm dividend payout behavior, estimated over the sample of pooled observations from the 1980, 1990, and 2000 cross-sections. The dependent variable Dividend Payer is measured one year after the firm-level and the county-level controls. See Table 2 for a description of the Dividend Payer dependent variable and for the independent variables included in the regressions. The specifications are similar to those from Table 2, with the addition of interactions of all of the independent variables with an indicator variable. The first indicator variable, featured in column (1), is Small Firm; it is equal to 1 for firms with below-median market capitalization in a given cross section, and to 0 otherwise. The second indicator variable, featured in column (2), is High Local Bias County; it is equal to 1 if the firm is headquartered in a county in which the extent of local bias among the non-senior local retail investors from the brokerage data is above the sample median, and 0 otherwise. For clarity, the table provides only the coefficients associated with the Local Seniors variable and its interaction with the respective indicator variables. Moreover, each column also features the total effect of Local Seniors for small firms and for firms located in high-local bias counties (in italics), respectively. Standard errors (shown in parentheses) allow for heteroskedasticity and are clustered by firm.

	(1) Dividend Payer	(2) Dividend Payer
Local Seniors	**7.6**	**24.1**
	(24.0)	(21.9)
Local Seniors x Small Firm	**92.2*****	
	(30.5)	
Total effect for small firms	*99.8****	
	(*20.2*)	
Local Seniors x High Local Bias County		**119.9*****
		(46.3)
Total effect for firms in high local-bias counties		*144.0****
		(*40.8*)
Adjusted R-squared	0.560	0.536
Number of Observations	12,107	11,436

***, **, * denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively.

Table 7: Dividend Payout and Local Seniors for Firms in the Banking Industry

This table presents regression results for firm dividend payout behavior, estimated over the sample of pooled observations from the 1980, 1990, and 2000 cross-sections. The dependent variable Dividend Payer is measured one year after the firm-level and the county-level controls. See Table 2 for a description of the Dividend Payer dependent variable and for the independent variables included in the regressions. The specifications are similar to those from Table 2, with the addition of the interactions of the Local Seniors variable with Bank and Small Firm indicator variables. The first indicator variable, featured in column (1), is Bank; it is equal to 1 for firms in the banking industry (2-digit SIC code equal to 60), and to 0 otherwise. The second indicator variable, featured in column (2), is Small Firm; it is equal to 1 for firms with below-median market capitalization in a given cross section, and to 0 otherwise. The specification from column (2) also features the interaction between Local Seniors, Small Firm, and Bank variables. For clarity, the table provides only the coefficients associated with the Local Seniors variable and its interaction with the respective indicator variables. Moreover, each column also features the total effect of Local Seniors for banks in column (1), and for large banks and small banks in column (2) (all displayed in italics). Standard errors (shown in parentheses) allow for heteroskedasticity and are clustered by firm.

	(1) Dividend Payer	(2) Dividend Payer
Local Seniors	**52.2*****	**8.2**
	(17.0)	(24.9)
Local Seniors x Bank	**82.3****	**-7.5**
	(40.1)	(53.8)
Total effect for banks	*134.5****	
	(*38.6*)	
Total effect for large banks		*0.7*
		(*52.2*)
Local Seniors x Small Firm		**79.4*****
		(31.7)
Local Seniors x Small Firm x Bank		**146.4***
		(81.0)
Total effect for small banks		*226.5****
		(*58.4*)
Adjusted R-squared	0.529	0.561
Number of Observations	12,107	12,107

***, **, * denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively.

Table 8: Dividend Payout and Local Seniors, the "Only-Game-in-Town" Effects

This table presents regression results for firm dividend payout behavior, estimated over the sample of pooled observations from the 1980, 1990, and 2000 cross-sections. Dependent variables are measured one year after the firm-level and the county-level controls. See Table 2 for a description of the dependent variables and the independent variables included in the regressions. The specifications are similar to those from Table 2, with the addition of the Inverse Number of Firms, measured for each firm as the inverse of the number of the firms headquartered in the same county (including the firm itself), as well as the interaction between Local Seniors and Inverse Number of Firms. For clarity, the table provides only the coefficients associated with the Local Seniors variable, Inverse Number of Firms, and their interaction. Standard errors (shown in parentheses) allow for heteroskedasticity and are clustered by firm.

	(1) Dividend Payer	(2) Dividend Initiation	(3) Dividend Yield
Local Seniors	**11.9**	**13.5**	**1.9**
	(18.9)	(10.0)	(1.9)
Inverse of Number of Firms	**-3.9**	**-10.3****	**-0.9**
	(7.0)	(4.3)	(0.6)
Local Seniors x Inverse of Number of Firms	**104.0****	**92.1****	**9.7***
	(51.3)	(40.1)	(5.6)
Adjusted R-squared	0.555	0.092	0.448
Number of Observations	12,107	6,200	12,107

***, **, * denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively.

Table 9: Dividend Payout and Local Seniors, with County-Level Fixed Effects

This table presents regression results for firm dividend payout behavior, estimated over the sample of pooled observations from the 1980, 1990, and 2000 cross-sections. The dependent variable Dividend Payer is measured one year after the firm-level and the county-level controls. See Table 2 for a description of the independent variables included in the regressions. The specifications are analogous to those from Table 2, with the addition of county-level fixed effects. The first column features the results from the full sample. The second column restricts attention to small firms (those with below-median market capitalization in a given cross section), whereas the third column reports results for the sample of firms headquartered in counties in which the extent of local bias among the non-senior local retail investors from the brokerage data is above the sample median. For clarity, the table provides only the coefficients associated with the Local Seniors variable. Standard errors (shown in parentheses) allow for heteroskedasticity and are clustered by firm.

	(1) Full Sample	(2) Small Firms	(3) High Local-Bias Counties
Local Seniors	**64.4**	**114.8***	**213.5****
	(51.0)	(64.8)	(86.5)
Adjusted R-squared	0.562	0.507	0.535
Number of Observations	12,107	6,053	5,738

***, **, * denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively.

Table 10: Relating Changes in Dividend-Payer Status to Changes in Local Seniors, Analysis of Movers

This table presents results of regressions that relate changes in dividend-payer status to changes in the fraction of local seniors, as well as changes in the other independent variables described in Table 2. Column (1) focuses on the sample of 145 firms, obtained from Compact Disclosure, that moved their corporate headquarters to a different state in the period from 1997 to 2000, and that have sufficient data pre- and post-move to conduct our analyses. For this sample, regressions relate their pre-move to post-move changes in dividend-payer status over various post-move horizons with changes in the fraction of local seniors across the post- and pre-move communities, as well as in the other independent variables. The second column reports the results of these change regressions for the complete sample of firms in existence during the pre- and post-move years of the 1997 to 2000 movers sample. The only additional independent variable utilized in column (2) is the indicator variable Firm Moved; it is equal to 1 if the firm's headquarters had moved, and 0 otherwise. For both columns, the results are presented in five panels, corresponding to post-move horizons of one to five years, respectively. For the purposes of the analyses presented in this table, we incorporated the observations in off-Census years that occurred both before and after the move. For such observations, we use linear interpolations of Census figures from the 1990 and 2000 Censuses (and extrapolations for years after 2000). Standard errors (shown in parentheses) allow for heteroskedasticity and are clustered by firm.

Table 10: Relating Changes in Dividend-Payer Status to Changes in Local Seniors, Analysis of Movers (continued):

	(1) Movers Only	(2) All Firms
Panel A: Change in Dividend Payer 1 Year Post-Move Relative to 1 Year Pre-Move		
Change in Local Seniors	**111.2****	**98.1****
	(49.8)	(41.1)
Firm Moved		1.0
		(1.4)
Adjusted R-squared	0.143	0.024
Number of Observations	145	14,338
Panel B: Change in Dividend Payer 2 Years Post-Move Relative to 1 Year Pre-Move		
Change in Local Seniors	**170.4****	**163.2****
	(75.7)	(69.6)
Firm Moved		-0.2
		(1.6)
Adjusted R-squared	0.202	0.039
Number of Observations	114	12,829
Panel C: Change in Dividend Payer 3 Years Post-Move Relative to 1 Year Pre-Move		
Change in Local Seniors	**190.9****	**187.1****
	(88.4)	(82.4)
Firm Moved		-0.7
		(2.2)
Adjusted R-squared	0.209	0.055
Number of Observations	99	11,693
Panel D: Change in Dividend Payer 4 Years Post-Move Relative to 1 Year Pre-Move		
Change in Local Seniors	**240.6****	**213.4****
	(108.7)	(89.1)
Firm Moved		-0.8
		(2.6)
Adjusted R-squared	0.234	0.068
Number of Observations	91	10,825
Panel E: Change in Dividend Payer 5 Years Post-Move Relative to 1 Year Pre-Move		
Change in Local Seniors	**343.2*****	**300.9*****
	(119.3)	(114.3)
Firm Moved		0.8
		(3.6)
Adjusted R-squared	0.396	0.070
Number of Observations	82	9,748

***, **, * denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively.

Table 11: Propensity of Sale and Local Seniors

The Cox proportional hazards model employs a non-parametric estimate of the baseline hazard (i.e., the probability of selling the stock in month t after the purchase, conditional on no prior sale). The first column features a common baseline hazard $\lambda_0(t)$, whereas the next two columns report results allowing for stock-specific baseline hazards $\lambda_i(t)$. GAIN = max(return, 0) and LOSS = min(return, 0), where return is defined as the capital appreciation of the stock since purchase. December is an indicator variable; it is equal to 1 for December observations, and is equal to 0 otherwise. Local is an indicator variable; it is equal to 1 if the company headquarters are located within 250 miles from the household. Senior is an indicator variable; it is equal to 1 if the investor is 65 years of age or older, and is equal to 0 otherwise. All regressions are estimated over the full sample of 1,409,587 observations (i.e., potential monthly sale decisions), based upon common-stock purchases made by more than 31,000 households through a large discount broker over the period from 1991 to 1996. Standard errors (shown in parentheses) allow for heteroskedasticity as well as correlation across observations of the same household.

	Common Baseline	Stock-Specific Baselines	
	(1)	**(2)**	**(3)**
GAIN	0.09***	0.09***	0.09***
	(0.01)	(0.02)	(0.02)
Local x Senior x GAIN			0.04
			(0.10)
GAIN x December	-0.02	-0.10**	-0.09*
	(0.02)	(0.05)	(0.05)
Local x Senior x GAIN x December			-0.19
			(0.44)
LOSS	1.08***	1.65***	1.65***
	(0.04)	(0.05)	(0.05)
Local x Senior x LOSS			-0.32
			(0.29)
LOSS x December	-2.32***	-2.52***	-2.52***
	(0.08)	(0.10)	(0.10)
Local x Senior x LOSS x December			-0.14
			(0.64)
December	0.14***	0.15***	0.15***
	(0.02)	(0.02)	(0.02)
Local x Senior x December			0.15
			(0.17)
Local (250 miles)	-0.14***	-0.14***	-0.14***
	(0.02)	(0.01)	(0.01)
Senior (65+)	-0.13***	-0.05***	-0.05***
	(0.02)	(0.02)	(0.02)
Local (250 miles) x Senior (65+)	-0.11***	-0.14***	-0.18***
	(0.04)	(0.04)	(0.05)

***, **, * denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively.

Table 12: Ex-Dividend Day Returns

This table presents results of estimating regressions that relate the price drop on the ex-dividend date to Local Seniors and other covariates. The estimation is carried out over the sample of stock returns surrounding ex-dividend days in the period from 1992 to 2007. The dependent variable is the relative price drop—the negative of the price change from the close of the last cum-dividend day to the open of the ex-dividend day divided by the closing price of the last cum-dividend day. The first column relates the price drop to the amount of the dividend scaled by the closing price ($\mathrm{Div}_{i,t} / \mathrm{P}^{close}_{i,t-1}$, abbreviated in the table as Div/P for readability). In the second column, Div/P is interacted with the indicator variable Small Firm (defined as in Table 6), to allow for differential effects across large and small firms. In columns (3) and (4), two county-level variables are added to the specification: Local Seniors (the fraction of residents who are 65 years old or older in the county in which a firm is headquartered, as reported by the U.S. Bureau of Census) and Median Income (measured at the county level; this geographically-based measure of income is intended to capture local tax-related motivations more directly). The third column includes Div/P, Local Seniors, Median Income, as well as interactions between Div/P and Local Seniors and Median Income, respectively. The fourth column further allows for interactions of all independent variables featured in the third column with the indicator variable Small Firm. Local Seniors and Median Income in off-census years have been estimated by linear interpolation (or extrapolation) of the figures from the Census years. In light of the primary interest in how characteristics of the community affect the relation between the ex-dividend day price drop and the amount of the dividend, the coefficients associated with Local Seniors and Median Income themselves, and their interactions with the Small Firm indicator variable, are suppressed from the table for readability. These coefficients are reported in the text of Section 4.2. Standard errors (shown in parentheses) allow for heteroskedasticity and are clustered by firm.

Table 12: Ex-Dividend Day Returns (continued)

	(1)	(2)	(3)	(4)
Div/P	0.73***	0.86***	0.36	0.92***
	(0.05)	(0.02)	(0.23)	(0.08)
(Div/P) x Small Firm		-0.26***		-0.89***
		(0.09)		(0.34)
Total Effect of Div/P *for small firms*		*0.60***		*0.04*
		(*0.09*)		(*0.33*)
(Div/P) x Local Seniors			3.0*	-0.19
			(1.7)	(0.54)
(Div/P) x Local Seniors x Small Firm				4.9*
				(2.6)
Total Effect of (Div/P)xLocal Seniors *for small firms*				*4.7**
				(*2.5*)
(Div/P) x Median Income			-0.08**	-0.01
			(0.03)	(0.01)
(Div/P) x Median Income x Small Firm				-0.10*
				(0.09)
Total Effect of (Div/P)xMed. Income *for small firms*				*-0.11***
				(*0.06*)
Adjusted R-squared	0.196	0.201	0.198	0.205
Number of Observations	116,933	116,933	116,370	116,370

***, **, * denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively.

Table 13: Dividend Payout and Local Seniors, Dual and Single Share-Class Firms

This table presents regression results for firm dividend payout behavior, estimated over the sample of pooled observations from the 1980, 1990, and 2000 cross-sections. Dependent variables are measured one year after the firm-level and the county-level controls. See Table 2 for a description of dependent variables and for the independent variables included in the regressions. The specifications are similar to those from Table 2, with the addition of the indicator variable Dual-Share Class and its interaction with Local Seniors. Dual-Share Class is equal to 1 for firms that have more than one share class, and is equal to 0 for firms with a single share class. For clarity, the table provides only the coefficients associated with the Local Seniors variable and its interaction with the Dual-Share Class indicator variable. Moreover, each column also features the total effect of Local Seniors for dual-share class firms (in italics). Standard errors (shown in parentheses) allow for heteroskedasticity and are clustered by firm.

	(1) Dividend Payer	(2) Dividend Initiation	(3) Dividend Yield
Local Seniors	**59.9*****	**35.1*****	**7.81*****
	(16.5)	(8.9)	(2.77)
Local Seniors x Dual-Share Class	**-13.6**	**-44.5****	**-7.64***
	(54.6)	(22.5)	(4.62)
Total effect for dual-class share firms	*46.2*	*-9.4*	*0.17*
	(*54.1*)	(*21.5*)	(*3.84*)
Dual-Share Class	**-6.6**	**4.7**	**0.83**
	(6.8)	(2.9)	(0.56)
Adjusted R-squared	0.529	0.086	0.295
Number of Observations	12,107	6,200	12,107

***, **, * denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively.

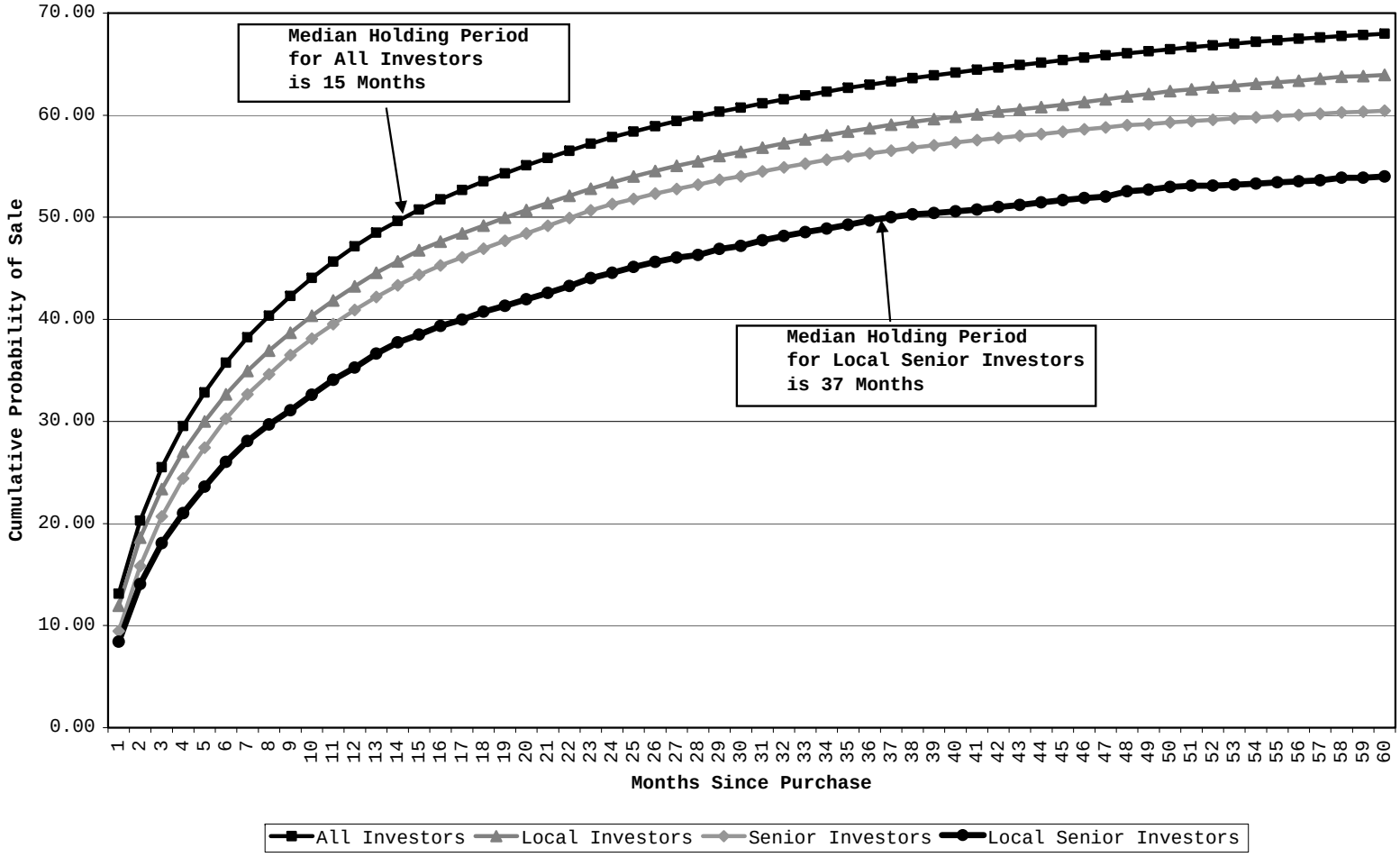

Figure 1: Hazard Rates of Sale and Median Holding Periods. This figure plots cumulative probabilities of sale of stocks purchased by more than 34,000 individual investors who invested through a large discount broker in the period from 1991 to 1996. The first step is the computation of the non-parametric hazard rates for all purchases for all investors for whom the data record their location and their age, local investors (whose household is within 250 miles from the location of the company headquarters), senior investors (individuals 65 years of age or older), and, finally, local senior investors. The second step cumulates the hazard rates into the cumulative probability of sale as a function of the number of months since purchase.

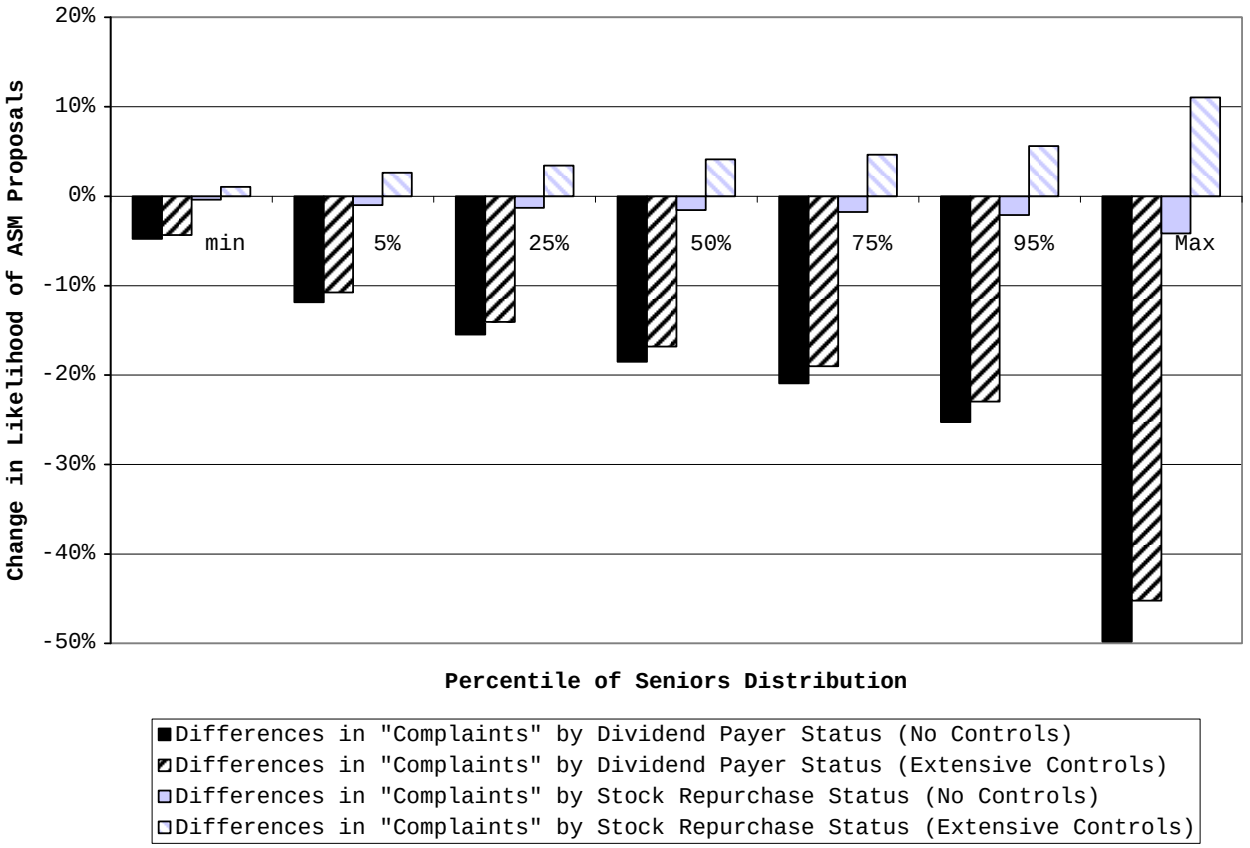

Figure 2: Differences in Likelihood of Shareholder-Sponsored Proposal Brought up by Shareholder at Annual Shareholder Meetings, by Firm Payout Policy. The solid black bars represent the difference in the likelihood of a shareholder-sponsored proposal brought at an annual shareholder meeting over the period from 2001 to 2007 for firms paying dividends relative to those not paying dividends (obtained from a linear regression with no other firm-specific controls). The black striped bars represent the difference in the likelihood of such a proposal being brought up for firms paying dividends relative to those not paying dividends (obtained from a linear regression with extensive firm-specific controls such as past returns, profitability, and size, as well as industry and county-level fixed effects). Likewise, the solid grey bars represent the difference in the likelihood of a proposal for firms that repurchased stock relative to those that did not (with no other firm-specific controls), while the striped grey bars represent the difference in the likelihood of a proposal for firms that repurchased stock relative to those that did not (with extensive firm-specific controls). See text in Section 4.3 for further details.