AMERICAN HOME: PREDATORY MORTGAGE CAPITAL AND NEIGHBOURHOOD SPACES OF RACE AND CLASS EXPLOITATION IN THE UNITED STATES¹

by

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ABSTRACT. Predatory home mortgage lending has become a central concern for housing research, public policy and community activism in US cities. Regulatory attempts to stop abuses, however, are undermined by claims that 'predatory' cannot be defined or distinguished from legitimate subprime lending, and claims that the industry performs a public service by meeting the needs of low-income, high-risk consumers (many of them racially marginalized) who would have been denied credit in previous years. We evaluate these claims in historical-geographical context, drawing on David Harvey's theory of class-monopoly rent to analyse what is new (and what is not) in contemporary financial exploitation. We use a mixed-methods approach to (1) provide econometric measures of subprime racial targeting and disparate impact that cannot be blamed on the supposed deficiencies of borrowers, (2) qualitatively assess the rationale for judging particular subprime practices and lenders as predatory, and (3) trace the connections between local practices and transnational investment networks. The fight against predatory lending cannot succeed, we argue, without a renewed analytical and strategic emphasis on the class dimensions of financial exploitation and racial-geographical discrimination.

Key words: housing, mortgages, race, class, class-monopoly rent, predatory lending

Beatrice

Beatrice is an African American woman in her seventies who has lived for almost fifty years in the same house in a predominantly black neighbouruhood in Newark, New Jersey. One day in 1995, after receiving yet another of those targeted telephone solicitations that have become a fixture of American marketing, Beatrice and her son decided to enter into a contract for exterior home repairs. Beatrice says that Gary, the agent who called her, told her 'not to worry, he would get me financing' for the costs of the repairs, and indeed over the next weeks and months he did just that. Gary sent a lim-

ousine to take Beatrice and her son to the offices of East Coast Mortgage, a local store-front lender, and he did much of the leg-work of obtaining income documentation and other details required to process the loan application. After a few interior repairs were added to the contract, and after several months of interim financing arranged by Gary, the final closing documents were signed in late April 1996. The loan terms specified \$46 500 at an annual interest rate of 11.65%, adjustable after six months, and charges of four discount points; at the time, the average initial rate for one-year adjustables was 5.73%, and the average points on one-year adjustables was 1.4. The loan was a 'balloon' type, requiring monthly instalments for fifteen years and then a final payment of \$41 603; Beatrice was understandably confused by the avalanche of obtuse financial documents and legal disclosures, but at closing she asked the attorney for East Coast Mortgage if everything had to be paid within fifteen years, and he told her not to worry about it. Beatrice signed.

Within days, East Coast Mortgage assigned the loan to Associates Home Equity Services, a firm with a national reputation for abusive and deceptive business practices. East Coast Mortgage, playing the role of broker, had received \$2325 from Associates for securing the loan; in a common industry practice known as a yield spread premium, Associates tied its brokers' payments to interest rates, paying proportionately more for loans with higher rates. In any event, Beatrice and her son were horrified at the 'unconscionably poor' workmanship of the home repairs arranged by Gary, and they were also shocked to learn the precise loan terms and requirements when they reread the numerous and confusing loan documents. Eventually they stopped making payments, and Associates filed for

foreclosure in May of 1998. Beatrice and her son filed a counter-claim against Associates, and a third-party claim against Gary and East Coast Mortgage. Beatrice and her attorneys claimed violations of a variety of laws, including the Consumer Fraud Act and the Law Against Discrimination (New Jersey statutes), as well as the Fair Housing Act, the Civil Rights Act and the Truth In Lending Act (US federal statutes). The trial court granted summary judgment dismissing all of Beatrice's claims and entering a judgment of foreclosure in favour of Associates; but on appeal the Appellate Division of the Superior Court of New Jersey reversed most (but not all) of this decision, allowing the plaintiffs to proceed on discovery on the claim of predatory lending activities and on claims of unconscionable business practices by the home repair contractor and East Coast Mortgage.

This case is believed to be the first appellate court decision recognizing that predatory lending practices can violate federal and state civil rights laws. The court found that a civil rights claim may be established by demonstrating 'unfair and predatory' practices and that individuals were targeted on the basis of race or if there was a disparate racial impact.¹

Beatrice is not alone. Millions of other people have had similar experiences, and few have had the benefit of legal representation. In this paper, we present a geographical study of the industry encountered by Beatrice. We address three central questions: What spaces of inequality are being created? Are these spaces nothing more than a reflection of the industry's response to consumer demand? How are the new spaces of aggressive lending different from the geographies created by previous generations of class inequality and racial exclusion? Answering each of these questions will augment the body of evidence cited by the Superior Court of New Jersey – evidence of racial targeting and/or practices with substantial disparate impact by race.

The subprime segmentation debate

The American system of housing finance has undergone dramatic restructuring over the past fifteen years, and as a result mortgage credit is much more widely available. A broad literature documents various facets of this transformation (e.g. Apgar *et al.*, 2004; Dymski, 1999; Engel and McCoy, 2002, 2004; Immergluck, 2004; Retsinas and Belsky, 2002; Squires, 1992, 2003). Regulatory changes in

the wake of the savings and loan crisis of the 1980s strengthened the Home Mortgage Disclosure Act (HMDA) of 1975 and the Community Reinvestment Act (CRA) of 1977, encouraging activists to mobilize for a more aggressive fight against exclusionary redlining. Many of the activists' targets were large institutions caught up in the 'bank merger wave' (Dymski, 1999), and a growing number decided to head off possible regulatory challenges by offering to make more loans in new or underserved markets. Such moves were facilitated by the massive growth of the secondary mortgage market, which allowed certain risks to be pooled and traded privately or through the securities issued by Fannie Mae and Freddie Mac, the giant government-sponsored enterprises.² At the same time, a revolution in behavioural modelling, automated underwriting and consumer credit reporting allowed lenders to slash transaction costs and to accurately predict profit and risk while relaxing underwriting standards. Borrowing became much easier both for wealthy and moderate-income consumers. These practices flourished in the buoyant economic climate and comparatively low interest rates of the late 1990s – and when a short but sharp recession hit in 2001, the Federal Reserve's rate cuts added fuel to the fire. In contrast to prior recessions, housing market activity accelerated: millions of homeowners with existing loans refinanced at the new lower rates (often taking a bit of cash out and spending it), and affluent investors burned by stock market declines turned to housing as an alternative outlet for speculation. As we write (mid-2005), the financial headlines are awash with debate over the housing bubble. Fed Chairman Alan Greenspan is warning of housing market 'froth' and the dangers of interest-only mortgages and similar 'exotic' financial instruments now used widely among speculative buyers, and total residential mortgage debt (\$8.3 trillion) is approaching 70% of gross domestic product (up from less than 50% in 1990).

One current of this massive capital flow has gone to consumers with low or unstable incomes, blemished or undocumented credit histories, and other risk factors that traditionally made it impossible to qualify for a mortgage. These consumers are now viewed as lucrative prospects in the sector known as subprime or B-and-C lending – so labelled not because of a below-prime interest rate, but because the borrowers are judged to be of lower quality than prime, A-rated prospects. Subprime lending volume ballooned from \$35 billion in 1994 to more than half a trillion dollars a decade later, accounting

for more than one-fifth of all new mortgages in 2004 (Andrews, 2005). Subprime credit has pronounced racial and ethnic dimensions, with the highest market shares among racially marginalized individuals as well as predominantly minority neighbourhoods (Bradford, 2002; Calem et al., 2004; HUD-Treasury Joint Task Force, 2000; Immergluck, 2004; Squires, 2004; Taylor *et al.*, 2004; Williams et al., 2005). Such disparities have generated intense debate on the question of discrimination, because of the substantially higher costs that borrowers pay for subprime credit. The industry and its defenders cite the principle of risk-based pricing to justify high-cost loans to risky borrowers, and claim that subprime lending performs a valuable public service by extending credit to those who are unable to qualify for prime credit on better terms (Crews Cutts and Van Order, 2003; Edelberg, 2003; Nadon, 2003; Pennington-Cross et al., 2000). Critics cite evidence that many subprime borrowers actually have credit histories that should qualify them for prime terms, and argue that subprime lenders aggressively target racial and ethnic minorities in order to exploit the mistrust of mainstream banks created by a history of redlining, discrimination and exclusion (Bradford, 2002; Lee, 2003, 2004; White, 2004; Williams et al., 2005). Furthermore, many of the risk-hedging innovations used throughout the mortgage market - securitization, insurance and other mechanisms designed to provide profits to brokers, lenders and investors while protecting them from nonpayment – provide powerful incentives for deceptive tactics to pressure borrowers to agree to complex, exploitative arrangements in a syndrome known as predatory lending (Engel and McCoy, 2002, 2004; Ernst et al., 2004). Particularly for renovation and refinance loans (where the borrower already owns the home and has built up equity) it is possible to extract substantial up-front fees, to pack the loan with useless insurance and other products, and still to keep the monthly payment quite attractive by pushing the day of reckoning further down the road. A homeowner forced into this situation simply gives up some of the equity in 'her' home, and if she falls behind in her payments, the lender will be happy to refinance and extract another round of fees (see Renuart (2004, p. 486), for a cautionary guide, 'How to eliminate home equity in four easy steps'). Eventually the cycle may end in a foreclosure sale, where another set of specialized brokers, lenders and 'vulture investors' will step into the picture.³ The central assumption of the mainstream mortgage market – that borrowers, lenders, investors, and governments all have a common interest in preventing adverse events such as delinquency, default and foreclosure – is routinely violated in the predatory market (Eggert, 2004; Engel and McCoy, 2004; McCoy, 2004). For predatory actors, adverse events are opportunities to earn profits through exhorbitant penalties, hidden charges or various other means of equity stripping.

Clearly, the experience of people such as Beatrice demands research, regulation and activism. Predatory lending is not simply an obscure financial or legal quirk at the margins of the mortgage market; its persistence and growth strike at the heart of fundamental theories in economics, geography and the law. Unfortunately, these crucial questions are ignored outside the specialized, interdisciplinary community of lending researchers, whose work when taken as a whole maps a landscape of trench warfare, in which analysts and advocates have fought to a precarious stalemate. 4 Two interrelated problems stand in the way of theoretical and policy development: the difficulty of defining *predatory*, and the failure to evaluate the historical-geographical context of class and race exploitation.

Defining predatory

Few would dispute that Beatrice was financially abused: the lender earned three times the prevailing market rate on up-front 'discount' points - at no risk whatsoever – without delivering the interest rate reduction that discount points are meant to provide. The higher price of subprime credit seems reasonable in the abstract, but the sterile logic of economic theory appears cold and harsh when set alongside the real-world experience of individual victims. But the empirical details of specific cases - the virtually unlimited variety of schemes that can be used to deceive customers – complicate efforts to measure and generalize. Press accounts and court cases provide a steady stream of qualitative evidence of racial and geographical targeting and discrimination, but quantitative evidence is much more elusive. Unless researchers gain access to proprietary databases held by the lending industry itself, the main source of public information comes from an economist in the US Department of Housing and Urban Development, who sifts through marketing materials and industry trade journals to maintain a list of lenders specializing in subprime lending who also file public records under HMDA

(Scheessele, 2003).5 HMDA data have well-known limitations, and the simple binary classification of lenders (subprime vs. all others) is clearly inadequate. Public debate, therefore, has evolved into a contentious state of parallax and paralysis over the politics of definition, measurement and generalization. On the left, analysts and activists cite qualitative evidence of predatory abuse and racial-geographic targeting, and fight for tighter regulation of what is likened to legalized loan-sharking. On the right, industry partisans and conservative scholars dismiss qualitative accounts as anecdotal, question most attempts to define 'predatory' (Heller and Garver, 2000) and draw upon proprietary quantitative datasets (often provided by industry groups only to 'friendly' researchers) to show that the subprime market is simply responding to the geography of consumer demand, and that the costs of subprime credit are fully justified by legitimate risk factors.

In an attempt to move beyond this stalemate, we offer a mixed-methods case study approach. First, we draw on the work of two scholars working at the nexus of law and economics (Engel and McCoy, 2002, 2004) to forge a clear theoretical understanding of predatory lending as a syndrome involving one or more of the following: transactions specifically crafted to result in substantial net losses for the borrower; harmful rent-seeking (i.e. the use of unscrupulous business practices to earn profits well above any level that would be expected in a wellfunctioning competitive market); deliberate attempts to deceive, mislead or trick the consumer; and tactics designed to make borrowers sign away their legal rights and protections. Second, we undertake a systematic, generalizable and quantitative analysis of the subprime market: we use HMDA data to study how racially marginalized individuals and places wind up disproportionately in the subprime market. We do not rely on HMDA data to draw any lines between legitimate subprime lending and predatory exploitation; instead, we simply suggest that there is prima facie evidence of some kind of problem if segmentation persists after controlling for borrower income and credit risks. Third, we evaluate the meaning of this market segmentation by developing an explicitly geographical case study. We use our econometric models to identify specific neighbourhoods where subprime segmentation cannot be explained solely in terms of borrowers' choices or risk profiles, and we then rank institutions according to their focus on these places. This procedure gives us a list free of all political or ideological bias that might taint a judgment of 'predatory'. We then review press sources, industry documents and legal cases to develop a qualitative portrait of three lenders. The preponderance of evidence suggests some degree of predatory behaviour, which (in conjunction with the econometric results) strengthens civil-rights claims of targeting and disparate impact.

Class-monopoly rent and the historical context of predatory lending

Mainstream histories of American urbanism tell stories of exclusion: particular people or places are systematically excluded from fair market opportunities in housing, employment or credit. In the realm of mortgage lending, scholars have laboured for many years to build a voluminous archive documenting the severity of racial discrimination and racial redlining. The historical evidence is now virtually uncontested: even industry partisans and conservative observers concede that banks unfairly denied credit to qualified African Americans and other minorities in the past, usually understood to mean the 1950s or 1960s. Paradoxically, however, this hard-won recognition of yesterday's exclusion has made it difficult to convince people that today's aggressive predators constitute a serious problem: if unfair denial and exclusion was so bad, many people ask, what is wrong with lenders eager to make loans to all, including those with bad credit?

We believe this interpretive impasse persists due to a neglect of class and the historical geography of inequality. Today's predatory market involves a broad array of sophisticated tactics, but the essence of financial exploitation is nothing new (Ernst *et al.*, 2004; Mansfield, 2000). The immediate predecessor to the subprime segmentation debate, for instance, involved the perverse incentives created by the insurance programmes of the Federal Housing Administration (FHA).⁶ But other abuses with deeper historical roots offer critically important lessons for our analysis.

In the early 1970s, David Harvey launched a major research agenda interrogating the relations between urbanization and capital accumulation. Harvey's work eventually led to sweeping, influential theories of the urbanization of capitalism (Harvey, 1978, 1985; cf. Beauregard, 1994; Rex and Moore, 1967) and analyses of global competitive realignments that are creating the conditions for imperial aggression and 'accumulation by dispossession' (Harvey, 2003; cf. Arrighi, 2005). But for our pur-

poses the definitive source is a single article that grew out of his early research in Baltimore, Maryland (Harvey, 1974). Harvey began by reconsidering classical theories of land rent as a way of understanding contemporary urban problems. Challenging the conventional economic view of rent as a simple transfer payment used to allocate a scarce factor of production (land), Harvey emphasized its social relations: 'actual payments are made to real live people and not to pieces of land. Tenants are not easily convinced that the rent collector merely represents a scarce factor of production' (Harvey, 1974, p. 251). Rent only has meaning with exclusive control of land backed by the legal institution of private property, and the scarcity that confers value to land is itself created by urbanization making it 'difficult to distinguish between rent and profit' (p. 252). Gaining access to the exchange value of urban land, then, requires a certain level of monopoly control protected by class position and the force of law. Harvey called this relation *class*monopoly rent: 'Class-monopoly rents arise because there exists a class of owners of "resource units" - the land and the relatively permanent improvements incorporated in it – who are willing to release the units under their command only if they receive a positive return above some level' (p. 253).

At the heart of this theorization is a concern for class, the force of law and access to financial institutions that facilitate the translation of use values into exchange values used for accumulation. Classmonopoly rent is not about monopoly control held by a company, and even 'owners' often have to pay rent. What matters is the collective interest of each class position – defined by systematic inequalities in access to land, finance capital and political power (see also Harvey and Chatterjee, 1974). Harvey turned to Baltimore for empirical illustration, dividing the city into a series of spatial housing submarkets and analysing class tensions pitting speculator-developers against middle-class suburban homebuyers, and setting low-income tenants against slum landlords in the inner city. In each case, class power is decisive. Landlords, developers and speculative buyers enjoy class power in part because the scarcity of land allows them to earn healthy returns even without putting all of their holdings on the market. In contrast to someone who needs a place to live now, a member of the landlorddeveloper class can withdraw from the market in bad times. This class power has crucial dimensions of political-geographical scale, because the local options available to landlord-developers depend on access to 'higher' scale flows of finance capital (which will permit speculative accumulation) and to alternative investments (which allow landlords to withdraw capital by disinvesting from old buildings if rent control or other regulations interfere with a preferred rate of return). Harvey drew a direct connection between the national banking system and the localized tensions between slum landlords who were exploiting poor, African American tenants in Baltimore's inner city. The housing finance system is part of 'an hierarchical structure ... through which class-monpoly rents percolate upwards but not downwards. At the top of this hierarchy sit the financial institutions' (Harvey, 1974, p. 257). We should not be confused by the complexity of the system (thrifts, state banks, national banks, federal banks, independent mortgage companies), because its central purpose is quite simple: 'all of these institutions ... operate together to relate national policies to local and individual decisions, and in the process create localized structures within which class-monopoly rents can be realized' (p. 259).

We believe this theorization offers the key to understanding what is new (and what is not) about predatory lending. Three decades ago the sharpest inequalities could be seen among low-income renters living in dilapidated inner-city housing and paying large shares of their incomes to wealthy slum landlords (most of whom were local landowners). These relations have certainly not disappeared. However, for a growing share of the working class, the local building owner has been replaced by a national subprime lender who gets investment capital from Wall Street and the global financial markets (Engel and McCoy, 2004; Lee, 2003, 2004). Homeownership rates are at record highs in the US, but this ownership is mostly mortgage-encumbered, and thus debt-leveraged 'owners' are simply renting capital (Kreuckeberg, 1999). Capital is the landlord.

For wealthy and middle-class borrowers, record-low interest rates in the prime market offer very low rent payments, but rents are steep in the subprime market. In magnitude, the exploitation of today's predatory lending is probably no more than that of the slum-landlord class of the 1960s. Yet the geographical and institutional facets of class-monopoly rent have changed dramatically. The slum landlord was the key figure extracting rent from low-income tenants. Today, the flood of subprime capital in search of high rates of return has created profit opportunities for a wide range of individuals

and institutions. The slum landlord's stream of class-monopoly rent has now been opened up to a new cast of local characters: loan brokers who earn yield-spread premiums (kickbacks) for making the highest-cost loans possible, loan officers in storefront mortgage companies who charge exhorbitant up-front points and fees while inserting hidden provisions that penalize a person for paying off the loan early, fraudulent home improvement contractors who get paid for doing shoddy or no repair work, and settlement attorneys, realtors and appraisers who play supporting roles in deceiving consumers and consummating transactions.

But another share of class-monopoly rent has been delocalized as neighbourhood housing markets are woven more tightly into transnational capital flows. Lenders sell most of the loans they originate, and the secondary market uses a variety of specialized 'legal-liability laundering' tools to protect investors from lawsuits if fraud was used to make the original loan (Eggert, 2004; Engel and McCoy, 2002, 2004; McCoy, 2004). The streams of rent from the underlying loans are then parcelled out to loan servicing companies (who make most of their profits from late fees and thus have incentives to trigger late payments; see Eggert, 2004), to investment bankers who pool the loans into carefully designed mortgage-backed securities, and individual and institutional investors who buy the MBS shares offered for sale in the financial markets. Thanks to the sophisticated techniques of the specialized field known as structured finance (see Fabozzi, 2001; Hurst, 2001), even very high-risk loans can be included in securities offerings that will find eager investors with unique yield preferences and tolerance for risk. Nationally, an estimated \$9.1 billion in class-monopoly rents are extracted every year from borrowers through predatory home-mortgage practices (see Stein, 2001).

Back to Baltimore

Conceptualizing predatory lending as class-monopoly rent allows us to approach the subprime segmentation debate in genuinely new ways. Regardless of whether it is defined as predatory or legitimate subprime, high-cost mortgage capital—and those who earn their commissions, fees and kickbacks from its circulation—searches actively for opportunities to earn the greatest possible profit. Capital can either seek an expansion in aggregate consumer demand (getting net new customers) or an increase in the *rate* of profit. The subprime lend-

ing boom has allowed both, yielding the greatest opportunities in those working-class and minority submarkets with relatively little competition from mainstream capital - thanks in part to lingering mistrust from the long history of bank discrimination, redlining and exclusion (Williams et al., 2005). We therefore hypothesize that the segmentation of particular individuals and places into the subprime market cannot be blamed solely on the credit risks or other deficiencies of borrowers. The calculus of capital, profit and accumulation matters. The persistence of market segmentation after controlling for demand-side factors, we contend, provides circumstantial evidence of targeting and disparate impact discrimination. Moreover, we suggest that case studies of particular institutions operating in places with the strongest segmentation effects can shed light on the continuum between 'legitimate' subprime lending and predatory exploitation.

We return to the City of Baltimore, and to its surrounding Megalopolitan context, to evaluate subprime lending in relation to Harvey's (1974) pioneering work (Fig. 1). We examine mortgage lending patterns between 1998 and 2002, drawing on four sources of information: (1) the annual releases of loan records and lender characteristics from HMDA; (2) the HUD classification of subprime lenders; (3) press accounts and legal documents on three case study lenders; and (4) investor prospectus materials filed with the US Securities and Exchange Commission as part of mortgage-backed securities deals.

A first glance at subprime segmentation

Between 1998 and 2002, conventional purchase requests increased by 60%, while renovation activity declined slightly after a peak in 2000; refinance activity fell by half from 1998 to 2000, before quadrupling to 578 000 requests in 2002. The composition of these market flows highlights several trends. First, consistent with many previous studies, subprime business is more common in the home improvement and refinance markets. Subprime market share has generally remained below 10% for home purchases, but has posted notable increases in the refinance market (peaking at 44% in 2000 before being overshadowed by a boom in prime refinance loans when interest rates fell in 2001 and 2002). The spatial imprint of subprime penetration in the refinance market highlights the combined effects of racial and class divisions, with the highest



Fig. 1. Washington-Baltimore Study Area.

rates in the city of Baltimore, the eastern half of the District, and Prince George's County (Fig. 2). The lowest subprime shares trace out the wealthiest suburbs directly north of Baltimore, the exclusive Maryland suburbs northwest of Washington, and most of Virginia's Fairfax and Loudon Counties.

Second, the industry remains broadly partitioned between depository lenders – those for whom mortgage lending is often only one of many lines of business – and companies that exist solely to make home loans. Prime activity is spread across a variety of competitors, and there is a strong representation of lenders with some connection to depository functions and the associated community ties and federal regulations. A smaller range of lender types compete in the subprime market; in the lucrative refinance market, independent mortgage companies remain dominant. Nevertheless, com-

mercial banks began to play an increasing role in the late 1990s. National banks supervised by the Office of the Comptroller of the Currency, for example, accounted for less than 1% of all subprime home purchase activity in 1998 and only 5.6% of the refinance market. By 2001, OCC-regulated banks attracted more than a quarter of all subprime purchase applications and almost one-fifth of refinance requests. Part of this shift reflects new lines of business, but much of it also stems from the growing interest of large banks in acquiring profitable subprime and predatory lenders.⁸

The net effect has been a shuffling of the institutions most active in subprime specialization. There is still a broad division between purchase requests and the greater penetration of subprime capital in the renovation and refinance markets, but there has been considerable change in the institu-



Fig. 2. Subprime Market Penetration. Conventional refinance loans by subprime lenders, as share of all conventional refinance loans, 1998–2002.

tional channels funnelling this capital to particular places. A substantial fraction of the subprime market penetration in the region's minority and lower-middle-class neighbourhoods is attributable to the subsidiaries of depository institutions (Fig. 3). These areas still endure considerable credit exclusion when measured in terms of overall denial rates; but those transactions that are completed have the effect of integrating these otherwise 'marginal' neighbourhoods into circuits of secondary market investment and trading (Fig. 4).

Modelling segmentation

These simple maps are illuminating, but they cannot distinguish between the many characteristics of lenders and the circumstances of individual homeowners. A multivariate approach is required for a rigorous evaluation of class-monopoly rent. Consider the demand side first. Let p be the probability that an individual loan application is filed at an institution specializing in subprime lines of business. A standard approach in the urban and housing economics literature involves a model of borrowers' choices, as expressed in the correlation between p and a set of household finances (\mathbf{F}), loan terms (\mathbf{L}) and demographic characteristics (\mathbf{D}):

$$\ln\left[\frac{p_{subprime}}{1 - p_{subprime}}\right] = \beta_0 + \beta_F \mathbf{F}'_i + \beta_L \mathbf{L}'_i + \beta_D \mathbf{D}'_i + \varepsilon_i \quad [1]$$

This approach is similar to the methodology used in the extensive literature on redlining and discrimination, with the important caveat that these other studies usually model the probability of loan



Fig. 3. Subprime Penetration by Bank Subsidiaries. Conventional refinance loans by subprime divisions of banks, thrifts, and bank holding companies, as share of all conventional refinance originations, 1998–2002.

rejection (see Carr and Megbolugbe, 1993; Holloway, 1998; Munnell et al., 1992, 1996; Ross and Yinger, 2002; Schill and Wachter, 1993). Unfortunately, the most relevant and important coefficients from this model – such as those measuring the role of race and ethnicity – are notoriously vulnerable to omitted-variable bias. The mortgage disclosure files provide no information on loan terms (such as interest rates, points and fees, prepayment penalties, loan to value ratio), applicant credit or employment histories, and other crucial underwriting criteria. Thus (for example) if we observe a positive, significant coefficient for African Americans, we cannot determine why: African Americans may have fewer assets and poorer credit histories, and therefore they may choose lenders who market their leniency on these terms. 9Yet since the dependent variable is loan segmentation (and not loan re-

jection) we can use the action taken on the loan as a right-hand side, reduced-form indicator of the underwriter's evaluation of a particular file. If we code these actions as right-hand side predictors (A'), the resulting model captures segmentation effects that persist after accounting for variations in applicant 'quality' as seen by underwriters and loan officers:

$$\ln\left[\frac{p_{subprime}}{1 - p_{subprime}}\right] = \beta_0 + \beta_F \mathbf{F'}_i + \beta_L \mathbf{L'}_i + \beta_D \mathbf{D'}_i + \beta_A \mathbf{A'}_i + \varepsilon_i \quad [2]$$

Placing the loan outcome indicators on the righthand side has the effect of placing full trust in the decisions of underwriters and lenders. The A'vector captures the evaluations of lenders who decide to approve or reject after considering the risk and profitability of the transaction; it also controls for

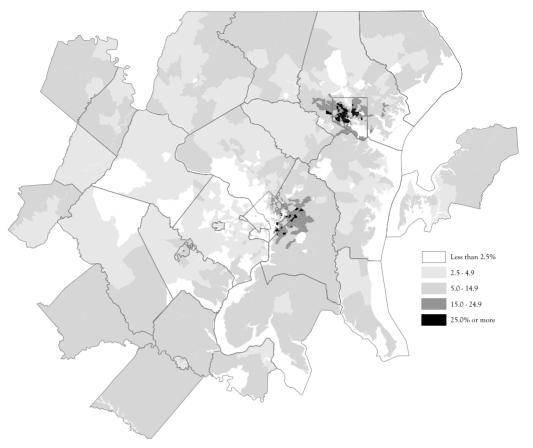


Fig. 4. Subprime Lending and the Secondary Market. Conventional refinance loans made by subprime lenders and sold on the secondary market in the same year, as share of all conventional refinance originations, 1998–2002.

withdrawn or incomplete applications. But this technique fundamentally changes the logic of the model. 10 A' is simply the after-the-fact disposition of each application: approved and originated, approved but subsequently declined by the borrower, denied by the institution, withdrawn, or closed as incomplete. These outcomes do not predict the prior behaviour of borrowers choosing what kind of lender to approach. And although A may provide a crude proxy for borrowers' expectations on how they will fare in an underwriting review, the model remains plagued by endogeneity bias. Loan terms are commonly negotiated and adjusted in order to make a deal work, and so L'is partly a function of the interaction between customers and loan officers (i.e. L'is correlated with F' and A').

These limitations require extreme caution on the crucial question of racial and ethnic discrimination (see Rachlis and Yezer, 1993). Several studies of closely guarded industry data have controlled for many of these modelling and data problems, however, and still reveal large racial-ethnic disparities in high-cost credit (Farris and Richardson, 2004; Lax et al., 2004; Quercia et al., 2004). Such findings are usually followed by intensified industry efforts to restrict data access or to orchestrate more friendly research (see Quercia et al., 2004, pp. 582–583; and see Warren, 2002). Our reliance on public data makes it impossible to correct for such biases. Neverthelesss, these issues can actually minimize the likelihood of a finding of racial disparity. In an extreme scenario, subprime lenders actively target African Americans and other racialized minorities, and adjust loan terms in order to complete transactions and extract excessive upfront fees (and perhaps to eventually recover properties in foreclosure). In this case, the A and L' vectors will drive the explanatory power of Eq. [2],

PREDATORY MORTGAGE CAPITAL

Table 1. Demand-side models of subprime segmentation.

	Model 1		Model 2		
Variable	Parameter estimate	Odds ratio ¹	Parameter estimate	Odds Ratio ¹	
valiable	estimate	Tatio	estillate	Katio	
Intercept	-2,3022		-2,9869		
Income (\$,000)	-0,00623	0,32			
Income squared	0,000000603	2,18			
Payment ratio	-0,00128	0,97	0,00696	1,22	
Ratio squared	0,0000000861	1,01	-0,00000656	0,46	
Loan exceeds GSE limit	-0,281	0,76	-0,848	0,43	
FHA-insured	-2,021	0,13	-1,970	0,14	
Owner-occupancy	0,027	1,03	0,120	1,13	
Home improvement ²	0,345	1,41	0,445	1,56	
Refinance	0,747	2,11	0,755	2,13	
Year 1999 ³	0,194	1,21	0,188	1,21	
Year 2000	0,273	1,31	0,251	1,29	
Year 2001	-0,209	0.81	-0.259	0,77	
Year 2002	-0,210	0,81	-0,267	0,77	
Native American ⁴	0.194	1,21	0.179	1,20	
Asian or Pacific Islander	-0,520	0.59	-0,569	0,57	
African American	0,699	2,01	0,729	2,07	
Hispanic	-0.001*	1,00	0.017*	1,02	
Other race/ethnicity	0,624	1,87	0,609	1,84	
Race unreported	0,929	2,53	0,933	2,54	
Corporate applicant	1,502	4,49	1,453	4,27	
Traditional white family couple	-0,415	0,66	-0,504	0,60	
Female applicant	0.013	1.01	0.071	1.07	
Edit failure	0,017	1,02	-0,013	0,99	
Denied ⁵	1.672	5,32	1,757	5,80	
Declined by applicant	1,337	3,81	1,360	3,90	
Withdrawn	1,883	6.57	1,902	6,70	
Closed as incomplete	1,268	3,55	1,287	3,62	
Originated and sold to GSE	-2,885	0,06	-2,914	0,05	
Originated and sold to bank	-0,298	0,74	-0,317	0,73	
Originated and sold to affiliate	0,053	1,05	0,038	1,04	
Originated and sold to other purchaser	0,949	2,58	0,949	2,58	
Number of observations	2 789 254		2 789 254		
Nagelkerke (1991) Pseudo-R ²	0,43		0,42		
Per cent correctly classified	86,6		86,2		

Notes:

rendering **D** (including minority status) insignificant. To the degree that subprime lenders engage in such practices, therefore, any significant positive coefficients for minorities will be conservative underestimates of the racial-ethnic dimensions of market segmentation.

Clearly, then, the demand-side models cannot distinguish consumers' needs, preference and qualifications from the interactions customers have with loan officers and underwriters. However, the

demand model still helps us assess the net, combined effects of all of these processes – the decisions rendered by underwriters as well as the distinctive profile of applicants who (by free choice or otherwise) wound up dealing with certain kinds of institutions. We can then shift our attention to the supply side, modelling a lender's subprime specialization as a function of its competitive position and market share (\mathbf{M}') , its type of charter and regulatory supervision (\mathbf{T}') , the overall credit quality of the ap-

^{*}Coefficient not significant at P<0.05. All other coefficients are significant at P<0.01.

^{1.} Entries for continuous variables report the change in odds with a one standard deviation increase.

^{2.} Reference category for loan purpose is home purchase applications.

^{3.} Reference category for year is 1998.

^{4.} Reference category for race/ethnic and gender variables is white male primary applicants.

^{5.} Reference category for action taken is approved and originated, but not sold in the same calendar year.

plicants it can attract (\mathbf{Q}), and its integration into lucrative secondary-market sales conduits (\mathbf{S}):

$$\ln\left[\frac{p_{subprime}}{1 - p_{subprime}}\right] = \beta_0 + \beta_M M'_i + \beta_T T'_i + \beta_0 Q'_i + \beta_S S'_i + \varepsilon_i$$
[3]

In this model, the observations are individual loan applications, which now include vectors for both borrower and lender characteristics. If we use the demand-side model to estimate an instrumental variable for each application, the result allows us to isolate the role of industry strategy in market segmentation:

$$\ln\left[\frac{P_{subprime}}{1 - p_{subprime}}\right] = \beta_0 + \beta_M \mathbf{M}',$$

$$+ \beta_T \mathbf{T}'_i + \beta_0 \mathbf{Q}'_i + \beta_S \mathbf{S}'_i + \beta_i \hat{\mathbf{a}}_i + \varepsilon_i$$
[4]

where $\hat{\mathbf{a}}_i$ is the predicted subprime probability for applicant i, as calculated from Eq. [2]. This approach allows us to distinguish industry factors from individual choices or qualifications. Is an applicant filed at a large lender specializing in socalled underserved markets, for example, more or less likely to end up at a subprime institution – even after we control for what makes this particular applicant unique, and for the decisions rendered by underwriters? Coefficients for the M' and S' vectors are also particularly important in evaluating how Harvey's circuits of finance capital in the Baltimore of the early 1970s have been reshaped by a generation of economic and institutional change. We estimated these supply-and-demand equations for all useable loan applications backed by properties in the study area between 1998 and 2002.¹¹ Our estimates incorporate as many relevant variables as possible, given the particular and limited view that may be gained from the HMDA files (see Tables 1 and 2). 12 Most of the applicant variables follow the established conventions of the mortgage-lending literature (e.g. Harrison, 2000; Holloway, 1998; Ross and Yinger, 2002; Schill and Wachter, 1993), but several specialized measures capture the flows of capital that are central to our analysis. Binary variables are coded for loans that are originated and sold in the same calendar year to one of the GSEs (Fannie Mae or Freddie Mac), to a bank, or to some other type of secondary market investor. On the supply side our variables distinguish among various market niches, such as predominantly refi lenders, or firms specializing in very high-risk segments

where denials or withdrawals are more common, or companies geared to underserved markets. Central to our hypothesis linking local subprime activity with broader transnational markets are the variables for market share, the ratio between local and national market share, and the secondary market indicators.

Results

Maximum likelihood estimates suggest robust, stable coefficients for both demand- and supply-side specifications (Tables 1 and 2). Measures of overall fit exceed those typically reported in accept/reject studies (by a considerable margin in the case of the supply-side model) (Nagelkerke, 1991). The inclusion of a lengthy (but by no means comprehensive) array of predictors helps to reduce the risks of omitted-variable bias, and there are also encouraging results from multicollinearity tests. ¹³ A second specification for the demand-side model corrects for the few problems that do persist, with only minor effects on most of the other coefficients (compare Models 1 and 2 in Table 1).

The demand models follow the broad outlines of the conservative and industry perspective on high-risk lending. As it claims, the industry is oriented towards the credit needs of lower-income borrowers: a one-standard deviation increase in applicant income reduces the chance that a borrower will choose a subprime lender by two-thirds. Similarly, the industry focuses on borrowers who are more difficult to underwrite, or who encounter other difficulties that lead to second-thought withdrawals or incomplete files. Compared with applicants who sail through the process and obtain loans, those who are denied are more than five times as likely to have approached a subprime lender; the ratio is even higher for those who withdraw their requests. Given the willingness of subprime lenders to serve higher-risk borrowers, it is not surprising to see them focusing on those parts of the business where lower loan-to-value ratios provide a cushion against default (note the high odds ratios for the home improvement and refinance markets) (Mansfield, 2000; Pennington-Cross et al., 2000). Even after accepting this conservative interpretation, however, several results point to the role of capital investment and supplyside processes. The disproportionate segmentation of racial and ethnic minorities provides circumstantial evidence of targeting – either on the basis of individual race, neighbourhood racial composi-

PREDATORY MORTGAGE CAPITAL

Table 2. Supply-side models of subprime segmentation.

	Mode	1 1	Model 2		
	Parameter	Odds	Parameter	Odds	
Variable	estimate	ratio ¹	estimate	ratio ¹	
Intercept	-7,1103		-7,1285		
Lender market share	0,6156	2,15	0,6145	2,14	
Ratio of local to national market share	-0,1439	0,20	-0,1441	0,19	
Depository institution ²	-3,5531	0,03	-3,5416	0,03	
Mortgage company owned by depository	0,6794	1,97	0,685	1,98	
Lender denial rate	0,0392	1,92	0,0375	1,86	
Declination rate	0,0506	1,57	0,0498	1,56	
Withdrawal rate	0,0763	2,58	0,0745	2,52	
Closed as incomplete rate	0,016	1,06	0,015	1,06	
Owner-occupied share	0,0216	1,11	0,0217	1,11	
FHA rate	-0,0864	0,29	-0,0854	0,29	
Jumbo share	-0,0349	0,74	-0,0337	0,75	
African American share	0,1378	4,65	0,1368	4,60	
Hispanic share	0,0407	1,12	0,0409	1,12	
Other share	0,0837	1,34	0,0824	1,33	
Lender race non-reporting rate	0,0332	2,53	0,032	2,45	
Lender edit failure rate	0,0179	1,82	0,0178	1,82	
Share of originations sold to GSEs	-8,4188	< 0,001	-8,3868	< 0,001	
Share of originations sold to banks	-2,0825	0,63	-2,0757	0,63	
Share of originations sold to affiliates	0,5067	1,13	0,5078	1,13	
Share of originations sold to other purchaser	0,1499	1,08	0,1406	1,07	
Home improvement ³	-0,0204*	0,98	-0,065	0,94	
Refinance	0,0255	1,03	-0,078	0,92	
Year 1999 ⁴	0,0229*	1,02	0,00374*	1,00	
Year 2000	0,191	1,21	0,1652	1,18	
Year 2001	0,3234	1,38	0,35	1,42	
Year 2002	0,5233	1,69	0,5488	1,73	
Applicant instrumental variable			0,6006	1,15	
Number of observations	2 789 254		2 789 254		
Nagelkerke (1991) Pseudo-R ²	0,87		0,87		
Per cent correctly classified	98,7	98.7			

Notes:

- *Coefficient not significant at P<0.05. All other coefficients are significant at P<0.01.
- 1. Entries for continuous variables report the change in odds with a one standard deviation increase.
- 2. Reference category for lender type is independent mortgage companies.
- 3. Reference category for loan purpose is home purchase applications.
- 4. Reference category for year is 1998.

tion, or some combination of the two. African Americans are more than twice as likely to be in the subprime market compared with whites at the same income level and debt burden; and since loans rejected or withdrawn due to credit history, employment stability and other concerns are factored in as control variables, it becomes difficult to blame racial segmentation on applicant risk factors. Legentration is even stronger for applicants with unreported race/ethnicity; subprime lenders tend to make heavy use of marketing tactics that slip through loopholes of the federal rules requiring lenders to ask people to self-identify for fair lending enforcement purposes (Huck, 2001).

The secondary market, circuits of capital, and lender specialization

Controlling for the varied characteristics of those needing to *borrow* capital allows us to shift the focus to those who want to *lend* it. Several results shed light on the ways that contemporary practices in the banking industry and the financial markets perpetuate stratification of capital flows in the city. In the demand model, the secondary market indicators confirm that lenders' decisions and relations with investors are crucial in understanding segmentation (Table 1). Loans sold in the same calendar year to one of the GSEs are extremely unlikely at

subprime lenders, suggesting a certain effectiveness of the intense public scrutiny and policy debates in recent years over the roles and responsibilities of Fannie Mae and Freddie Mac (see, e.g. Apgar et al., 2004; Fannie Mae, 2003; Freddie Mac, 2003; and summaries of testimony by several regulators in Butera and Andrews, 2000).15 The subprime sector is tied much more closely to loan sales that no longer fit the old, traditional categories identified in the data: compared with loans originated and held (at least temporarily) by the lender, loans sold to some 'other purchaser' are 2.6 times more likely to be in the subprime segment. Although this ambiguous category can include life insurance companies and other investors, the B-and-C market is governed increasingly by the activities of special purpose vehicles (SPVs), which are established solely to hold loan pools for a short time in order to break the chain of legal liability. SPVs then assign the loans to a trust, which in turn issues securities for sale on the financial markets (Eggert, 2004; Engel and McCoy, 2004; Fabozzi, 2001; Hurst, 2001).¹⁶

If the demand models document racial segmentation even after controlling for income and other factors, then, the supply model sheds light on the class dimensions of the market. Subprime mortgage capital clearly partitions the market in pursuit of class-monopoly rents from high-cost loans (see Table 2). Fit diagnostics and coefficient estimates are almost identical with the simple supply model and the specification accounting for the demand side.¹⁷ Note, for example, that the coefficient for a lender's African American share is unaffected when we control for the unique profile (income, loan type, loan decision, race/ethnicity) of each prospective borrower: the parameter declines almost imperceptibly, from 4.65 to 4.60. Even after accounting for everything we can observe about homeowners and homebuyers, an applicant who approaches a lender specializing in the African American market (i.e. one standard deviation above the mean on this measure) is more than four times more likely to be dealing with a subprime institution. Institutional strategy and market segmentation are crucial, and cannot be explained simply as responses to consumer demand. The subprime sector is now dominated by large, non-local mortgage companies - many of them specialized subsidiaries of global financial services firms such as Citigroup and HSBC – that have found new ways of doing business in minority markets that have faced exclusion and discrimination for so many years. These effects are robust and substantial. Approaching a lender with a national market share that is one standard deviation above the mean doubles the chance of ending up at a subprime institution, all else constant; going to a more locally oriented company reduces the odds by five times. 18 Compared with independent mortgage companies, those owned by banks are almost twice as likely to focus on B-and-C lending. All these results are consistent with the idea that stratified neighbourhood credit markets are integrally tied to the conditions of capital investment and financial services restructuring, and to the creation of a specialized institutional structure to target particular groups of homeowners and homebuyers.

Understanding the spatiality of subprime Capital

Is this 'specialized institutional structure' good or bad? Scholarly research and policy debates invariably begin with the refrain that subprime credit plays an important, legitimate role in serving those who would otherwise be denied access. This mantra has gained near-universal acceptance, and is rarely questioned. Our analysis thus far cannot settle the issue, because we only have evidence that supply-side factors are important in market segmentation (not that segmentation itself is bad). But we can take the analysis forward in two ways. First, we test for spatial inequalities that persist even after accounting for demand-side factors: is subprime market penetration creating new forms of redlining? Second, we undertake brief case studies of specific institutions identified by the regressions as central actors in the segmentation process.

Measuring spatial inequalities

We approach the question of spatial inequality with a gesture of what might be called the naive counterfactual: if the pattern of market penetration is nothing more than a benign by-product of consumer demand and industry service, then it should be possible to explain most or all of the geography shown in Fig. 2 with the models presented in Tables 1 and 2. Moreover, it is logical to expect a rough correspondence between the supply- and demandside views of the market: if we compare the outcomes predicted by the circumstances of borrowers with those predicted by the profiles of lenders, we

should see a close match in most places. If segmentation is predominantly economic, the discrepancies between supply and demand predictions should not make any sense. We should see only minor, random or idiosynchratic spatial variations in the fit of these two models.

For each loan applicant in the region, we compute two estimates of the probability of subprime segmentation: one based on the demand model (Table 1, Model 1), the other based on the supply model (Table 2, Model 1). We then average the individual values by tract and compute an index, dividing the demand-implied estimate by the supply-based estimate. The index measures how well localized market outcomes can be explained in terms of the correspondence between borrower and lender characteristics. ¹⁹

The results are striking. Global estimates yield a precise match: for the entire population of 2.79 million applicants, the average probability estimates (21.02%) match within six millionths (i.e. the demand estimate is 0.0006% higher). But regional convergence hides substantial and meaningful neighbourhood variation (Fig. 5). In dozens of neighbourhoods, low demand-supply ratios indicate that applicant characteristics can only explain half or three-quarters of the probabilities suggested by lending institution characteristics; in these places, it seems justified to conclude that the strategies of lenders, investors and others on the supply side are more important than the presumed deficiencies of local homeowners and homebuyers. Conversely, high ratios in other neighbourhoods are a sign that borrower profiles, on average, justify more subprime activity than is suggested by the characteristics of lenders. To put it another way: low index values appear when bad money pursues good borrowers; high index values appear when good money chases after bad borrowers.

The geographies of these alternative paths are fascinating. The highest ratios are clustered in the elite neighbourhood of Northwest Washington, DC, and appear also in the exclusive neighbourhoods of Georgetown, Arlington and Alexandria (Fig. 5a). Slightly lower ratios trace out a path that follows the upper-middle-class corridors in the Maryland suburbs to the northwest of DC, and west through Virginia's Fairfax County into the rapidly growing subdivisions encroaching on the horse-country estates of Loudon County. In all of these areas, homeowners and homebuyers have characteristics that would seem to justify considerable subprime activity – much more than we ob-

serve and expect on the basis of lender characteristics. Prime lenders are pursuing many borrowers who have the debt ratios or other risk factors of subprime applicants.

On the other hand, broad sections of lower-middle-class and working-class neighbourhoods across the region post unusually low index values - a sign that lenders with subprime features are pursuing borrowers with comparatively good risk profiles (Fig. 5b). Since the demand-side models include a lengthy array of individual measures (along with underwriters' decisions on individual applicant risk factors) these patterns offer robust, multivariate evidence of spatial dimensions of subprime capital investment. Several of the patterns traced out by the low index values (Fig. 5b) seem unusual or unexpected. Low index values fail to appear in northeast and southeast DC (the poor and African American urban neighbourhoods where we might expect a great deal of subprime activity). Instead, the lowest index values highlight the ageing parts of outlying small cities (Martinsburg, West Virginia and Fredericksburg, Virginia), and neighbourhoods on the edges of the region's large military bases: Quantico Marine Corps Reservation, Fort George G. Meade and the Aberdeen Proving Grounds.²⁰ Yet the overall tapestry of demand and supply values is anything but random. It suggests a disproportionate flow of subprime capital into those parts of the region that have historically been neglected by prime, mainstream lenders. Subprime profit opportunities are pursued by lenders, brokers, appraisers, investors and other agents of capital working to reach borrowers who have (or who are led to believe that they have) few options in the mainstream market (Apgar et al., 2004; Engel and McCoy, 2002; Lee, 2004; Mansfield, 2000; Williams et al., 2005). The strongest evidence appears in a well-defined cluster of residuals in the landscapes of Harvey's research a generation ago: the Baltimore inner city.

The case of Baltimore

One of the spatial submarkets identified by Harvey (1974) included an irregular crescent of neighbourhoods, about a mile and a half wide, encircling downtown and the elite enclave of Bolton Hill. In 1970 this 'inner-city' submarket was 'dominated by cash and private loan transactions with scarcely a vestige of institutional or governmental involvement in the used housing market' (p. 261). Nearby, the residential blocks of West Baltimore were the



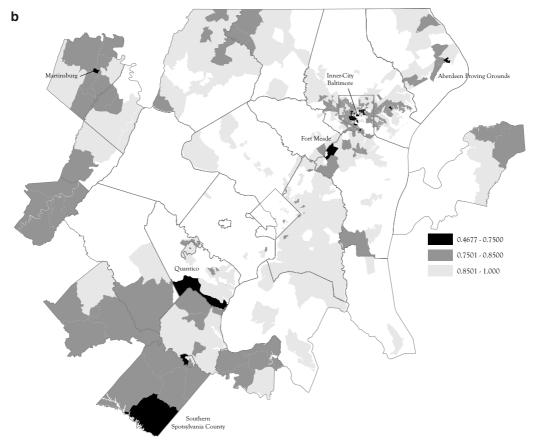
Fig. 5. Subprime Spatial Segmentation. The two panels of this map show the 'fit' between subprime market penetration as predicted by demand- and supply-side factors. We calculated two estimates of subprime probability for every loan application in the study area: one based on the observed characteristics of borrowers (Model 1, Table 1), another based on the characteristics of lending institutions (Model 1, Table 2). We averaged these estimates for all applicants in each census tract and then computed an index. Panel (a) shows areas with index values over 1.0, where borrower profiles suggest that we should see much more subprime market share than is observed. Panel (b) shows areas where borrower characteristics cannot fully explain the high levels of market penetration by subprime institutions.

setting for especially blatant discrimination by mainstream institutions and the FHA; African Americans could only acquire property through land-instalment contracts. Speculators bought up homes, added various overhead costs and offered private financing for inflated prices to African American buyers: usually, 'the speculator imposes his credit rating between that of the purchaser and the financial institutions' (Harvey, 1974, p. 264), with a corresponding markup in borrowing costs that was widely understood as the 'black tax'. In the main, these abuses were committed by small-scale, local speculators.

Today, the local map is much the same but it is

drawn by a more far-flung web of agents and institutions. The lowest indices from our model (Fig. 5b) fit almost perfectly within the inner-city submarket mapped by Harvey. Although we have not undertaken a full replication of Harvey's analysis of title transfer records, it is likely that most of the private cash or loan transactions and land-instalment contracts he documented in 1970 have been replaced by the long menu of practices we know today as predatory lending.

For the individual borrower, it is possible that the costs of today's subprime loan are no more exploitative than those extracted by a previous generation of slum landlords or speculators pushing



instalment contracts. However, the reconfiguration of class-monopoly rent is an important shift in theoretical terms, and it presents enormous complications for organizing and regulation. The comparative political simplicity of a rent strike against a slum landlord has given way to a much more diverse cast of characters operating at many different scales to take their cut of class-monopoly rent. On the front lines in the inner city, small-time brokers, realtors, appraisers and home improvement contractors reap transaction fees when borrowers are convinced to enter into loan agreements. Originators then earn above-market points and fees at no risk; after closing, the originator chooses between an ongoing stream of high interest payments (which does require confidence that the borrower will be able to sustain the loan), the prospect of future fees to strip out more equity, or a quick sale of the note to escape default risk while providing a fresh infusion of capital to be used on new prospects. National banks, investment banks, bond-rating analysts and investors then step in at the higher levels of structured finance to pool the loans to provide the best possible risk-adjusted yield – the portfolio manager's preferred term for class-monopoly rent.

For those firms that are subject to (and comply with) disclosure, we can trace some of the connections between Baltimore's inner city and spatially restructured networks of class-monopoly rent. A ranked list of subprime lenders dominating the competition (Table 3) includes a number of obscure local or regional companies, but also some of the nation's largest subprime firms with heavily advertised brand names (Ameriquest, Household, Citifinancial). To examine how localized segmentation is linked with transnational capital markets, we used the 'follow the money' research methods recommended by Byers (2003) to trace the paths of investment and securitization for several specific originators. Note that the procedures used to develop Table 3 involve no bias or prejudice on the continuum between legitimate subprime and predatory; similarly, our selection of case study lenders re-

Table 3. Leading subprime lenders in Baltimore's inner city.

			share	hare	
Lender	Applications received	of Baltimore inner city A	of inner city subprime B	of regional subprime C	Location quotient (B/C)
Ameriquest Mortgage Company	741	4,1	7,0	8,1	0,86
Nationscredit Financial Services	594	3,3	5,6	2,4	2,35
Superior Bank	548	3,0	5,2	2,2	2,32
The Money Store	481	2,6	4,5	4,6	0,99
Advanta	373	2,0	3,5	2,2	1,59
Household Finance Corporation	327	1,8	3,1	5,9	0,52
Amresco Residential Mortgage Corporation	323	1,8	3,0	0,8	4,05
New Century Mortgage	314	1,7	3,0	1,4	2,11
Delta Funding Corporation	288	1,6	2,7	0,7	3,71
United Companies Lending Corporation	262	1,4	2,5	1,3	1,96
Conseco Finance Servicing Corporation	249	1,4	2,3	4,9	0,48
CIT Group/Consumer Finance, Inc	234	1,3	2,2	1,2	1,79
Option One Mortgage Corporation	229	1,3	2,2	2,5	0,86
Wachovia Bank of Delaware	219	1,2	2,1	1,6	1,30
Mortgage Lenders Network USA	216	1,2	2,0	0,9	2,26
Citifinancial, Inc of Maryland	201	1,1	1,9	1,3	1,50
Homegold, Inc	175	1,0	1,6	3,4	0,48
Contimortgage Corporation	172	0,9	1,6	0,8	2,13
Key Bank USA	170	0,9	1,6	3,3	0,49
Green Point Mortgage Funding	169	0,9	1,6	2,8	0,58
American Business Financial	157	0,9	1,5	2,2	0,66
Homeowners Loan Corporation	155	0,8	1,5	1,6	0.90
Centex Home Equity Corporation	151	0,8	1,4	0,6	2,54
Banc One Financial Services	145	0,8	1,4	1,9	0,70
Beneficial Corporation	140	0,8	1,3	3,5	0,38
Resource One Consumer Discount	137	0,8	1,3	0,9	1,37
Equicredit Corporation of America	129	0,7	1,2	0,6	2,02
Citifinancial Mortgage	123	0,7	1,2	1,9	0,60
Equity One, Inc	119	0,7	1,1	1,2	0,90
WMC Mortgage Corporation	111	0,6	1,0	0,8	1,32
Chase Manhattan Bank USA	110	0,6	1,0	3,5	0,30
IMC Mortgage Company	109	0,6	1,0	0,5	1,93
Chadwick Mortgage, Inc	105	0,6	1,0	0,2	6,17
Aames Funding Corporation	103	0,6	1,0	1,1	0,87

lies on the simple, objective criteria of size, local market specialization and publicly disclosed securities deals. Our analysis centres on four lenders: Superior Bank, Amresco Residential Mortgage Corporation, New Century Mortgage and Delta Funding Corporation.²¹

Each of these lenders focuses closely on the Baltimore neighbourhoods identified in our models, but of course they have also been prominent in regional and national markets, and along the way they have attracted press attention, regulatory scrutiny and legal action. Superior, co-owned by one of the nation's wealthiest families (the Pritzkers of Hyatt Hotels), wound up tangled in lawsuits across the country alleging a wide variety of abusive and illegal practices; after severe losses on auto loans and high-risk mortgages, Federal reg-

ulators closed it in 2001 at a cost of \$500 million (Day, 2001).²² Amresco specialized in loan servicing: describing the company's varied lines of business, a Moody's analyst remarked, 'Servicers have run into difficulty from lending and investment, not from loan servicing.' After a string of quarterly losses, Amresco was acquired in late 1999 by Lend Lease of Australia for its accomplished record in the 'special servicer' market, where aggressive innovation is required to get people to keep paying; as the Moody's analyst put it, 'These are the knuckle-breakers of the business' (Cohen, 2000).

New Century received some negative press coverage after making a loan of \$387 000 to a 60-year old-man whose primary income was \$1000 per month from Social Security disability benefits; the

adjustable-rate note began at 9.5%, nearly 4% above the prime-credit rates prevailing at the time (Spencer, 2003). New Century was also sued in the US District Court on allegations that it consorted with brokers and contractors to engage in a pattern or practice of targeting single, elderly females for unfair loan practices. The Court's findings of fact for ederly plaintiffs documented that the women were deceived about the terms of their loans, not given legally mandated disclosures, and that brokers and lenders falsified occupations and incomes in order to make high-rate, high-fee loans that depleted home equity and/or triggered foreclosures (Matthews v. New Century, 2002).

Delta Funding Corporation, the largest home equity loan company in New York State, had the misfortune to fall under the jurisdiction of perhaps the most widely recognized state Attorney General in the US, Eliot L. Spitzer. In addition to his high-profile prosecutions of stock analysts and mutual fund executives in the wake of Wall Street corporate scandals, Spitzer has carefully scrutinized home mortgage lending. Spitzer charged Delta with reverse redlining, and his investigators issued twelve subpoenas and reviewed some 25 000 loan documents; they decided on a civil-rights inquiry after finding a near-perfect match between the lender's business and census tracts at least 80% African American in East New York, Bedford-Stuyvesant and Jamaica, Queens (Kennedy, 1999). Delta was accused of high-pressure sales tactics designed to get profits from flipping (refinancing its own loans to extract high fees) and asset-based lending (making loans on the basis of home equity rather than a borrower's ability to repay); Delta sustained its profits in these risky practices by explicitly using low loan-to-value ratios to provoke quick defaults, ensuring that foreclosure auctions would yield ample returns (Kennedy, 1999; Santiago, 2000). Spitzer also charged Delta with making loans carrying illegal 'penalty interest rates' (triggered once a borrower is late with a payment) as high as 24%. Delta denied the allegations, but at the last minute before Spitzer was to file suit in the US District Court, the lender effectively conceded many of the allegations by agreeing in principle to a broad settlement. Delta agreed to pay \$12 million in fines and restitution, to stop many of the practices in question, and to allow state banking auditors to be placed inside the firm's own offices to monitor practices on a regular basis. After the final terms were hammered out a few months later, Delta issued a press release to portray the settlement as if it was Delta's idea to offer a benevolent act of corporate citizenship ('Delta Funding Corporation announces best practices lending program: company takes industry lead in standardizing lending practices.') (Kennedy, 1999; Santiago, 2000). Within a few weeks a trio of federal agencies (the Department of Justice, the Department of Housing and Urban Development, and the Federal Trade Commission) accused Delta of paying kickbacks and unearned fees to brokers, and of charging African American females significantly higher rates than otherwise identically qualified white males (Mayer, 2000).

Note that the word 'predatory' appears nowhere in the paragraphs above, but if conservative analysts and industry partisans continue to challenge anyone who equates subprime with predatory, they must explain what legimate function is served by these kinds of lenders engaging in these types of practices. Our econometric analysis identified these lenders by scrutinizing the geographies created by subprime segmentation that cannot be blamed on the supposed deficiencies of borrowers. Whether we call it subprime or predatory, it is clear that the profits extracted by these lenders are based on systematic inequalities in access to information, capital, industry resources and power. These lenders, and the brokers and contractors working with them, all earned substantial classmonopoly rents.

Securitization and capital conduits

These lenders were regular players in securitization deals, and thus they provide a window on the new spaces between local cases of high-cost lending and transnational capital investment. To illustrate some of the salient connections, we analyzed what investors were told in the prospectus supplements accompanying the most recent mortgagebacked security offerings filed at the Securities and Exchange Commission (Amresco Residential Securities Corporation, 1999; Delta Funding Corporation, 2001; New Century Mortgage Securities, Inc., 2003; Superior Bank, FSB, 2000). These materials are not perfect as research tools, but there are remarkably candid and valuable snapshots of investor behaviour and institutional context buried in the several hundred pages of each supplement. The most recent offerings for these lenders include securities pools of \$546 million of Superior loans (June, 2000), \$209 million of Amresco notes (October, 1999), \$1.14 billion for New Century (December, 2003), and \$180 million of Delta mortgages (October, 2001).

The investor supplements describe an enterprise of extraordinary complexity designed to support investors' pursuit of the simple goal of maximum risk-adjusted yield. The prospecti offer a counterpart to the usual biases in the literature on aggregate lending trends or surveys of borrower behaviour. The usual emphasis on the rational, utility-maximizing consumer is replaced here with a focus on the concerns, motivations and fears of the wealthy individual or institutional investor. Three points stand out. First, the localized flows of high-risk subprime capital in inner-city neighbourhoods are sustained by some of the largest and most prominent global financial services trademarks. Underwriters for the case studies securities – the investment banks who take the deals public and sell to individual bond dealers and then to investors – include Merrill Lynch, Prudential Securities, Lehman Brothers, and in the case of New Century's billion-dollar trust, a partnership between Bank of America, Citigroup Global Markets, Morgan Stanley and UBS.

Second, the deals exploit a wide range of structured finance innovations to extract respectable yields from high-risk loans. Each offering results from a careful blend of techniques that are now standard in subprime securitization: subordination, tranche structure, overcollateralization, multiplecertificate classes, excess spread allocations and third-party guaranteees are only some of the specialized tools used in this field (Eggert, 2004; Engel and McCoy, 2002, 2004; Fabozzi, 2001; Hurst, 2001). But the complexity cannot obscure the essential goal: these methods are all designed to pool and assign prices to various kinds of risks, such that the securities offered for sale will find an array of investors with corresponding risk-adjusted yield preferences. From the standpoint of homeowners who wind up with high-cost, high-risk credit, the result of securitization is to shatter the traditional shared interest of all parties in cooperating to avoid adverse events: by the time a loan is packaged and shares are sold on Wall Street, the securitization process has already priced in the expected rates of delinquency and default for each risk class (Eggert, 2004).

Each of the case study loan pools include heterogeneous risk and return profiles, with varied blends of fixed- and adjustable-rate loans. Our concern here, of course, is the relatively high costs of the loans. One quarter of the adjustable-rate

package of Superior loans carried initial interest rates over 12%, and almost as many of its fixedrate notes were balloon-payment loans. Another pervasive feature is the heavy use of prepayment penalties. More than two-thirds of the \$824 million in conforming notes offered by New Century were subject to prepayment penalties lasting for at least two years. More than four-fifths of Delta's offering was covered by some duration of prepayment penalty, helping to protect the pools' weighted average interest rate of 10.53%. In the competitive prime market, prepayment penalties can allow borrowers to negotiate somewhat lower longterm rates in return for agreeing to pay a fee if the loan is paid off too early; but there is little corresponding evidence of such negotiations or discounts in the subprime market (Engel and McCoy, 2004).²⁴ The mechanism simply defends classmonopoly rent by protecting investors from the premature return of capital while offering additional opportunities for fees charged by front-line lenders and brokers.

When a pool is creatively structured by repayment tranch, even quite high-risk borrowers can be included in order to boost yields. Collateral cushions on the underlying loans, and on the notes through overcollateralization, are also used to protect investors. Amresco's filing is particularly revealing on the borrower risks that may be included with these methods. Amresco 'focuses on originating nonconforming mortgage loans to borrowers who have substantial equity in their residences' (p. 36), and almost all the individual loans in its offering were risky enough to have been spurned by other purchasers. 25 Most of Amresco's pool involved cash-out refinance loans, but much of the weighted average interest rate (9.79%) was shielded by lengthy prepayment penalty clauses (see Table 4). This is a fairly high-risk package: notes designated as 'B' or below, for instance, permit several thirtyor sixty-day delinquencies, as well as a discharged bankruptcy within the previous eighteen months (so long as there was no delinquency on re-established credit). Nevertheless, securitization is explicitly designed to stratify, balance, and price the risks such that even loans to very risky borrowers may be included in successful deals. MBS issues are generally quite successful. Superior's 2000: 2 issue maintained its investment ratings until days before the bank's collapse.

Third, securities disclosure regulations provide investors with intimate (albeit selective) details of corporate organization, loan underwriting practic-

124 Geografiska Annaler · 88 B (2006) · 1

Table 4. Selected characteristics of the Amresco pool.

	Number of	Principal balance	
	loans	(\$ thousands)	
Purpose			
Cash out refinance	1 231	102 463	
Purchase	720	55 337	
Rate/term refinance	557	50 906	
Home improvement	3	141	
Construction permanent	2	117	
Total	2 513	208 964	
Prepayment penalty term (years)			
0	760	49 216	
0.01-1.00	13	1 259	
1.01-2.00	870	91 659	
2.01-3.00	64	4 963	
3.01-4.00	3	172	
4.01–5.00	803	61 695	
Total	2 513	208 964	
Credit Level			
A	577	57 542	
A-	507	49 531	
В	628	52 874	
C	618	39 127	
D	183	9 889	
Total	2 513	208 964	

Source: Amresco Residential Securities Corp. (1999).

es and staff compensation policies, broker relationships, insurance provisions and international transaction clearing-house procedures, and legal and legislative developments. The prospectus supplements offer a full-blast firehose of cogent analysis and rich empirical description; but the seasoned dealer or investor no doubt sifts through all this detail precisely as Harvey would – carefully evaluating all moments in the circulation of capital, from the expropriation of surplus value from the homeowner to its allocation among various (and competing) owners of capital. Anything that enhances or threatens this flow is examined with extreme care. A striking illustration is Delta's filing, which (as required) documents each of the lawsuits filed against the originator, and then proceeds to offer assurances that Delta 'believes that it has meritorious defenses and intends to defend this suit, but cannot estimate with any certainty its ultimate legal or financial liability, if any, with respect to the alleged claims' (Delta Funding Corporation, 2001, p. S-16; see also pp. S-17 to S-19). Securitization offers investors some level of protection from these threats (Eggert, 2004), but the rising tide of anti-predatory community activism has aroused new concern in recent years. Faced with a pro-market, deregulatory stance in Washington, activists concentrated their efforts at the state level and scored important victories beginning in the late 1990s.

Therefore, prospectus supplements now often include longer sections on legal considerations. In addition to long-standing disclosures (i.e. whether any of the loans are 'high-cost' as defined by the easily skirted Home Ownership and Equity Protection Act of 1994), there are updated discussions of federal and state legislative proposals. New Century's billion-dollar offering notes that 'a number of legislative proposals have been introduced at both the federal and state level that are designed to discourage predatory lending practices' by regulating certain loan terms or enhancing disclosure rules (New Century Mortgage Securities, Inc., 2003, p. S-13). In response to these kinds of investor concerns, industry lobbyists have been moving aggressively to discipline state and local authorities and to get federal protection for the continued flow of class-monopoly rent.²⁶

Conclusions

'Blacks consequently regarded themselves as exploited and paying "the black tax", which was nothing more nor less than class-monopoly rent realized by speculators as they took advantage of a particular mix of financial and governmental policies compounded by problems of racial discrimination'.

'... the homeownership resulting from federally backed home finance policy is largely an illusion. Most owners have mortgages on their homes. If the mortgaged homeowner doesn't pay the mortgage, he's out. And if the renter doesn't pay the rent, she's out. When the crunch comes, owning and renting are not so different'

'Basically, this is all about capital.'

Our empirical findings are simple. Econometric models of subprime mortgage segmentation reveal persistent racial targeting and disparate impact, even after controlling for applicant income and underwriters' evaluation of borrower risks. For large, non-local mortgage companies – many of them subsidiaries of global financial services firms – serving the African American market is becoming synonymous with specialization in subprime credit. Qualitative case studies and reviews of investor prospectuses demonstrate that innercity landscapes of subprime targeting are closely tied to national and transnational capital markets. Some of our results are subject to the limitations of HMDA and HUD's subprime list, but the new loan-pricing data added to HMDA last year (which are just now trickling into the public domain) also reveal severe racial-ethnic disparities (NCRC, 2005). In any event, conservatives and industry partisans do not seem concerned with methodological rigour when they fight off regulation. In April 2005, Eliot Spitzer asked several large banks to provide the detailed loan documents that might explain the wide racial disparities in high-cost loans that were clear in the banks' HMDA records. In other words, Spitzer was asking for precisely the kind of information (including applicant creditworthiness) that would exonerate banks if they were not, in fact, discriminating. The banks responded by going to court to challenge Spitzer's jurisdiction (Davenport, 2005); Doug Duncan, chief economist of the

Mortgage Bankers Association, remarked of the data struggle, 'it has been well known for over a decade that you can't determine discrimination because it doesn't have the credit score information you need' (quoted in Dash, 2005). When a reporter asked what it would mean if Spitzer gained ccess to the credit score information, Duncan's response summarized the conservative position on all claims of discrimination: 'even that wouldn't be enough' (Dash, 2005). In October, 2005, the banks won in US District Court, forcing Spitzer to back off.

The implications of our analysis are similarly clear-cut, as expressed in the above quotes. The first is David Harvey's (1974, p. 264) observation on the meaning of land-installment contracts in West Baltimore. The second is Don Krueckeberg's (1999, p. 23) property-theory critique of the expansive American homeownership policy that crystallized in the 1990s. The third is a quip from a financial analyst reacting to the announcement that the upscale British banking giant HSBC was buying the subprime lender Household International – an acquisition that surprised many industry observers (quoted in Sorkin, 2002, p. C10). Our analysis emphasizes the importance of understanding and challenging class exploitation (Smith, 2000). Clearly, the growing body of evidence documenting racial targeting and disparate racial impact justifies intensified civil-rights enforcement, litigation and activism, and these efforts must recognize the intimate relations between local abuses and transnational networks: predatory lending has gone global, and so must our response (Lee, 2004). But this is not enough. Sooner or later, the Right will succeed in its judicial campaign to invalidate all race-conscious remedies for discrimination (recall the close Supreme Court votes on affirmative action in *Gratz*. v. Bollinger and Grutter v. Bollinger) – and in any event, the cast of individual characters involved in predatory lending is becoming ever more racially and ethnically diverse. This is about capital and

Demanding fair access to capital involves the risk of being *targeted by* capital (Newman, 2004), with no guarantee of greater individual or community security to enjoy the social use values of homes, neighbourhoods and the 'right to stay put' (Hartman, 1984). Home 'ownership' has been capitalized to a level exceeding two-thirds of the American economy. But the meaning of ownership becomes ambiguous or precarious for millions of working-class people – many but not all

of them racially marginalized – who seek places to live but who face pressures to use the home as an expensive ATM or a long-shot lottery ticket. Housing windfalls certainly do help some in the working class, but the housing sector cannot compensate for the systematic widening of class divisions in employment, education and financial wealth. Predatory lending demonstrates that the reversal of old forms of exploitation - replacing denial and exclusion with a flood of capital into marginalized communities - can worsen the situation. The present challenge for the community reinvestment movement, then, is to build on its existing multiracial alliances to forge a class consensus on the essential purpose of reinvestment and capital access. Even the editors of the Economist, who commissioned a painting of a brick labelled 'House Prices' falling from the sky for the magazine's June 2005 cover, recognize that the turbocharged speculative capitalization of today's housing bubble cannot last. We need to prepare now to protect the fundamental social use values of home, security and community from the devalorization that will hit when the bubble bursts.

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Notes

- This account is based on Lustberg and Kaufman (2001), Superior Court of New Jersey (2001), and Zimmerman (2001).
 Zimmerman (2001) summarized the Appellate Division's reasoning on the issues of racial targeting and disparate impact, and observed, 'This appears to be the first time an appellate court anywhere in the country has adopted these standards' (p. 2).
- 2. The GSEs are both shareholder-owned private companies, but they were created many years ago as agencies of the federal government. They still retain certain capital-market prerogatives not available to other private companies, and they also enjoy an implicit assumption by investors that they are too big to fail (i.e. that the government would rescue shareholders in the event of a crisis).
- 3. We are grateful to an anonymous referee, whose comments on a separate manuscript (published in *Housing Studies*) suggested the term 'vulture investor'. For a small sample of some of the actors involved in the post-default and foreclosure sector of the market, see the monthly magazine, *Ameri*can Foreclosures and Auctions.
- 4. The state of the art in the published academic literature is amply summarized in two special journal issues published in late 2004 (one in *Housing Policy Debate*, another in the *Journal of Real Estate Finance and Economics*).
- Not all lenders are subject to HMDA reporting, and there are reasons to conclude that Scheessele's list omits some of the more shady actors in the subprime business.
- After a long period in which FHA loans subsidized white middle-class suburbanites, Congress overhauled the system in 1968 to direct investment to urban neighbourhoods and

moderate-income households. Unfortunately, lenders responded to the programme's below-market interest rate by charging up-front discount points, and the programme's full insurance (designed to protect lenders if borrowers defaulted) thus induced an enormous moral hazard: up-front charges combined with low interest rates meant that the lender's effective yield on capital depended on the speed with which the loan was repaid. Some brokers and lenders discovered that they could reap enormous profits by making loans to people with no resources whatsoever, and moving quickly to foreclose and demand reimbursement from FHA (Bradford and Rubinowitz, 1975; Wachter, 1980). For the most vivid account of the scandal, see Cities Destroyed for Cash: 'If you were paid \$5000 for every word you read in this book you would have some \$400 million, about what the FHA has paid for repossessed houses in Detroit alone as a result of the FHA scandal' (Boyer, 1973, p. 141). Several generations of regulatory changes have eliminated many of the abuses of the FHA programme, but it remains vulnerable - and thus high concentrations of FHA lending in minority and racially transitional neighbourhoods continue to generate concern and controversy (Bradford, 1998).

- 7. Yet it is crucial to recognize that even wealthy homeowners find that renting capital only grants access to exchange value; use value can be more elusive. Recent press accounts of the housing bubble have lamented the tribulations of wealthy homeowners overjoyed at hundreds of thousands of dollars of paper-asset accumulation as their home values skyrocket, but if they want to move to another house, the paper wealth is often not enough. Christopher J. Mayer, a professor of Real Estate at Columbia Business School, remarked, 'You often think, "Geez, I have this huge windfall", but your neighbours and the people in the building next door have the same windfall' (quoted in Rich, 2005, p. D1).
- 8. The highest-profile illustrations of this trend include Citigroup's acquisition of Associates First Capital in 2000, which was the lender who paid the yield-spread premium to East Coast Mortgage to acquire Beatrice's loan. Associates was widely regarded as one of the nation's largest and most notoriously predatory institutions, and Citigroup's acquisition immediately presented a high-profile target for critics. Another example of the lure for mainstream banks is the British banking giant HSBC, whose acquisition of the sub-prime lender Household International accounted for more than half of the parent firm's increase in pre-tax profits in 2003 (Timmons, 2004).
- 9. Among the most blatant appeals to poor-credit applicants was used by a partner institution to Superior Bank, one of the banks targeting African American neighbourhoods that is profiled in our case study. A marketing flier showed an image of a trash can, with a tag line that borrowers regarded by other banks as 'refuse, garbage, riffraff, and drivel' were just what the company wanted (Day, 2001).
- 10. We are deeply indebted to one of the anonymous referees, whose criticisms and suggestions informed this section.
- 11. Pre-processing involves screening out applications with missing locational information, typically a tiny per centage of all records (none in 1998 and 1999, 31 in 2000, 4 in 2001 and 16 in 2002). In addition, the 2002 HMDA included duplicate submissions by two divisions of one large subprime lender (Conseco) (Scheessele, 2003). Eliminating these double-counted records in our study area required the deletion of 341 home purchase applications, 173 renovation applications and 230 refinance applications. Finally, we dropped records for one mortgage company that coded no

- loan purpose for twenty-four applications received in 2000, and we also omitted the handful of records for loan amounts exceeding \$10 000 000.
- 12. As one illustration of the severity of these restrictions, note that our supply variables include no measures of return on investment or other aspects of profitability. Information of this sort is available for most banks and other depository institutions, but is much more difficult to document for independent mortgage companies. In the case of assets, moreover, the variable has fundamentally incompatible meanings for different kinds of firms: banks report all assets (not just mortgages), while most independent mortgage originators have negligible assets due to their pass-through role.
- 13. Using the criteria outlined in Menard (2002), only two variables in Model 1 in Table 1 show evidence of significant multicollinearity: income and income squared post tolerance values below 0.20, 'a cause for concern' (Menard, 2002, p. 76). All other tolerances exceed 0.5, and fifteen of the twenty-seven exceed the comfortable threshold of 0.80. Given the theoretical and practical importance of income, we present a fully specified demand model as well as one without the collinear variables. For the supply-side model (Table 2) none of the predictors exhibit problematic tolerances, and twelve out of twenty-two exceed 0.70.
- 14. For comparison, Lax et al. (2004) used a proprietary dataset with detailed credit history, LTV and debt load controls, and found a subprime odds ratio of 1.73 for African Americans (albeit with an insignificant p-value of 0.19). Calem et al. (2004) linked HMDA refinance records with tract-level credit controls for several cities, and found highly significant odds ratios for African Americans, ranging from 1.23 in Philadelphia to 2.77 in Dallas and 2.94 in Chicago.
- 15. The magnitude of this coefficient estimate is not a sign of spurious problems driving the entire equation and artificially inflating the model fit diagnostics. Models re-estimated without the secondary market sales indicators yield similar coefficient estimates for most of the other variables (the notable exception involves a reduction of the importance of market share) and nearly identical fit measures (e.g. Nagelkerke indices of 0.84 versus 0.87 for both models reported in Table 2).
- 16. 'In addition, once loans are securitized, under the holder-indue-course rule, borrowers typically cannot defend nonpayment on the grounds that the lenders engaged in unlawful activity related to the loans, such as committing certain types of fraud on borrowers.... This has the effect of increasing the value of the loans upon securitization' (Engel and McCoy, 2002, p. 1274, n. 67). See also Hurst (2001, p. 297) who evaluates the negligible risks to investors in the wake of several bankruptcies by large mortgage servicers in the late 1990s: 'In a perverse way, all this has been positive for the HEL [home equity lending] market. The experience of seller-servicers bankruptcy, together with the maintenance of existing ratings, has satisfactorily tested the structural safeguards put in place in HEL transactions and validated the principal tenet of asset securitization - that the deals are isolated from the insolvency of the issuer.'
- 17. For the entire dataset, the applicant instrument has a mean of 0.21 and a standard deviation of 0.23. The instrument averages 0.46 among applicants at subprime lenders, and 0.14 for all other institutions.
- 18. One referee raised a valuable and important question: Does the inclusion of market share in the models run the risk of tautology? '[A]II the authors are finding here is that the odds of any given [application] being from a subprime lender are higher if that lender had a higher market share ... of course,

because they are larger they will have more observations in the database.' This is an insightful critique, but it does not demonstrate tautology: we are modelling market segment not membership in a sample, and there is no circularity in a finding that larger lenders are ceterus paribus more likely to be subprime. To control for the effect of large numbers of applicants from institutions with large national market shares, we re-estimated Model 1 in Table 2, weighting the observations with the inverse of the proportion of each lender's contributions to the database; the effect is to dramatically over-sample records from very small institutions. This procedure alters some of the coefficient estimates for Model 1, but the effect of national market share on subprime likelihood appears even more pronounced - with a standardized odds ratio of 8.4. In other words, when we over-sample to focus on lenders with only a few applications in the study area, we still find that requests submitted to lenders with large national market shares are much more likely to be subprime.

19. Formally, our calculation for each tract is:



where the estimated demand (\hat{p}_d) and supply (\hat{p}_s) probabilities for applicant i are calculated as $e^{\beta o + \beta_X X}$ with X vectors as defined by Model 1 coefficients in Tables 1 and 2, and where n is the number of applicants in the census tract. To avoid the bias of small numbers, we restrict this calculation to census tracts where at least 100 applications are filed between 1998 and 2002.

20. For a particularly vivid example of the distinctive housing market circumstances identified by this modelling approach, consider the case of census tract 7401.02 in Maryland's Anne Arundel County. This tract posted an average demand probability estimate of 0.28 and a supply estimate of 0.38 on a total of 1612 applications between 1998 and 2002. Subprime institutions accounted for 40% of all applications, and most mortgage activity (94%) was in the refinance and home improvement market. The tract is nestled on the north side of Fort Meade and on the eastern side of the multiple, varied institutions comprising the Maryland House of Corrections in Jessop. The 2000 Census enumerated slightly more than 2400 inmates in the state prison complexes, in addition to 1115 homeowner households (who account for 86% of the non-group quarters occupied housing units). Thirty per cent of the tract's owneroccupied housing units are mobile homes, which helps to explain why Conseco Finance Servicing Corporation held the largest market share here between 1998 and 2002 (9.2%). Conseco acquired Green Tree Financial Corporation, the nation's largest mobile home lender, in 1998 just in time to confront full exposure to mounting credit problems among mobile home borrowers and a wave of refinancings as interest rates fell; Conseco filed for Chapter 11 protection in late 2002, becoming (at the time) the third largest filing in history behind WorldCom and Enron (Hamilton and Spinner, 2002). It is possible that the divergent model results for this tract are a product of the dominance of Conseco and similar institutions catering to mobile homeowners, juxtaposed with lenders catering to higher-paid civilian employees working at Fort Meade, which houses seventy-eight 'partner organizations' from all four branches of the military, including the Defense Information School, the US Army Intelligence and Security Command, the 694th Intelligence Group of the Air Force, and the National Security Agency (NSA). Approximately 10 000 military personnel work on base, along with almost 26 000 civilian employees (GlobalSecurity.org, 2004). Mortgage applications to the credit union serving NSA employees and subcontractors (Tower Federal Credit Union), however, come from neighbourhoods throughout suburban Maryland, and are by no means clustered in this census tract.

- 21. We chose these lenders for two key reasons: (1) they are the largest subprime actors with disproportionate representation in the Baltimore inner-city neighbourhoods defined in our multivariate analysis, and (2) they were directly involved in securitization deals that can be traced with public records. Nationscredit, for instance, meets the first criterion but not the second, since it was not directly involved in any mortgage-backed securities offerings between 1998 and 2002. It is likely that Nationscredit simply pursued private sales to institutional or individual investors before any of the original loans were packaged into asset-backed securities to be sold on Wall Street. Our four case study lenders, by contrast, went directly to underwriters who prepared securities offerings, and thus their loan pools are described in public disclosures to the Securities and Exchange Commission (SEC). Estimates of supply model 2 (Table 2) predicting the distinguishing characteristics of these four lenders as a whole yield a robust model fit, with a Nagelkerke index of 0.52, and 97.1% of all observations correctly classified. Model results indicate that these lenders focus heavily on refinancing and home improvement lending to African Americans (and have higher rates of racial non-reporting), while avoiding the regulations and scrutiny that come with FHA lending or sales to the GSEs. Controlling for all other factors, these lenders are much less locally oriented, and judging by the demand instrument, their applicant pool is only slightly inferior (a onestandard deviation increase in the demand instrument yields an odds ratio of 1.16). Together, these four lenders received 61 000 applications across the entire study area, mostly in 1998, 1999 and 2000.
- 22. Paul Sarbanes (D-MD), Chair of the Senate Banking Committee, scheduled hearings to question the FDIC and other regulators over Superior's collapse. The hearings were scheduled for 11 September, 2001, and we have been unable to find any evidence that the hearings ever occurred.
- 23. It is impossible to follow sales of individual loans on the secondary market, or to identify groups of loans at any geographic resolution below the state level. Instead, the analyst can only draw inferences about inter-scalar relations by (1) identifying specific lenders that stand out in a particular place (as in our modelling approach) and (2) analysing the national operations of these lenders that is presented to investors as part of securities sales (Byers, 2003). Another limitation is temporal: originators often hold loans for varied periods of 'seasoning' before packaging them for sale. Loan pools are usually designed to have wide variation in origination dates (and in other features) to maximize diversification and safety.
- 24. Farris and Richardson (2004, p. 691) cite evidence that only 2% of borrowers accept prepayment penalties in the conventional prime market, compared with nearly two-thirds of the borrowers in one major subprime industry dataset covering the years 2000 through 2002.
- 25. In required disclosures of risk, Amresco noted the adverse

- selection of the loan pool, stating that 92% of the loans 'have been previously offered for sale to purchasers and were excluded from purchase, or purchased and subsequently repurchased by the originator for a variety of reasons'. About one-third were rejected or repurchased because 'of what purchasers believed to be potential disclosure or documentation deficiencies under federal or state law'. (Amresco Residential Securities Corporation, 1999, suppl. p. 7).
- 26. In the most stark example, the Georgia legislature passed an anti-predatory lending law with assignee liability provisions - eliminating investors' protection from liability for illegal abuses committed in making the original loans. Bond rating agencies threatened to kill all subprime credit in the state by withholding risk ratings on the securities. The agencies' logic was a lesson in irony, considering the methodological attacks mounted against community activists who elide 'subprime' and 'predatory': the rating agencies claimed that they lacked the expertise and data to distinguish legitimate subprime lending from predatory abuses that might involve liability risks for the asignees (e.g. Moody's, 2003). The Georgia legislature relented and amended the law, providing the crucial signal that the interests of capital remain paramount. Industry lobbyists have subsequently persuaded Republican legislators and appointees at the federal level to abandon their prior commitments to states' rights in favour of federal pre-emption. A weak measure designed and controlled from Washington is the best way to neuter any state or local actions that might interfere with continued capital accumulation in the predatory market (for the most recent testimony on a Federal bill under consideration, see Green, 2005).

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132 Geografiska Annaler · 88 B (2006) · 1