# HOUSE OF CARDS

**Dr. Anthony Pennington-Cross has devoted his career to studying the loans that led to the financial collapse of 2008**

In 2005, Dr. Anthony Pennington-Cross, then a senior economist at the Federal Reserve Bank of St. Louis, spoke at a foreclosure-prevention conference in Memphis. Following his address, an executive with a large lending institution approached Pennington-Cross and asked, "What are we going to do when all these 228s reset?"

"What's a 228?" he responded.

Illustration by Danny Allison

Four years later, and with billions of dollars lost, the Marquette associate professor of finance is intimately familiar with the 228 or "hybrid" loan. So are millions of other people. The question now is, what happened to the mortgage industry? Pennington-Cross' research reveals a house of cards destined to collapse. Today he is regarded as one of the foremost experts on subprime loans. Oft-cited in journal articles and frequently quoted by the media, his work has never been more relevant.

Subprime mortgages grew significantly during the late-1990s, and it was at that time that Pennington-Cross first noticed this new, risk-based lending model.

A graduate of Oberlin College in Ohio, Pennington-Cross earned his doctorate in urban and regional economics from George Washington University. Following post-doctoral work at the Wharton School of Business and a brief stint at the Research Institute for Housing America, he took a position in 2000 as a senior economist at the Office of Federal Housing Enterprise Oversight.

*Subprime mortgages should make up no more than 8 to 9 percent of the total mortgage market, Pennington-Cross says, but at the brink of the collapse, they reached nearly 25 percent.*

While at OFHEO, he researched the performance and market segmentation of subprime mortgages. Prior to the advent of subprime mortgages, loans were made using a fixed protocol based on employment, income and a down payment. If borrowers didn't meet basic standards, they didn't receive loans. Subprime mortgages changed that. "This was a new market for OFHEO," Pennington-Cross says. "This was a revolution in mortgage lending — credit scores were suddenly important in the process."

Pennington-Cross began developing and analyzing the types of models that the mortgage industry would later use as its standards for making subprime loans.

Pennington-Cross' early research and modeling suggested that subprime mortgages should make up approximately 8 to 9 percent of the total mortgage market. Any more than that and the entire industry would become exponentially vulnerable.

"Subprime mortgages provide a great opportunity for individuals to get a home, which is one of the primary ways that households can build wealth," he says. "But these loans are quite risky, which begs the question: Even if we can price these loans correctly, does it mean we should make the loan?"

Subprime mortgages fast became attractive loan options. Lenders loved them because fees were taken upfront; investors loved them because — when securitized, or "bundled" — they yielded high returns. The problem, says Pennington-Cross, is that the entire system relied on home prices rising.

Just as subprime mortgages were growing in popularity, the temptation to take equity out on homes grew. Homeowners looked at mortgage tax incentives and lower interest rates as sure-fire ways to pay down existing debt, such as credit card balances, says Pennington-Cross.

"This made the housing market even more vulnerable," he notes.

Soon after Pennington-Cross joined the Federal Reserve Bank of St. Louis in 2004, he started researching 228s, the subprime mortgage he first heard about at that conference in Memphis. The nonconventional 228s are 30-year mortgages with a two-year fixed rate. After two years, it becomes an adjustable-rate mortgage, or ARM. "Lenders take lots of fees upfront and offer 'teaser' rates, at least 2 percent lower than the index rate," he says. "These were designed as short-term loans."

According to Pennington-Cross, after two years borrowers were left with three options: get a new 228 loan, refinance into a prime loan or default. Interestingly, he notes that most of the mortgages immediately preceding the Great Depression were also short-term loans.

Despite the acknowledged risk, subprime loans soon comprised nearly 25 percent of all mortgages. By 2008 the housing market and mortgage industry were collapsing. Banks were leveraged to the hilt, losing billions by the day. Trusted financial institutions such as Bear Stearns and Lehman Brothers folded.

"Popular wisdom suggests that this downfall was not in the early data on subprime mortgages," Pennington-Cross says. "I don't believe that."

Even in his early research, Pennington-Cross says he was able to simulate a 20- to 25-percent default rate among subprime mortgages in a benign economy.

Greed and subsequent lapses in ethical behavior are at the heart of the collapse, he says. "There were constant temptations, financial incentives to put people in bad loans."

Dr. Anthony Pennington-Cross is researching predatory lending laws, and his early findings are curious. "In some states, where new laws fail to delineate any consequences for lenders who make suspect loans, it has become even easier for subprime lending to occur," he says.

## MEA CULPA

Who erred, who got greedy and who swindled? Most post-mortem examinations of what initiated the 2008 U.S. economic crisis identify the housing market and mortgage industry as the primary culprits. According to Dr. Anthony Pennington-Cross, the onus falls on five groups. "If even one of these groups had behaved the way they were supposed to, none of this would have happened," he says.

**The Borrowers**

Bottom line: Many individuals applied for and accepted loans they didn't understand or couldn't afford. But Pennington-Cross also acknowledges that many of these homebuyers were taken advantage of by brokers.

**The Brokers**

There is nothing illegal about trying to make money, says Pennington-Cross. But mortgage brokers clearly had their eyes on the prize and not on the financial health of the borrowers when making risky, exotic loans.

**The Aggregators**

These "middlemen" who bundled loans for the investment banks were more pawns than anything, according to Pennington-Cross. "When the markets started to collapse, they were the first to get hit," he says.

**The Securitizers**

Investment banks like Bear Stearns and Lehman Brothers were under pressure from investors for high-yield returns. Despite the risks, says Pennington-Cross, "They sold these securitized loans as vanilla. These are extremely sophisticated investors — they knew what they were doing."

**The Rating Agencies**

"They totally blew it," says Pennington-Cross, identifying rating agencies as the lynchpins. "They overrated these securities, often giving AAA ratings to junk."