Rebuilding Housing Finance

Thoughts from California on Federal Reform

A Summary Report of the “Rebuilding Housing Finance” Roundtable at the 2013 Milken Institute California Summit

January 2014

John Schellhase
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Acknowledgments

The Milken Institute is grateful to the roundtable panelists for their ideas and recommendations, which are summarized here. Their biographies can be found at the end of this report. The Institute would also like to thank the California Association of Realtors for its support of the 2013 California Summit and participation in the housing finance roundtable.

About the Center for Financial Markets

Based in Washington, D.C., the Milken Institute Center for Financial Markets (CFM) promotes financial market understanding and works to expand access to capital, strengthen—and deepen—financial markets, and develop innovative financial solutions to the most pressing global challenges. CFM is founded on the belief that well-functioning financial markets, accessible to all, can expand opportunities to develop human and social capital, magnify productive investment, and dramatically improve global prosperity.

About the California Summit

The Milken Institute California Summit brings together the state’s foremost leaders in industry and finance, government, academia, and philanthropy to build relationships and brainstorm ideas for heightening California’s impact and advancing its interests. The 2013 Summit focused on a range of issues, such as leveraging California’s role as a leader in innovation, training the state’s future workforce, and improving the effectiveness of state government. The Summit opened with a keynote address from Gov. Jerry Brown and featured numerous leaders from the public and private sectors, including Debra Bowen, California Secretary of State; John Chiang, California State Controller; Scott Minerd, Managing Partner and Global Chief Investment Officer, Guggenheim Partners; John A. Perez, Speaker of the California Assembly; Lynda Resnick, Vice Chairman, Roll Global; Joel Singer, CEO, California Association of Realtors; and Patrick Soon-Shiong, Chairman and CEO, NantWorks.

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Executive Summary

Both in the foreclosure crisis and in the recent recovery, California has represented a bellwether of the national housing market. The housing crisis that began in 2007 caused considerable economic damage in California and across the country, and in response, federal government involvement in housing has reached unprecedented levels. As lawmakers in Washington, D.C., look to reform the nation’s housing finance system, the implications of various proposals for California are naturally at the forefront of the debate. To address possible changes to federal policy and their impact on California, the Milken Institute Center for Financial Markets, alongside the California Center of the Milken Institute, assembled a roundtable discussion on housing finance as part of the Institute’s 2013 California Summit.

The roundtable featured prominent voices from banking, state government, academia, and the state’s leading Realtors’ association. The group’s substantive conversation shifted back and forth between detailing the panelists’ different perspectives and building on areas of consensus. Points of contention included the degree of systemic reform needed; the risk to taxpayers of an explicit government guarantee for mortgage-backed securities (MBS); and the correct mechanisms for future federal support for affordable housing. The panelists also offered innovative solutions for reform. In particular, three ideas earned broad agreement:

- The potential for creating a state-specific vehicle for affordable housing, such as a California guarantee fund or a credit enhancement fund, to assist low-income and first-time homebuyers.
- The importance of taking a regional approach to reducing loan limitations of government agencies and government-sponsored enterprises, as across-the-board reductions would disproportionately hurt California and other states with high housing costs.
- The principle that investors in mortgage-backed securities should retain enough capital to sustain, at least, the losses suffered in the most recent crisis, but that the transition to these capital requirements should not happen overnight.

The sections below offer background information on the foreclosure crisis and recovery at the national and state levels; an overview of proposed congressional reforms; further information on the areas of disagreement explored by the panelists; and more details on the participants’ proposed solutions.
Background: California and the U.S. Housing Market

Five years after the U.S. housing bubble burst, a cautious optimism is returning to the housing market in California and across the country. Between October 2012 and October 2013, the national median price for existing homes rose by nearly 13 percent to $199,500.\(^1\) At the same time, the number of foreclosures continued to fall nationwide.\(^2\) The trends were similar in California. By 2013, the number of homes foreclosed had fallen to six out of every 10,000, down from a peak of 35 homes out of every 10,000 during the crisis.\(^3\) Single-family home prices, after losing nearly half of their pre-crisis peak value, have started to rebound, rising from their nadir of $275,000 in 2009 to $319,300 in 2012 and an estimated $408,600 in 2013, according to the California Association of Realtors. As Figure 1 shows, C.A.R. has projected that the median price for single-family homes in the state will rise to $432,800 in 2014.\(^4\)

Figure 1: Median Single-Family Home Price in California

![Figure 1: Median Single-Family Home Price in California](source)

While foreclosure rates have declined and home prices have been rising, the fallout of the financial crisis continues to affect millions of Americans, including many Californians. The total number of foreclosures nationwide since 2008 is approaching the staggering figure of 5 million, and across the country almost 900,000 homes are currently in one stage or another of foreclosure.\(^5\)

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2. See, for example, CoreLogic (2013).
3. Zillow Real Estate Research.
California is emerging from the worst of the crisis, but many homeowners are still struggling. California has received the most federal assistance of any state through the Treasury Department’s Hardest Hit Fund. From January 2009 to September 2013, about 30 percent of homes sold in California were sold at a loss. Figure 2 demonstrates how dramatically different this period has been from the historical norm of 2 to 3 percent. In a related challenge, many Californians are stuck in homes with underwater mortgages (in which the current value of their home is less than the outstanding principal owed). Thirty percent or more of home mortgages are underwater in 31 out of California’s 58 counties. As shown in Figure 3, the problem is worst in Yuba County, where 55 percent of homes are underwater. As of early December 2013, more than 32,000 state residents had applied for mortgage assistance through the California Housing Finance Agency’s Keep Your Home California program, an initiative offering them unemployment mortgage assistance, principal reduction, and other support.

Figure 2: Percentage of Homes Sold for a Loss/Gain in California (1998-2013)

Source: Author’s tabulations based on data from Zillow, “The U.S. Housing Crisis: Where Are Home Loans Underwater?”

6. California has received nearly $2 billion in assistance, twice as much as Florida, the second-highest recipient.
8. Ibid.
### Key Facts: The Importance of Housing

- At $10 trillion, mortgage debt outstanding accounts for roughly 20 percent of the more than $50 trillion in assets held in U.S. financial markets. By comparison, housing credit is roughly equivalent to the size of the corporate bond market.

- Direct and indirect spending on housing, including construction, remodeling, utility payments, and broker fees, comes to $2.4 trillion annually or more than 15 percent of GDP.

- In California, housing is estimated to account for 18 percent of state GDP.

Sources: Federal Reserve Flow of Funds, Inside Mortgage Finance, Bureau of Economic Analysis at the Department of Commerce, National Association of Realtors.

### Calls for Reform

To rescue the large government-sponsored enterprises (GSEs), Fannie Mae and Freddie Mac, the U.S. Treasury used nearly $200 billion of taxpayer money to purchase the senior preferred stock of the GSEs in 2008, enabling them to continue to play their vital role in the housing finance system. Fannie and Freddie have remained in government conservatorship ever since. Today, the U.S. government—through the GSEs, the Federal Housing Administration, and the Department of Veterans Affairs—oversees more than 80 percent of all first-lien mortgage originations. Furthermore, through the GSEs and Ginnie Mae, the government accounts for 98 percent of all MBS issuance. This unprecedented state of affairs leaves taxpayers vulnerable to severe credit risks during times of crisis.

In Congress, three proposals are driving the conversation around reform: the plan from Sens. Robert Corker and Mark Warner, another from Sens. Tim Johnson and Mike Crapo, and the House Republicans’ Protecting American Taxpayers and Homeowners (PATH) Act. In particular, the Corker-Warner plan is emerging as the consensus position in Washington, though some concerns remain about its details. As described below, the three competing plans share the basic principle that taxpayers should be shielded from the undue risk associated with the government’s expansive participation in the mortgage market. However, they differ on how to achieve that goal.

**S. 1217: Corker-Warner**

Often referred to as Corker-Warner after its leading co-sponsors, Corker (R-Tenn.) and Warner (D-Va.), the Housing Finance Reform and Taxpayer Protection Act envisions a restructuring of the system. The

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Figure 3: Percentage of Underwater Home Mortgages in California by County

Source: Author’s tabulations based on data from Zillow, “The U.S. Housing Crisis: Where Are Home Loans Underwater?”
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legislation would dissolve Fannie Mae and Freddie Mac over a five-year period. It would also eliminate the Federal Housing Finance Agency, transferring its staff and assets to the newly created Federal Mortgage Insurance Corp. (FMIC), designed to operate much like the Federal Deposit Insurance Corp. (FDIC). The FMIC would guarantee qualifying mortgage-backed securities issued by private firms in times of severe market dislocation and would also regulate the MBS market. FMIC’s explicit guarantee would be backed by the full faith and credit of the United States, but it would stand behind private capital as investors in MBS would be required to take up to the first 10 percent of losses. In short, the FMIC would act as a catastrophic backstop—a sort of “insurer of last resort,” as some have dubbed it.10

The Milken Institute Center for Financial Markets has led the conversation in Washington about the creation of the FMIC. In June 2013, CFM Senior Fellow Phillip Swagel, Mark Zandi of Moody’s Analytics, and co-authors published “A Pragmatic Plan for Housing Finance Reform,” which outlines how the FMIC would operate and the role of private capital in a new system. Figure 4 presents a diagram of where the FMIC would be situated in the new housing finance system.11

Figure 4: The FMIC’s Place in a Proposed Housing Finance System

10. See, for example, National Association of Realtors “Legislative/Regulatory Status/Outlook” (2013).
S. 1376: Johnson-Crapo

The FHA Solvency Act, co-sponsored by Sens. Johnson (D-S.D.) and Crapo (R-Idaho) and sometimes called Johnson-Crapo, has more modest ambitions. As the Congressional Research Service has written, the reforms in Johnson-Crapo “are aimed at ensuring the [Federal Housing Administration’s] programs are financially sound, but do not focus on limiting FHA’s market role or shifting risk to the private sector.” The bill would require the FHA to increase its insurance fund’s capital ratio from the current 2 percent to 3 percent over a 10-year period. Unlike the PATH Act, as described below, under Johnson-Crapo, the FHA would retain its ability to insure 100 percent of a mortgage loan, though the bill would commission a study from the Government Accountability Office on whether this level is appropriate.

H.R. 2767 – The PATH Act

The Protecting American Taxpayers and Homeowners Act, or the PATH Act, passed out of the House Financial Services Committee in July 2013, under the leadership of Chairman Jeb Hensarling (R-Texas). Similar to Corker-Warner, the PATH Act would disband the GSEs within five years of passage, reducing their mortgage portfolios by 15 percent each year. GSE loan limits would also shrink year after year under the act.

Unlike Corker-Warner, the PATH Act would provide a government guarantee through only the FHA, with an exclusive focus on low-income and first-time homebuyers. In the new system, FHA-insured mortgages would require a 5 percent down payment from first-time buyers, up from the 3.5 percent today, and the maximum amount that the FHA would be allowed to insure would be capped at 50 percent of the principal, a significant decrease from the current 100 percent. To facilitate investment in privately issued MBS, the PATH Act would create a National Mortgage Market Utility, a not-for-profit organization that would establish various sets of voluntary national underwriting and disclosure standards.

These three bills appeared in summer 2013 and led to numerous hearings and policy seminars throughout the fall. Many in Washington believed that legislation combining elements of Corker-Warner and Johnson-Crapo would emerge by the 2013 holiday season, but this target has passed. At the Milken Institute California Summit, panelists expressed the belief that federal reform might not be possible before 2017 and a new administration takes the reins.

Points of Contention

The participants at the California Summit’s housing finance roundtable represented a wide variety of stakeholders and experts involved in the housing policy debate. This group disagreed openly, but

12. Hoskins et al. (2013)
their conversation also elicited a common attempt to develop workable solutions. Before detailing the solutions explored by the group, it is worth delineating the fault lines that emerged among the panelists, which are also present in the national conversation. These issues will shape the political realities involved in passing legislation, as they reflect genuine disagreement about economic policy. While there are many other potential points of dispute, panelists focused on these during the Summit:

- The nature of the last crisis and the degree of system reform needed
- The necessity and effectiveness of government guarantees
- The position of low-income homebuyers in a post-GSE system

At the broadest level, the panelists disagreed on whether the current system needs an overhaul. Those arguing that reforms should be modest, not systemic, considered the financial crisis that wrecked the U.S. and global economies to be a one-time event—or, at least, a very rare one—caused by vast underwriting failures. An unprecedented alignment of perverse incentives, from government and the private sector, led lenders to offer mortgages to thousands of Americans who were unable to pay them. In this view, the foreclosure crisis has been a long, painful correction of a massive market failure. Additionally, as one panelist indicated, before the crisis banks were far less capitalized than they are now or will be when Basel III capital requirements come into effect. Federal reforms, therefore, should focus on ensuring the financial health of government agencies involved in the mortgage market, but should not pursue the drastic readjustments called for in Corker-Warner or the PATH Act. Of course, advocates of these bills assert that without significant changes the same perverse incentives will find a way to align again, preparing the kindling for another MBS bonfire.

Still, as the panelists noted, even among those convinced of the necessity of systemic reform, the Corker-Warner and PATH approaches differ fundamentally on the role of the government in a new system. As Hensarling wrote in a recent op-ed, “The Path Act is designed to reduce the government’s domination of housing.” Accordingly, the bill does not provide a government guarantee for the vast majority of MBS. If there is another mortgage crisis, supporters of the PATH Act argue, the federal government and, by extension, American taxpayers, should not pay the costs of a failed market, and so the government should not be in the business of guaranteeing MBS. The counterargument is that regardless of whether the government offers a guarantee for MBS, when the next crisis comes, politics will force a government response. The benefit of an explicit guarantee, according to this perspective, is that eventual government intervention is priced and paid for in advance. Furthermore, the promise of government intervention during extreme economic downturns has assisted homebuyers by keeping mortgage interest rates lower than they would be otherwise.

Some panelists doubted whether the government has the dexterity to manage a new, complex agency such as the FMIC. Even sophisticated stakeholders who have participated in the mortgage market for many years described Corker-Warner as opaque and overly complicated. Will future policymakers be

able to manage this complexity effectively? In the past, political pressure on issues of housing availability and affordability has had a dramatic influence on lawmakers in Washington, D.C. Furthermore, critics point out, other government insurance initiatives, such as the National Flood Insurance Program (NFIP), have performed poorly in recent years. It is possible the government could simply end up subsidizing—and thereby encouraging—risky behavior by market participants.

Finally, panelists expressed uncertainty about which mechanisms at the federal level would best address concerns about support for affordable housing. On the one hand, the PATH Act would repeal the GSEs’ affordable housing goals and cut parts of the FHA’s affordability programs. Corker-Warner, on the other hand, would avoid using tax revenue for affordable housing and would instead use a percentage of the guarantee fees paid by private investors to establish a Market Access Fund. According to the senators’ summary of the bill, “5-10 basis points of every loan securitized by the FMIC will go into a Market Access Fund, explicitly priced and on balance sheet, with purposes such as maintaining access to affordable rental housing, making grants to state housing agencies, and conducting borrower counseling programs at the state and local level.” At the California Summit, it remained open to further discussion whether this approach would provide enough support to those struggling to find reasonable housing options.

Solutions from California Stakeholders

Throughout the discussion of the potential impact of the various reform proposals in Congress, the panelists advanced their own solutions for limiting market disruptions during a transition to a new system. Six of these ideas are presented in detail below. The first three were agreed to by only part of the group assembled at the roundtable. The final ideas, however, drew broader consensus among the panelists.

Solution: Establish a Federal Trust Fund for Affordable Housing
Level of Consensus: Mixed

One of the concerns about relying more heavily on private capital in the mortgage market is that underserved people may not have access to affordable housing. An option for correcting this problem at the federal level would be to create an Affordable Housing Trust Fund. The Corker-Warner bill creates such a fund by using a portion of the guarantee fees paid to the government for standing behind mortgage-backed securities, but it would also be possible to generate revenue for such a fund through taxes on second mortgages or refinancing. Many realtors, for example, would like to see a commitment to affordable housing come out of general revenue, such as federal income taxes, instead of as a cost to other homebuyers. Whichever approach is taken, the two principles guiding the creation of the fund would remain the same: first, to provide adequate federal support for affordable housing, including

15. For a summary of the NFIP’s woes, see Pinter, “The New Flood Insurance Disaster” (2013).
directing funding to state agencies and programs; and second, to maintain transparency of funding sources and expenditures. It is almost certain that any legislation Congress passes will have to deal with affordable housing in specific, detailed terms, though many questions remain.

**Solution: Model a Government Guarantee on the Terrorism Risk Insurance Act**

*Level of Consensus: Mixed*

In 2002, as part of the response to the September 11, 2001, terrorist attacks, Congress passed the Terrorism Risk Insurance Act (TRIA), establishing a government reinsurance for catastrophic attacks. The TRIA presents a possible model for reforming the government’s involvement in housing finance. After September 11, the financial costs of the terrorist attacks fell heavily on reinsurers. Berkshire Hathaway, as one of the heaviest hit, paid out $8 billion. After the attacks, reinsurers began to exclude terrorism from their terms of coverage for commercial buildings; lacking reinsurance, insurers followed suit, creating an environment in which businesses were largely unable to purchase coverage for acts of terrorism. Under the TRIA, the costs of attacks causing more than $100 million—and up to $30 billion—in damage would be covered by the federal government after a deductible from private insurers equal to 20 percent of their premiums from the previous year, a high first-loss bar for private capital. At damage between $30 billion and $100 billion, the government would pay 85 percent, with insurers picking up the remaining 15 percent. Applied to the housing system, the idea would lead to something similar to the end results of Corker-Warner, but without the creation of a new agency, such as the FMIC. The government backstop would kick in only if aggregate private losses reached a high, catastrophic figure, and thereafter, unlike under the current system, the exact terms of the government’s involvement would be laid out in advance.

**Solution: Modify Pricing to Prioritize Mortgages for First-Time Homebuyers**

*Level of Consensus: Mixed*

The government’s participation in the housing sector has always had a number of goals, but one of the most prominent has been increasing homeownership rates. However, the GSEs, even under government conservatorship, do not differentiate pricing among different products or types of buyers. Reforms could be designed to produce pricing that encourages first-time purchases and incentivizes greater private participation in second mortgages and refinancing. Proponents of this solution argued that the government has a less compelling social mandate to participate in second mortgages and refinancing, so moving these aspects of the market to the private sector would be a positive policy outcome. These changes could be made on their own and would not require comprehensive legislation reforming the entire housing finance system.

17. For additional information on the TRIA, see Webel (2013). For the TRIA as a model for a mortgage insurance program, see Jaffee and Quigley (2013 forthcoming).

18. The government’s success on this front has been lackluster as the national homeownership rate has stayed at roughly 65 percent for the past three decades, according to data from the U.S. Census Bureau.
Solution: Create State-Specific Vehicles to Support Affordable Housing

Level of Consensus: Strong

Instead of waiting for federal action, especially with prevailing uncertainty regarding how any future federal system would address affordability issues, California could develop a state-based solution. In particular, California could pursue state-level vehicles for facilitating housing affordability for first-time buyers and residents in the bottom quartile of earners. Such vehicles, potentially including a state guarantee fund or a state credit-enhancement fund, would subsidize the credit risk of lenders to reduce the cost of housing for those who could not otherwise afford it. To finance similar efforts in the past, the state has used bonds, and for these particular solutions, the California Housing Finance Agency could issue its own bonds. Past examples of one-time bond measures with the goal of expanding access to housing include Proposition 46 (2002) and Proposition 1C (2006). Proposition 46 created a trust fund via a $2.1 billion bond issuance to fund shelters for battered women and offer housing assistance to low-income seniors, homeless people with children, the handicapped, and veterans. Proposition 1C authorized the issuance of $2.9 billion in general obligation bonds for similar purposes. The measures each passed in statewide elections with more than 57 percent of the vote.  

Solution: Regionalize Reductions in Loan Limitations for GSEs

Level of Consensus: Strong

Both the PATH Act and Corker-Warner would unwind the GSEs over a five-year period. In the interim, both plans would reduce the GSEs’ maximum loan limitations, leaving the private market to finance larger loans. This course of action, though, would disproportionately affect states like California where the median home price is much higher than in other states. As an alternative, lawmakers could revise proposed legislation to include criteria for reducing loan limitations at a regional, not national, level. In this approach, loan limit reductions would reflect the per capita income and median home prices of states and so would have a more equitable impact throughout the country, while still promoting private participation. If, on the other hand, lawmakers left loan limits high across the board to accommodate concerns from more expensive regions, the desired effects of inviting private capital into the system would be diluted.

Solution: Robust Capital Requirements, Gradually Introduced

Level of Consensus: Strong

There was consensus that, in a system such as the one proposed by Corker-Warner, capital requirements for investors in MBS should be adequate to sustain the losses suffered by the GSEs in the last crisis. Corker-Warner currently includes the requirement that investors in MBS retain capital equivalent to 10 percent of the face value of the security. This figure, as Swagel said during Senate

19. See Smartvoter.org for the text of each proposition and statistics on passage:  
www.smartvoter.org/2002/11/05/ca/state/prop/46/ and  
testimony, “should provide considerable comfort that taxpayers are protected from future bailouts.”

Though GSE losses would have likely been higher without federal intervention, during the crisis losses equaled nearly 5 percent of the GSEs’ assets. Accordingly, panelists noted that the 10 percent level might be an excessive buffer, tying up capital that could be invested more productively and also raising mortgage interest rates in a time of market uncertainty as the country and California recover from the foreclosure crisis. Whether eventual legislation mandates 10 percent or a lower number, the panelists agreed that the capital requirement should be phased in gradually to protect the housing market from disruption.

Conclusion

In recent months, lawmakers in the nation’s capital have increasingly focused on reforming the housing finance system. Sen. Warner has called this process “the last piece of unfinished business remaining after the 2008 economic meltdown.” During the summer, calls for reform gained new momentum with the arrival, in quick succession, of Corker-Warner, the PATH Act, and Johnson-Crapo, but floor debate has not yet begun in either the Senate or the House. When it does, the contentious areas outlined above will be considered by a wider audience, and the politics of reform could grow increasingly heated. For this reason, it is important to understand the points of dispute that motivate various stakeholders, including whether the system is as broken as many believe, whether the government should offer an explicit guarantee, and the impact of a new system on affordable housing initiatives.

While a number of issues could derail reform, the conversation among stakeholders and experts at the 2013 California Summit revealed a willingness to work through differences and combine the most sensible aspects of competing plans to create a stable, accessible housing system. Out of the three consensus solutions described above, the call for state-specific financing vehicles for affordable housing would not wait for—or require—federal action. The other two—regionalizing reductions in loan limits from government agencies and establishing adequate capital requirements that would be phased in gradually—require action from national legislators. As proposals move from the committee to the floor in each chamber of Congress, lawmakers will necessarily be more aware of how federal reforms affect different parts of the country. Given the importance of California to the national housing market, the concerns and potential solutions raised by the Summit panelists may merit particular attention.

21. For a discussion of Corker-Warner’s potential impact on interest rates, see Zandi and deRitis (2013).
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About the Panelists

**Claudia Cappio** is the executive director of the California Housing Finance Agency. Before joining the CHFA, she was a principal at Sparticles LLC, a planning and development consultant. Previously Cappio was Oakland’s director of planning, building, major projects and the Oakland Base Reuse Authority. She spearheaded major public and private developments, including the Oak to Ninth Project (3,000 housing units), Wood Street Mixed Use Project (1,500 residential units) and 10K Program, which approved construction of 6,000 downtown units for 10,000 residents. She also worked in municipal planning and building in Emeryville, Albany and Corte Madera. Cappio is a lecturer in University of California Extension planning courses and with Continuing Education of the Bar on such issues as the California Environmental Quality Act, design review, public-private partnerships and infill development. Cappio is a member of Lambda Alpha International and a certified wilderness first responder. She holds a B.A. in urban studies from Ohio Wesleyan University.

**Dwight Jaffee** is a professor at the Haas School of Business at the University of California, Berkeley. He is a co-chair of the school’s Fisher Center for Real Estate and Urban Economics and teaches and publishes on topics in finance, banking, real estate and insurance. His recent research includes the subprime mortgage crisis, real estate energy efficiency and catastrophe insurance. Jaffee has consulted with many governmental and research entities including the SEC, the World Bank, the Federal Reserve and the U.S. Treasury. Jaffee also serves as a public interest director for mutual fund Contra Fund and the Global Earthquake Model, a nonprofit organization dedicated to improving the accuracy of earthquake knowledge and preparations. He received a B.A. in economics from Northwestern University and a Ph.D. in economics from the Massachusetts Institute of Technology.

**Steven Mnuchin** is chairman and CEO of OneWest Bank Group LLC, a federal savings bank holding company owned by him and a consortium of private investors. He is also chairman and CEO of Dune Capital Management LP, a private investment management firm. Mnuchin formed RatPac-Dune Entertainment LLC to co-finance the Warner Bros. slate. He has been in the film finance business for the past eight years and has invested through his affiliates Dune Entertainment LLC, Dune Entertainment II LLC, and Dune Entertainment III LLC. Mnuchin has financed such blockbusters as "Avatar" and "Life of Pi." Previously Mnuchin spent 17 years at Goldman Sachs, where he was a partner and also served as the firm’s chief information officer and a member of the management committee. He is a board member of the Museum of Contemporary Art Los Angeles, the Los Angeles Police Foundation and the UCLA Health System, and he is a life trustee of New York Presbyterian Hospital.

**Joel Singer** is CEO of the California Association of Realtors, a statewide trade organization with 160,000 members dedicated to the advancement of professionalism in real estate. He is also president and CEO of zipLogix, whose software is used by more than 600,000 Realtors in 48 states. Singer has held the association’s top staff position since 1989. He previously served as chief economist and headed its Public Affairs Department. Singer also has been directly involved in the development of key business technologies and significant housing legislation in California. Previously, he spent several years as a chancellor’s intern fellow at UCLA and a Fulbright fellow in West Germany.
Phillip Swagel is a professor at the School of Public Policy of the University of Maryland and a senior fellow at the Milken Institute. Swagel was assistant secretary for economic policy at the Treasury Department from December 2006 to January 2009. In that position, he served as a member of the TARP investment committee and advised Treasury Secretary Henry Paulson on all aspects of economic policy. Swagel previously worked at the White House Council of Economic Advisers, the International Monetary Fund and the Federal Reserve, and taught economics at Northwestern University, the University of Chicago Booth School of Business and the McDonough School of Business at Georgetown University. He received a bachelor's degree in economics from Princeton University and a Ph.D. in economics from Harvard University.

Moderator

Staci Warden is the executive director of the Center for Financial Markets at the Milken Institute, where she leads initiatives on strengthening capital markets, access to capital, financial education and financial-markets solutions. Prior to joining the Milken Institute, she spent six years running JPMorgan's Central Bank client franchise in Europe, Eurasia and Africa, and two years as part of the sovereign-debt-restructuring deal team. Previously she was a director at the Nasdaq, where she led its two initiatives for micro-cap companies. Warden has managed, advised and written articles on international economic development issues at the U.S. Treasury Department, the Center for Global Development, the Carnegie Endowment for International Peace and the Harvard Institute for International Development. She has worked or done business in over 50 countries. Warden holds a master's of public policy from the Kennedy School of Government at Harvard University and has completed her coursework for a Ph.D. in economics from Brandeis University.
About the Author

John Schellhase is a program research analyst at the Milken Institute’s Center for Financial Markets (CFM) in Washington, D.C. At CFM, he conducts research and helps execute programmatic activities on projects involving U.S. housing finance reform, deepening capital markets in developing countries, sovereign asset and liability management, and global access to capital.

Prior to joining the Milken Institute, Schellhase worked at the Development Research Institute, a nonpartisan think tank in New York focused on international development. He completed his M.S. in Global Affairs at New York University, where his research focused on private investment as a catalyst for development in eastern Africa. His thesis, “Private Investment in Agriculture and the Politics of Hunger in Ethiopia,” won the Best Thesis Award for the class of 2013 from the NYU Center for Global Affairs.

From 2008 to 2010, Schellhase served as a U.S. Peace Corps volunteer in the Philippines.