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CONGRESSIONAL BUDGET OFFICE REPORT ON FEDERAL SUBSIDIES FOR HOUSING GSEs

HEARING

BEFORE THE

SUBCOMMITTEE ON
CAPITAL MARKETS, INSURANCE, AND
GOVERNMENT SPONSORED ENTERPRISES

OF THE

COMMITTEE ON
FINANCIAL SERVICES

U.S. HOUSE OF REPRESENTATIVES

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CONGRESSIONAL BUDGET OFFICE REPORT ON FEDERAL SUBSIDIES FOR HOUSING GSEs

WEDNESDAY, MAY 23, 2001

U.S. HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON CAPITAL MARKETS, INSURANCE,
AND GOVERNMENT SPONSORED ENTERPRISES,
COMMITTEE ON FINANCIAL SERVICES,
Washington, DC.

The subcommittee met at 10:00 a.m., in room 2128, Rayburn House Office Building, Hon. Richard H. Baker, [chairman of the subcommittee], presiding.

Present: Chairman Baker; Representatives Ney, Shays, Paul, Bachus, Lucas, W. Jones, Weldon, Ryun, Riley, Biggert, Miller, Ose, Rogers, Kanjorski, Bentsen, Sandlin, J. Maloney of Connecticut, Hooley, S. Jones, LaFalce, Capuano, Sherman, Meeks, Inslee, Moore, Ford, Hinojosa, Lucas, Shows, Crowley, Israel and Ross.

Chairman BAKER. I would like to call this hearing of the Capital Markets Subcommittee to order and welcome all those who have modest interest in this subject matter.

I want to begin this morning by drawing the subcommittee's attention to an article published just 5 days ago by the Associated Press, which I think has been distributed to the Members, that I found insightful with respect to the subject at hand today.

The fourth paragraph of that release, which I have highlighted, reads: "Last month's surplus"—referring to the budget surplus—"was bigger than the $180 billion many analysts projected, but matched predictions made by the Congressional Budget Office."

So I just want to make note that the CBO does get some things right, and others do not always hit it on the nose.

Ordinarily I would not deem it necessary to make reference to the reliability of economic analyses that the CBO has historically provided Congress. However, in light of the effort by some over the past week to publicly discredit the integrity and ability of the CBO, I find myself compelled to dwell on the subject a bit.

Through the years, both Democrat and Republican Majority Congresses, and even split Congresses, have rightly relied on the expertise of non-partisanship of the CBO to inform the Congress and Members on public policy issues.

My point in quoting the AP story is to suggest that if the CBO can time and time again accurately assimilate the complex and myriad economic factors making up budget surplus forecasts, then surely it possesses the capacity to get a GSE subsidy pretty close.

Certainly as the quote indicates, CBO works with a degree of accuracy and objectivity surpassing that of other so-called analysts who on the subject we take up today perhaps find their own interests clouding their own unbiased, objective assessment, but I will return to the analysts a bit later today.

Some months back, I too thought to criticize the CBO out of frustration and impatience due to the delayed release of this report. For the record, I actually wrote that letter last July asking for an update of the 1996 subsidy.

I have since learned the delay was due to the extraordinarily studied approach the CBO adopted precisely for the reasons of avoiding the criticisms that were issued in 1996. That is, to get the numbers right and clear away doubt about the methodology used to reach its conclusions.

This approach, I now understand, included consultation from accountants and economists representing respected Federal institutions. Among others, the Treasury, the Federal Reserve Board, the Federal Reserve Bank of Minneapolis, the GAO, the Congressional Research Service.

CBO then raised my anticipation by subjecting it to an even further lengthy outside rigorous academic-style peer review process.

I point this out for two reasons.

First, I want to personally thank CBO's Director, Mr. Dan Crippen, for taking care to craft the report in this manner. Congress indeed owes a debt of gratitude for the work both you and your staff do in service to this Congress and to the American people.

And just a personal note, reading what I have read, Mr. Crippen, over the past days, it is not my duty to do so, but I apologize to those professionals who have been engaged in this who have been subjected to these criticisms.

In our world of elective politics, anything is almost—and usually is in Louisiana for sure—fair game. But to professionals who are engaged in the business of doing work at the direction of the Congress, you should not be subjected to similar criticisms, and I extend that apology to you.

Consequently, you can expect that Members of this subcommittee should and will give your testimony the fair and open-minded consideration that you deserve.

More importantly, I wish to expose the folly of a handful of people who have already publicly attacked this report, including those who more incredibly still maintain that housing GSEs receive no subsidy at all.

Make no mistake. The facts are the facts. The subsidy is real. It is large. And it has far-reaching implications.

Today, I intend to take our time. We will go through a lengthy process. We certainly are going to allow every Member every occasion to ask any question he may choose, but I intend to visit with you, Mr. Crippen, the clear steps by which you reached the conclusions and the processes that you engaged.

Second, to look at the rebuttal statements included in the report and the elements that give credibility to those rebuttals.

And finally, to return to the issue of the relationships between the analysts and the GSEs and their involvement in this matter prior to the public consideration of the report by the Committee.

With that, I would like to recognize the Ranking Member, Mr. Kanjorski.

[The prepared statement of Hon. Richard H. Baker can be found on page 58 in the appendix.]

Mr. KANJORSKI. Thank you very much, Mr. Chairman, for the opportunity to comment before the hearing begins today to learn more about the latest study compiled by the experts at CBO on the subsidies received by the housing Government Sponsored Enterprises.

As I understand, although the agency changed the methodology it used in 1996——

Mr. LAFALCE. Could Mr. Kanjorski speak up a bit louder, please?

Mr. KANJORSKI. Oh, sure. OK?

Mr. LAFALCE. That is better, yes.

Mr. KANJORSKI. As I understand, although the Agency changed the methodology it used in 1996 to calculate this subsidy, its ultimate conclusions remain approximately the same in this new report. In short, Fannie Mae and Freddie Mac pass on about two-thirds of the Federal subsidies to home buyers in the form of lower mortgage prices.

The CBO analysts have also determined that the size of the Federal subsidy received by Fannie Mae and Freddie Mac has nearly doubled between 1995 and 2000 to $10.6 billion.

Some will doubtlessly contend today that Congress should work to control this dramatic growth. The questions we should, however, be asking ourselves focus not on what caused the magnitude of the growth and how to control it, but rather where the subsidy flows, what it buys, and how well the GSEs manage their risks and operate their businesses.

Additionally, I suspect that a number of my colleagues during this hearing will raise concerns about the methodology used by the CBO to calculate its latest estimates.

We should examine these methodological concerns today, but in doing so we should not forget to look at the big picture. This report confirms that the GSEs are performing a function that the Congress wants them to perform. Namely, they are working to help lower the cost of home ownership at no real monetary cost to the Federal Government.

In return, the stakeholders and shareholders in the GSEs receive a share of the Federal subsidy to provide a financial reward for their efforts.

Moreover, just last week, the *Wall Street Journal* reported that the U.S. Census Bureau has found that demand for housing is actually rising at a faster pace than previously expected.

We could, as a result, soon experience housing shortages in some parts of the country. The GSEs need to use their benefits to help us to attend to this looming need for affordable housing.

If we did not have the GSEs to accomplish our Nation's housing objectives sufficiently, we would have to create new housing subsidy programs to address this imminent need, likely at a greater cost to our Federal Government.

Ultimately, the latest CBO report offers us an additional piece of information for legislators and policymakers to analyze in a more complete and comprehensive manner the contributions brought by the GSEs to the housing marketplace.

Although some have called for reforming GSE's statutory benefits and regulatory structure in recent months, these estimates in my opinion present us with no compelling reason for pursuing any legislation on this matter at this time.

In closing, Mr. Chairman, I look forward to hearing from CBO Director Crippen today about his agency's study, and I yield back the balance of my time.

[The prepared statement of Hon. Paul Kanjorski can be found on page 63 in the appendix.]

Chairman BAKER. Thank you, Mr. Kanjorski.

I would like to recognize at this time the Ranking Member of the Full Committee, Mr. LaFalce. Welcome, sir.

Mr. LAFALCE. Thank you very much, Mr. Chairman. And again I want to commend you. You have certainly taken an interest in GSEs—that is an understatement—but I think we are all going to be better off for it.

I do want to say what a joyous day this is for me as I look forward to working in the Senate with Chairman Paul Sarbanes on these issues. I want to congratulate Bernie Sanders for any work that he may have done to encourage the sunshine today.

I also want to make a few comments about GSEs.

First of all, I want to correct a misimpression. I think the misimpression has been created that somebody is attacking the integrity or the ability of the CBO. That is the furthest thing from the truth. But that insinuation, or not even insinuation, that statement almost implies that you cannot criticize in a constructive manner the work product of an organization saying that you would have done it differently without attacking their integrity or ability. No. Then we could not engage in any criticism. So I do not think that those who have given a critique of the work product should be accused of having attacked either the integrity or the ability of the CBO.

Second, I am very surprised at the idea that GSEs might derive an economic benefit from their implied guarantee. That is not rather shocking to me at all. That is one of the reasons we created them, and then in privatizing them we realized that we were going to be helpful because of this implied guarantee, and that is what we wanted to do.

And, of course, we do this in a lot of other areas, too. We have a lot of other explicit Government guarantees. That is Credit Allocation. That is a subsidy. We have direct Federal subsidies, dollars, and direct dollars.

And then we have something called the Tax Expenditure, too. A lot of tax expenditures for housing. It might be interesting, Mr. Crippen, to do a study as to the efficiency of the tax expenditures for housing, and what percentage go to the consumers, and what percentage go to the developers. I personally think that is probably the least efficient subsidy we have, but it is the one that seems to be in currency right now and in favor.

I think, too, that the energy plan that the President submitted has a few subsidies, explicit guarantees, implied guarantees, and so forth. So that is not something that is rather uncommon.

And yet the implication is that something extraordinary is happening here with GSEs, because housing GSEs derive some of the benefit from their status as GSEs.

Well, the simple truth is that that is what Congress intended. Let's look at what the CBO Report says.

First and foremost it says that fully two-thirds of the benefits of GSE status for Fannie Mae and Freddie Mac accrue to the benefit of the consumer. Wow! I wonder if any other subsidy, explicit guarantee, implicit guarantee, tax expenditure, is that high? I do not know. It would be interesting, though, to look into that.

And further, this ratio has stayed fairly constant according to the CBO over the years. Some say there are other things you have to consider, too. For example, does the existence of GSEs contribute to the competitiveness of the marketplace, and therefore lower the cost to consumers who are not using GSEs, and therefore create a benefit which should be considered, too, as part of the benefits in weighing the tradeoffs between cost benefits.

In any event, as we consider the various questions today I would ask my colleagues to keep in mind that the CBO is today concluding that American consumers in their role as home buyers and homeowners securing a mortgage are receiving some $7 billion a year in benefits in the form of lower mortgage rates as a result of our policies with respect to GSEs.

It is most appropriate to study the issue before us today. And again I commend the Chairman for requesting this CBO Report and having these hearings.

I think it is always appropriate to consider, discuss, debate if need be, what the appropriate role of Federal regulation of the GSEs should be.

But again, let us not rush to a precipitous judgment on something that I think has not only worked well, but may have helped create a national mortgage market that is the envy of the world.

I thank the Chair.

Chairman BAKER. I thank you for your generous support.

Does any other Member have an opening statement?

Mr. Ney.

Mr. NEY. Thank you, Mr. Chairman.

Mr. Chairman and Ranking Member Kanjorski, I think we should give both of you a commendation for calling this hearing. I think it is a good thing to do.

There also can be no doubt that Fannie Mae and Freddie Mac do receive a benefit by way of their Congressional Charters. I wanted to stress "Congressional Charters." In fact, Congress created both of these companies with a careful balance of advantages, but also restrictions.

The advantages have been well stated, I believe. The companies do not pay State and local income taxes; they only pay Federal. They do not have to register as securities with the SEC their debt trades in the Agency Debt Market.

You must, however, keep in mind Congress also placed some very clear restrictions on these companies, as well. The companies are

restricted to a single line of business providing liquidity in the secondary mortgage market.

They are confined to mortgages under a loan limit today of $275,000. They are required to operate in all markets at all times regardless of economic downturns.

They must meet a percentage of their business goals for affordable housing. They must meet a rigorous safety and soundness regime.

So there are two ends to this. And again it was Congressionally chartered.

The benefit these companies receive is part of the compact that Congress granted to them as recently as 1992. However, beginning with the 1996 CBO Report on benefits received by the GSEs, questions have been raised about whether Fannie Mae and Freddie Mac have passed all of those benefits on to the consumers.

I know we meet today to receive an updated report on the benefits, much anticipated in recent days, some with controversy obviously, but there have been a number of concerns raised about the methodology used by CBO in determining the benefits that Fannie Mae and Freddie Mac receive.

Mr. Chairman, I think we should welcome today as an opportunity for Members of Congress to raise their concerns with Mr. Crippen so that we may have a full and fair discussion about the way in which CBO determines how the GSEs receive a benefit and how it calculated the amount of the benefit retained by Fannie Mae and Freddie Mac.

I also believe it is important for this subcommittee and your oversight efforts for Members to have every opportunity obviously to voice their concerns, and that also Mr. Crippen have an opportunity to provide a response to those concerns.

While studies like the one we consider this morning have obvious value, I also believe we must also consider how well the U.S. housing market performs, how to encourage more not less investment in housing, and how we might improve the delivery of housing financing.

Again, thank you for your hard work on the issue.

Chairman BAKER. Thank you, Mr. Ney.

Mr. Bentsen.

Mr. BENTSEN. Thank you, Mr. Chairman.

Mr. Crippen, it is always good to see you.

My uncle, a former Member of this body and of the body across the street, once told me that everybody in this town has their own sets of numbers to say what it is they want to say, and today we get to hear Mr. Crippen and Congressional Budget Office, what their numbers are, which generally I would say tend to be pretty much on mark given the set of assumptions and whether you agree with those assumptions, and given the space in time that you are looking at.

What we are going to learn today is something that we really comes as no surprise, that there is a subsidy. I think everybody understands that.

But what we will also have to remember is is that this is something that did not happen by accident. This is something that the Congress created going back decades, and recreated a few decades

after that. And the question I think is not necessarily whether or not there is a subsidy, but the question I think will be as compared to what.

And so I look forward to the testimony by Mr. Crippen and to the discussion we are going to have today, and I appreciate the Chairman having this hearing.

Chairman BAKER. Thank you, Mr. Bentsen.

Any Member on the Republican side have an opening statement?

[No response.]

Chairman BAKER. Ms. Hooley.

Ms. HOOLEY. Thank you, Mr. Chairman.

We are here today to examine the newest Congressional Budget Office report on Fannie Mae and Freddie Mac. And like many Members of the subcommittee, I have supported the role that Fannie and Freddie play in helping millions of American families who might otherwise have not been able to purchase a home.

And no matter how often that term is thrown around, I believe that owning a home is a capstone of the American dream. A home is more than four walls and a roof. It is a place where we watch our children grow up. It is a place where they can always return, hopefully, with their families.

The only thing, Mr. Chair, that I would have liked today is to have had a chance to really read this report and analyze it before we met. But I am looking forward to the testimony and hearing you, Mr. Crippen.

From what I have been able to gather from the report, the CBO Report claims Fannie and Freddie have received a substantial Government subsidy, most of which is passed on to the consumer.

And, Mr. Chairman, I do not know if we can accurately quantify the implicit guarantee that Fannie and Freddie receive, but I know we will be discussing that today. But what I do know is that if their charters were revoked tomorrow, not one additional dime would come into our Treasury.

With that said, I look forward to this hearing today and our discussion, and I yield back the balance of my time.

Chairman BAKER. Thank you.

Ms. Jones, did you have a statement?

Ms. JONES. I was interrupted by my colleague. Thank you, Mr. Chairman, Ranking Member Kanjorski.

Mr. Crippen, I think this is my first opportunity to have a chance to hearing testimony with regard to Government Sponsored Enterprises.

I am looking forward to hearing your testimony. I have quickly, as my colleague, Ms. Hooley said, it would have been wonderful to have had this for awhile to study before we had to delve through this packet to make inquiry of you, and perhaps in the future, should you be requested to report again, it might be great that we would have adequate opportunity to review it.

But I am looking forward—the people of the 11th Congressional District have benefited greatly from the housing boom that has come as a result of this past 10 years and the work that the Government Sponsored Enterprises in conjunction with the banking institutions in my Congressional District have done to improve housing, and I am interested to hear your testimony.

Chairman BAKER. Ms. Jones, if you can pull that mike a little closer, people are having a hard time hearing you.

Ms. JONES. Having a hard time hearing me?

[Laughter.]

Ms. JONES. That is incredible. But I would just say I am looking forward to your testimony, and I having an opportunity to make inquiry of you of the basis of your testimony on behalf of the people of my District.

Thank you, very much.

Chairman BAKER. Thank you, Ms. Jones.

Mr. Israel.

Mr. ISRAEL. Thank you, Mr. Chairman, and Ranking Member Kanjorski, for holding this hearing today.

Mr. Chairman, I represent a District on Long Island where the average sales price of homes is an exorbitant $222,850.

The Long Island Regional Planning Board recently found that 16.3 percent of Long Islanders are spending more than 50 percent of their incomes on housing, including taxes.

In my county, closings have dropped by over 1100 homes from 1999 to 2000. Home ownership is not 100 percent in my District. But I believe that Fannie Mae and Freddie Mac are working very hard to make sure that all Americans have the opportunity to own their own home. They believe in 100 percent home ownership for all Americans, and Fannie and Freddie are doing an excellent job in moving individuals into their own homes.

I appreciate this CBO Report and I believe that it is extremely instructive, but I hope that it will not be used to distract Fannie Mae and Freddie Mac from their core competency, which is helping to insure home ownership.

In a recent study the former Office of Management and Budget Director Dr. James Miller and Dr. James Pierce estimated a total GSE interest rate savings to America's families to be between $8 billion and $23 billion each year. And I will conclude with their words. They said:

"Even using the lowest estimate of consumer benefits and the highest estimates of the funding advantage in our range of estimates, the value of the consumer interest cost savings resulting from Freddie Mac and Fannie Mae's activities significantly exceeds the highest estimate of their funding advantage."

I look forward to continuing to work with you, Mr. Chairman, and all the Members of this subcommittee toward the goal of home ownership for all Americans.

Thank you.

Chairman BAKER. Mr. Crowley, did you have a statement?

Mr. CROWLEY. In the interests of time, I will just have my statement read into the record.

Chairman BAKER. Without objection, certainly.

Mr. Meeks.

Mr. MEEKS. Thank you, Mr. Chairman, and Ranking Member Kanjorski.

Again, we are here to discuss the mission and the benefits of the Congressionally created and federally chartered GSEs, Freddie Mac and Fannie Mae.

The Congressional Budget Office has just completed a study which says, among other things, that the aforementioned GSEs are being subsidized because of their exemption from certain fees and preferable tax status.

My major concern with the GSEs is their ability to carry out their mission, which is to increase home ownership in America without an appropriation from the Federal Government.

Congress asked the GSEs to bring private capital and private sector efficiencies to work for American home buyers. To help them achieve this mission, Congress has given them benefits and has also imposed clear restrictions. In fact, legal obligations that relate to affordable housing and the way they must operate.

In addition, based on voluntary agreements negotiated with the Members of this subcommittee, the two GSEs have become a model of transparency and efficiency for financial companies worldwide.

They do this while carrying out their mission to increase home ownership in America, a home ownership rate which is at an all-time high.

My biggest concern with GSEs is what we can do to help them be more successful in achieving their mission, including closing the gap in home ownership between whites and minorities.

I hope there is something in the CBO study that considers this question.

And I thank you, Mr. Chairman.

Chairman BAKER. Thank you, Mr. Meeks.

Does any other Member have an opening statement?

[No response.]

Chairman BAKER. If not, I would like to proceed at this time to recognize Mr. Dan Crippen, Director of the Congressional Budget Office.

And, Members, given the nature of the construction of the hearing this morning, it is my intent to facilitate Mr. Crippen's presentation by giving him such time as he may consume, and we will proceed on that basis unless there is objection.

Mr. Crippen, welcome.

STATEMENT OF HON. DAN L. CRIPPEN, DIRECTOR, CONGRESSIONAL BUDGET OFFICE, WASHINGTON, DC.

Mr. CRIPPEN. Mr. Chairman, Mr. Kanjorski, thank you, and I appreciate all of your opening remarks—all except, perhaps, the statement you made, Mr. Chairman, that this was going to be a lengthy hearing.

Before I begin, let me say that I am here as a representative of the CBO, as I often find myself, and that is to say I did not do much of the work you see before you.

The principal authors of this study are with me today, and I will likely have to refer to them with some of your questions. One of the authors is Dr. Marvin Phaup, who has been with us for a very long time at CBO. Dr. Phaup is a Fulbright Scholar, has written many articles that have been in refereed journals, worked for the Federal Reserve, knows more about housing—or will forget more about housing—than I will ever know.

The other co-author, Dr. Deborah Lucas. Fortunately, Northwestern was gracious enough to let us borrow her for a year or so,

is a chaired professor in the Kellogg School there, in fact, a professor of finance, and teaches courses in many of the issues relevant to this study: courses on options, for example, and how markets work.

So we are very fortunate to have her help, albeit for a short time. I have been trying to figure out how to talk her into staying longer.

But they are the principal authors. As you suggested, Mr. Chairman, this report underwent a lot of review. We do that frequently, although perhaps not quite as thoroughly as we did in this case. That is to say, we have a process under which the authors inside CBO draft a report. It gets circulation inside. It goes through several drafts.

We have some 70 Ph.D. economists at CBO, and about 80 folks who hold Master's Degrees. So they are a well-educated and probably the best core group of public finance economists in the world.

Chairman BAKER. Mr. Crippen, I hate to interrupt you, but we are all having trouble with the mikes this morning. You will have to pull it very close. I do not know if the volume is turned down somewhere.

Mr. CRIPPEN. How is this?

Chairman BAKER. This subject appears to create interference, for some reason. Do your best.

[Laughter.]

Mr. CRIPPEN. I could probably talk without it, as well. I was saying that our process is applied to many of our major studies. There is an internal draft, which is reviewed by the folks at CBO, some 70 Ph.D. economists and folks with, about 80 folks with Master's Degrees.

Then we very often go out to other Government institutions and have them have a shot at what we have said.

And then finally for major reports such as this, we often do an outside review. We will select four or five, usually, outside reviewers and ask them to give us comments about the paper, as well.

We take those comments into account, obviously, before we even have something we call a final draft, and certainly before we get to a final report. So we do take great care. That is not to say the report is perfect and could not be improved. We are, of course, fallible.

But to summarize my lengthy introduction here, I am here as a representative of CBO and happy to be so. I will obviously try to answer all of your questions. I may need help from my colleagues. There may be a question or two that we will have to respond to in writing, but I am looking forward to our encounter today, Mr. Chairman.

Thank you for your indulgence. I hope to speak for not much more than about 10 minutes or so to summarize our study so that we have as much time as you all want to answer questions.

Ms. JONES. Mr. Chairman, I am with you. I am having a hard time hearing the witness.

Chairman BAKER. We have got somebody checking to make sure the volume is up on all the microphones. All of them seem to be under-performing this morning a bit, but keep it close to you if you can.

Mr. CRIPPEN. I will have more coffee.

Mr. Chairman, is that any better? Is this better? Is this better? I feel like an optometrist. Is this better, or this better?

[Laughter.]

Mr. CRIPPEN. Mr. Chairman, you asked us to answer two questions:

What is the value to the GSEs of the implied subsidy granted them by their association with the Federal Government?

And how do they distribute or use those subsidies?

Many critics of this study want to ask different questions or have us answer different questions. Some of these questions may be relevant, in fact, but most of them are not.

The answers to the two questions you asked are:

The Housing GSEs receive a substantial Federal subsidy from their special status. As many of the Members of your subcommittee on both sides have said, that is not surprising. We estimate it to be $13.6 billion in 2000.

They pass on subsidies to mortgage borrowers, in our estimate about $7 billion in total in the year 2000. Looking at just Fannie and Freddie, as many of your Members have this morning, we estimate they received $10.6 billion in subsidies and passed through $6.7 billion to mortgage borrowers in 2000.

[The chart referred to can be found on page 75 in the appendix.]

Some have argued, Mr. Chairman, that there is no subsidy because there are no Federal dollars granted to GSEs. Of course, as many of your Members have said, that is not the case, and indeed the intention of Congress was to grant the subsidy.

To argue otherwise would be to deny any tangible advantage of their Federal affiliation and raises the question of why that association should be continued if indeed there is no benefit.

It is an irrelevant issue I think, to look for Federal dollars in a case like this. I suspect, however, as we have already heard from most of your Members, most folks in and out of this room recognize there is a subsidy, whatever you choose to call it.

In case there any doubters amongst you, let me just put it this way:

The advantages granted the GSEs have a significant value, one that other firms would be willing to pay for if those advantages were offered at auction.

So the question becomes, Mr. Chairman, how do we measure such a subsidy, since it is not directly observable through dollar flow?

The short answer is to compare subsidized firms with those that are not. The advantage of the subsidy is reflected in the lower cost of capital the GSEs enjoy, and also in this case in tax and regulatory exemptions granted by the charter.

The flow of estimated future subsidies is converted to present value using the discount rate equal to GSEs' borrowing costs to obtain the current year's total subsidy.

Now a number of our critics contend that it is somehow inappropriate to capitalize these subsidies, which I find curious at best.

Some of the commentary of economic consultants seems to deny their very heritage by suggesting present values are somehow illegitimate in this case.

And the GSEs themselves, while charging that we have no understanding of the market, seem to deny that capitalization is precisely what the market does every day. Ask any bond trader what happens when interest rates change, and he will tell you the values of all future interest payments are capitalized in the bond price.

I know we will talk more about how we arrived here at these estimates today, Mr. Chairman, but I think it is worth noting here that not one of the many—and I do mean many—independent reviewers of this study in and out of Government, in and out of academia, in and out of Wall Street, not one questioned the approach and the methodology.

That is not surprising, because this measure is consistent with the objective of generally accepted Federal accounting principles and budgetary practices.

So let me ask a question. If we are so fundamentally wrong, don't you think someone would have noticed?

Now, Mr. Chairman, I hope we can turn to the heart of the matter and discuss our results and the assumptions that underlie our $14 billion subsidy estimate for 2000. Here is where, of course, there can be very legitimate debate.

The single largest component of the subsidy is the reduction in borrowing costs from the implicit Federal guarantee of GSEs' debt. By our estimate, they have a borrowing advantage of 41 cents per $100 of debt, a 41 basis points, due to their special status.

During 2000, the housing GSEs increased their debt outstanding by $227 billion to have a total of more than $1.6 trillion. I was just thinking that $227 billion is more than the amount of debt held by the public that we paid off last year.

In the process, the GSEs were able to lock in reduced debt servicing costs with a present value, we estimate, of $8.8 billion. The Federal credit enhancement of GSE guarantees of the $66 billion increase in mortgage-backed securities also added $3.6 billion to the value of the securities issued in 2000.

Finally, the value of the tax and regulatory exemptions has risen significantly over the years, to about $1.2 billion annually.

So that is how we measure the subsidy. Then the question becomes, how do we measure the benefits? Simply by comparing the cost of those mortgages touched by the GSEs, the fixed-rate conforming mortgages allowed by the charter with those not eligible for the GSEs.

Our net estimate is that conforming mortgages benefit from an interest rate reduction of 25 basis points compared to the rates for other non-conforming loans. Because of competition in the MBS market, the same subsidy is passed through on bundled mortgages.

On that basis, a little more than half the total subsidy, $7 billion in 2000, was passed through.

What is left is retained by GSEs and their various stakeholders. In the case of Fannie and Freddie, an estimated $3.9 billion, or 37 percent of the subsidy.

As with all such estimates, Mr. Chairman, data limitations and the complexity of the underlying processes imply that significant uncertainty attaches to all of these numbers. There are legitimate questions about our various assumptions.

However, our critics are quick to point to those assumptions that they believe, if changed, would help their case. You are probably not surprised to know that they almost universally fail, however, to talk about assumptions that, if changed, would leave them in a worse light.

I will examine just a few on both sides of this issue. I am sure we will get into more as the day progresses.

First, as to the subsidy, some of our assumptions tend to raise the estimated subsidy. For example, the fact that there are so few financial institutions that have a financial rating the same as the housing GSEs' led us to base the GSE debt funding advantage on a sample of non-GSE securities, which included more A than AA issues.

This comparison may penalize the GSEs by a few basis points—in our estimation, about 6 or 7 by one measure of our data—so it is possible that we have overstated the subsidy given this comparative.

Further, CBO attributed none of the GSEs' borrowing advantage to managerial superiority over their competitors. Frankly, because at this point, we have no evidence the GSEs managed their debt better than their close competitors.

In fact, it also seems likely that the sophisticated financial institutions with which the GSEs compete also manage their debt operations so as to capture any available gains from advanced liquidity.

However, several of our assumptions reduced the size of the estimated subsidy likely by at least as much as the examples I just gave you could have increased it.

Faced with uncertainty over the duration of the benefit from the implied guarantee, CBO chose a relatively short horizon, despite the history of consistent growth in debt which makes a perpetual horizon more realistic.

Using a perpetual horizon would add $5.5 billion to the estimated subsidy for 2000, making it $19 billion, not $14 billion.

Similarly, the GSEs were able to exploit those times when the debt markets turn in their favor and issue more debt. You expect them to do so. However, we chose not to compute their advantage by using a weighted average of yield spreads, but, rather used the simple average, understating their advantage by several basis points.

And there are other assumptions on both sides.

When we talk about the benefit, Mr. Chairman, the amount of the subsidy passed through to borrowers depends on the degree of competition in the fixed-rate conforming mortgage market.

CBO estimates that Fannie and Freddie have at least 71 percent of the relevant market, as detailed in table A-1 in our report. This share has grown over time and suggests that they have a significant competitive advantage in the markets in which they operate.

Ultimately, the GSEs would like us to credit them with market effects that accrue outside the mortgages they intermediate, as Mr. LaFalce suggested, even though they do not disgorge any subsidies to provide them.

More importantly, I suspect they do not want to talk about the potential costs to the capital markets that are not charged directly to them either.

For example, I think the GSEs would admit that their borrowing in the market raises the cost of capital to other borrowers, including the U.S. Government.

If, for example, the interest charged for U.S. debt held by the public were raised by as little as one basis point, it could mean $3 billion more in cost to taxpayers a year.

So any time we wander outside the square of the GSEs—that is, outside the boundaries of the institutions—certainly, there are benefits to be found, but there are, equally, costs to be found, neither of which have we incorporated in this study.

Mr. Chairman, there are many questions policymakers might ask:

Is large annual growth, especially of the portfolio, necessary to fulfill the mission of the charter?

Or could the same benefits be delivered to home buyers even if stakeholders receive less?

Or would the claimed benefits disappear if the subsidies were discontinued?

But let me conclude by repeating what you asked of us, what this study addresses. What is the value of the subsidy of the GSEs because of their affiliation with the Federal Government? And who gets it?

Our estimates are, of course, not perfect and subject to uncertainty, but I believe the preponderance of criticism of this study I have seen thus far, whether intentional or not, is largely irrelevant.

Where our assumptions can be questioned, I am comfortable we have erred more on the side of conservatism, that we have likely understated the value of the subsidy and overstated the benefits of the GSEs.

It is not surprising the GSEs and their consultants reach the opposite conclusion.

With that, Mr. Chairman, I will conclude.

Thank you.

[The prepared statement of Hon. Dan L. Crippen can be found on page 64 in the appendix.]

Chairman BAKER. Thank you very much, Mr. Crippen, for that summary and analysis.

I would like to start with the process questions. It would appear in the view of some that yourself and the two principal researchers are the ones who generated the information contained in the report presented today.

For the record, it is my understanding that there were 13 team members within the CBO beyond the two principal researchers that you introduced to the subcommittee this morning.

By the way, Dr. Phaup, for the record, and restating, happens to be a Fulbright Scholar, and Dr. Lucas, a professor at Northwestern in matters relating to the operations of the enterprises, appears to me to be eminently qualified to make observations about the GSEs.

Were they insufficient in their skill or reach of subject matter, then there are additionally 13 individuals who are listed in the preface of the report I would direct the Members to within the CBO who were consulted.

In addition to that, 9 outside Federal agencies, including the Office of Federal Housing Enterprise Oversight of HUD, the Depart-

ment of the Treasury, the Federal Reserve Board, the Federal Reserve Bank of Minneapolis, the General Accounting Office, and the Congressional Research Service.

So we now are out to nine outside agencies. I have no idea how many people that represents.

Beyond that, I am advised that you had a contract with Ambrose & Warga, which was a report prepared to help you analyze the methodology of the report finding.

Beyond that, I understand your general rules of operation do not provide for the disclosure of the academicians who conducted the peer review, but for our purposes can you at least give us some generic description and number of individuals involved in that peer review process?

Mr. CRIPPEN. I believe, Mr. Chairman, in this case there were four. The folks we use for most studies, and for this one as well, are economists who specialize in public finance. Many of them, including several in this panel, have served in Government, are academicians. But also in this case, because of the subject matter, we submitted the study to some Wall Street folks to look at, particularly with the question, is this an appropriate methodology?

Chairman BAKER. And how many of those people would you guess are firms?

Mr. CRIPPEN. Two in this case. I mean, we did not ask that the outside reviewers, or even the agency reviewers, endorse the result, and I do not want to imply that they did so. But they did not question the methodology. They endorsed the general approach. And, of course, there are assumptions in here that we have made, and they are our assumptions, not somebody else's.

Chairman BAKER. Let me interrupt and restate.

Those who criticized the findings of the report were a minimal number of people inside the CBO who do not understand GSE business operations, who have made unsupported claims resulting in a methodology that is not an accurate reflection of the value, and to which I respond there were 13 individuals in the CBO, 9 outside agencies, 4 academicians involved in peer review, 2 Wall Street firms, and a consultant, all who colluded to ignore the facts.

I merely point out by way of information—and I know you are comfortable with this, or otherwise I would not say it—that in a former life you also were a consultant for one of the GSEs and perhaps have some modest insight into their business operations, as well.

I make these points because the first challenge to the finding is that the CBO Report is without merit. That is ludicrous. This is a professionally generated document based on data provided to you by the GSEs.

Is that correct, as well?

Mr. CRIPPEN. There is certainly some data, both publicly available and otherwise, that we have used. I would not say that they provided us with the data that led to the results. But, yes, we have used a fair amount of their data in making our assumptions and analysis.

Chairman BAKER. In skimming over the list, staff of Fannie Mae and Freddie Mac are also cited as sources of information. From that, I concluded that it must be data, historic performance data,

or something that they provided to you in order to facilitate your observations.

Mr. CRIPPEN. Yes.

Chairman BAKER. That is correct?

Mr. CRIPPEN. Yes.

Chairman BAKER. I also requested this study last July. And for those who think there is some reason that is insidious in the request, I can provide any Member who chooses a copy of the correspondence from Chairman Greenspan, who I also happen to think is a fairly substantive person on matters of finance, suggesting to me that I request an update of the subsidy value in light of changing market conditions.

So the genesis of the update was Alan Greenspan. I wrote the letter in July. You have taken 10 months to respond, to my great frustration, and I have now learned that the reason for the delay is to ensure that the methodology to reach the conclusions was thoroughly vetted with professionals across a broad spectrum of financial participation.

I just think it important in the court of public opinion to establish that this is a decent report that reached reasonable conclusions, and that it is not an aberrant finding based upon the facts as we know them.

Mr. CRIPPEN. As you probably know, Mr. Chairman, I have thanked Chairman Greenspan for this opportunity.

Chairman BAKER. I am confident that every member of your staff has had a very enjoyable 10 months.

Mr. CRIPPEN. Thank you.

Chairman BAKER. I would like to turn to Appendix A. For Members, that follows page 30. It is an unnumbered page, the first page in the appendices, in which Fannie and Freddie and their contractors have suggested that the CBO focus on a different question.

Now mind you, the opening line is "The current study revisits those same issues" raised in the 1996 subsidy study, as requested by Chairman Baker.

I am to understand from reading this that the GSE's first response as a criticism of your report is that CBO should not answer the question that I asked.

I find that a bit amusing. It seems that the Congressional Budget Office should work for the Congress and, upon a finding by a committee that inquiry is warranted, you should perhaps respond to the question that is posed.

I commend you for your bravery.

CBO believes that the questions addressed in its studies not only reflect the questions asked by the Congress, but are also a better way to look at the benefits provided by the Federal Government.

Now I am reading from the appendices which are provided as a response by the GSEs to somehow balance more appropriately the view presented by CBO in the study. And I just realized I have exceeded my time by a couple of minutes, Mr. Crippen. I will be back.

Mr. Kanjorski.

Mr. KANJORSKI. I guess, first and foremost, we are dealing with approximately $10.6 billion in subsidies? Is that correct?

Mr. CRIPPEN. For the?

Mr. KANJORSKI. That is for the year 2000?

Mr. CRIPPEN. For Fannie and Freddie.

Mr. KANJORSKI. And the prior subsidies that these GSEs received in your prior report was what?

Mr. CRIPPEN. The prior report ended with 1995.

Using the current methodology, we have, in Table 1, the 1995 through 2000 results, and in 1995, $3.2 billion plus $2 billion—$5.3 billion. Did I do that right?

Mr. KANJORSKI. So it is approximately——

Mr. CRIPPEN. About half.

Mr. KANJORSKI. Half?

Mr. CRIPPEN. Yes.

Mr. KANJORSKI. And the growth of business in the secondary mortgage market between 1995 and 2000 was approximately what?

Mr. CRIPPEN. Well, for the conforming fixed-rate market, it was less than that. Over the last few years, Fannie and Freddie have, between issuance of debt and the MBSs that they guarantee, actually financed more than the number of new mortgages in the conforming market. In fact, I think we have a little poster here, if you would like to see it graphically.

[The chart referred to can be found on page 76 in the appendix.]

Mr. KANJORSKI. The overall growth, as I understand it, was somewhere around 80 percent growth from 1995 to 2000? Is that correct?

Mr. CRIPPEN. What we have tried to do here is look at the relevant market for the GSEs, which is that market that they can play in, the conforming market.

And of that, over this time period, you can see the growth in the market overall, which is the left blue bar, and the right side of each comparison is the amount of debt and MBSs issued each year by the GSEs.

So if the subsidy doubled, the relevant market here looks like it did not grow quite as much.

Mr. KANJORSKI. How much did it grow?

Mr. CRIPPEN. I do not know. I will have to——

Mr. KANJORSKI. Could you give me a rough estimate, percentagewise? Was it 60 or 70 percent?

Mr. CRIPPEN. That is a good number for now. I am sure someone behind me will correct both of us here before too long.

Mr. KANJORSKI. So, in arguably the largest economic boom in the history of the United States, with a mortgage market growing somewhere between 60 or 70 percent, that portion handled by the GSEs, their subsidies have grown approximately 100 percent? Is that a fair statement?

Mr. CRIPPEN. Yes. That is fair.

Mr. KANJORSKI. Is that shocking?

Mr. CRIPPEN. I am not shocked, no.

Mr. KANJORSKI. If we did not have the GSEs, if we suspended them today, do you have any opinion as to what the actual cost would have been either to the Federal Government to provide the subsidies to drive this type of a housing market, or what the loss to home ownership would have been?

Mr. CRIPPEN. Well, if you believe our estimates, the cost would be something like $7 billion because that was what was actually passed through to mortgage borrowers. So if we directly subsidized

the same group of people, the same mortgage borrowers, we could effectively do it for $7 billion.

But that assumes the same kind of delivery and efficiency and lots of other things that the GSEs have, and I am not sure that is the case.

Mr. KANJORSKI. In your estimation, is there any other Government subsidy program that would be more efficient in the delivery of mortgages and the reduction of cost of mortgages for home ownership than the existing GSE system?

Mr. CRIPPEN. I am not sure there is one in existence. You could think of one that would involve direct provision of funds to buy down mortgages for these same mortgage borrowers.

Again, I do not know how that program would work, and you would have administrative costs, and I cannot tell you whether it would be as efficient or not. But at least in theory, one could provide the same amount of stimulus to the housing market—again, if you believe our estimates—for $7 billion.

Mr. KANJORSKI. Would that subsidy be provided by a Government entity or a private-sector entity?

Mr. CRIPPEN. Probably Government. You would substitute direct subsidies for indirect.

Mr. KANJORSKI. So, if we were to do away with the GSEs, we would basically bring the Government into a very strong and positive position in this field. Is that correct?

Mr. CRIPPEN. That would be one way to substitute Government for the GSEs, and, as you suggested, perhaps have some efficiencies. But I think the situation we need to keep in mind, too, is not a market with or without Freddie and Fannie: the question is whether they operate with or without subsidies.

They would still exist, presumably, although they might not have gotten started. But they would still exist today in some form even without subsidies. And the question, the relevant question for us, the baseline question is, what would happen if they did not have subsidies?

How many of these benefits would go away?

Mr. KANJORSKI. I understand their subsidies are a result of their preferential interest rate received in the marketplace because of the presumption that they are Government backed.

Mr. CRIPPEN. Right.

Mr. KANJORSKI. How could we deny them whatever the misperception of the market is that they are Government supported?

Mr. CRIPPEN. Well, I am assuming that—and to the extent it is true, and we believe it is—they have an advantage because of this perception and that there are ways that the Federal Government could cut the ties to make it clear there is no support. I mean, this misperception could be corrected.

Mr. KANJORSKI. Is there a stronger way to do that than including in a disclaimer in agency documents that they do not have the full faith and support of the Federal Government? I mean, what more could they do? Take out billboards or something?

Mr. CRIPPEN. Well, you could deny them the access to the Treasury they have now and the benefits of exemptions from State and

local taxation. There are lots of ties here that one could cut that would change the nature of the beast.

Mr. KANJORSKI. I understand that. But, the reality of where their subsidy comes from is the perception of the marketplace that they are Government supported, is it not?

Mr. CRIPPEN. Yes.

Mr. KANJORSKI. I mean outside of their connection with the Treasury or anything.

Mr. CRIPPEN. The Federal Government effectively is perceived to be backing this debt.

Mr. KANJORSKI. I guess what I am getting at is, tell me what the problem is that we are trying to solve here.

Mr. CRIPPEN. I am not sure, Mr. Kanjorski. We were asked to look at what the subsidies are and where they go, and that is what we have tried to do here.

We have not been asked, nor would we, I think, be able to opine much about what the alternatives are, other than in a kind of a theoretical way.

I do not know what problem the subcommittee is trying to address, but we have been asked to try and quantify these indirect subsidies and try and figure out where they go, and that is what we have given our best effort to do.

Mr. KANJORSKI. Well, I am all for oversight of the GSEs by Congress and for having hearings, and we have had a number of them, but I am still trying to define a problem. Can you help me with that? Is there a problem of inefficiency or ineffectiveness? Are we lacking something in providing the most efficient price for home ownership in the United States? Is there something we could be doing better than we are doing?

Mr. CRIPPEN. Well, again, we were not asked what the possible problems are. I mean, there are certainly public policy issues here that you have, as you say, legitimate oversight over whether it is the risk of default by the GSEs and what you would have to do, whether it is market distortion, whether there are other ways you would like to give a subsidy.

The point is that it is up to you to look at the subsidy the Congress has granted and see where it is going and decide whether that is appropriate or not.

We are not in the business of saying what is appropriate or what should happen. Frankly, that is your oversight role, and we were not asked if there was a problem. We were asked to measure these two phenomena.

Mr. KANJORSKI. I understand you were not that question. But, having made this indepth study, have you found a problem?

Mr. CRIPPEN. We did not look for a problem so we could not have found one.

Chairman BAKER. Thank you, Mr. Kanjorski.

Mr. Ney.

Mr. NEY. Thank you, Mr. Chairman.

I wanted to ask you a question about the calculation. I understand that the CBO calculated Fannie Mae and Freddie Mac's funding advantage for long-term debt to be worth 47 basis points, right?

Mr. CRIPPEN. Right.

Mr. NEY. In the calculation. Thanks.

Fannie Mae and Freddie Mac, as we had read, objected to this debt rating which you believe that they would be given absent their Government charter, if they did not have the Government charter that would be their debt rating?

Mr. CRIPPEN. That was assigned to them by the debt rating agencies, not us. The AA-minus was an assessment of the GSEs' risk to the Government.

As with many debt ratings, it is a pretty theoretical exercise. It is not unlike the equivalent of saying, if I had wheels, I would be a truck. I do not know how accurate the AA-minus rating is, but we take that. We understand that is the rating they have been given.

It is, of course, a bit ironic that for a long time, the GSEs did not want to be rated, and now we are putting a lot of stock into the precision of the rating. But I understand and I accept the criticism. There are not many AA-rated firms in the world. And so it is hard to make a strict comparison between private and public.

We have done that. We have acknowledged that there may be some overstatement, albeit slight, of the subsidy given that, but there are lots of things on the other side that may have caused us to understate the subsidy.

Mr. NEY. Or AA-minus with their rating.

I wanted to ask about the 71 comparison firms that were used. Many had an A rating.

Mr. CRIPPEN. Right.

Mr. NEY. And it was compared to the AA-minus rating. That is the thrust of my question. You know where I am coming from. Is that a real good way to compare 71, maybe 8 had AA, but comparing 71 with A to Fannie and Freddie with AA-minuses. Is that a good way to compare it is my question.

Mr. CRIPPEN. It is not an ideal way. I mean, if there were more AA firms in the world, we would use exclusively AAs. But having a comparison group of 8 AA firms does not give you much information, either.

Statistically speaking, it is not nearly enough to do anything that you could measure. But there are not enough AAs to make an accurate computation here.

Mr. NEY. So I wonder what the debt comparison would be if you took the 71 firms, take the 60-some out, and you compare only to AA, I wonder what the debt rating would be. That was not done, but I wonder what that would be?

Mr. CRIPPEN. It would clearly show less subsidy. I do not know what the number would be——

Mr. NEY. Do you think that would be a fairer way to do it? Or is that too small of a sample?

Mr. CRIPPEN. It is too small of a sample. It would be much less accurate.

Mr. NEY. But the other sample, though, is too large, in a way.

Mr. CRIPPEN. Well, it is the closest we could get and have a sample that is large enough to draw some inferences from.

We have done some—and you will see in the report—two or three sensitivity analyses to say, if you changed the subsidy estimates up or down, if you changed the spread estimates up or down, what

would the effect be? And the net result, frankly, is the picture is roughly the same.

Now, clearly, if you take the extremes of all assumptions on one side or the other, you can turn the result. But under various assumptions, you still get the picture that we present here, which is there are subsidies—which I do not think anybody disagrees with—and that roughly two-thirds of them consistently are passed through to mortgage borrowers.

Mr. NEY. It is just issues raised of should it be compared to AA only and one sample is too small, and one is too large, so you start to wonder where the midpoint is.

Mr. CRIPPEN. Sure. Well, we have done, for example, a weighted average, giving 50 percent to the AA firms and 50 percent to the A firms; and this would change the calculation by about 6 basis points.

Mr. NEY. About six?

Mr. CRIPPEN. So the result does change, certainly. But as I said, there are things on the other side of this equation, assumptions we have made that actually reduce the subsidy estimates.

A number of these assumptions we have had to make because of a lack of data, and we hopefully made them even-handedly. But this is clearly an assumption one could question.

Mr. NEY. Looking at low-income home buyers, my district, like a lot of areas, has a lot of low-income home buyers. You have got now two CBO studies in the last 5 years confirming, of course, due to their status, Fannie and Freddie are Government-sponsored entities and have a certain amount of subsidy.

Based on your research, does research tend to say what Fannie and Freddie may do in targeting to low- and moderate-income? Or does the research not touch that issue?

Mr. CRIPPEN. Not directly. We look at what goes through to conforming mortgages. But the quantity of any of those targeted subsidies would be quite small.

Mr. NEY. I want to ask one quick—my time has expired. Thank you.

Chairman BAKER. Thank you, Mr. Ney.

Mr. Bentsen?

Mr. BENTSEN. Thank you, Mr. Chairman..

Mr. Crippen, in your assumptions do you assume—do you assume in the retained subsidy, is there a loan loss component of that——

Chairman BAKER. Mr. Bentsen, we need you to pull your mike a little closer. We cannot hear you.

Mr. BENTSEN. In the retained subsidy, do you assume a loan-loss reserve, or some risk reserve?

Mr. CRIPPEN. No. We do not take the calculation any further than to say this is the total value of the subsidy. This is the apparent amount that gets passed through to mortgage holders.

And, because the GSEs are so severely limited in what they can invest in and in which kind of mortgages they can buy, we assume the rest is retained by the GSEs to do whatever they need to do, whether it is to build capital or pay taxes.

The amount retained could be used for any number of things. We have not looked at what they do with whatever it is they retain.

Mr. BENTSEN. So, but any comparable loan-loss reserve of a private MBS, let's say, or a remake, or whatever would be assumed to be within the retained subsidy.

Mr. CRIPPEN. Yes.

Mr. BENTSEN. And I apologize, because I am just reading the report right now because I just saw it this morning. You assume a 7-year average life on the mortgage portfolio, I think, in terms of prepayment. But you also assume an ever-growing portfolio.

The income off a portfolio is, of course, the spread between the purchased mortgage rate and the borrowing costs, and then you net out everything else.

You assume a constant 47 basis point average of the spread on borrowing costs over the comparable market.

Mr. CRIPPEN. On long-term. The combined long/short subsidy is 41 basis points.

Mr. BENTSEN. Does your prepayment factor then assume just a constant prepayment, and thus the spread for retained earnings is assumed always to be the same going forward?

Mr. CRIPPEN. The spread for retained subsidy is constant, yes.

Mr. BENTSEN. The spread, right.

Mr. CRIPPEN. Yes.

Mr. BENTSEN. Let me shift gears for a second.

The $3.9 billion subsidy you assume for 2000 works out as sort of a leverage factor. I mean, you are getting about $6 billion in benefits out of leveraging about $3.9 billion of subsidy. Out of that $3.9 billion is $1.2 billion of fees and taxes that might otherwise be paid if it were a fully private entity.

Can you tell me whether or not—I guess what I am trying to figure out is how would you compare this to anything else? And if you try and do a quantitative comparison and you say, OK, well the Government is just going to take $1.2 billion in direct appropriation in fiscal year 2000, would we be able to leverage that amount of benefit in the mortgage market and reach that many beneficiaries?

Mr. CRIPPEN. With $1.2 billion, my guess is no. Obviously, it depends on the kind of program. But, again, if you believe the nature of these kinds of estimates, the $3.9 billion of retained subsidy in 2000 would in theory be available. You could use that to target more mortgages and buy down the mortgage rate more than 25 basis points, or expand the benefit over more mortgages.

Mr. BENTSEN. Of the $3.9, how much of that is paid to shareholders versus operations costs?

Mr. CRIPPEN. We do not know for sure. Again, we have not tried to say what happens to the subsidies other than that they go to mortgage holders or they are retained. After that, we do not imply that the entire amount goes to earnings, or that all of it goes to shareholders. It is retained by the GSEs, and it may show up in any number of places.

Mr. BENTSEN. But the amount going to leverage itself, the amount going to shareholders itself, would that be considered a form of leverage as well in order to expand the volume——

Mr. CRIPPEN. Well, the amount going to shareholders is very high, if you take stock appreciation into account. So I am not sure that the leverage notion would give you a very good picture.

We can show you comparing——

Mr. BENTSEN. Well, I guess my time is up, and hopefully we will have a second round, but I guess the point I would make is, in order to raise capital in the public markets, you obviously have to show the shareholders you are going to give them the return on equity.

Mr. CRIPPEN. I agree.

Mr. BENTSEN. So I will wait for a second round.

Thank you, Mr. Chairman.

Chairman BAKER. Thank you, Mr. Bentsen.

Mr. Shays.

Mr. SHAYS. Thank you.

Mr. Crippen, it is nice to have you—on this side, Mr. Crippen. Right here. Thank you.

Mr. CRIPPEN. Yes. I am with you.

Mr. SHAYS. I first want to know if you stand by your report.

Mr. CRIPPEN. Yes.

Mr. SHAYS. You are comfortable with this report? You feel that the criticisms have answers, and so on. So you are not backing off this report at all?

Mr. CRIPPEN. No.

Mr. SHAYS. Thank you. It strikes me that the two basic issues are:

Are they passing on the subsidies and the tax regulatory exemptions to the consumer?

And are they using—the other issue that I am interested in is, are they using their competitive advantage in an unfair way to gain business at the expense of the private sector?

Those are the two issues that I am very interested in.

On page 1, the Federal subsidy comes to basically, in 1995 it was $6.8 billion, in 1995, to $15.6 billion, the line of credit.

Why would the GSEs not consider that a subsidy? I mean I do not understand the logic. It is a line of credit available to them that is not available to the private sector.

Mr. CRIPPEN. I cannot make their case for them. The essence of the argument is there are no Federal tax dollars. There are no direct payments. There are no dollars involved.

Mr. SHAYS. Because we are not spending, they say therefore it is not a subsidy. But we are giving tax credits; correct?

Mr. CRIPPEN. Not tax credits, but they are, we believe, enjoying an advantage in the cost of capital because of the implied——

Mr. SHAYS. Yes. Exactly.

OK, on page 14 you say the housing GSEs receive two distinct related benefits from the Government. First, the number of regulatory and tax exemptions reduce the GSEs operating costs. And you stand by that?

Mr. CRIPPEN. Yes.

Mr. SHAYS. And second, Federal backing enhances the perceived credit quality of debt issue and mortgage-backed securities guaranteed by the GSEs.

The perception is, we in Congress—and that perception would be right—will be there to back it up.

Mr. CRIPPEN. Yes.

Mr. SHAYS. So when you say "perceived," I mean, while it is not in law we are going to be there. And that has to be a huge benefit.

Mr. CRIPPEN. We agree with you.

Mr. SHAYS. So let me just ask. In your report, do you form a conclusion as to whether the subsidy that they receive through the line of credit and the tax and regulatory exemptions, do you put a quantified number as to how much they pass on the consumer, and how much ultimately accrues to the stockholders, or the GSEs?

Mr. CRIPPEN. Yes. Those are the two questions the Chairman asked us to address.

Mr. SHAYS. And tell me specifically what they are?

Mr. CRIPPEN. Well, for 2000, the total for all of GSEs was $13.6 billion in estimated subsidies, of which about $7 billion got passed through.

Mr. SHAYS. So for a percent?

Mr. CRIPPEN. A little over half here. In the case of both Freddie and Fannie, however, if you took just those two, the proportion passed through is closer to two-thirds. It is 70 percent.

Mr. SHAYS. So basically, the benefit is about a third to them that they do not pass on to the consumer.

Mr. CRIPPEN. By our estimates, yes, they retain about a third of the implied subsidy, the value of it.

Chairman BAKER. Mr. Crippen, excuse me, just for the sake of the record, I believe the figure cited is 37 percent. Is that correct?

Mr. CRIPPEN. Thirty-seven?

Chairman BAKER. Yes.

Mr. CRIPPEN. Yes.

Chairman BAKER. Thank you.

Mr. SHAYS. And my apologies, I got a little lost in your answer to him. I know he answered it, but I did not understand it.

Mr. Chairman, I am all set. Thank you.

Chairman BAKER. Thank you, Mr. Shays. I just wanted to clear the record on the point of the 37 percent. Is that attributable to pass-through to shareholders on Fannie and Freddie, and is there a different calculus for the Federal Home Loan Banks?

Thank you.

Mr. Sandlin.

Mr. SHAYS. Excuse me. What is it for the Home Loan Bank?

Mr. CRIPPEN. It is a little harder to tell, because all of the loans that the Federal Home Loan Banks make, the advances as they are called in this case, to member institutions.

In the old days, it was a little easier to tell, because member institutions were almost all S&Ls. That is no longer the case. There are many banks and other basic financial institutions that can borrow or get advances from Home Loan Banks.

We looked at all of those institutions as best we could and determined that they are not much into the fixed-rate conforming mortgage market that Fannie and Freddie are in; the market accounts for about 15 percent of their assets.

So, we calculate that a small amount of what they get as subsidy gets passed through to conforming borrowers. So it is a much smaller amount.

Mr. SHAYS. Is that a "yes" or a "no"? The bottom line is, it is lower than 37?

Mr. CRIPPEN. For all three, yes. For Fannie, Freddie, and the Federal Home Loan Banks.

Chairman BAKER. Mr. Sandlin.

Mr. SANDLIN. Thank you, Mr. Chairman, and thank you, Mr. Crippen, for being here this morning.

I wanted to ask you some questions along the same line as my friend Mr. Ney about the funding advantages to Fannie Mae and Freddie Mac.

Now you indicated in your testimony that the methodology used was not an ideal way to do it. You said there was not enough data to do it accurately; that you had to make some assumptions due to a lack of data.

It appears to me that one way to do that would be to run the numbers and exclude the As and A-minuses. Would that not be one way to try to compare?

Mr. CRIPPEN. It would be if we had enough AA firms in the world to measure against, but we have, I think, only 8 in this group. There are not many AA firms. Firms either tend to be AAA—and there are not many of those—or A, because they have a riskier portfolio than Fannie and Freddie.

Mr. SANDLIN. But if you excluded—one way to look at that is to try to get an accurate idea would be to run the numbers, exclude the As and A-minuses, and compare them to what you have. I mean that would be a valuable piece of data, would it not?

Mr. CRIPPEN. We do not think eight firms in any class is enough to give you much of an indication.

Mr. SANDLIN. So you feel like you should use 71 firms and have only 8 that are comparable and get an inaccurate number, and that number that is inaccurate is OK. But a number to compare it to 8 firms that would be the same is not OK? Is that right?

Mr. CRIPPEN. That is one way to put it.

Mr. SANDLIN. That is what I thought. The numbers speak for themselves. That is what I thought you said.

Would it surprise you to learn that by doing it that way the advantage would be from 47 to 30? Would that surprise you?

Mr. CRIPPEN. It would not surprise me if you were using only 8 firms as comparators. That is not a good enough sample to compare to.

Mr. SANDLIN. OK. So if you use 8 firms to get to 30, that would not be good. But if you use 71 firms who are not comparable to get to 47, that would be good? Is that what you are saying?

Mr. CRIPPEN. No, what we are saying is there are not enough firms that are AA to reach any valid conclusions about those private-sector AA firms.

Mr. SANDLIN. So since there are not enough firms for any valid conclusions, then your conclusions of 47 are not valid? Is that correct?

Mr. CRIPPEN. No. I do not believe that is the case.

Mr. SANDLIN. You have heard of comparing apples to oranges, haven't you?

Mr. CRIPPEN. Yes.

Mr. SANDLIN. OK. Let me ask you about your share of short-term debt and long-term debt, what you have in the report.

I notice that the CBO assumes the share of short-term to be 20 percent, and 80 percent for long-term debt, using a debt measurement. Do you know what the actual reported weights for Freddie Mac and Fannie Mae were?

Mr. CRIPPEN. The actual reported weights? I am not sure I understand.

Mr. SANDLIN. Were they 40 percent and 60, as compared to 20 and 80?

Mr. CRIPPEN. Well, we assumed 20 and 80, because much or some good portion of the short-term debt is converted to long-term debt by engaging in synthetic derivatives. So the effective long-term debt is what is the right measure, not the amount or face value of short-term debt.

Mr. SANDLIN. So you think that using your assumptions is better than using the actual reported numbers?

Mr. CRIPPEN. I think the reported data is misleading.

Mr. SANDLIN. Oh, so the actual reported data is misleading, but your assumptions are on target?

Mr. CRIPPEN. Yes, the actual reported data on short-term debt is misleading.

Mr. SANDLIN. OK. I will say, this is all consistent. I will say that.

Now Fannie Mae and Freddie Mac have certain goals that they have to meet in affordable housing; right?

Mr. CRIPPEN. Right.

Mr. SANDLIN. Now do you place any value, any monetary value, on them reaching those goals and making that housing available?

Mr. CRIPPEN. Other than what gets passed through to conforming mortgage borrowers, no.

Mr. SANDLIN. But you would admit that is a value to the public? I mean, there is some value to getting that housing out there, isn't there?

Mr. CRIPPEN. Presumably.

Mr. SANDLIN. OK. I noticed last August that Chairman Greenspan wrote that the GSE subsidy effectively lowers the rates on all mortgages, not just those purchased by Fannie Mae and Freddie Mac.

Do you feel like that is so?

Mr. CRIPPEN. Well, certainly on all conforming mortgages that is pretty clearly so.

Mr. SANDLIN. OK. Then why does the CBO Report only measure the effects of the lower mortgage on loans that Fannie Mae and Freddie Mac purchase or guarantee, instead of attempting to measure the impact of the lower mortgage rates on all the conforming mortgages?

Mr. CRIPPEN. Because we were not asked. And, two, because we did not take into account any of the costs of Freddie and Fannie outside of their mortgage markets, either.

As I said, their activity in the debt markets likely raises funding and capital costs to everybody else, and it doesn't take much to have an impact. As I said, one basis point on Treasury debt alone is $3 billion a year.

Ms. JONES. Excuse me, would you slow down and talk in the mike?

Chairman BAKER. Ms. Jones, if you might, this is Mr. Sandlin's time.

Ms. JONES. I know, I just——

Chairman BAKER. Would you like to yield to the lady?

Mr. SANDLIN. I will yield to the lady.

Chairman BAKER. Ms. Jones, you are recognized.

Ms. JONES. I apologize. I wanted to be sure I heard what he said.

Mr. SANDLIN. If you could just repeat that part for us.

Mr. CRIPPEN. Sure. The question was why do we not take into account the broader range of benefits that are likely to accrue to other mortgages that Fannie and Freddie do not touch, or do not back, or do not bundle, or do not guarantee.

The answer is, there are both positive things that they may cause outside of their relevant market, or even outside those loans they touch, but there are also negative things that can happen because they are in the market.

I am not sure how the balance would come out. If you took all benefits and all costs, I do not know what the numbers would be, but we were precisely asked, what are the subsidies that go to these institutions worth, and how much do they pass through to the mortgages that they do handle?

So that is a more precise question in some ways, but we do not know the costs and benefits of the larger picture.

Chairman BAKER. Mr. Sandlin, your time has expired.

Mr. SANDLIN. My time has expired. Thank you for your questions. Thank you, Mr. Chairman.

Chairman BAKER. Mr. Paul.

Mr. PAUL. Thank you, Mr. Chairman.

Mr. Crippen, I want to ask a little bit about the special status that the GSEs have. It is assumed, I guess, that the special status comes in the implicit Federal guarantees, that is from the $2.5 billion line of credit to the Treasury which they have not used.

It seems like if we in the Congress do not deal with that, I do not know in my own mind how we can be fair to the private mortgage companies unless we deal with that subsidy which your report claims is a major part of the subsidies.

But, I want to ask about another subsidy which is almost explicit, or it actually is a direct subsidy that not too many people talk about. That has to do with the purchase of GSEs by the Federal Reserve.

Because, if a private company such as AT&T all of a sudden had their securities bought by the Federal Reserve, it would imply a big subsidy in that they would be guaranteeing these securities.

But, in the fall of 1999, because of the possible crisis with Y2K, the Fed said they did not have enough securities to buy, so they started buying GSEs in order to provide liquidity to the financial system.

But, they never backed off from that and they continue to do that. And even today they own over $20 billion worth, a lot more than an implied $2.5 billion. But this has sent a message around the world, and the other central banks of the world now own over $100 billion of the GSEs.

This is a tremendously important message sent out that the GSEs are something very, very special, and that the Fed will come to their rescue. They are not going to let this system collapse.

And we have to also realize as a Banking Committee, how do they buy GSE securities? The same way they buy Treasuries. They buy them with credit out of the clear blue, out of thin air. They just create it.

This has an inflationary impact. The Fed buys these GSE securities with new credit. The fact that you did not mention this, is this something you have not thought about? Or is this not a significant subsidy that is every bit, if not a whole lot more, important than a line of credit to the Treasury?

Mr. CRIPPEN. I have to confess, Mr. Paul, I have not thought a great deal about it. My colleagues may have. But it is not unusual in this sense:

GSE securities, certainly in the recent past, have been viewed—and presumably rightfully so—as very secure securities. They get counted in a different way for bank capital, for example. They get a superior position in the capital calculations.

So it is widely recognized that they are superior credit, and it is in large measure because they are treated and traded as agency debt, as backed by the Federal Government.

I am not sure that having the Fed buy Fannie Mae-guaranteed MBSs or other instruments says any more about that tie with the Federal Government than we have already seen.

No matter how that works, it would get measured by our method. That is to say, we are measuring the spread between Fannie and what we think is comparable private debt. So to the extent this Federal Reserve imprimatur was a factor, it would be in that spread.

Mr. PAUL. Thank you.

Chairman BAKER. By time of arrival, Ms. Jones, you are next. Ms. Jones is next, and you will be after Ms. Jones, Ms. Hooley.

Ms. Jones.

Ms. JONES. Thank you, Mr. Chairman.

Mr. Sandlin, as I said, just for the record if you would like some more time because I interrupted you, I would gladly yield some time to you.

Mr. SANDLIN. Thank you, no.

Ms. JONES. Mr. Crippen, I want to review some of your prior testimony. You said there were two questions you were asked to respond to. One, the value of the subsidy? Is that correct?

Mr. CRIPPEN. Correct.

Ms. JONES. And second, how that subsidy is distributed. Correct?

Mr. CRIPPEN. Right.

Ms. JONES. Define "value" for me, please.

Mr. CRIPPEN. How much it is worth to the institutions in lowered capital costs. They pay less in interest on long-term debt because they have the implied Federal guarantee.

Put another way, if these advantages that are granted in the charter and the perceived backing by the Federal Government were auctioned off in an open market, firms would be willing to pay for the exemptions and the lower interest rates.

So there is a value to these advantages that is fairly widely recognized that has to do with lower borrowing costs.

Ms. JONES. Now I believe in response to someone else's question you said that you did not calculate in value—maybe it was even Mr. Sandlin—the benefit, other than the lower mortgage cost to the public.

Is that correct?

Mr. CRIPPEN. That's correct.

Ms. JONES. Why not? If that is value. If it is included in value, it was not specifically said to you—did Mr. Baker define value as you just defined it in making the request for the value of the subsidy?

Mr. CRIPPEN. No.

Ms. JONES. So you just assumed in your decisionmaking that the value would not include the benefit to the general public of the work that Fannie and Freddie do?

Is that a fair statement?

Mr. CRIPPEN. It is fair with this caveat. We did not also consider any of the costs to the general public for Fannie and Freddie.

Ms. JONES. We are talking about value right now.

Mr. CRIPPEN. I understand.

Ms. JONES. We are talking about value.

Mr. CRIPPEN. OK.

Ms. JONES. And since you did not include that, and you did not include the cost, you cannot then say I did not include. Correct?

Mr. CRIPPEN. No, I am saying we did not include either.

Ms. JONES. But maybe you should have in order to, if you are really talking about the value to the public, or the diminishment of any value to the public, you should have included both of those things?

Mr. CRIPPEN. We probably should have—I mean, not should have, but we could have included——

Ms. JONES. What else didn't you think about, after having talked to other people about what value is in your decisionmaking with regard to this report?

Mr. CRIPPEN. We measured value the only way we thought we knew how, which was to compare what subsidized and non-subsidized debt issues look like, and in turn mortgages that are handled by these companies and mortgages that are not.

Ms. JONES. But, now that you have been given an opportunity to think that your thought was not what you should have thought, perhaps the value that you have given to the subsidy may need to be amended in some way?

Mr. CRIPPEN. Well, you are asking a different question than we were asked to address.

Ms. JONES. No. Huh-uh. I am not asking you to answer my questions and that way we will just get through my quick little 5 minutes.

Mr. CRIPPEN. All right.

Ms. JONES. Now that we have gotten past what you have defined "value" is, and you were also asked to understand how that was distributed. Correct?

Mr. CRIPPEN. Correct.

Ms. JONES. Now, did you take into consideration in the distribution the obligations that Fannie and Freddie have that all these other institutions who, if they could—I want to quote you correctly—others would be willing to pay for the advantages that Freddie and Fannie have to take their place in the market.

Did you include that in how the value was distributed?

Mr. CRIPPEN. No, we didn't. We do not have auction results at all. All I am suggesting is that there is a value to these advantages that others would pay for, that the subsidy exists.

Ms. JONES. What would they pay?

Mr. CRIPPEN. Presumably, they would pay billions of dollars. I mean, the point is there is a value in the market for these advantages. We think it is worth $13 or $14 billion currently.

Ms. JONES. But, I guess my dilemma, sir, is that you give us a report and you want us to take it at face value and say it has X amount of value, or importance. But then you—I hope I can find the right report—make a whole bunch of assumptions.

Let me find one. On page 7, I do not know what this is, the CBO Testimony, this one right here [indicating], whatever that is. It says "CBO assumes that the portion of the subsidy not passed through is retained by shareholders and other stakeholders."

You were pretty precise in the work that you were doing, right?

Mr. CRIPPEN. Yes.

Ms. JONES. So there should be no assumptions with regard to any dollars.

Mr. CRIPPEN. Well, we would say that the total subsidy was worth $14 billion in 2000. Is that your question?

Ms. JONES. No, my question is that you were precise in the work that you were doing, so there should be no assumption that the portion of the subsidy not passed through is retained by shareholders or stakeholders. You found that to be true.

Chairman BAKER. And, Ms. Jones, that needs to be your last question. Your time has expired.

Ms. JONES. Oh, fine.

Chairman BAKER. Please respond, sir.

Mr. CRIPPEN. May I respond?

Chairman BAKER. Yes.

Mr. CRIPPEN. The way that we did the calculation, Ms. Jones, was to look at what we thought was the total value of the subsidy, and then calculate how much of that went to the mortgage holders.

So, what was left was retained by the GSEs.

Ms. JONES. But, you assumed that. You did not find that to be fact.

Mr. CRIPPEN. We did not trace the dollars, no. So if you had $20 and we know you gave $15 of it away, we expect that you still have $5. And that is the way we did the calculation.

Ms. JONES. So if you were my tax accountant, they would take that from me?

Chairman BAKER. Ms. Jones.

Ms. JONES. I am sorry. I yield the balance—I do not have any time to yield.

Chairman BAKER. We will be back. We will be here as long as the people want to stay.

Mr. Bachus.

Mr. BACHUS. Thank you, Mr. Chairman.

Director, I want to commend you on the fine work that the Congressional Budget Office does, and for your attention to this matter.

Last year, Chairman Greenspan said that the GSE subsidy effectively lowers rates on all mortgages, all conforming mortgages?

Mr. CRIPPEN. All conforming mortgages in this fixed-rate market, yes.

Mr. BACHUS. Not just those purchased by Fannie Mae and Freddie Mac. Do you agree with that assessment?

Mr. CRIPPEN. Yes.

Mr. BACHUS. Does the CBO Report attempt to measure the impact of lower mortgage rates on all conforming mortgages and not just on those mortgages that Fannie Mae and Freddie Mac buy or securitize?

Mr. CRIPPEN. No. As I said, we did not try to estimate benefits outside of those mortgages that Fannie and Freddie actually deal with, which turn out, we think, to be about 70 percent of the stock of conforming mortgages. So there are not many others left that would be affected anyway.

But there certainly can be positive effects on other mortgages that they do not handle. But there are also costs in the capital markets because of their presence.

We did not try to do a cost/benefit analysis of the existence of GSEs. We looked more at, what is the value of the subsidy, and what happens to it?

Mr. BACHUS. Could you assess that benefit, that additional benefit, in that what we are trying to determine here is public benefit, whether or not it is a direct benefit that flows through or a secondary benefit?

Mr. CRIPPEN. Probably, but we then would have to start calculating direct costs, as well. Asking, for example, how much do borrowing rates on Treasuries go up because of the participation of the debt markets?

So there are two sides to this broader consideration of the benefits and the costs. I do not know if I am being responsive, but yes, we could figure out, I think, what the extra effect is on conforming mortgages that are not handled by Freddie and Fannie.

We believe those are about 30 percent of the market. So they are a small, relatively small, number. But, even if there are advantages there—and we think there are, the mortgage rates are lower—there are also costs that occur on the other side of the ledger that are not attributed to this analysis, either.

So it would be inappropriate, if you will, to say, yes, there are other benefits—go measure them—but, ignore that there are other costs, and not measure those.

Mr. BACHUS. Mr. Chairman, I have been summoned to the Judiciary for a vote. I would like to reserve the balance of my time, if I could.

Chairman BAKER. When you return, Mr. Bachus, we would be happy to recognize you. I have a suspicion we are going to be here.

Mr. BACHUS. Thank you.

Chairman BAKER. Thank you, Mr. Bachus.

Ms. Hooley.

Ms. HOOLEY. Yes, thank you, Mr. Chair.

I just want to follow up on some of the things that a couple other people have talked about. That is, in this report did you measure as you developed the report, did you measure the benefit to the consumer that Fannie and Freddie have to meet the statutory affordable housing goals?

Did you measure that impact to the consumer?

Mr. CRIPPEN. Not directly, no. We measured the lower mortgage costs on conforming mortgages as being the primary source of the benefit that Fannie and Freddie pass through, with literally billions of dollars.

Ms. HOOLEY. Do you think the GSEs are achieving their Congressional intended purpose of making housing more affordable?

Mr. CRIPPEN. We are not in a position to evaluate if they are achieving their objectives. Certainly, the conforming mortgage market enjoys a lower interest rate on mortgages than would be without them.

So, yes, there is a benefit for that market, certainly. They make the housing in that market more affordable.

Ms. HOOLEY. Not only for their mortgages, but for those that are not under Freddie and Fannie, right? Those are lower too? Was that number—did you come up with a number for that?

Mr. CRIPPEN. No, we didn't. Again, there are potential benefits that the GSEs have outside of the mortgages that they finance. But there are also costs outside in the capital markets.

So we did not take either of those into account in part because the Chairman did not ask us those questions but, more importantly, because that analysis would have been very difficult. It gets even murkier, of course, as you go outside.

Here is the value of the subsidies based on the amount of debt issued, and here is the value to the mortgage borrowers of the reduced interest rates.

To go well beyond that, to say there are other effects in the capital markets: Other conforming mortgages probably have lower interest rates. But Treasury debt, U.S. Treasury debt, probably has higher interest rates because of the activity of borrowing close to $300 billion in the capital markets.

So there are positives and negatives outside those mortgages that Fannie holds. But the benefits are not ones that they pay for. I mean, they do not use the subsidy for those benefits, and the costs are not ones that they are made to realize, either.

So, yes, this is a narrow question, but it is probably the right question in terms of the activities of the GSEs. And once you go to the larger issue of effects outside of the mortgages they handle, you have to start incorporating the costs in the capital markets as well.

And I am not sure that you would say, on balance, the benefits outweigh the costs. But we do not know.

Ms. HOOLEY. One of the things you did say, and I think at least with Freddie and Fannie that about two-thirds went back to the consumer for savings and the other third, at least you believe, goes to the shareholders and operation of Freddie and Fannie. Is that right?

Mr. CRIPPEN. Yes. We do not know where the other third went, I mean, in the sense of, as I have said——

Ms. HOOLEY. You think that is where it went?

Mr. CRIPPEN. We believe it was retained, but it could have been used to help pay Federal taxes, to create capital. I mean, there are lots of places it could have gone. We do not know.

We believe that a third of it was not passed through to the borrowers.

Ms. HOOLEY. How did you figure the number that was passed through? I mean, how did you come up with that number that was passed through?

Mr. CRIPPEN. We looked at mortgages that the GSEs can finance, the conforming mortgages. Largely, they participate in the 30-year fixed mortgage market. And by looking at mortgages next to that—that is, jumbo mortgages, which is the term for those mortgages just above the threshold limiting the size of mortgages that Fannie and Freddie can finance—versus the ones that Fannie and Freddie can finance, we observed a spread between the interest rates.

And those that the GSEs can finance have a lower interest rate. So that your mortgage bought with the help of the GSEs has about a quarter of a percent lower interest rate than if you had to buy a loan outside the range that they can finance.

So we measured the amount passed through by comparing loans that they can finance and do finance, and those just around those that they can, and the difference we assume they are passing through to mortgage borrowers.

Ms. HOOLEY. Is that an unusual number? I mean, if you compare that to some other business or company, would that be an unusual number, that when they pass this much money down, this much money is retained for shareholders, operations, whatever?

Mr. CRIPPEN. I don't know. I mean, this is in some sense a difficult calculation. Because you cannot watch dollars move around, you have to make comparisons about the activities of these entities in the debt markets that they borrow in and in the mortgage markets that they participate in, and assume that differences between those entities and ones that are as close to them as we can measure, are due to the GSEs special status.

So we do not know of any other similarly-subsidized company—I mean, these are very unique operations. I do not think there are other entities about which we could perform this calculation and have a comparison—but it is certainly not surprising, I think, as several of the Members on both sides have said today, that some of the advantage, the borrowing advantage, would be used, for example, to pay shareholders. I mean that is part of the deal here.

These are quasi-private organizations that have shareholders who expect a return. So that activity is not a surprise.

Ms. HOOLEY. So that is not a number that you would be alarmed at or surprised by?

Mr. CRIPPEN. I do not have a basis to be either alarmed or surprised. But it is certainly not surprising that some retained subsidy would have to go to shareholders to keep them interested in the company.

Ms. HOOLEY. Thank you.

Chairman BAKER. Thank you, Ms. Hooley.

Mr. Ose.

Mr. OSE. Thank you, Mr. Chairman.

Mr. Crippen, I want to make sure I understand here. It sounds to me like we are discussing the quantified value that accrues to the GSEs by virtue of having one credit rating versus another credit rating when they go to market to get their fundamental product, which is money.

Mr. CRIPPEN. They do not really have a credit rating in the market. The AA-minus that the credit agencies have given them, or based their evaluations on, would be. But, that is counterfactual. Of course, they do have that relationship.

And so it is not necessarily true that AA-minus is the right comparator. But the point is, what we are trying to measure is the affiliation with the Federal Government,whether it is worth anything?

And the method that we used to answer that was to ask the following: Do they get a lower cost of capital in the debt markets?

Do investors buy Fannie Mae debt at a lower interest rate than they would buy that of a similarly-situated private firm?

The answer is, yes, there is a spread.

Now we can and should debate: is that the right measure? And if so, is that the right quantity? But that is how we measure the subsidy, comparing the GSEs to non-subsidized firms and assuming the difference is due to the Federal relationship.

Mr. OSE. The implicit guarantee.

Mr. CRIPPEN. Yes. That, plus there are other subsidies; namely, the GSEs do not have to pay SEC fees, do not pay State and local taxes—that kind of stuff.

Mr. OSE. Is there any reason why the Federal Government could not provide an implicit guarantee of the nature it has given to the GSEs to some of the other industrial companies that we have around this country?

Mr. CRIPPEN. Some would argue we already do in some limited cases. There is no reason you couldn't do it. But every time you grant another subsidy, you are creating, of course, as we economists would say, a distortion in the market, not letting the market allocate capital.

But more importantly, you are also going to raise the cost of capital to everyone else, including the Federal Government. So U.S. debt will be more expensive because you have other entities out with an advantage in borrowing.

Mr. OSE. One of the points in the letter that was sent to us—actually sent to Chairman Baker, signed by—well it is not signed, but it came apparently from Mitchell Delk, was that the basis of the study focused on noncomparables. In other words, the firms that were used as the test against which you measured the GSEs were not comparable.

Mr. CRIPPEN. Right.

Mr. OSE. Do you have any observations on that?

Mr. CRIPPEN. Strictly speaking, that is a fair observation. There were only eight AA firms in the sample that we used to measure the subsidy.

Chairman BAKER. Would the gentleman yield to me on that point?

Mr. OSE. Certainly.

Chairman BAKER. I understand Mr. Crippen's response, but in a direct answer to the AA-minus stand-alone rating, it is not stand-alone absent all Federal Government support. It is absent direct Federal dollars being injected into the corporation, not absent the other Federal relationships that exist.

The only statement we have that I have had access to as to the rating of Fannie Mae was done in the early 1990's by the Treasury Department as a true stand-alone. If they were to be viewed as a separate enterprise absent all Government relations, that rating came out to be a single A.

Now I am not suggesting today that that is an accurate reflection. What I am telling the gentleman is that the AA-minus rating is not a stand-alone absent the Government ties rating, and I think that is important for the record.

Mr. OSE. This is what I am trying to get at is whether the AA-minus includes the implicit guarantee, and you are telling me it does.

Chairman BAKER. Yes, sir.

Mr. OSE. It does not include Federal monies——

Chairman BAKER. Direct Federal appropriations.

Mr. OSE. OK, that is what I was trying to get at.

Now if we remove the implicit guarantee, what would the rating be?

Mr. CRIPPEN. I don't know. It would certainly be lower, but I do not know.

Chairman BAKER. Well, let me interject there for the record, in fairness to the GSEs, we do not know. They could well be rated AA-minus as a true stand-alone, but we do not know that.

So the criticism of the comparison that Mr. Crippen has made in using the 71 enterprises double A and single A is not without some merit.

Mr. CRIPPEN. And I think it is equally important to note that the difference is likely not going to be much. So, yes, there is a possibility of overstating the subsidy. But, as I have to keep reminding the subcommittee, I think, to be fair, there are some assumptions we made that would go the other way; if we had made them differently, they would have increased the value of the subsidy.

So we have made assumptions on both sides of this number, if you will, some that would make the number better for the GSEs, some that would make it worse.

So we can focus on one side, and in so doing, I think, leave a distorted impression of the value of the subsidy.

Mr. OSE. I appreciate the comments. What I am trying to get at is the continuing reason, if any, to extending the implicit guarantee.

So with that, Mr. Chairman, I see my time is up.

Chairman BAKER. I thank the gentleman.

I believe the next in time of arrival is Mr. Meeks.

Mr. MEEKS. Thank you, Mr. Chairman.

Let me first just ask a question. What was your basis points used to estimate the jumbo and conforming spread number? I was trying to find that in the report. I was not sure.

Mr. CRIPPEN. We made one adjustment to the spread, I think it was 22 before adjustment and 25 after. We made the adjustment because mortgage holders also receive a little subsidy through the Federal Home Loan Banks.

So that we conclude the difference between subsidized and unsubsidized borrowing for mortgages is about 25 basis points. That is the advantage that the GSEs pass through to mortgage holders.

Mr. MEEKS. OK, wouldn't you say that is a little low? Because in 1996, didn't you use a spread basis of 35 points?

Mr. CRIPPEN. We did. I can't tell you, because I didn't review that study as closely as I should have before I came—I would say that the data has changed considerably.

There was a different result, but there are a handful of studies, three, four, five studies that are fairly current—including one Dr. Phaup looked at just this morning—that suggest that a number in the low 20s is probably about right. The one this morning suggested 22 basis points or 23 basis points.

So more recent studies, independent academic studies, suggest the low 20s is probably about right, which is where we ended up as well independently. So, yes, we used 35 before. Is 22 exact? It could be 23. It could be 24. But we think we are probably pretty close.

Mr. MEEKS. Now in response to this [inaudible], I just wanted to know in value——

Chairman BAKER. Mr. Meeks, we are having a hard time hearing you.

Mr. MEEKS. I am sorry.

Chairman BAKER. That's all right, sir.

Mr. MEEKS. When my colleague, Stephanie Tubbs-Jones was talking about value, I just was wondering whether you considered at all as value Freddie Mac or Fannie Mae's charitable giving, which also includes home buyer education, which increases the opportunities for home ownership.

Was that considered at all as part of the value?

Mr. CRIPPEN. It did not get counted as part of what we say gets passed through to mortgage buyers. It would be part of what we estimate they retain.

So again, the 30-odd percent of the subsidy that we think they hold can go to any number of activities: it could go to charitable activities; it could go to paying taxes; it could go to building capital; it could end up anywhere. So it is not part of our calculation.

What we did was look at mortgages that they finance, and the interest rate on those, compared to mortgages they do not finance, or ones that are just outside their range. And so we attributed the benefit to mortgage holders, those people buying homes that Fannie and Freddie directly finance.

So there may be other things they do with the piece of subsidy that we believe they retain that are good things. It may well be. They may all be good things. We did not attempt to measure those, or look at them, or count them, other than to say they do not get passed through to mortgage holders.

Mr. MEEKS. So in other words, I think this is what you testified to before, you did not look at whether or not Fannie Mae and

Freddie Mac were accomplishing the mission that they had set out to by Congress?

Mr. CRIPPEN. We did not answer that question.

Mr. MEEKS. That wasn't considered at all.

Now in considering the market perception—and I understand that some say that there is an advantage because of the perception that the Federal Government will come in and save the day, if you will.

I am wondering, and considering that market perception of those Federal ties in calculating the subsidy, were there other financial firms in your study who might be receiving a similar type of subsidy by advertising to their customers, for example, their link to the Federal insurance by the FDIC or FSLIC?

Mr. CRIPPEN. Yes. I mean, it is entirely possible that Federal insurance of deposits is a subsidy to the banking system, not the GSEs. Not only were we not asked that question, but, more importantly, the deposits and the insurance on deposits are generally viewed as short-term assets. So banks are inclined to use them for short-term investments, not 30-year fixed mortgages.

And, indeed, the fact pattern suggests that. The GSEs do not deal much in ARMs, the adjustable rate mortgages, whereas banks are predominant in that market.

So they probably get a subsidy. It probably goes in part to holders of ARMs, but not to the 30-year fixed-rate mortgages that Fannie and Freddie tend to dominate in.

Mr. MEEKS. Finally, according to your study I believe the GSEs' lower cost of borrowing is based on market perception of Federal support and not legislation or any false advertising on the part of GSEs.

Doesn't this provide an advantage not only to the GSEs and its borrowers, but also to the primary lenders that they have mortgages, the mortgages that were purchased by the GSEs increasing liquidity for their investments as well as the economy as a whole by encouraging housing startups and making real estate more liquid?

Mr. CRIPPEN. Certainly, that was the objective. One of the primary objectives of establishing the GSEs was to create more liquidity in the mortgage market, and they do that.

The question, though, is, do they need a Federal subsidy, whatever that is, to create that liquidity?

If, for example, you took them today and removed the subsidy, they would still certainly be in existence and operate. Would there still be a liquid mortgage market? Probably there would.

Now, the rates would clearly be different. So the advantage of liquidity is certainly an objective. It is one that they have met. But there is no additional, if you will, benefit of the liquidity provided by these GSEs over liquidity in other markets.

I mean, the Treasury market is considered to be quite liquid, the Treasury debt, in part because it is big and because it has clearly Federal guarantees. It is good debt. For the same reasons, the GSE debt, which is large and has an implied guarantee, is liquid. But that is not something they created, if you will. It is inherent in the debt structure.

Chairman BAKER. Mr. Meeks, your time has expired, sir. Thank you.

Mr. Jones.

Mr. JONES. Mr. Chairman, thank you. I want to apologize. We have been in a classified closed hearing with Secretary Rumsfeld, so I was just able to get here.

I believe at this time I would like to yield to you, Mr. Chairman, my time.

Chairman BAKER. Well thank you, Mr. Jones. I appreciate your courtesy.

Mr. CRIPPEN. Is there anything you want to tell us before you start?

Chairman BAKER. I am sorry, that is confidential. And as we know, in this town nothing leaks.

[Laughter.]

Mr. JONES. You can read it in the paper tomorrow.

[Laughter.]

Mr. CRIPPEN. Well, that means I am going to be here tomorrow, which is really what my question had to do with.

Chairman BAKER. Although you may check the newspapers, I am sure there will be a story out in the morning about it.

There has been some concern raised by some Members as to whether there is a problem, and it is not necessarily a statement to which you need to respond, Mr. Crippen.

Clearly the significant growth of the GSEs in the marketplace with the intention to become a new financial benchmark domestically and internationally is probably a worthwhile thing for the GSEs to do from their perspective, but we should not sit idly by as since they are a governmentally-chartered enterprise and not understand fully the risk they may present to taxpayers should economic conditions deteriorate.

For example, there are about 8500 insured financial depository institutions of which in excess of 4100 by recent analysis have 100 to 500 percent of total capital invested in GSE securities.

Now I have been comforted by the knowledge that that is not 100 percent Fannies and Freddies. I was told, you know, it could be Farmer Macs.

So for that reason, I am sure there is no cause for concern. But should there be a downturn in housing demand and uptick in interest rates, one would worry about capital adequacy of financial institutions and potential impact on the deposit insurance fund.

That is one reason why I think we need to act with this caveat in mind. I have said it at every hearing. Today all the GSEs are very well managed. They are very profitable, and for the foreseeable future present no demonstrable risk to the American taxpayer.

However, we cannot ignore that business cycles are just that. And should we not prepare, given the fact that some have the view that the current regulatory structure is inadequate by virtue of its lack of funding on a comparable basis with other financial regulators? And the GSEs have alleged that this report is off the mark and is not understanding of their business model. We should perhaps analyze the need to have adequate regulatory oversight in order to adequately assess the business risk?

Therefore, the justification for this study.

Second, it has been asked whether or not others enjoy subsidies of comparable value.

I would point out that an FDIC insurance sticker on the front door is a premium assessed on the operational cost of that business enterprise to pay back depositors in the event of a closure of a failed institution. So it is a premium charged up front to pay off your death benefits.

The subsidy in question today is a subsidy given to the acquisition of the product, which is then subsequently resold in the market. So it is an up-front advantage going into the marketplace which generates a profit for shareholders.

There is nothing wrong with profit, but I think we ought to analyze it carefully when we recognize the profit is generated by a special governmental charter coming from the United States Congress.

Finally, there is a question and a line of defense used by some as to whether or not the subsidy really does, in fact, wind up in shareholder pockets. Let us put that aside for the moment and merely go at the question of mission compliance and the ability of the enterprises to meet the needs of low-income individuals.

I refer now to Freddie Mac Information Statement, March 30, 2001, page A-10. In my prior life in the real estate business, most people who were low-income individuals trying to buy a modest home generally had difficulty with a 10 percent downpayment.

Let's assume for the moment it is a $60,000 house. They have to come up with $6,000 down, plus closing costs, in Louisiana 3 percent, estimate about another $1800, total $67,800 required to have a 90 percent loan.

Now that usually requires PMI and other charges related to the assumption of risk, because the person does not have a conforming loan, which we have talked about today. There is a maximum of a $275,000 for an 80-percent-of-value loan.

When we look at the way in which the distribution of loan portfolios is assembled, again referencing this data, on the original loan-to-value ratio range we find that those individuals paying less than 5 percent down—in other words, in the portfolio, how many folks have higher than 95 percent loans or even let's go to higher than 90 percent. Let's assume that poor folks can come up with something less than 10 percent down for that $60,000 house.

The aggregate is 13 percent of the portfolio goes to those individuals. Amazingly enough, when you look at those conforming loans that are below 70 percent—that means we go out and we do the appraisal and we are going to loan them $275,000 max, and that is less than 70 percent of the value of the property in question, that represents 31 percent of Freddie's portfolio.

Now far be it from me to allege that the result of the subsidy is to help upper income individuals get access to home ownership. I would bet it is probably not the first front door they have walked through. But it appears that 73 percent of the portfolio of Freddie Mac represents loans and portfolio value at 80 percent or below LTV.

Now if we want to talk about subsidies, that is a pretty good one to talk about, too. I would suspect most Members on either side of the aisle who have come to the aid of the enterprises today on the basis that they are doing charitable benevolent work in society

would be shocked to learn than 73 percent of one GSE's portfolio was helping high-income individuals.

I would point out that the current loan limit of $275,000 applied in Baton Rouge would allow you to purchase a $343,000 house with an 80 percent LTV. I invite you to come to Baton Rouge and see what that house looks like.

Thank you, Mr. Jones, for yielding.

Let's see. Mr. Ford, you are next.

Mr. FORD. The Chairman is fired up.

Chairman BAKER. He is. I have a mild interest. Thank you, Mr. Ford.

[Laughter.]

Mr. CRIPPEN. You should have been here earlier.

[Laughter.]

Mr. FORD. Thank you, Mr. Crippen. I was not a part of any confidential briefing like my good friend Mr. Jones. I was at Starbucks getting a coffee is why I was late this morning, so I do apologize for being tardy.

I appreciate the Chairman sort of educating all of us on the subcommittee about some of the concerns and really the motivation for this study and for his interests, and quite frankly a legitimate and understandable interest on the part of this subcommittee.

I guess I have a couple of questions. And this is something I think that I think the Chairman has an understanding of this that surpasses many on this subcommittee, with the exception of the leadership on our side. So if my questions seem somewhat sophomoric, just bear with me, Director.

I guess my first question deals with the use of what some have said is this artificially low spread of 22 basis points as a differential between conforming and jumbo mortgage rates.

I do not have, again, a master of these, but as I looked through my local newspaper in Memphis, which may not necessarily be the best newspaper in the country, but as I looked through the real estate sections there, it shows a rate difference that is pretty consistently greater than that spread.

I guess my question is, why did CBO not use a range for this number, or even an average over some set period of time over the last year or two as you went about doing this? Maybe I am reading this wrong, but perhaps you can answer that question.

Mr. CRIPPEN. I think I can eventually answer to your satisfaction. There are no sophomoric questions, only sophomoric answers.

I will fall back on what I do know. That is, that over time some of these spreads have lessened. And so the amount of pass-through would have gone down. We used a higher number in 1995. We used 35 basis points as a spread.

But more recent studies—and we were just talking about one a few minutes ago, in fact, one that we reviewed just this morning before coming over—suggest that something in the low 20's is about the right number for the spread between conforming and jumbos. So those studies just repeat what we have said and do not really answer your question. I will give you a more thorough answer in writing as to the exact methodology of why what you are seeing in the Memphis paper does not match 22 or 25.

[The information referred to can be found on page 171 in the appendix.]

But we are comforted that the most recent studies, including our own, and other independent studies, are coming up with about the same conclusion. So the preponderance of evidence we have at least is that the low 20's is about right. But I will further answer your question.

Mr. FORD. Switching gears just slightly, the report estimates—and I guess the front cover gives us the pie chart—that Fannie and Freddie received roughly $10.6 billion in subsidies in the year 2000, and that they passed on to conforming mortgage borrowers about $6.7 billion, retaining close to $4 billion in benefits.

You estimate that the $3.6 billion subsidy on their MBS in 2000. You estimate that. Does that mean that their charters create an additional $3.6 billion in revenues that they would not get if they were not Government Sponsored Enterprises or GSEs?

Mr. CRIPPEN. No, no. In fact, these numbers do not speak to revenues at all. They speak to implied value of the Federal relationship.

The MBS pass-through we assume is 25 basis points, as it is on mortgages, because the MBS and mortgage markets, out in the real world, are quite competitive.

So any subsidies granted to whole mortgages we assume is also available through arbitrage or directly into MBSs, into bundled mortgages. So that if a mortgage has a subsidy or is getting a subsidy pass-through, an advantage from the GSEs, and if it is put into a bundle, it is going to have the same advantage.

So when it is all said and done, there is not as much retained subsidy by the GSEs on MBS. It is a few basis points. I think we assume 5.

Mr. FORD. So is this more of an estimate or more of a theory?

Mr. CRIPPEN. Well, it is an estimate. I mean, it is an estimate and a theory in the sense that if you assume whole mortgages get one interest rate, and that interest rate is subsidized, and you bundle them, then presumably the bundled mortgages have roughly the same subsidy or advantaged interest rate.

So in that sense it is a theory, but it is based on the fact. I mean, one of the arguments, of course, that a lot of folks are making is that the MBS market is very competitive. And to the extent that is true—and we think it is—there would not be any way to not have the value of the lower mortgage rate in a bundle when you have it in the individual mortgages.

So, all of these figures are estimates. Nothing is directly observable, which is why the assumptions we make are subject to question/criticism.

We have to observe firms that are not GSEs and infer that the differences between them—both on the borrowing side and on their mortgages, what they do with what they borrow—are due to the fact they have a Federal imprimatur.

Now, there may be other reasons for them. We do not think they are very compelling reasons. So none of this is very satisfactory in the sense that you cannot point to it. But we think these are very reasonable ways to try and measure these phenomena.

Mr. FORD. I know my time is up, Mr. Chairman. I know there are really a couple of concerns I know that you addressed and other defenses from this side, or positions taken on this side regarding the benefit that Fannie Mae and Freddie Mac have provided communities across this country, and I can certainly speak to some of the wonderful things being done across my entire State, including my District.

As much as we are concerned on this subcommittee about the solvency and really about the vibrancy of this economy and the GSE's ability to perform as well as they have, I would hope that we would apply that same caution and carefulness later today as we are prepared to vote on any tax reconciliation bill, in which many in this Congress believe some of the resources and some of the projections that your office, Mr. Crippen, has made about how this country will perform and how our economy will perform, I hope that many in the Congress and in this room understand some of us who may vote differently than some may want us to vote, and those on the other side who are expressing caution, I would hope that caution will find its way to the House floor a little later today.

I thank you, Mr. Chairman, for allowing me to go a little bit over. And I look forward to visiting you in Louisiana to learn about those houses you talked about.

Chairman BAKER. You will be welcome. You will get some good food.

Mr. Crowley.

Mr. CROWLEY. Thank you, Mr. Chairman. I will try to be brief.

Just to follow up on what Mr. Ford was talking about in terms of the value of GSEs, and I think also to follow up—I was not here when Mr. Bachus was questioning, but I understand he had a similar line of questioning—and you will have to forgive me, because I have been going back and forth between this subcommittee and the Relations Committee hearing.

Mr. CRIPPEN. I understand. I just hope I give you the same answer I gave before.

Mr. CROWLEY. That is all right. I do not think you will, because some I am going to ask for short answers, and I think you are going to like the line of questioning.

I have before me a February 9th, 2000, *Wall Street Journal* Index of Mortgage Rates, jumbo and conforming mortgage rates. It is interesting to note that—and I think Mr. Bachus was talking about the benefits of, and you may have been answering the benefits of your involvement in the conforming mortgage rates and the spillover effect that it may have.

It is interesting to note that in the New York Metro region, 30-year fixed is at 7.43, and a 30-year fixed on the conforming mortgage rate is 7.02, or 41 basis points difference between the two.

Could you explain the 41 points difference could be caused by having the GSEs in the conforming market rate?

Mr. CRIPPEN. Some portion of it is. We would not think that 41——

Mr. CROWLEY. You don't want to take all the credit for it.

Mr. CRIPPEN. Pardon?

Mr. CROWLEY. You don't want to take all the credit for it.

Mr. CRIPPEN. No. No, not all of it. We don't want to give all credit for it, either.

Certainly, some portion of the difference is attributable to the GSEs, but it is a fairly precise market that the GSEs are involved in, which is the conforming as we know, the 30-year fixed rate. Although they can invest in ARMs and in other markets, that is where they predominate.

And so the comparison just of jumbos with 30-year fixed in the newspaper is not quite the right comparison. Again, I told Mr. Ford—who asked us, why aren't the numbers what I see in the Memphis paper?—that I would give him a further answer in writing. I am not sure exactly how we would disaggregate the 41 down to what we think is 22, but I can address that, and will.

We are comforted by the fact, as I told Mr. Ford, that not only do we think the difference is about 22 basis points, but there are a number of independent studies, some very recent, that have come out in about that range, the low 20's.

So there is a reason for it. I am not very good at telling you precisely the difference between 41 and 22, but I will.

Mr. CROWLEY. Well, I do. It benefits my constituents to have that conforming mortgage rate.

I am just going to ask you a series of questions, and "yes" and "no" might be the best way to answer them.

Has Fannie Mae or Freddie or any of the Federal Home Loan Banks ever received any taxpayer funds?

Mr. CRIPPEN. No. Not that I'm aware of.

Mr. CROWLEY. And even during the S&L crisis of the 1980's and 1990's when taxpayers spent billions of dollars to bail out many of those institutions, did you receive any funding?

Mr. CRIPPEN. No.

Mr. CROWLEY. Do you pay Federal taxes?

Mr. CRIPPEN. The GSEs pay a lot of Federal taxes.

Mr. CROWLEY. So it is fair to say that you are producing income for the Federal Government?

Mr. CRIPPEN. That the GSEs are producing income for the Federal Government, yes.

Mr. CROWLEY. So, the Federal GSEs do not cost the Federal Government, and by extension, do not cost the taxpayers a single cent, do they?

Mr. CRIPPEN. Not directly, no. The implied subsidy has a value, but there are no Federal dollars that are passing directly back and forth.

Mr. CROWLEY. Thank you. I yield back the balance of my time.

Chairman BAKER. Thank you, Mr. Crowley.

I think we can start round two.

Mr. Crippen, on the point Mr. Crowley was just making, from 1979 to 1984, what was Fannie Mae's financial condition?

Mr. CRIPPEN. Pretty close to nonexistent.

Chairman BAKER. Did the Congress take any action in those years to assist the institutions to remain solvent by waiving Federal income taxes or taking other bookkeeping measures?

Mr. CRIPPEN. I suspect you know the answer to the question better than I do.

Chairman BAKER. Not that that 5-year period of insolvency reflects today's current management or current financial condition, I merely point out that business cycles have a strange way of repeating themselves.

In the rebuttal provided by the enterprises, I only got to the first which related to the fact that you were responding to the question which I asked, and they thought it would be more appropriate for you to answer somebody else's question.

Second, that the GSEs assert that intense competitive forces require the pass-through of all subsidies, and that none is retained by the GSEs.

And to prove that point they allege that they only hold 22.7 percent of the fixed-rate single-family mortgages today.

Your analysis of that statement, if I am understanding it correctly, is that removing the fixed-rate mortgages that are ineligible reduces the size of the market in which Fannie and Freddie operate. When that action is taken, so that you are comparing—as some suggest—apples with apples, the resulting analysis says that they are now involved in about 71 percent of the market as opposed to 22.7.

If the line of defense by the agencies was we can't have a subsidy, because we have no advantage in the market with only 22 percent, and then we look at the market as analyzed through your perspective and they have 71 percent, should I draw the conclusion that perhaps the subsidy is responsible for them being so predominant in the market which they occupy?

Mr. CRIPPEN. I do not know how to answer that exactly.

Chairman BAKER. That's OK. I have another one.

[Laughter.]

Chairman BAKER. In the 1996 study, the CBO estimated the subsidy rates for callable and non-callable debts separately. The agencies have argued that the subsidy rates applied to callable debt were implausibly high.

As I read it, the CBO now makes a much more conservative assumption that the GSEs receive no more subsidy on the callable debt than on non-callable debt. And you modified the assumptions of the 1996 approach to reflect that view.

Is that correct?

Mr. CRIPPEN. Yes. We still believe, frankly, that there is some further advantage on callable debt, but we do not have a good case for how much.

Chairman BAKER. So you make an assumption, basically, that seems to have fallen in their favor on this point.

Mr. CRIPPEN. Yes, this one is in their favor.

Chairman BAKER. The CBO used the same rate for short-and long-term debt in the 1996 study. In this study you are now using a lower funding advantage assumption for short-term debt than long-term debt. That is also a modification.

Is that correct?

Mr. CRIPPEN. Yes.

Chairman BAKER. And that tended to move in the GSEs direction——

Mr. CRIPPEN. Yes.

Chairman BAKER.——in response to their——

Mr. CRIPPEN. It lowers the spread of the amount of the subsidy we calculate.

Chairman BAKER. So it is another one of those troubling assumptions that were bothering people earlier.

Although the GSEs contend that liquidity is a major source of their funding advantage, CBO does not estimate the value of liquidity separately. And you go on in that paragraph, or summary, to conclude:

"It seems likely, however, that the sophisticated financial institutions with which the GSEs compete also manage their debt operations so as to capture any available gains from enhanced liquidity."

Your view is that although these institutions are very well managed and very well run, there are others in the marketplace who should exercise similar levels of skill? Is that what I can draw from that?

Mr. CRIPPEN. Yes. And, to the extent they are any better, it certainly can't be by very much, a basis point or two. But certainly, the statement would have to be supported by evidence that somehow they are better than their closest competitors at debt management.

Now, this does not have anything to do with mortgage issuance; it is debt management.

Chairman BAKER. So in the rebuttal provided by the enterprises to the efficacy of the report, their first said you answered the wrong question; then that there is no subsidy that is passed on to shareholders.

As to the remaining elements to which they responded, in most cases there was a modification or a movement in the agency's direction to ameliorate their concerns.

Is that correct?

Mr. CRIPPEN. If I followed it, yes. Certainly the latter part, yes.

Chairman BAKER. I have again expired my time.

Mr. Bentsen, did you want to follow up?

Mr. BENTSEN. Thank you, Mr. Chairman.

Mr. Crippen, I have a few questions for you. Let me start out, though, by saying to my friend from Louisiana, I am not sure you can make the statement that there is no subsidy in the federally insured depository institution market. And I think our friend, Mr. Greenspan, would concur that there is a subsidy that occurs.

And I think if you go back and look at the S&L bailout that you and I have lived through—because our States, I think, have been unfairly criticized beyond our excesses—that there was a subsidy.

But let me go forward. In Appendix B, Subsidy Estimates From Growth Is Permanent, you may have mentioned this earlier, but I was just looking at it.

You have a huge ramp-up in the subsidy primarily—well, actually for both Fannie and Freddie in the 1998-2000 period. Is that an interest rate factor?

Mr. CRIPPEN. It is more the quantity of debt that they issued. Just in 2000, it was under $300 billion of new debt. So a good piece of that is the new debt issues.

Mr. BENTSEN. Is that a cyclical factor, do you think? Is it just in relation to the marketplace occurring or growth in the economy.

Mr. CRIPPEN. No, well, there is certainly cyclicality that can affect their operations, but what we have seen is a very consistent pattern of increasing debt issues and mortgage-backed securities.

Mr. BENTSEN. Is that a spread-factor, also?

Mr. CRIPPEN. Sure.

Mr. BENTSEN. That they were getting a better spread? Because there was, in the 1998 period I think the Corporates over Treasury spread widened in that period. So I guess the same would apply, because GSEs would track Treasury debt more closely?

Mr. CRIPPEN. I am told the answer is, yes.

Mr. BENTSEN. And I do not want to quibble over this.

In your sensitivity analysis, which I think is actually pretty interesting, the discount rate you use—and the idea would be when you are capitalizing the subsidy you would use the lower discount rate, you try and use a discount rate that is associated with what you assume the borrowing costs to be——

Mr. CRIPPEN. Yes.

Mr. BENTSEN. But in your sensitivity analysis you use a spread between 610 basis points that you say is between the Treasury rate and a AAA-minus. But are we assuming they are a AA or a AA-minus? And that is a de minimis amount, but——

Mr. CRIPPEN. We are not assuming, I think, either. I am going to refer to my colleagues who did the sensitivity analysis. I think it is probably worth noting, though, that in the point estimates, the ones that are on the cover, we used their cost of capital. And so actually that is again another advantage, because it is risk-adjusted.

Mr. BENTSEN. Fair enough. I want to get back to this whole issue of the subsidy, because I think there are quantitative questions, and then there are just philosophical qualitative questions.

Mr. CRIPPEN. Sure.

Mr. BENTSEN. Is it fair to say—well, two things.

One, you said before if we assume the $1.2 billion, if we were to compare this to just a straight appropriation, whether to the private market or the Government doing it through the FHA or whatever, we might also include the $3.9 billion, although that is a non-cash subsidy. The $1.2 billion is theoretically a cash subsidy. It is foregone taxes or revenues that would otherwise—so you would have to—to add that $3.9 billion it seems to me you would have to have that appropriation.

But I guess the bigger question is this: $3.9 billion, you do need to deduct the return to shareholders, dividends paid out to shareholders, and I know my colleague brought that up as to whether or not that may be—I don't know whether or not he was going this way—whether or not that is a red herring.

But the fact is, again, there is some leverage because Congress established these entities to be able to raise more capital to have better market reach. And obviously we cannot expect investors to invest if they do not think they are going to get some dividend.

Now as you point out, their stock prices have accumulated quite dramatically in recent years, if I can read that properly, above various indices.

Mr. CRIPPEN. Yes.

[The chart referred to can be found on page 77 in the appendix.]

Mr. BENTSEN. But, so have others. And historically it has not been as great as it has been in recent years. And so it is not just a growth stock, it has been I assume an income-producing stock. I don't happen to own any.

But it would seem to me that you would have to deduct payment to shareholders, and you would have to deduct operating costs, and you would have to deduct some loan loss reserve. And it is fair to say you do not know what that is.

Mr. CRIPPEN. No.

Mr. BENTSEN. But, is it fair to say that those are costs to the subsidy?

Mr. CRIPPEN. Sure. The amount retained, we do not—as you suggested—try to figure out where it goes, because we are not chasing dollars. We are looking at differences in mortgage yield and debt market instruments. But certainly the subsidy could contribute to anything else they need to do, whether it is charitable giving, advertising, you know, all of those things.

Mr. BENTSEN. With the Chairman's indulgence, because this is getting to the heart of my question, I mean, those are costs of doing business.

Mr. CRIPPEN. Um-hmm.

Mr. BENTSEN. Is that fair to say? I do not care about charitable giving right now.

Mr. CRIPPEN. Sure.

Mr. BENTSEN. I am talking about operating costs of the entity, the costs to raise capital, which is the payment to shareholders, and your loan loss reserves. And we can debate whether or not there is sufficient loan loss reserve. That is another issue for another day.

But is that a fair assumption?

Mr. CRIPPEN. Well, some of the operating costs certainly are in the pricing of other non-GSE debt. So certainly, the subsidy can go to shareholders. As I said, it is not surprising that you would not pass through other——

Mr. BENTSEN. If the Chairman will let me ask this question, then my question is to you—and this is more of a qualitative of a philosophical question.

Are we getting a good deal for our investment, which from a Federal standpoint is somewhat of a non-dollar investment. We are leveraging our credit, in effect, our credit quality. Are we getting a good deal for that? And I do not want you to confuse it with—but you can answer it this way—or should we be doing this at all?

And obviously Congress decided some time ago that we should be doing it, but the question is, on a dollar basis and a leverage basis, are we getting a good deal? Should we be getting a little bit better than 63 percent leverage, or what?

Mr. CRIPPEN. There is no way to compare. I mean the question can be cast in a couple of ways.

One, if the Federal Government were to spend directly the $10 billion in subsidy we estimate last year, what could you buy for it?

The answer is, if you did not have any costs, you could probably support more mortgages, or more than tha 25 basis point spread than you are getting now. But that assumes a lot of things in between. We do not have any good comparison.

But second, the question that you may want to think about a bit is—it is not whether they are here or not—what would the GSEs look like, and what would the benefits of their operation be if they did not have the subsidy any longer?

Because the choice is not between having them out of existence or as we know them today, you have other choices in between about the continuation of their relationship with the Federal Government and how you manage that.

So I cannot answer the normative or the qualitative question, are we getting a good deal? I do not have anything to compare it to. Clearly, the shareholders have been getting a good deal. That is not to say it is inappropriate. But the mortgage market we know, the conforming market, has lower rates because of their activities. So that is a good thing from the objective of their charter.

Mr. BENTSEN. Thank you.

Thank you, Mr. Chairman.

Chairman BAKER. Thank you, Mr. Bentsen. I would point out, there are a lot of expenditures that could be in the calculus, $14 million for lobbying expense last year for example.

Mr. Bachus.

Mr. BACHUS. Thank you.

Director, we talked about the amount of the subsidy that is passed through, but then we talked about what is retained.

Mr. CRIPPEN. Right.

Mr. BACHUS. On the retained part, what part of that would go to say payment of Federal income tax?

Mr. CRIPPEN. Well, we do not know how much of the subsidy goes anywhere. I mean, we are not tracing the dollars. One could say that it is retained for shareholders.

The fact that there are other payments being made could be part of what the money is used for, what the value of the spread is used for. But we don't know. We did not try to trace any dollars. All we did was look at differences between the operation in the financial markets of these firms and those that are not subsidized. So we do not know.

There are certainly other things that they have, obligations to the Treasury, regulatory requirements of capital, and other things, but we do not know. We did not do that assessment, and I do not think you can.

Mr. BACHUS. Well, you could determine what they pay in Federal income taxes. Aren't they publicly traded?

Mr. CRIPPEN. Presumably, it is in the annual reports.

Mr. BACHUS. So if we talk about what is retained by them, you would—obviously what the Government gets back in income tax or other taxes would be a return to the Government and would reduce the cost of that subsidy. Am I right?

Mr. CRIPPEN. Well again, the value of the subsidy is the spread in the markets. There are no direct dollars to offset. Yes, they pay Federal taxes. I think at one time they may have been close to the largest Federal taxpayer, and maybe still are, as a single entity. But that is the cost of their doing business just like private firms.

They do not pay State and local taxes, which is an advantage other firms do not have. Other firms do pay Federal taxes. The

GSEs do not pay SEC fees, which other firms do. So they have these advantages.

The Federal tax payment happens to not be one of them. But certainly, some portion of the retained subsidy could be used for paying taxes or other things. We do not know.

Mr. BACHUS. If they bring stability to the housing market, that would be hard for you to assess a value or put a dollar value on that. Is that correct?

Mr. CRIPPEN. Yes.

Mr. BACHUS. And you made no attempt to do that?

Mr. CRIPPEN. We did not.

Mr. BACHUS. And if we said that they bring stability and predictability to the mortgage housing market, that would be more for us to determine the value of that?

Mr. CRIPPEN. It is very hard to quantify. Similarly, it is hard to quantify how much increase in cost of capital there is for non-housing entities. We did not try to do that either.

Mr. BACHUS. Now when we talk about a Government subsidy, if Fannie Mae and Freddie Mac were shut down, the Government certainly would not get any of that money back?

Mr. CRIPPEN. Right.

Mr. BACHUS. It is not as if——

Mr. CRIPPEN. Right.

Mr. BACHUS. So this is not a savings to the Government if we shut it down, or to the taxpayer.

Mr. CRIPPEN. No, not in this calculation. I mean there may be other effects. But maybe I should put it this way:

If I were going to buy a home, and my parents, God bless them, chose to help me, they could do it any number of ways. They could buy down the mortgage rate. They could give me the down payment. They could do it in ways that are very easy to point to, in cash. Or they could co-sign the mortgage and lend me their credit rating, or their collateral, use their house. And in so doing, you would not see a cash transfer, but the effect would be the same. That is a little bit like what we have here.

The subsidy is real. Just because you cannot watch a dollar flow does not mean there is not a subsidy.

Mr. BACHUS. I guess what I am saying, just because there is a subsidy, ending that subsidy would not necessarily benefit the Government and the people.

Mr. CRIPPEN. Not in direct dollars, no. But there are lots of other implications.

Anyway, there are not dollars flowing to Fannie or Freddie from the Federal treasury, so you would not see dollars returned. But again, I think we need to keep in mind that the elimination of the institutions is not at issue so much as the elimination of the subsidy, because the institutions would survive in some form.

The question is, what do you want to do with the relationship with the Federal Government?

Mr. BACHUS. But, if there is not a cost of that subsidy to the taxpayer, and yet a large percentage of that subsidy is passed through to homeowners, you know, one could ask the question, why end it at all?

Mr. CRIPPEN. Well, despite what we would like to think, nothing is free. While there may not be Federal dollars associated with it, certainly it does have an impact on other people trying to raise money in the capital markets, private companies.

So it is not free. It certainly has an impact on the rest of what the Federal Government can do. It may impact even the Federal Government's borrowing cost.

So there are lots of things we have not calculated here, one could argue, but the fact that there are no dollars flowing is probably not the right way to look at it, from our point of view.

Mr. BACHUS. And I agree, but the fact that it is not free does not mean it is not effective, or is not good public policy in and of itself.

Mr. CRIPPEN. We have not opined on any of those questions, but simply, what is the value of what their affiliation with the Federal Government, and how much appears to go back to the mortgage borrowers in the conforming market?

Mr. BACHUS. Another thing that I think it is hard that you did not address is that Fannie Mae and Freddie Mac provide a lot of the funding for multi-family housing for low-income housing.

Mr. CRIPPEN. Right.

Mr. BACHUS. And that is a value to us as a country, but hard to quantify.

Mr. CRIPPEN. Beyond what shows up in the reduced mortgage rates, yes, it is hard to quantify. There may be values there that are non-economic, and we certainly could not——

Mr. BACHUS. Let me end by saying to the Chairman that I appreciate, I think the Chairman is raising an issue and exploring an issue that is important, and I commend him for that. It is a thankless job.

Chairman BAKER. I can verify that.

[Laughter.]

Chairman BAKER. Thank you very much, Mr. Bachus. I appreciate your courtesy.

Ms. Jones.

Ms. JONES. I had to run out and see 35, 13-year-old constituents of mine who were visiting Capitol Hill, so therefore I have no idea what anybody asked while I was out the door.

Mr. CRIPPEN. But they all have a mortgage now, I bet.

[Laughter.]

Ms. JONES. Of some sort. Maybe not a home mortgage, though.

[Laughter.]

Ms. JONES. How many other implied-subsidy studies have you done, CBO I mean, not you personally.

Mr. CRIPPEN. I should know the answer to that, because I think we asked ourselves. A half-a-dozen or so?

Ms. JONES. Well, even if you do not know the number, what kind of agencies? Who?

Mr. CRIPPEN. Actually, we have a list, I think. We have a list that I will give to you.

Ms. JONES. Should I go on to something else while you find it?

Mr. CRIPPEN. Probably.

Ms. JONES. OK. I want to go back to this value that you give to Fannie Mae and Freddie Mac's ability to have the subsidy, and that others would like to stand in their shoes.

What is that value? How do you calculate or put it into numbers?

Mr. CRIPPEN. We do it by looking at companies that do not have this implied relationship with the Federal Government, and that also issue debt and try to——

Ms. JONES. These are the A and the AA——

Mr. CRIPPEN. The 70-odd companies we have been talking about this morning. We look at what it cost them to borrow.

Ms. JONES. So when you took a look at these other companies, I am assuming that you just did a paper look? You did not discuss with them other issues and other responsibilities that Fannie and Freddie and Federal Home Loan Bank——

Mr. CRIPPEN. Right.

Ms. JONES. Because if they really wanted to stand in the place, that would mean they would have to assume all the responsibilities. Fair?

Mr. CRIPPEN. That is true.

Ms. JONES. But in your assessment of the value, you did not I guess put a human side to determining whether they really want to do it, or do they just talk about doing it.

Mr. CRIPPEN. I do not know that there is anybody, Ms. Jones, that would really want to step in. All I was trying to say is, there is a value to the relationship with the Federal Government that companies would probably be willing to pay for.

The method we used to try and estimate the value of the relationship with the Federal Government that presumably other companies might be willing to pay for is by comparing Fannie and Freddie and GSE debt with these other companies.

Ms. JONES. Then in the other implied subsidy studies that you did, what was the value that you were looking at there?

I am assuming nobody has asked these questions; right?

Mr. CRIPPEN. No. Well, as I said to Mr. Crowley, maybe—I just hope that if these are repeat questions that I have the same answer.

Ms. JONES. OK.

Mr. CRIPPEN. Here are some examples. As I said, I have a list, and then I will get to your last question.

We looked at the subsidies implied by the *Federal Financial Support of Business*, writ large, which turned out to be about $32 billion.

Ms. JONES. Business at who?

Mr. CRIPPEN. Just *Federal Financial Support of Business.*

Ms. JONES. OK.

Mr. CRIPPEN. July, 1995, *Who Gains and Who Pays Under Carbon Allowance Trading?*, June 2000;

The Outlook for Farm Commodity Program Spending. This was in 1992;

Federal Home Loan Banks and the Housing Finance System, 1993;

Government Sponsored Enterprises and Their Implicit Subsidy: The Case of Sally Mae, which was in 1985.

And then each year, we have some options in our big options book that include other smaller estimates, of subsidies.

So there are not a lot. There are a half a dozen here. The value generally that we look for is the direct and indirect value of the relationship with the Federal Government.

Sometimes, there may be dollar flows to promote R&D or other things. Sometimes, we give the implied credit, or we give the credit of the Federal Government backing to other entities so they can borrow at better rates. Sometimes, we buy down loan rates directly and give loans through the SBA and other programs.

Ms. JONES. The value that you attribute is the value to the corporation or the entity, not the value to the United States or the banking industry, or the home loan buyer, or the mortgage broker, or whatever else. Right?

Mr. CRIPPEN. Yes. That is fair.

Ms. JONES. Then has anybody ever asked you to do a study of what the value to us of giving the subsidy to the GSEs is to the American public?

Mr. CRIPPEN. No. We have talked a bit about it this morning. There is certainly a value that we have not measured, and some of it is measurable because there are other mortgages affected, and we could look at is just as we have.

Ms. JONES. I probably could go on and on and on and bring witnesses who would testify to that value. But in your opinion in doing this report, that value was not part of what you should consider in your assessment?

Mr. CRIPPEN. Just as we did not consider costs.

Ms. JONES. Hold on a second.

Mr. CRIPPEN. Yes.

Ms. JONES. I do not want you to think I am harassing you. Just answer that question.

Mr. CRIPPEN. Yes, there are certainly——

Ms. JONES. Those are values that you did not consider?

Mr. CRIPPEN. Yes, that is correct.

Ms. JONES. OK. And you would have wanted to consider—or you did not consider either. Now you can tell me what you wanted to say.

Mr. CRIPPEN. What I wanted to say is, one, such an analysis is very hard. But, two, there are also costs involved that we did not measure.

As an example, when the GSEs last year issued somewhere in the neighborhood of $300 billion in new debt and MBS guarantees. The fact that they borrowed or were active in the capital markets means that the price for other people who were borrowing in the capital markets was probably higher.

And it does not have to be a lot higher. As I said, just as an example, let's say we are paying 1 basis point——

Ms. JONES. Well, you are not saying, even if that is the impact there is nothing wrong with that? Right?

Mr. CRIPPEN. Not necessarily. But you have to understand, what I am saying is, if there are big benefits——

Ms. JONES. There is nothing illegal about it. Right?

Mr. CRIPPEN. No.

Ms. JONES. And if you were clearly, if you were running, if I name a bank then somebody is going to accuse me of picking on

a particular bank, but a financial institution, you would do what Fannie did or Freddie did because that is good business judgment?

Mr. CRIPPEN. But they have the ability to do it in part, because of the Federal guarantee. Without it, they probably would not be in the debt markets as much, and they would not get the same breaks that they do.

All I am trying to say is, yes, there are benefits we did not calculate, and you are right in saying that. There are also costs of their activities that we did not calculate. And I do not know where, on balance, the assessment would come out.

Ms. JONES. OK, then being the independent evaluator that your agency is——

Mr. CRIPPEN. Thank you.

Ms. JONES. ——What impact does that have on me as a Congresswoman sitting and accepting this report for determining as we go down this—how many more of these hearings are we going to have, Mr. Chairman?

Chairman BAKER. Until you are happy.

Ms. JONES. Until I am happy?

[Laughter.]

Ms. JONES. Then I want to get to be Chairperson. That is when I will be happy.

[Laughter.]

Ms. JONES. We are going to be going through this until I am happy. Now you made me forget my question, Mr. Chairman. Can you read that back? In the courtroom we can read it back. No, just kidding.

I am done. Thank you a lot.

Mr. CRIPPEN. You said we were objective and all of that; so that is the good part.

Ms. JONES. Oh, you liked that part?

Mr. CRIPPEN. I did, yes.

[Laughter.]

Mr. CRIPPEN. We have got to make sure that is in the record.

Ms. JONES. I was going to say—I know where I was——

Mr. CRIPPEN. OK.

Ms. JONES. In light of the fact that you did not consider these values or these costs, what impact does that have on the validity or value of your report?

Mr. CRIPPEN. I think, Ms. Jones, the report gives you some information as a Congressperson that you would want to take into account as you think about how you want to provide for your constituents' housing.

The GSEs may be the best way to do it in your district or in the country. I do not know the answer to that. All I can tell you is that there is a value to the implied guarantee that the Federal Government lends them. The relationship with the Federal Government is worth something. And by our estimation, it is worth more than the mortgage holders who are affected directly are getting.

Now that is not to say that it is inappropriate or anything else.

Ms. JONES. Worth more in how you determine value, not in how——

Mr. CRIPPEN. Absolutely, yes.

Ms. JONES. See, that is the problem I am having.

Mr. CRIPPEN. But you could evaluate other policies. I mean, you might get the same or similar values from the GSEs if they did not have the same subsidy, or had no subsidy. I do not know the answer to that. You do not know.

Ms. JONES. I think we are saying the same thing.

Mr. CRIPPEN. Yes. But you may want to take the Federal guarantee and do something else with it.

Ms. JONES. Or I may want to leave it where it is.

Mr. CRIPPEN. You may.

Ms. JONES. OK.

Thanks, Mr. Chairman.

Chairman BAKER. Thank you, Ms. Jones. I am going to wrap up here—I know, mercifully, you are thinking. I would merely point out, Ms. Jones, in that exchange that my point in trying to provide this source of information is that Members can come to better understanding as to——

Ms. JONES. Mr. Chairman, if you will just yield, I did not mean to infer that you were not.

Chairman BAKER. I am taking no offense.

Ms. JONES. OK.

Chairman BAKER. I am merely saying that the purpose of this is to have Members get access to what we believe to be constructive, professional information, to make assessments about where benefits actually flow, and measure the value of those benefits to your constituents. In Fannie Mae's 2000 Annual Report, the same figure for Fannie is 71 percent—that is, for the 80 percent or less LTV conforming loan portfolio. If you look at where the benefit appears to go, it is a fairly expensive mechanism by which to facilitate home ownership.

On the other side of the coin, however, if I were to take every argument proffered on the side of the GSEs today, it is a persuasive argument to nationalize home mortgage debt. If this is a good thing, let's do it for everybody.

Now we may want to means-test it, but we do not means-test the benefit today, because there are people who are very high income who may be borrowing 50 percent of the sale cost in a mortgage, and we are subsidizing we do not know how many of those individuals.

So if one is concerned about nationalizing the home mortgage debt, one ought to have a concern about the current system.

I think it is incumbent to involve myself for the significant long term in the analysis of this set of concerns and hopefully come to some logical resolution that even the GSEs might find to be an appropriate resolution.

To that end, there are a couple of remaining items that I wanted to bring to your attention, Mr. Crippen, that I thought deserve further analysis.

On page 28 of your review, there is Table 8, which has an analysis of year-by-year retained subsidy. What caught my eye is that even though the aggregate subsidy declined in value from 1999 to 2000, the amount retained by Fannie Mae, though not by Freddie Mac, actually went up.

I do not need a detailed explanation today as to why that occurred, but for the record I would like to get something back from

you as to how that occurred, if you have the factual basis on which to make such analysis.

[Mr. Crippen submitted the following response at a later date:

[Fannie Mae's retained subsidy increased in 2000 primarily because of a substantial increase in its debt-financed portfolio, which more than offset the effect of a reduction in new MBS guarantees.]

Second, there was some concern expressed about my press release on Friday, which I have gone back and carefully read. I did not allege that the GSEs released the document inappropriately. I merely said somebody did. And that I thought that was unfortunate because we were trying to close up the final product.

And what was difficult for members of the press to understand was that I had made assurances to Members on both sides that upon receipt of the final document we would make it available as soon as it was physically available, and there were Members without copies who were reading summaries of the report in national media coverage. That is unfortunate.

I do intend to have conversations with those reported in the media as having access from the Wall Street community as to the appropriateness of their comments, given Members of Congress had not even seen the data. That troubled me greatly.

I know that you extended the report as a courtesy, as a matter of professional practice, as you do customarily for other agencies, and that you had hoped that that confidentiality would have been maintained. And let me say again, we are not alleging the GSEs were the source. It could have come from any number of places. I simply can say without fear of equivocation it was not from my office, nor was it from your office.

Then I was troubled by a press release I got this morning indicating some source saying that "Baker himself, several weeks prior, mentioned a $10 billion figure," as if that were the basis for the early release. That was a guess, which was actually inaccurate, and I just want to assure Members who may read the record later that I did not, nor did any member of my staff, release to anyone the information contained in this important report.

As to where we go from here, some Members have asked, now what?

I will have a meeting on June 14th of the subcommittee relating to analyst issues that had been previously announced. Between now and then we will determine if the scope of that hearing will be enlarged. But it would be my intention to invite the GSEs and interested parties to make further comment on this report at a subsequent hearing.

I do not want anyone to think that we would take only the Agency's view and not afford all interested parties an opportunity to express publicly their concerns, if they choose to participate in approximately a month. We do not have a hearing date.

I further am taking to heart the observations of Members today who said that the scope of your study, based on my request, was too myopic and did not consider all the values nor all the costs as-

sociated with the effects of the GSEs on mortgages and debt more broadly.

We will take under advisement—and I will visit with Mr. Kanjorski and others—as to whether we may come back to you at a later time and request a broader examination. But my intent is to give you time off for good behavior.

You have certainly paid your dues, suffered long hours to give us a professional product, for which you have not been given appropriate recognition, and I wish to thank you for your courtesies, the patience of your staff, and your willingness to stay in the saddle here for almost 4 hours in listening to rebuttals of your recommendations.

I appreciate your work. I look forward to continuing our relationship with regard to this matter. Hopefully, at the end of the day, the GSEs, Senator Gramm, Senator Sarbanes, Chairman Oxley, and myself, hope to be able to have a professional discussion on these matters.

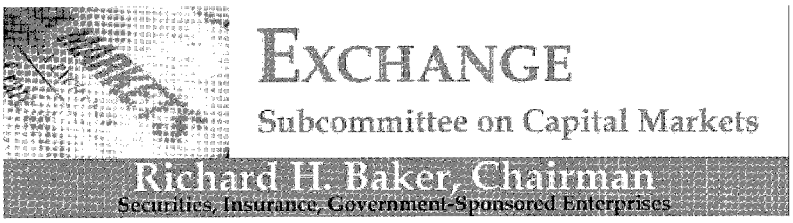
I will again try to diffuse what I think has been an unfortunate 2-year history, but make clear I am not going away on this. I think public policy demands resolution, and we will stick to it until we get it done.

Hearing adjourned. Thank you.

[Whereupon, at 12:47 p.m., the hearing was adjourned.]

A P P E N D I X

May 23, 2001



The News from U.S. Rep. Richard H. Baker
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FOR IMMEDIATE RELEASE: May 23, 2001
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Opening Statement
The Honorable Richard H. Baker
Chairman, House Financial Services Subcommittee on
Capital Markets, Insurance and Government Sponsored Enterprises
May 23, 2001
Capital Markets Subcommittee Hearing
"CBO Study on Housing GSEs and Federal Subsidies"

I want to begin by drawing the subcommittee's attention to an article published just five days ago by the Associated Press (copies of which my staff has distributed to you all) on the record federal government surplus reported for the month of April. Members might find of particular interest, with respect to today's proceedings, the fourth paragraph, which I have highlighted, reading: *"Last month's surplus was bigger than the $180 billion many analysts projected but matched predictions made by the Congressional Budget Office."*

Ordinarily I would not deem it necessary even to make reference to the reliability of the economic analyses that the Congressional Budget Office (CBO) has historically provided Congress. However, in light of an unseemly effort by some over the past week to publicly discredit the integrity and ability of the CBO, I find myself compelled to dwell on this subject for some time at the start.

Through the years, both Democrat- and Republican-majority congresses (and split ones too) have rightly relied on the expertise and non-partisanship of the CBO to inform our public policy efforts. So my main point in quoting the AP story is to suggest that if CBO can, time and time again, accurately assimilate the complex and myriad economic factors that make up a budget surplus forecast, then surely it possesses the wherewithal to get a GSE subsidy estimate right.

And certainly, as the quote indicates, with a degree of accuracy and objectivity surpassing that of other so-called "analysts," who on the subject we take up today perhaps find their own interests clouding an unbiased assessment. But I'll return to them later.

Some months back I too thought to criticize CBO out of frustration and impatience for the release of this report which I requested a year ago and expected in half that time. But I have since learned the delay was due to the extraordinarily studied approach CBO adopted precisely for the sake of getting the numbers right and clearing away any doubt about the methodology it used to reach them.

This approach, I know now, also included consultation from accountants and economists representing respected federal government institutions, among others: the Treasury Department, the Federal Reserve

Board, the Federal Reserve Bank of Minneapolis, the General Accounting Office, and the Congressional Research Service. CBO then raised my anticipation more by subjecting the study to a lengthy and rigorous academic-style peer-review process.

I point all this out for two reasons. First, I want to personally thank CBO's director, Mr. Dan Crippen, for taking such care to craft this report. Congress indeed owes a debt of gratitude for all the hard work both you and your staff do in the service of the American people. Consequently, you can expect that members of this subcommittee will give your testimony the fair and open-minded hearing you so clearly deserve.

But more importantly, I wish to expose the folly of a handful of people who have already publicly attacked this CBO study, including those who, more incredibly still, maintain that the housing GSEs receive no subsidy at all. To those with the temerity to attack CBO's credibility and to quibble with the subsidy's very existence, I would say consider and take heed. You place your own credibility at odds with no less an authority than Fed Chairman Alan Greenspan, who first suggested CBO update its subsidy estimate. And you compromise your own integrity by indirectly attacking that of each institution with whom CBO consulted to reach its conclusions -- again, the Treasury, the Federal Reserve Board, the Federal Reserve Bank of Minneapolis, the General Accounting Office, and the Congressional Research Service.

Make no mistake; the facts are what they are. The subsidy is real, it's large, and has far-reaching implications.

Nevertheless, a more significant matter than the subsidy's size to focus on today is what the CBO study tells us about how effectively the subsidy is being used to benefit its intended recipients – America's homebuyers. As Chairman Greenspan stated last year, the housing GSEs "alter the housing finance markets only to the degree that they pass through to homebuyers part of their government subsidy." And, "to the extent that the subsidy is not fully passed on in lower mortgage rates, GSE profits rise and shareholders benefit."

In other words, if Congress chartered these institutions "to promote access to mortgage credit for low- and moderate-income families in underserved areas," then we now have tangible evidence of what it's costing the American people. But better still, we can now put our finger on figures that tell us if we're in fact getting what we pay for.

Put another way, as a Fed report to Congress stated last July: "Both the Treasury and the Federal Reserve have suggested that it would be appropriate for the Congress to consider whether the special standing of these institutions continues to promote the public interest." My initial review of CBO's findings indicates that there's certainly room for improvement.

Is it not eye-opening to discover that $3.9 billion, or about 37 percent, of Fannie's and Freddie's $10.6 billion annual federal subsidy provides "liquidity" to no one but themselves and their investors? Surely members of this subcommittee from both sides of the aisle can make use of CBO's findings and come together to determine ways to better direct the entire $10.6 billion sum to African-American, Hispanic, and all lower-income communities who most need our help to close the "American Dream Gap."

There are other, no less crucial questions raised by CBO's report that deserve our attention and should be returned to in subsequent hearings:

- For instance, having focused our attention on the relative "efficiency" of the "retained" portion of the subsidy, we should also closely examine the portion that does pass through, to see whether it's actually reaching precisely those homebuyers whom we intend and profess to be helping.

- Having balanced the benefits of the subsidy versus the costs, we should also see whether they are outweighed when we add the potential risks GSEs pose to taxpayers to the other side of the scale.

- For that matter, how do the subsidy and the implicit guarantee that underlies it increase taxpayer risk?
- Now that we know the subsidy's size, how do we precisely measure what Chairman Greenspan has referred to as its "consequences for the structure and efficiency of the financial markets and the productive allocation of real resources"?
- We will need to hear from all who are concerned with affordable housing – the regulators, the GSEs themselves, community development groups, and others, to account for the proper allocation of benefits we've entrusted the GSEs with the responsibility to bestow upon the American people.
- And last but not least, I'd like to hear from certain market analysts about just how they came to criticize the CBO report before it was even presented to Congress.

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Congressman Harold Ford, Jr.
Capital Markets Subcommittee
Hearing on CBO Study of Subsidies to GSEs
May 23, 2001

Mr. Chairman, the topic of today's hearing – the advantages that the GSEs derive from their government charter – is one that the members of this Committee should consider in depth. However, I object to the politically skewed way in which these issues are brought before us.

CBO's official report was not released until this morning. Although Fannie Mae, Freddie Mac, and some members of the Committee received draft reports in the days leading up to today's hearing, neither the two companies nor members of the Committee were allowed to review and critique a final copy of the CBO study in advance of the hearing. In reality, this is more of a press conference than a hearing. At a hearing, the numerous interested parties would have a chance to prepare and present their side of the argument. But at today's event, there is only one witness, CBO Director Crippen. And Fannie and Freddie are not given a platform to respond.

If they were invited to respond, Fannie Mae and Freddie Mac would describe in detail the very serious flaws they have identified in the CBO's study. The study seems to have taken every opportunity to overestimate the advantage the companies receive and underestimate their benefit to American homebuyers.

Specifically, first, CBO has compared Fannie and Freddie's borrowing costs not against firms with the same credit rating, but with a group that includes firms with lower credit ratings.

Second, CBO estimates the share of Fannie and Freddie's short-term debt to be 20 percent as opposed to 80 percent for long-term debt. The actual percentage is 40 percent short-term and 60 percent long-term.

Third, CBO chooses a very low estimate of the spread between conforming and jumbo mortgages, which, in result, understates Fannie and Freddie's benefit to mortgage borrowers.

Fourth, in calculating the benefit to consumers, the CBO study considers only those mortgages which have actually been purchased by Fannie and Freddie. The study ignores the impact of Fannie and Freddie's existence on all other mortgages. This is an incredible oversight.

In conclusion, the study that CBO has released today seems to be based on a methodology predesigned to produce a desired result. While admitting that no government appropriations are spent on Fannie or Freddie, CBO devised a series of economic assumptions leading to a theory of <u>implied</u> governmental advantages. CBO then severely limited what it might count as benefits to homeowners. Operating under these assumptions, theories and exclusions, there should be no surprise that CBO concludes Fannie and Freddie can do better.

However, from the perspective of America's mortgage-paying families, the benefits of Fannie Mae and Freddie Mac are evident in the thousands of dollars they save in payments and the fact

that my constituents can get a mortgage at all. Fannie and Freddie save America's families thousands of dollars on mortgage payments without a penny of government appropriations. If only there were more institutions like them.

Let there be no doubt that Fannie Mae and Freddie Mac are needed now more than ever. According to a May 15th *Wall Street Journal* article entitled, *"Looming Need for Housing A Big Surprise,"* the "demand for housing is. . . rising faster then expected and could lead to shortages . . . Housing advocates have been complaining about the lack of affordable housing for low-income Americans for years, but now the problem appears to be spreading . . ."

Mr. Chairman, academic exercises based on erroneous assumptions will do little to address these pent-up housing shortages. Nor will they help expand homeownership in low-income or minority communities. This flawed study does nothing to place doubt on Fannie and Freddie's overall benefit to American homebuyers. Fannie Mae and Freddie Mac are doing exactly what they are supposed to do – helping more Americans own their own home.

OPENING STATEMENT OF
RANKING DEMOCRATIC MEMBER PAUL E. KANJORSKI

SUBCOMMITTEE ON CAPITAL MARKETS, INSURANCE, AND GOVERNMENT SPONSORED ENTERPRISES

HEARING ON THE RELEASE OF THE CONGRESSIONAL BUDGET OFFICE STUDY ON FEDERAL SUBSIDIES AND THE HOUSING GOVERNMENT SPONSORED ENTERPRISES

WEDNESDAY, MAY 23, 2001

Mr. Chairman, thank you for the opportunity to comment before we begin today's hearing to learn more about the latest study compiled by the experts at the Congressional Budget Office on the subsidies received by the housing government sponsored enterprises or GSEs. As I understand, although the agency changed the methodology it used in 1996 to calculate this subsidy, its ultimate conclusions remain approximately the same in this new report. In short, Fannie Mae and Freddie Mac pass on about two-thirds of their federal subsidies to homebuyers in the form of lower mortgage prices.

The CBO analysts have also determined that the size of the federal subsidy received by Fannie Mae and Freddie Mac has nearly doubled between 1995 and 2000 to $10.6 billion. Some will doubtlessly contend today that Congress should work to control this dramatic growth. The questions we should, however, be asking ourselves focus not on what caused the magnitude of the growth and how to control it, but rather on where the subsidy flows, what it buys, and how well the GSEs manage their risks and operate their businesses.

Additionally, I suspect that a number of my colleagues during this hearing will raise concerns about the methodology used by CBO to calculate its latest estimates. We should examine these methodological concerns today, but in doing so we should not forget to look at the big picture. This report confirms that the GSEs are performing a function that Congress wants them to perform; namely, they are working to help to lower the costs of homeownership at no real monetary cost for the federal government. In return, the stakeholders and shareholders in the GSEs receive a share of the federal subsidy to provide a financial reward for their efforts.

Moreover, just last week, the *Wall Street Journal* reported that the U.S. Census Bureau has found that the demand for housing is actually rising at a faster pace than previously expected. We could, as a result, soon experience housing shortages in some parts of the country. The GSEs need to use their benefits to help us to attend to this looming need for affordable housing. If we did not have the GSEs to accomplish our nation's housing objectives efficiently, we would have to create new housing subsidy programs to address this imminent need, likely at a great cost to our federal government.

Ultimately, the latest CBO report offers us an additional piece of information for legislators and policymakers to analyze in a more complete and comprehensive manner the contributions brought by the GSEs to the housing marketplace. Although some have called for reforming the GSEs' statutory benefits and regulatory structure in recent months, these estimates, in my opinion, present us with no compelling reason for pursuing any legislation on these matters at this time.

In closing Mr. Chairman, I look forward to hearing from CBO Director Dan Crippen today about his agency's study, and I yield back the remainder of my time.

CBO TESTIMONY

Statement of
Dan L. Crippen
Director

Federal Subsidies for the Housing GSEs

before the
Subcommittee on Capital Markets, Insurance,
and Government Sponsored Enterprises
Committee on Financial Services
U.S. House of Representatives

May 23, 2001

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CONGRESSIONAL BUDGET OFFICE
SECOND AND D STREETS, S.W.
WASHINGTON, D.C. 20515

Mr. Chairman and Members of the Subcommittee, I am pleased to present the Congressional Budget Office's latest estimates of the federal subsidy provided to the housing government-sponsored enterprises (GSEs). As you requested, I will also summarize CBO's estimates of the portion of the subsidy that is passed through to borrowers. And I will describe some of the methods that CBO used to arrive at its estimates to make clear the appropriate interpretation—the strengths and limitations—of the analysis.

The federal subsidy to GSEs is unusual in that it is not explicitly appropriated by the Congress in legislation nor does it appear in the budget as outlays. In fact, as Alan Greenspan has noted, the subsidy is largely determined by the GSEs' own actions. Nonetheless, it is real. It represents costs to the American public and is highly valued by recipients.

Mr. Chairman, my testimony and the CBO study on which it is based, *Federal Subsidies and the Housing GSEs*, makes two major points:

- The housing GSEs receive a substantial federal subsidy as a result of their special status, estimated to be $13.6 billion in 2000.

- They pass through some but not all of that subsidy to mortgage borrowers, about $7.0 billion in 2000.

THE FUNCTION OF AND SUBSIDY TO THE HOUSING GSEs

Fannie Mae, Freddie Mac, and the Federal Home Loan Banks (FHLBs)—collectively, the housing GSEs—were created to provide liquidity and stability to the home mortgage market, thereby increasing the flow of funds available to mortgage borrowers. The oldest of these enterprises, the FHLBs, were chartered in 1932 to provide short-term loans (called advances) to thrift institutions to stabilize mortgage lending in local credit markets. Fannie Mae was originally created as a wholly owned government corporation in 1938 to buy mortgages, primarily from mortgage bankers, and hold them in its portfolio. Although Fannie Mae was converted into a GSE in 1968, it continued the practice of issuing debt and buying and holding mortgages. Freddie Mac, created in 1970 as part of the Federal Home Loan Bank System, bought mortgages primarily from thrifts. Rather than hold the mortgages in its portfolio, Freddie Mac pooled them, guaranteed the credit risk, and sold interests in the pools to investors—creating mortgage-backed securities.

The debt and mortgage-backed securities of GSEs are more valuable to investors than similar private securities because of the perception of a government guarantee and

because of other advantages conferred by statute. That added value is the primary means by which the federal government conveys a subsidy to the GSEs. Because of competitive forces, a large part of the subsidy passes through the GSEs and other financial intermediaries to the intended beneficiaries—primarily mortgage borrowers but also other borrowers of FHLB member institutions. However, the shareholders and stakeholders of Fannie Mae and Freddie Mac are able to retain a portion of the subsidy because GSE status provides a competitive advantage over other financial institutions. Similarly, to the extent that competition is not perfect, stakeholders in the FHLBs and member institutions retain a portion of the subsidy to the banks.

THE SIZE AND COMPOSITION OF THE SUBSIDY

As shown in Table 1, CBO estimates that the total federal subsidy provided through and to the housing GSEs grew from $6.8 billion in 1995 to approximately $15.6 billion in 1999. The total dropped slightly, to $13.6 billion in 2000, reflecting a slowdown in the growth of the mortgage market and fewer opportunities for profitable intermediation by the GSEs.

The single largest component of the subsidy is the reduction in borrowing costs from the implicit federal guarantee of debt issued by the GSEs. By CBO's estimate, the GSEs have a borrowing advantage of 41 cents per $100 of debt issued (or 41 basis points) because of their special status. During 2000, the housing GSEs increased their outstanding debt by $227 billion (to more than $1.6 trillion) and in the process locked in reduced debt-servicing costs with a present value of $8.8 billion. Similarly, Fannie Mae and Freddie Mac have an advantage of 30 basis points on mortgage-backed securities, CBO estimates. During 2000, they increased their guarantees of those securities by $66 billion (to $1.3 trillion). Fannie Mae's and Freddie Mac's GSE status added $3.6 billion to the value of those mortgage-backed securities. Finally, the value of the tax and regulatory exemptions for the housing GSEs, which CBO did not include in its 1996 estimate, has risen significantly, to $1.2 billion in 2000.[1]

1. Congressional Budget Office, *Assessing the Public Costs and Benefits of Fannie Mae and Freddie Mac* (May 1996).

Table 1.
Federal Subsidies to the Housing GSEs, 1995-2000 (In billions of dollars)

	1995	1996	1997	1998	1999	2000
Subsidies by GSE and by Source						
Fannie Mae						
Debt	1.7	1.5	1.8	3.2	3.3	3.6
Mortgage-backed securities	1.5	1.7	1.7	2.3	2.1	1.9
Tax and regulatory exemptions	0.3	0.4	0.4	0.5	0.6	0.6
Freddie Mac						
Debt	0.8	1.1	0.8	3.3	2.4	2.4
Mortgage-backed securities	1.0	1.3	1.1	1.1	2.1	1.8
Tax and regulatory exemptions	0.2	0.2	0.2	0.3	0.4	0.4
FHLBs						
Debt	1.2	1.1	2.0	2.6	4.5	2.8
Tax and regulatory exemptions	0.2	0.2	0.2	0.2	0.2	0.2
Total	6.8	7.4	8.1	13.5	15.6	13.6
Subsidies by Recipient						
Conforming mortgage borrowers[a]	3.7	4.1	4.0	7.0	7.4	7.0
Fannie Mae and Freddie Mac	1.8	2.2	2.1	3.9	3.9	3.9
FHLB stakeholders[b]	1.3	1.1	2.0	2.6	4.3	2.7
Total	6.8	7.4	8.1	13.5	15.6	13.6

SOURCE: Congressional Budget Office.

NOTES: The subsidies to GSE debt and mortgage-backed securities are present values. The annual savings from tax and regulatory exemptions are for the current year only.

Numbers may not add up to totals because of rounding.

a. Conforming mortgages are loans that are eligible for purchase by Fannie Mae and Freddie Mac with an original principal amount no greater than a stated ceiling, which is currently $275,000 for single-family mortgages.

b. The estimates assume that conforming mortgages financed by FHLB members were a constant share of members' portfolios from 1995 to 2000.

The total subsidy is distributed roughly in proportion to the relative size of the three enterprises. In 2000, about 45 percent went to Fannie Mae, 33 percent to Freddie Mac, and the remaining 22 percent to the FHLBs. Those shares are only slightly changed from 1995, when Fannie Mae's share is estimated to have been 50 percent, Freddie Mac's 30 percent, and the FHLBs' 20 percent.

The capitalized subsidy in any year depends on the growth rate of the GSEs' borrowing and guarantees of mortgage-backed securities in that year. Figure 1 shows how the total subsidy would evolve in the next 10 years under three different scenarios for the growth of debt and mortgage-backed securities. Under the high-growth scenario (growth at GDP plus 2 percent), the total subsidy would exceed $28 billion in 2011.

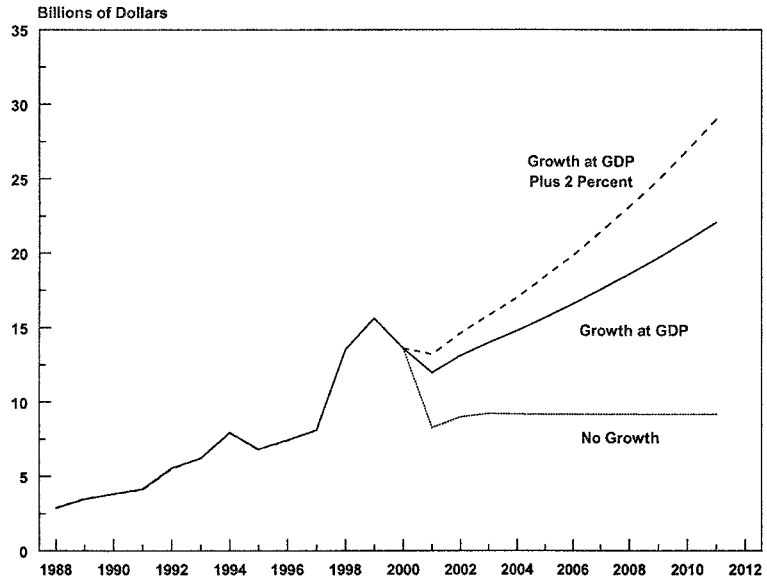
CBO estimates that a little more than half ($7.0 billion) of the total subsidy in 2000 passed through to conforming mortgage borrowers via interest rates that are estimated to be 25 basis points lower because of the subsidy. About 30 percent of the total subsidy was retained by Fannie Mae and Freddie Mac, and the remaining 20 percent was disbursed to customers and shareholders of member institutions of the Federal Home Loan Bank System.

CBO assumes that, because of competitive pressures, the benefit passed through to conforming mortgage borrowers, 25 basis points, is the same whether a mortgage is purchased by a GSE or packaged into a mortgage-backed security and guaranteed by a GSE. However, the estimated retained subsidy is 5 basis points on mortgage-backed securities and 16 basis points on debt issues. The lower retained benefit on mortgage-backed securities can be explained at least in part by the fact that the risk assumed by the GSEs is considerably less than on mortgages that they hold in their portfolios. The higher subsidy on debt than on mortgage-backed securities may help to explain Fannie Mae's and Freddie Mac's increased use of debt relative to mortgage-backed securities in recent years.

CBO'S ESTIMATION PROCEDURE

The total federal subsidy to the housing GSEs is the sum of two major components: the value added to GSE debt and guaranteed mortgage-backed securities in the capital markets and the costs the GSEs avoid as a result of regulatory and tax exemptions. The advantages in capital markets arise from an implied federal guarantee, which is inferred by investors from the special provisions in law benefiting the GSEs.

Figure 1.
Total Subsidies to the Housing GSEs Under Three Scenarios, 1988-2011



SOURCE: Congressional Budget Office.

Estimating the value of the GSEs' advantages in the capital markets involves several steps. First, the yield on GSE debt is compared with the higher yield on comparable issues of other financial institutions.[2] Second, that difference is multiplied by the amount of new debt issued in the current year—generating the current year's subsidy. Next, the yield advantage is multiplied by the amount of that debt that is expected to remain outstanding in future years. The flow of estimated future subsidies is converted to a present value using a discount rate equal to the GSEs' borrowing cost to obtain the current year's total subsidy. This calculation produces a total subsidy

2. The comparison is based on debt issues by 70 of the largest banking-sector firms rated either A or AA during the period 1995 to 1999 and issues by the GSEs over that same period.

on debt issued in 2000 of $8.8 billion. An analogous procedure yields a total subsidy on mortgage-backed securities of $3.6 billion in 2000.

The capitalized subsidy recognizes benefits when securities are issued and mortgages are purchased or securitized. That measure of the incremental benefit provided to new securities issued and mortgages financed is consistent with the objective of generally accepted federal accounting principles and budgetary practices. But it represents a change in method from previous estimates, including CBO's 1996 estimate.

The principal advantage of the new approach is that it ties the measure of the subsidy to the GSEs' current activities rather than to past transactions. For example, the current measure of the subsidy rose sharply in 1998 and 1999, which were years of rapid growth in the volume of securities issued by Fannie Mae, Freddie Mac, and the FHLBs, but declined in 2000, when their rate of growth fell back to the pre-1998 pace.

The second component of the subsidy, lower taxes and regulatory exemptions, is straightforward: CBO estimates the taxes, the Security and Exchange Commission's fees, and rating fees that the GSEs would pay each year were it not for their special status. That component is not capitalized. Rather, because its value is determined largely by each year's activity, it is reported on an annual cash flow basis.

THE BENEFITS TO BORROWERS

CBO has also estimated the division of the subsidy among the major beneficiaries, including the portion of the subsidy that reaches mortgage borrowers in the form of lower interest rates. On the basis of the estimated differential between rates for jumbo mortgages (which in 2001 are for amounts above $275,000) and conforming mortgages (which are for $275,000 and below and are eligible for purchase by Fannie Mae and Freddie Mac) and an adjustment for the FHLBs' influence on the rates for jumbo mortgages, CBO estimates that interest rates on mortgages are reduced by one-quarter of one percentage point (0.25 percentage points, or 25 basis points) as a result of the federal subsidy. A small subsidy (3 basis points) is provided to jumbo mortgages via the FHLBs. They pass a subsidy through to their members, who in turn pass it through to their customers, including borrowers of jumbo mortgages. The interest rate reduction on jumbo loans is relatively small because the subsidy is spread across the total business of FHLB members, and jumbo loans make up a small portion of that business.

The estimated savings to conforming mortgage borrowers are also capitalized because the benefit of a lower mortgage rate lasts for the life of the mortgage. About $7.0 billion of the total subsidy of $13.6 billion was passed through to conforming mortgage borrowers by the housing GSEs in 2000. Of that $7.0 billion, the subsidy to borrowers from mortgages financed by Fannie Mae and Freddie Mac was $6.7 billion. Because conforming mortgages are Fannie Mae's and Freddie Mac's only major line of business, CBO assumes that the portion of the subsidy not passed through is retained by shareholders and other stakeholders. Subtracting the amount of subsidy passed through by Fannie Mae and Freddie Mac from their total subsidy ($10.6 billion minus $6.7 billion) leaves $3.9 billion (or about 37 percent) as the amount they retained in 2000.

Determining the disposition of the subsidy to the FHLBs is also complicated because their member banks engage in a variety of lending activities. CBO estimates that their conforming mortgage borrowers received $0.3 billion out of the $3.0 billion total subsidy to the banks, assuming that the reduction in rates passed through is the same as for loans purchased by Fannie Mae or Freddie Mac and acknowledging that about 15 percent of member banks' assets are conforming mortgages. CBO assumes that the balance reduces borrowing rates on other types of loans and accrues to other FHLB stakeholders.

UNCERTAINTY AND JUDGMENT

As with all such estimates, data limitations and the complexity of the underlying processes imply that significant uncertainty attaches to all of CBO's point estimates. In fact, the sensitivity analysis included in CBO's report being released today shows that changing some of the individual parameters could significantly raise or lower the subsidy estimates. In assessing CBO's estimates, therefore, it is important to note that where missing or insufficient data necessitate judgments about parameter values, those judgments have been balanced and are not consistently in one direction or the other.

Several of CBO's assumptions may have reduced the size of the estimated subsidy. Faced with uncertainty over the duration of the benefit from the implied guarantee of GSE securities, CBO chose a short horizon rather than a long one. CBO also used a risk-adjusted discount rate, rather than a Treasury rate, to convert savings into present values. Those judgments reduced the estimated subsidy compared with the results from using an equally reasonable but longer horizon and a risk-free discount rate. Without knowledge of the ability of the GSEs to exploit short-term variations in their borrowing advantage, CBO attributed no benefit to their ability to adjust their security

sales and mortgage purchases to changes in yield spreads. Similarly, without data for measuring the value of the GSEs' ability to issue callable debt and enter into derivatives transactions, CBO assigned a value of zero to this benefit of federal backing. Again, those decisions tended to reduce the estimated subsidy to the housing GSEs.

Other judgments, necessitated by a lack of data or intractable complexity, tended to raise the estimated subsidy. For example, the fact that there are so few financial institutions that have a financial rating that is comparable to the housing GSEs' led CBO to base the GSE debt funding advantage on a sample of non-GSE securities more heavily weighted toward A-rated rather than AA-rated issues.[3] That decision raised the value of the estimated subsidy compared with the value CBO would have obtained if it had restricted its sample to the handful of AA-rated securities. Furthermore, notwithstanding the claims of Fannie Mae and Freddie Mac that some of their funding advantage is due to their operating efficiency rather than to their GSE status, lacking evidence of the extent of this effect CBO attributed none of their borrowing advantage to that source. That decision raised the estimated subsidy to the extent that the GSEs' efficiencies contributed to their funding advantage. Finally, CBO had no empirical means of determining the funding advantage on GSE debt that is nominally short-term but whose maturity is extended through derivatives transactions. Accordingly, CBO assigned the same funding advantage to short-term debt that is "effectively long" as it did to long-term debt. That judgment raised the estimated subsidy compared with the alternative assumption maintained by the GSEs that their funding advantage on such transactions is no greater than on short-term debt.

RESPONSE TO THE GSEs' EARLIER COMMENTS

In preparing its estimates, CBO considered the comments of Fannie Mae, Freddie Mac, and their consultants on CBO's 1996 study. CBO incorporated some of their suggestions into its present analysis—for instance, including a separate measure of the advantage on short-term debt, clarifying that Fannie Mae and Freddie Mac receive only a guarantee fee on mortgage-backed securities (part of which is included in CBO's estimate of their retained subsidy), and treating callable and noncallable debt similarly rather than estimating an advantage on callable debt separately. Disagreements remain, however, on several fundamental issues.

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3. Only one year in the sample period contained more than three comparable AA issues by financial institutions.

The GSEs have expressed disagreement with CBO's concept of cost. At times, they have suggested that because the federal government does not send them a monthly or annual check and because there is no explicit government liability, they receive no subsidy at all. CBO continues to use the common economic meaning of cost, which includes opportunity costs. Other financial firms would be willing to pay for the tax and regulatory benefits conferred by a GSE charter. Furthermore, providing credit guarantees that lower the cost of capital to one entity tends to decrease the supply of credit to competing borrowers, including the federal government. Although CBO did not try to estimate the higher borrowing costs resulting from the reduced credit supply, they impose a cost to the government.

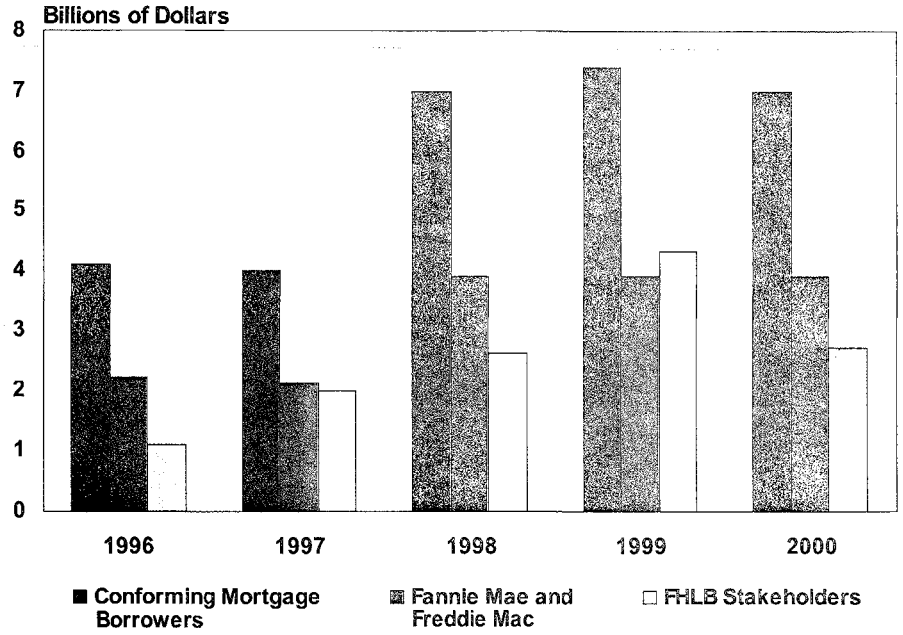
Fannie Mae and Freddie Mac have asserted that CBO's estimates understate the benefits of their operations to consumers. In fact, CBO was not asked to estimate all of the benefits that accrue from the housing GSEs, but rather to estimate the value of the benefits that the GSEs receive from their special status and the benefits that the GSEs pass through to mortgage borrowers. Knowing how much the GSEs get and what they do with the subsidy they receive is relevant for policymakers. The information is useful in evaluating an important and closely related question: could the same benefits be delivered to home buyers even if shareholders received less? Many mechanisms (for example, restrictions on the size of the GSEs' portfolios and charter auctions under which other financial institutions could bid for the same set of benefits or guarantee fees) would reduce the share of the subsidy accruing to shareholders but leave the activities of the GSEs largely unchanged. Although the GSEs have contributed to the efficiency of the mortgage market, future efficiency does not depend on shareholders' receiving dollar-for-dollar compensation for providing benefits to home buyers.

A related issue is whether the GSEs should be credited with "passing through" subsidies that are paid by other lenders. Through market dominance, Fannie Mae and Freddie Mac have reduced rates on all conforming mortgages, not just those that they hold in their portfolios or have securitized. However, Fannie Mae and Freddie Mac do not give up any of their retained subsidy to pay for the benefit of lower rates on mortgages financed by others. That benefit comes at the expense of lower income to non-GSE lenders. Accordingly, no credit should be given for "passing through" a benefit whose cost has been shifted to others. As a practical matter, this issue is less important than in the past because non-GSEs have a shrinking share of the fixed-rate conforming mortgage market and, hence, provide no new subsidies to mortgage borrowers now.

The amount of the subsidy passed through to borrowers depends on the degree of competition for conforming mortgages. Fannie Mae asserts that intense competition forces the housing GSEs to pass through all subsidies. As evidence, it cites its estimate that, as of December 31, 2000, Fannie Mae and Freddie Mac together held only 22.7 percent of the fixed-rate single-family mortgages outstanding in the United States. However, adjusting for other government mortgage guarantees, GSE-guaranteed mortgage-backed securities, and jumbo mortgages, CBO estimates that Fannie Mae and Freddie Mac have at least a 71 percent share of the market. That share is growing, which suggests that they have significant market power.

Finally, the GSEs contend that liquidity is a major source of their funding advantage. However, CBO attributes the greater liquidity of GSE securities to their implicit guarantee, much as the government guarantee of Treasury securities is the reason for their liquidity. To the extent that the greater liquidity is a result of operating efficiencies, this assumption imparts an upward bias to the subsidy estimate. It seems likely, however, that the sophisticated financial institutions with which the GSEs are compared also manage their debt operations to capture any available gains from enhanced liquidity.

Subsidies to the Housing GSEs by Beneficiary, 1996-2000



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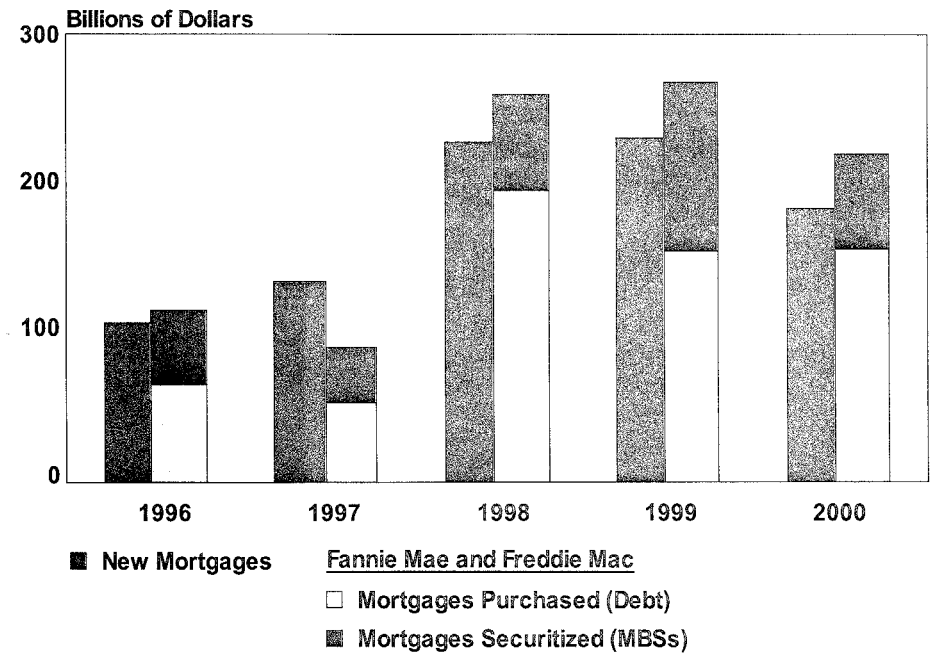
Fannie Mae's and Freddie Mac's Growth Versus the Mortgage Market's



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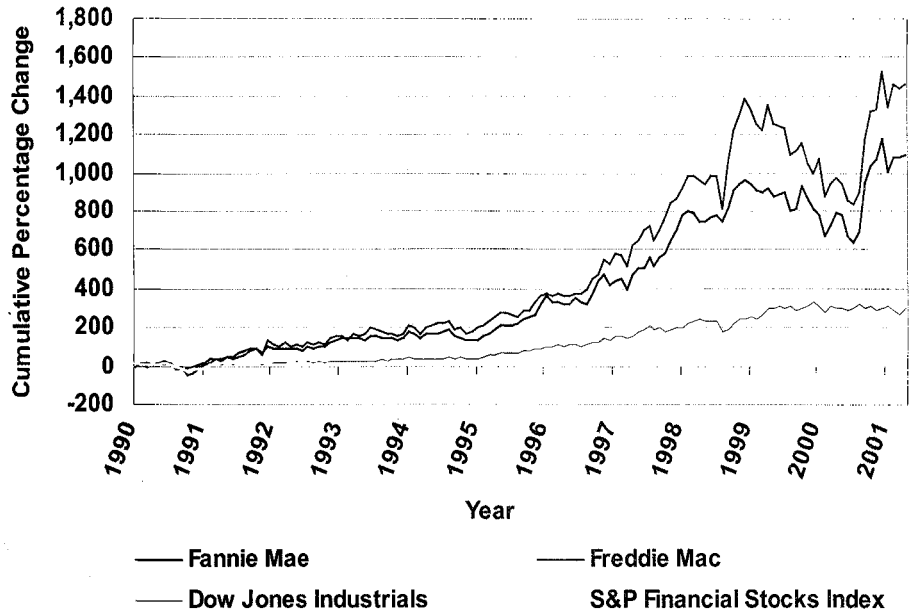
Common Stock Appreciation, January 1990 through April 2001



CBO 1990–4/01

CONGRESS OF THE UNITED STATES
CONGRESSIONAL BUDGET OFFICE

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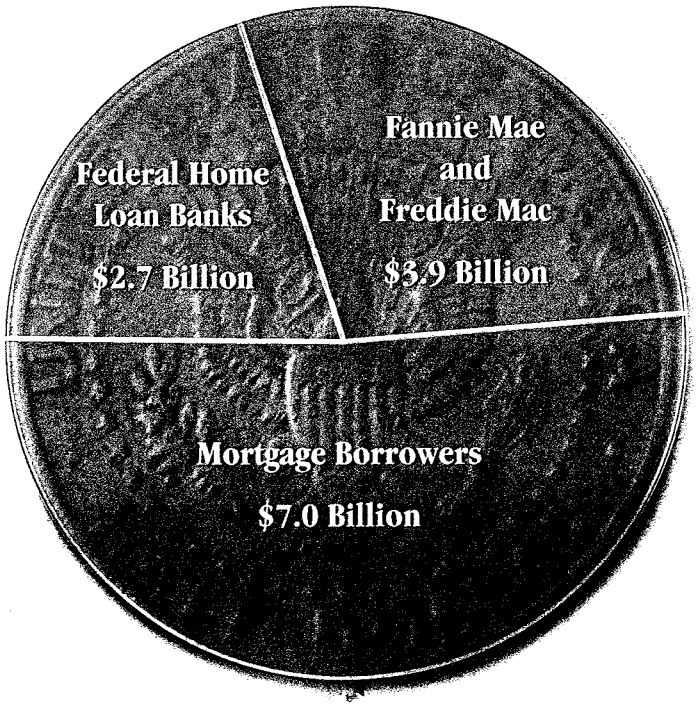
CBO
STUDY

MAY 2001

Federal Subsidies and the Housing GSEs



Subsidies in 2000

FEDERAL SUBSIDIES AND THE HOUSING GSEs

The Congress of the United States
Congressional Budget Office

NOTES

Numbers in the text and tables may not add up to totals because of rounding.

All years referred to in this study are calendar years.

Preface

This study responds to a request from Congressman Richard H. Baker—in his capacity as Chairman of the Subcommittee on Capital Markets, Insurance, and Government Sponsored Enterprises, House Committee on Financial Services—that the Congressional Budget Office (CBO) update its May 1996 study *Assessing the Public Costs and Benefits of Fannie Mae and Freddie Mac*. That study provided an estimate of the value of the federal subsidy to Fannie Mae and Freddie Mac. Congressman Baker also asked that CBO extend the estimate to include the Federal Home Loan Banks and to update its estimate of the portion of the subsidy that the government-sponsored enterprises (GSEs) retain.

Congressman John M. Spratt, Ranking Member, House Committee on the Budget, separately requested an explanation of the methods and assumptions that CBO used in preparing its updated estimate. In addition, Senator Robert F. Bennett, Chairman, Subcommittee on Financial Institutions, and Senator Wayne Allard, Chairman, Subcommittee on Housing and Transportation, both of the Senate Committee on Banking, Housing, and Urban Affairs, jointly requested that CBO review two critiques of its previous work that were prepared under contract for Fannie Mae and Freddie Mac. This study also responds to those requests.

Deborah Lucas and Marvin Phaup prepared this study, with the assistance of David Torregrosa and Lauren Marks and under the direction of Steve Lieberman and Roger Hitchner. Barry Anderson, Charles Capone, Arlene Holen, Angelo Mascaro, John McMurray, Eric Warasta, and Rae Roy of CBO also contributed to the report. Many people outside CBO provided assistance, including staff of Fannie Mae and Freddie Mac, Joe MacKenzie of the Federal Housing Finance Board, Patrick Lawler and Robert Seiler Jr. of the Department of Housing and Urban Development's Office of Federal Housing Enterprise Oversight, Edward DeMarco and Mario Ugoletti of the Department of the Treasury, Wayne Passmore of the Federal Reserve Board, Ron Feldman of the Federal Reserve Bank of Minneapolis, Bill Shear of the General Accounting Office, and Barbara Miles of the Congressional Research Service.

Under contract with CBO, Brent Ambrose and Arthur Warga prepared a report in support of this study: *An Update on Measuring GSE Funding Advantages,* which is available from CBO's Microeconomic and Financial Studies Division. Also, David Torregrosa authored the supporting CBO paper *Interest Rate Differentials Between Jumbo and Conforming Mortgages, 1995-2000.*

John Skeen edited this study, and Christine Bogusz proofread it. Kathryn Quattrone prepared it for publication, Annette Kalicki prepared the electronic versions for CBO's Web site, and Lenny Skutnik did the initial printing. Kathryn Quattrone, with the assistance of Binh Thai, designed the cover. This study and other CBO publications are available at CBO's Web site (www.cbo.gov).

Dan L. Crippen
Director

May 2001

Introduction and Summary

Fannie Mae, Freddie Mac, and the Federal Home Loan Bank (FHLB) System were established and chartered by the federal government, as privately owned entities, primarily to facilitate the flow of credit to mortgage borrowers. Their special legal status as government-sponsored enterprises (GSEs), which includes tax and regulatory exemptions, enhances the perceived quality of the debt and mortgage-backed securities (MBSs) that they issue or guarantee and translates into a federal subsidy. By the Congressional Budget Office's (CBO's) estimates, the total subsidy grew steadily from $6.8 billion in 1995 to approximately $15.6 billion in 1999; it dropped slightly, to $13.6 billion, in 2000, reflecting a slowdown in the growth of the GSEs' activities (see Table 1). Although the single largest source of the subsidy is the implicit guarantee on the GSEs' debt issues, in recent years the value of tax and regulatory exemptions has become significant, totaling an estimated $1.2 billion in 2000.

The ultimate beneficiaries of that subsidy include conforming mortgage borrowers; the shareholders of (and other stakeholders in) Fannie Mae and Freddie Mac; and the stakeholders in the FHLBs and member institutions, including other borrowers at member banks.[1] A little more than half ($7.0 billion) of that total subsidy in 2000 passed through to conforming mortgage borrowers, CBO estimates.

The Housing GSEs

Fannie Mae, Freddie Mac, and the Federal Home Loan Banks—collectively, the housing GSEs—were created to provide liquidity and stability in the home mortgage market, thereby increasing the flow of funds available to mortgage borrowers.[2] The oldest of these enterprises, the FHLBs, were chartered in 1932 to provide short-term loans (called advances) to thrift institutions to stabilize mortgage lending in local credit markets. Fannie Mae was originally created as a wholly owned government corporation in 1938 to buy mortgages, primarily from mortgage bankers, and hold them in its portfolio. Although it was converted into a GSE in 1968, Fannie Mae continued the practice of issuing debt and buying and holding mortgages. Freddie Mac, created in 1970 as part of the Federal Home Loan Bank System, bought

1. For Fannie Mae and Freddie Mac, conforming mortgage borrowers and shareholders are the primary beneficiaries of the subsidy. A portion of the subsidy also accrues to other "stakeholders," which include any other party that benefits from those GSEs' special status. CBO has estimated the total subsidy and the subsidy accruing to mortgage borrowers and therefore has not distinguished between shareholders and other stakeholders. FHLB stakeholders are defined as all beneficiaries of the subsidy that are not conforming mortgage borrowers.

2. In general, GSEs are financial institutions established and chartered by the federal government, as privately owned entities, to facilitate the flow of funds to selected credit markets, such as residential mortgages and agriculture. In addition to Fannie Mae, Freddie Mac, and the Federal Home Loan Banks, the Farm Credit System and Farmer Mac are GSEs. The Student Loan Marketing Association (Sallie Mae) is in the process of converting from being a GSE to being a fully private entity.

Table 1.
Federal Subsidies to the Housing GSEs, 1995-2000 (In billions of dollars)

	1995	1996	1997	1998	1999	2000
Subsidies by GSE and by Source						
Fannie Mae						
Debt	1.7	1.5	1.8	3.2	3.3	3.6
Mortgage-backed securities	1.5	1.7	1.7	2.3	2.1	1.9
Tax and regulatory exemptions	0.3	0.4	0.4	0.5	0.6	0.6
Freddie Mac						
Debt	0.8	1.1	0.8	3.3	2.4	2.4
Mortgage-backed securities	1.0	1.3	1.1	1.1	2.1	1.8
Tax and regulatory exemptions	0.2	0.2	0.2	0.3	0.4	0.4
FHLBs						
Debt	1.2	1.1	2.0	2.6	4.5	2.8
Tax and regulatory exemptions	0.2	0.2	0.2	0.2	0.2	0.2
Total	6.8	7.4	8.1	13.5	15.6	13.6
Subsidies by Recipient						
Conforming mortgage borrowers[a]	3.7	4.1	4.0	7.0	7.4	7.0
Fannie Mae and Freddie Mac	1.8	2.2	2.1	3.9	3.9	3.9
FHLB stakeholders[b]	1.3	1.1	2.0	2.6	4.3	2.7
Total	6.8	7.4	8.1	13.5	15.6	13.6

SOURCE: Congressional Budget Office.

NOTE: The subsidies to GSE debt and mortgage-backed securities are present values. The annual savings from tax and regulatory exemptions are for the current year only.

a. Conforming mortgages are loans that are eligible for purchase by Fannie Mae and Freddie Mac with an original principal amount no greater than a stated ceiling, which is currently $275,000 for single-family mortgages.

b. The estimates assume that conforming mortgages financed by FHLB members were a constant share of members' portfolios from 1995 to 2000.

mortgages primarily from thrifts. Rather than holding the mortgages in its portfolio, Freddie Mac pooled them, guaranteed the credit risk, and sold interests in the pools to investors—creating mortgage-backed securities.

The debt issued and MBSs guaranteed by the housing GSEs are more valuable to investors than similar private securities because of the perception of a government guarantee and because of other advantages conferred by statute. That added value is the primary means by which the federal government conveys a subsidy to those GSEs.[3] Because of competitive forces, a large part of the subsidy passes through them and other financial intermediaries to the intended beneficiaries—primarily mortgage borrowers,

3. Alan Greenspan has noted that "The GSE subsidy is unusual in that its size is determined by market perceptions, not by legislation. Indeed the prospectuses of the debentures issued by GSEs explicitly state that they are not backed by the full faith and credit of the United States government. Accordingly, the extent to which the subsidy is exploited is determined by the extent to which GSEs choose to issue debt and mortgage-backed securities, not by legislation." Letter to Congressman Richard H. Baker, August 25, 2000.

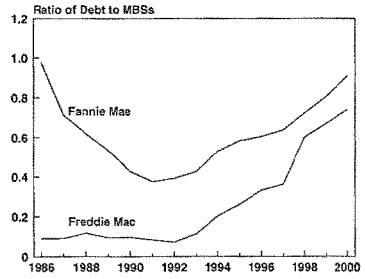
but also other borrowers of FHLB member institutions. However, the shareholders and stakeholders of Fannie Mae and Freddie Mac are able to retain a portion of that subsidy because the special legal status of those GSEs puts them at a competitive advantage over other financial institutions in the market for fixed-rate conforming mortgages. Similarly, to the extent that competition is not perfect, stakeholders in the FHLBs and member institutions retain a portion of the subsidy to the banks.

Risk, Return, and Financial Structure

The economic turmoil of the late 1970s and early 1980s demonstrated that the risks of financing a mortgage portfolio can differ significantly from those of guaranteeing MBSs or providing short-term loans. High inflation, interest rate volatility, and recession weakened Fannie Mae and the savings and loans. Those conditions eroded the value of 30-year conforming mortgages held in portfolio and simultaneously drove up the cost of financing. Freddie Mac and the FHLBs were much less exposed to the risk of declines in the value of mortgages and, hence, were less adversely affected than Fannie Mae.

Beginning in 1982 and continuing for the next decade, Fannie Mae rapidly increased its reliance on MBSs, reducing the growth of its exposure to the types of risks that threatened its solvency in the early 1980s. Then in the early 1990s, Fannie Mae changed its practices and again began to buy and hold mortgages (financed by debt issues) in addition to guaranteeing MBSs, and Freddie Mac subsequently followed. Consequently, for both GSEs, the ratio of mortgages held in portfolio to MBSs guaranteed but held by other investors greatly increased (see Figure 1). To support their mortgage portfolios, Fannie Mae and Freddie Mac currently have $1.1 trillion of outstanding debt at interest rates below those on comparable private debt. Although the increased reliance on portfolio holdings represents an increase in risk taking, Fannie Mae and Freddie Mac now hedge many of those risks. Nonetheless, their portfolios have become a large and growing source of profits for both enterprises.

Figure 1.
Fannie Mae's and Freddie Mac's Ratio of Outstanding Debt to Mortgage-Backed Securities, 1986-2000



SOURCE: Congressional Budget Office.

NOTE: MBSs = mortgage-backed securities.

The portfolios of Fannie Mae and Freddie Mac may augment their government-legislated mission to provide liquidity, although at the cost of greater risk exposure than if they only guaranteed MBSs. By buying and holding mortgages, especially those originated in distressed areas such as Texas in the late 1980s and New England in the mid-1990s, they directly enhanced liquidity in those markets. More generally, the profits from their portfolios provide funding for improving mortgage financing for consumers. However, whether the costs of that growth in their portfolios are commensurate with the additional contributions to the home mortgage market is unclear. If the housing GSEs were to continue to grow at the rate of gross domestic product (GDP), their total subsidy would exceed $20 billion in 2011. Fannie Mae and Freddie Mac have demonstrated the feasibility of increasing the liquidity and stability in local housing markets by integrating them into a single national system. In the process, they have attracted private imitators, firms that pool mortgages and sell MBSs without the benefit of federal backing.

The FHLBs also borrow at rates below those on comparable private securities because of the market perception of a government guarantee on their debt. Originally, the FHLBs made advances directly to

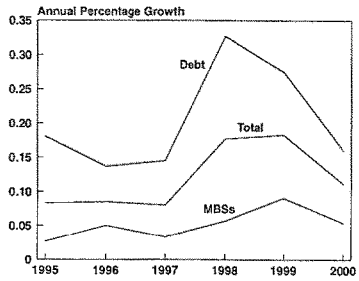
members, which were mostly savings institutions that specialized in mortgage lending. In so doing, the FHLBs passed through most of the subsidy to their members, who in turn distributed the subsidy primarily to home buyers. The regulatory reform that followed the savings and loan crisis broadened membership in the FHLB System to include banks and thrifts that operate the way banks do. Consequently, the FHLBs' subsidy is now spread more widely among lending institutions and is not confined to housing finance.

CBO's Estimation Procedure

The total subsidy to the GSEs on their debt is estimated using three steps. First, the yield advantage on GSE debt is estimated by comparing GSEs' yields with the higher yields on comparable issues from other financial institutions.[4] Second, that difference is multiplied by the amount of new debt issued in the current year. That yield advantage is also multiplied by the amount of new debt estimated to remain outstanding in future years. Those future annual reductions in borrowing cost represent subsidies secured in the current year but expected to be realized in the future. Finally, current and future annual subsidies are capitalized at a discount rate equal to the GSEs' borrowing cost, producing the current year's total subsidy.[5] This calculation produces a total subsidy to debt issued in 2000 of $8.8 billion. An analogous procedure yields a total subsidy to MBSs of $3.7 billion in 2000.

This capitalized subsidy measure recognizes benefits when securities are issued and mortgages are purchased or securitized. That measure of the incremental benefit of new securities issued and mortgages financed is consistent with the objectives of generally accepted federal accounting principles and budgetary practices but represents a methodological change from previous estimates, including CBO's last estimate of the subsidy to the GSEs. The principal advantage of the current approach is that it ties the measure of the subsidy to the GSEs' new activities, not old commitments. For example, the current measure of the subsidy rose sharply in 1998 and 1999, which were years of rapid growth in the volume of securities issued by Fannie Mae, Freddie Mac, and the FHLBs, but declined in 2000, when the rate of growth fell back to the pre-1998 pace (see Figure 2).

Figure 2.
Growth in the Housing GSEs' Outstanding Debt and Mortgage-Backed Securities, 1995-2000



SOURCE: Congressional Budget Office.

NOTE: MBSs = mortgage-backed securities.

CBO has also estimated the division of the subsidy among the major beneficiaries, including the portion of the subsidy that reaches conforming mortgage borrowers in the form of lower interest rates. On the basis of the estimated differential between rates for jumbo fixed-rate single-family mortgages (ones that are above $275,000 in 2001) and conforming mortgages (ones that are $275,000 and below in 2001 and are eligible for purchase by Fannie Mae and Freddie Mac) and an adjustment for the FHLBs' influence on the rates for jumbo mortgages, CBO estimates that interest rates on mortgages are reduced by one-quarter of one percentage point (0.25 percentage points, or 25 basis points) as a result of the federal subsidy. A small portion of that subsidy (3 basis

4. The comparison is based on debt issues by 70 of the largest banking-sector firms rated either A or AA during the period of 1995 to 1999 and issues by the GSEs over the same period. For details, see Brent Ambrose and Arthur Warga, *An Update on Measuring GSE Funding Advantages* (prepared for the Congressional Budget Office, November 6, 2000), Table 1.

5. CBO's 1996 estimate applied the yield advantage to the total outstanding debt, rather than to incremental debt, but only for a single year. Therefore, the subsidy estimates here are not directly comparable with those from the earlier study.

points) is provided on jumbo mortgages via the FHLBs, which pass it through to their members, who in turn pass it through to their customers. The subsidy on jumbo mortgages is relatively small because it is spread across the total business of FHLB members and jumbo mortgages make up a small portion of that business.

The estimated savings to conforming mortgage borrowers are also expressed as a capitalized amount, reflecting the fact that the benefit from lower mortgage rates lasts over the life of the mortgage. About $7.0 billion of the total subsidy of $13.6 billion was passed through to conforming mortgage borrowers by the housing GSEs in 2000. Of that $7.0 billion, the subsidy to borrowers from mortgages financed by Fannie Mae and Freddie Mac was $6.7 billion. Because conforming mortgages are Fannie Mae's and Freddie Mac's only major line of business, CBO assumes that the portion of the subsidy not passed through is retained by shareholders and other stakeholders. Subtracting the amount of subsidy passed through by Fannie Mae and Freddie Mac from their total subsidy ($10.6 billion minus $6.7 billion in 2000) leaves $3.9 billion (or about 37 percent) as the amount that they retained.

Determining the disposition of the subsidy to the FHLBs is more complicated because their member banks engage in a variety of lending and other activities. CBO estimates that their conforming mortgage borrowers receive $0.3 billion out of the $3.0 billion total subsidy, assuming that the reduction in rates passed through is the same as for loans purchased by Fannie Mae or Freddie Mac and recognizing that about 15 percent of member banks' assets are conforming mortgages. CBO assumes that the balance reduces borrowing rates on other types of loans and accrues to other FHLB stakeholders.

As for all such calculations, data limitations and the complexity of the issues about which judgments must be made suggest that there is significant uncertainty surrounding those point estimates. The sensitivity analysis described in the last section of this study shows that changing some of the key parameters could significantly raise or lower the subsidy estimates. An important question is whether the approximation errors in the sensitivity analysis are offsetting. Certain assumptions that CBO has made may result in a downward bias: analyzing short-lived rather than long-lived subsidies; relying on an average funding advantage over time rather than acknowledging that the GSEs adjust the amount of debt they issue according to the size of the funding advantage; and not attributing an advantage to the GSEs in the derivatives markets. Other assumptions, such as basing the yield advantage largely on a sample of firms that have a lower credit rating than Fannie Mae and Freddie Mac and attributing no borrowing advantage to the efficiency of the GSEs' operations, may result in an upward bias. CBO believes that on balance its estimates present a fair picture of the total subsidy, its distribution, and its growth over time.

In preparing its estimates, CBO considered the comments of Fannie Mae, Freddie Mac, and their consultants on CBO's 1996 study. Some of their suggestions were incorporated into the present analysis, but disagreements remain on several fundamental issues. Appendix A summarizes the main points raised and CBO's responses.

The Housing GSEs' Structure and Function

Government-sponsored enterprises are financial intermediaries, established and granted preferential treatment by federal law to increase the flow of funds to specific uses but owned by investors to whom they owe a fiduciary responsibility.[1] Three GSEs facilitate the financing of residential housing: the Federal National Mortgage Corporation, or Fannie Mae; the Federal Home Loan Mortgage Corporation, or Freddie Mac; and the Federal Home Loan Bank (FHLB) System. Fannie Mae and Freddie Mac are publicly owned entities whose shares trade on the New York Stock Exchange. The 12 Federal Home Loan Banks are cooperatives, which operate somewhat independently of one another, and are owned by member institutions, primarily privately owned savings and loans, savings banks, commercial banks, and other lenders that finance home mortgages and other household and business debt.

All of the housing GSEs are financial intermediaries. They raise funds in the capital markets and make the money available to retail lenders, who in turn provide financing for their customers. Fannie Mae and Freddie Mac are largely restricted to financing conforming mortgages, which are high-quality loans secured by residential real estate whose original principal amount is no greater than the conforming ceiling, currently $275,000 for single-family mortgages.[2] Fannie Mae and Freddie Mac supply funds to the conforming mortgage market in two ways: they borrow money by selling debt securities and use the funds to purchase mortgages from lenders. In addition to buying mortgages and holding them as investments, Fannie and Freddie also guarantee mortgage-backed securities, which are then sold to investors. The principal business activity of the FHLBs is to borrow in the capital markets and make loans (called advances) to member institutions. All three activities affect the supply of funds available for mortgage lending and are likely to reduce interest rates on loans secured by residential real estate, but each does so through different financial channels.

The Housing GSEs' Borrowing, Investing, and Lending

As their balance sheets show, Fannie Mae and Freddie Mac are heavily invested in mortgages and depend on debt securities for funding. The FHLBs have two-thirds of their assets invested in advances to member banks and similarly depend on debt securities for funding (see Table 2). The GSEs' second

1. For a discussion of the evolution of GSEs, see the Statement of Thomas Woodward, Congressional Research Service, before the Subcommittee on Capital Markets, Securities, and Government-Sponsored Enterprises, House Committee on Banking and Financial Services, and the Subcommittee on Government Management, Information, and Technology, House Committee on Government Reform and Oversight, July 16, 1997.

2. Fannie Mae and Freddie Mac adjust the conforming ceiling annually for the change in house prices. In 2000, the ceiling was $252,700.

Table 2.
Balance Sheets for Fannie Mae, Freddie Mac, and the Federal Home Loan Banks, December 31, 2000 (As a percentage of total assets)

	Fannie Mae	Freddie Mac	FHLBs
Assets			
Mortgage portfolio	90	84	2
Investments	8	11	29
Advances	n.a.	n.a.	67
Other assets	2	5	2
Total Assets	100	100	100
Liabilities and Capital			
Debt securities	95	93	91
Other borrowing	2	4	4
Equity	3	3	5
Total Liabilities and Capital	100	100	100
Total Assets (In billions of dollars)	675	459	654

SOURCE: Congressional Budget Office.

NOTES: As of December 31, 2000, Fannie Mae and Freddie Mac had contingent liabilities for outstanding mortgage-backed securities of $707 billion and $576 billion, respectively.

n.a. = not applicable.

largest category of assets, investments, includes commercial paper (a type of short-term corporate debt); overnight bank loans; and, for the FHLBs, holdings of mortgage-backed securities. (Fannie Mae and Freddie Mac report their investments in MBSs as a part of their mortgage portfolios.)[3]

The GSEs profit from simultaneously borrowing and lending, because the income they earn from assets is higher than the interest they must pay on debt plus their other operating costs. In 1999, Fannie Mae reported an average annual yield on its mortgage portfolio of 0.90 percentage points, or 90 basis points (bps), greater than the cost of its outstanding debt.[4] Freddie Mac reported a yield spread on mortgages over debt of 80 bps. And the FHLBs, which specialize in making low-interest loans to members, reported a spread on earning assets over debt securities of 22 bps. Thus, by selling general obligation debt to investors, Fannie Mae and Freddie Mac are able to profitably hold large portfolios of mortgages that they purchase from lenders.[5] The FHLBs earn a smaller, but positive, yield based on the spread between the higher rates on loans to members and the lower rates that the banks pay on their debt.

Fannie Mae, Freddie Mac, and the FHLBs issue debt securities in both noncallable and callable forms and with various maturities. In addition, the GSEs use derivative instruments such as interest rate swaps to alter the effective maturity of their debt. Noncallable, or "bullet," issues pay interest semiannually, but the principal is redeemed only at the stated maturity of the debt. Callable debt securities differ from noncallable debt in that the principal may be repaid at a GSE's option on or after a specified call date and

3. Fannie Mae's and Freddie Mac's contingent liabilities for guarantees of outstanding MBSs are classified as "off-balance-sheet" and disclosed elsewhere in their financial statements.

4. According to Fannie Mae's 1999 annual report, the average yield on its net mortgage portfolio was 7.08 percent, and the average cost of outstanding debt was 6.18 percent.

5. The annual return on equity from 1995 to 2000 averaged 24.3 percent for Fannie Mae and 23.5 percent for Freddie Mac.

before the maturity date. The GSEs offer debt across the full range of maturities, from a few days to 30 years and with both fixed and variable interest rates. The wide range of debt securities that the GSEs issue is intended to appeal to a variety of investors and to minimize funding costs to the enterprises. The need to manage risk also affects the maturity composition of the debt.[6]

Fannie Mae's and Freddie Mac's Guarantees of Mortgage-Backed Securities

Mortgage-backed securities are created when a financial institution purchases individual mortgages but then, rather than holding them on its balance sheet as assets, bundles them into a pool of mortgages and sells shares of the mortgage pool to investors. The claims sold to investors are mortgage-backed securities. MBSs differ from traditional debt instruments that promise a series of predetermined payments to investors. Instead, MBSs pay a share of the often uneven and somewhat unpredictable cash flows from the underlying pool of mortgages. A third party's credit guarantee of an MBS provides assurance to the investor of receiving payments when due, but actual cash flows depend on the speed of underlying mortgage prepayments. If, for example, mortgage interest rates fall sharply, mortgage borrowers are more likely to prepay their mortgages, as a result of either selling or refinancing their homes, than if rates had stayed unchanged or risen. Investors in the MBSs will then receive their payments of principal more quickly than they may have expected. Thus, investors in MBSs, like investors in insured whole mortgages, are subject to a risk that investors in traditional debt instruments avoid: the risk associated with the uncertainty of the speed of repayment, or prepayment risk. Partly as a consequence of that risk, interest rates on MBSs (and whole mortgages) are higher than on debt securities of comparable credit quality.[7]

Fannie Mae and Freddie Mac are actively involved in the production of MBSs. (The Federal Home Loan Banks issue only debt securities.) While the operating details differ sufficiently to cause Fannie Mae and Freddie Mac to describe their activities variously as "credit guarantees" (Fannie Mae) and "mortgage securitization" (Freddie Mac), both entities effectively provide a guarantee of timely payment on MBSs. In both cases, the GSE assumes the credit or default risks (for a fee), and the investor accepts the prepayment risk (in exchange for a higher rate of return than on a noncallable debt security). Because Fannie Mae and Freddie Mac are not required to report on their balance sheets the MBSs that they guarantee but do not hold in portfolio, important elements of risk and return are missing from those balance sheets.[8] A more complete picture would include the substantial volume of liabilities for outstanding guarantees of MBSs. Fannie Mae and Freddie Mac had more than $1.2 trillion in MBSs outstanding at year-end 2000 (see Table 3). Those guarantees are important sources of risk and of fee income for the two enterprises.

In recent years, the housing GSEs have also become major investors in MBSs guaranteed by themselves and others. By purchasing MBSs, the GSEs increase their risk and potential returns. When Fannie Mae and Freddie Mac purchase MBSs they have already guaranteed, they transform off-balance-sheet liabilities into on-balance-sheet assets and on-balance-sheet liabilities for debt securities issued to finance the purchase. In doing so, they take on the prepayment, interest rate, and liquidity risks in addition to the credit risk they had already assumed. When they invest in MBSs guaranteed by others, they are taking on prepayment, interest rate, and liquidity risks but little incremental credit risk.

6. Like other financial institutions, the GSEs are exposed to interest rate risk when the effective duration of their assets and liabilities does not match. The enterprises select debt maturities in part to offset that risk.

7. Like other investors in debt, investors in MBSs also face interest rate and liquidity risks. Interest rate risk is due to the effect of changing market rates on the value of debt securities. Liquidity risk is the risk that an active secondary market will not be available when an investor wants to sell a security quickly.

8. However, the enterprises do disclose their guarantees of MBSs in various financial statements.

Table 3.
The Housing GSEs' Outstanding Mortgage-Backed Securities and Debt, Year-End 1985-2000
(In billions of dollars)

	Fannie Mae		Freddie Mac		FHLBs'	Total	Total
	MBSs[a]	Debt	MBSs[a]	Debt	Debt	MBSs[a]	Debt
1985	55	94	100	13	74	155	181
1986	96	94	169	15	90	265	199
1987	136	97	213	20	116	349	233
1988	170	105	226	27	137	396	269
1989	217	116	273	26	137	490	279
1990	288	123	316	31	118	604	272
1991	355	134	359	30	108	714	272
1992	424	166	408	30	115	832	311
1993	471	201	439	50	139	910	390
1994	486	257	461	93	200	947	550
1995	513	299	459	120	231	972	650
1996	548	331	473	157	251	1,021	739
1997	579	370	476	173	304	1,055	847
1998	637	460	478	287	377	1,115	1,124
1999	679	548	538	361	525	1,217	1,434
2000	707	643	576	427	592	1,283	1,662

SOURCE: Congressional Budget Office based on data from the Department of Housing and Urban Development's Office of Federal Housing Enterprise Oversight.

a. MBSs = mortgage-backed securities; excludes holdings of the enterprise's own MBSs held in its portfolio.

The Regulatory Environment

In common with commercial banks and savings institutions, the GSEs are subject to regulations that affect their business operations, capital holdings, and participation in lending to low-income borrowers, as well as other activities. Fannie Mae and Freddie Mac are regulated by the Department of Housing and Urban Development's (HUD's) Office of Federal Housing Enterprise Oversight (OFHEO), and the Federal Housing Finance Board oversees the Federal Home Loan Banks.

In accord with their housing mission, Fannie Mae and Freddie Mac are limited primarily to financing conforming mortgages. That limitation, however, excludes them from only about 10 percent to 20 percent of the residential mortgage market. Lending by the FHLBs is largely restricted to collateralized loans to member institutions. Eligible collateral includes home mortgages, mortgage-backed securities, Treasury and agency securities, and deposits with the FHLBs.[9] Those collateral requirements are intended to ensure that most lending by the FHLBs supports targeted investment activities, but because member institutions have more eligible collateral than advances from the FHLBs, the requirements are thought to not be effective in targeting the use of those funds.[10]

The housing GSEs are subject to minimum capital requirements. OFHEO sets the capital standards for Fannie Mae and Freddie Mac, and the Federal

9. For commercial member banks with less than $500 million in assets, the Gramm-Leach-Bliley Act of 1999 repealed a requirement that 10 percent of their total assets be mortgage-related and revised the definition of eligible collateral to include small business and small farm loans. For the details and projected effects, see Robert N. Collender and Julie A. Dolan, "Small Commercial Banks and the Federal Home Loan Bank System" (paper presented at the North American Regional Science Association International Meeting, Chicago, Ill., November 2000).

10. At year-end 1999, FHLB member institutions held $1.1 trillion in residential mortgages, while advances were $400 billion. Therefore, members were able to borrow against existing excess collateral and use the funds to finance the most attractive lending opportunities, which may or may not have been mortgages.

Housing Finance Board has responsibility for ensuring that the Federal Home Loan Banks maintain the mandated level of equity capital.[11]

11. Mandated capital levels are lower for the GSEs than for commercial banks, but interpreting those differences is difficult because the risks borne by those two types of institutions also differ significantly.

The housing GSEs are charged with increasing the availability of mortgages for low- and moderate-income borrowers. HUD establishes goals for financing such mortgages for Fannie Mae and Freddie Mac, and the FHLBs are required by law to devote 10 percent of net income to the Affordable Housing Program, which offers subsidized mortgages to targeted borrowers. Any additional benefits to low-income borrowers (beyond the estimated rate reduction on their conforming mortgages) are not estimated here.

Federal Subsidies

The housing GSEs receive two distinct, but related, benefits from the government. First, a number of regulatory and tax exemptions reduce the GSEs' operating costs. Second, federal backing enhances the perceived credit quality of debt issued and mortgage-backed securities guaranteed by the GSEs. Those benefits result in lower borrowing costs and higher profits than a similarly structured enterprise without a GSE charter would realize.

CBO has estimated the costs of those subsidies in two parts: First, there is the direct cost from the fees and taxes that otherwise would be collected by federal, state, and local governments. Second, there is the opportunity cost of providing free credit enhancement to the GSEs, because competing financial institutions would be willing to pay to receive similar treatment. To the extent that the government assumes credit risk, there is also the cost of expected losses, but quantifying that potential exposure is beyond the scope of this estimate.[1]

As requested by Congressman Baker, CBO's estimate breaks down the distribution of those subsidies among various beneficiaries. They include the GSEs' stakeholders, conforming mortgage borrowers who are financed via the GSEs, and other entities (for example, nonmortgage borrowers at FHLB member banks). The GSEs may indirectly affect borrowing rates for other financial market participants as well. For instance, rates on conforming mortgages obtained from intermediaries that are not GSEs are lower than they otherwise would be because of the competitive presence of the GSEs, benefiting those borrowers. At the same time, credit that is diverted from other markets to the conforming mortgage market tends to raise costs to borrowers in those markets—for instance, for the U.S. Treasury and for businesses investing in capital goods. The subsidies may also increase the price of housing if home buyers use the savings on their mortgages to bid more for houses. This study does not include estimates of most of those indirect benefits or costs because they are not directly related to the size or distribution of the subsidies to the GSEs, which is the focus of this analysis.

Direct Benefits from Special Legal Status

The law treats the GSEs as instrumentalities of the federal government, rather than as fully private entities. They are chartered by federal statute, exempt from state and local income taxes, exempt from the Securities and Exchange Commission's (SEC's) registration requirements and fees, and may use the Federal Reserve as their fiscal agent. In addition, the U.S. Treasury is authorized to lend $2.25 billion to both Fannie Mae and Freddie Mac and $4 billion to

1. Because investors value the perceived protection from credit risk, its value is already largely reflected in the estimate of the borrowing advantage on debt and MBSs. In any event, the estimated exposure under current law would be small because there is no explicit commitment to cover losses. More generally, the estimated exposure would depend on assumptions made about the strength and extent of any implicit guarantees.

the FHLBs. GSE debt is eligible for use as collateral for public deposits, for unlimited investment by federally chartered banks and thrifts, and for purchase by the Federal Reserve in open-market operations. GSE securities are explicitly government securities under the Securities Exchange Act of 1934 and are exempt from the provisions of many state investor protection laws. Those advantages have not been granted to any other shareholder-owned companies. Some of those provisions of law result in direct monetary savings to the GSEs, estimates of which are reported below.

Indirect Benefits That Lower Borrowing Costs

The special treatment of GSE securities in federal law signals to investors that those securities are relatively safe. Investors might reason, for instance, that if the securities were risky, the government would not have exempted them from the protective safeguards it put in place to prevent losses of public and private funds. This implied assurance appears to outweigh the explicit disavowal of responsibility in every prospectus for GSE securities.[2] The GSEs therefore enjoy lower financing costs than would private financial intermediaries, were they to hold similar levels of capital and take comparable risks.[3]

As a consequence of those provisions, GSE obligations are classified by financial markets as "agency securities" and priced below U.S. Treasuries and above AAA corporate obligations. The super-AAA rating reduces borrowing costs for the GSEs, in part by promoting institutional acceptance of the securities. Decisions by portfolio managers to invest in GSE securities do not have to be justified in terms of credit risk. General acceptance of the securities increases investors' willingness to buy them and enhances their liquidity. Those characteristics of acceptability and liquidity contribute to the relatively high price investors are willing to pay for GSE securities. CBO assumes that those advantages are captured in its estimate of the spread between the rates on GSE debt and the rates on comparable debt from other financial institutions, so CBO makes no separate estimate of the value of liquidity.[4]

The Subsidy to Mortgage-Backed Securities

A similar combination of federal regulatory provisions and implied guarantees enhances the credit standing, market acceptance, and liquidity of MBSs guaranteed by Fannie Mae and Freddie Mac. For example, risk-based capital requirements for banks are lower for GSE-guaranteed MBSs than for privately guaranteed MBSs. Federal backing also enables Fannie Mae and Freddie Mac to offer a credit guarantee that the market perceives as more valuable than any similar guarantee by a private company. The enhanced quality of the guarantee reduces the rate of return that investors require on GSE-guaranteed MBSs below the rates required on similar privately guaranteed MBSs. That lower rate permits a mortgage pooler to pay higher prices for mortgages and pass along lower interest rates to borrowers. That competitive advantage on GSE-guaranteed MBSs also enables Fannie Mae and Freddie Mac to charge higher guarantee fees than private guarantors.

2. A typical disclosure from a Fannie Mae prospectus states, "The Certificates, together with interest thereon, are not guaranteed by the United States. The obligations of Fannie Mae are obligations solely of the corporation and do not constitute an obligation of the United States or any agency or any instrumentality thereof other than the corporation."

3. See Congressional Budget Office, *Government-Sponsored Enterprises and the Implicit Federal Subsidy: The Case of Sallie Mae* (December 1985) and Douglas O. Cook and Lewis J. Spellman, "A Taxpayer Resistance, Guarantee Uncertainty, and Housing Finance Subsidies," *Journal of Real Estate Finance and Economics*," vol. 5, no. 2 (1992), pp. 181-195.

4. Fannie Mae and Freddie Mac have argued that the greater liquidity is the result of operating efficiencies rather than a subsidy. To the extent that this viewpoint is correct, the estimate of their subsidies will be biased upward. However, the large financial institutions with which they are compared also manage their debt to enhance its liquidity.

Estimating the Subsidies

CBO has estimated the total subsidy derived from the special relationship that the GSEs have with the federal government by combining the benefits provided directly through specific exemptions and privileges with the benefits of reduced borrowing costs and higher guarantee fees resulting from the market's reaction to their special status. CBO has then divided that total subsidy between the portion retained by GSE shareholders and stakeholders and the portion benefiting the conforming mortgage borrowers who are financed by the GSEs.

The Direct Benefits of Regulatory and Tax Exemptions

By CBO's estimate, the savings from the exemption from state and local income taxes, the exemption from SEC registration, and the lower cost of obtaining credit ratings for debt and MBS issues had a combined value of about $1.2 billion in 2000 (see Table 4).[1] In general, the estimated value of those benefits increases with the size of the GSE's earnings. Other special provisions of law, such as the right to use the Federal Reserve as a fiscal agent or the line of credit at the Treasury, may result in substantial savings to the GSEs, but CBO has made no attempt to directly estimate those savings here. Because investors value GSE securities more highly as a result of those provisions, some of their value is reflected in the borrowing advantage on debt, which is calculated below.

1. Consistent with CBO's standard practices, all estimates are on a before-tax basis.

The Subsidy to General Obligation Debt Securities

The largest component of the total subsidy is the reduction in borrowing rates on the GSEs' general obligation debt securities. Estimating this rate differential requires comparing the rates paid by the GSEs with the rates paid by comparable financial institutions. Identifying a set of appropriate securities for comparison is the first step in this calculation. Factors that CBO has taken into account include credit rating, maturity, call features, and prevailing market conditions.

CBO assumes that without GSE status, the housing enterprises would have a credit rating in the range of AA to A. That assumption is based on the following:

- In 1997, Standard & Poor's assigned a rating of AA- to Fannie Mae and Freddie Mac as a measure of their risk to the government. In February 2001, Standard & Poor's again assigned a rating of AA- to both agencies. The Federal Home Loan Banks have not been rated on a

Table 4.
Annual Value of Tax and Regulatory Exemptions for the Housing GSEs, 1995-2000 (In millions of dollars)

	1995	1996	1997	1998	1999	2000
			Fannie Mae			
State and Local Taxes	239.6	312.4	347.0	371.6	435.2	478.6
SEC Registration	55.3	79.4	70.7	139.7	122.2	85.0
Rating Fees	5.3	6.7	8.0	9.3	11.0	12.7
Subtotal	300.2	398.5	425.7	520.6	568.4	576.3
			Freddie Mac			
State and Local Taxes	126.9	143.8	157.1	188.5	252.9	282.7
SEC Registration	39.9	53.0	44.8	92.7	96.4	66.5
Rating Fees	5.3	6.7	8.0	9.3	11.0	12.7
Subtotal	172.1	203.5	209.9	290.5	360.3	361.9
			FHLBs			
State and Local Taxes	104.0	106.4	119.4	142.2	170.2	176.9
SEC Registration	41.6	42.5	49.6	83.9	68.0	50.4
Rating Fees	5.3	6.7	8.0	9.3	11.0	12.7
Subtotal	150.9	155.6	177.0	235.4	249.2	240.0
Total	623.2	757.6	812.6	1,046.5	1,177.9	1,178.2

SOURCE: Congressional Budget Office.

NOTE: SEC = Securities and Exchange Commission.

comparable basis, but a higher credit rating for them seems unlikely.[2]

- Freddie Mac used an average of yields on AA and A debt to calculate the funding advantage for Freddie Mac and Fannie Mae in 1996.[3]
- The U.S. Treasury assumed that Fannie Mae and Freddie Mac would be rated A in a 1996 study, noting that the rating is typical of large high-quality fully private financial firms holding portfolios of residential mortgages.[4]

The assumed credit rating provides an essential benchmark for estimating the subsidy to GSE debt. The interest rates paid on securities issued by other financial intermediaries and rated AA and A are the rates that Fannie Mae, Freddie Mac, and the Federal Home Loan Banks would probably pay on their debt in the absence of the federal government's implied guarantee.

A recent study commissioned by CBO of securities issued from 1995 through 1999 is the basis for

2. See Congressional Budget Office, *The Federal Home Loan Banks in the Housing Finance System* (July 1993). For instance, the quality of FHLB capital is lowered by the right of member banks to redeem shares at par (the price they initially paid) in anticipation of financial trouble.

3. See Federal Home Loan Mortgage Corporation, *Financing America's Housing: The Vital Role of Freddie Mac* (June 1996), p. 33.

4. See Department of the Treasury, *Government Sponsorship of the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation* (July 11, 1996).

the agency's estimate of the GSEs' borrowing advantage on debt issues with an original maturity of more than a year.[5] According to that study, the housing GSEs paid significantly less on noncallable debt with a maturity of greater than 300 days than banking institutions rated AA and A paid on comparable debt. Several features of the estimates in that study require further elaboration. The study's authors calculated yield spreads:

- Largely on the basis of market rates on the day when a GSE or comparison security was issued and, hence, most liquid;
- For noncallable, or "bullet," debt only;
- By averaging observed spreads over the entire estimation period; and
- On the basis of a sample of high-quality national financial institutions.

Timing of Issues

By calculating yield spreads from observed rates on securities on the day when the securities were issued, this study avoids the errors that can be introduced from using indices, matrix prices, or yields observed on secondary-market trades. Bond indices mix old and new issues and therefore combine liquid with illiquid issues; matrix prices (prices based on interpolations by market participants from current transactions) introduce approximation error; and secondary-market trading reflects the effect of a loss of liquidity from the aging of securities and, more importantly, does not reflect the interest rates that borrowers actually pay.

Spreads Based on Noncallable Debt

CBO attributes the same funding advantage to bullet and callable GSE debt.[6] There are some logical and practical reasons to treat those securities similarly, although doing so arguably introduces a downward bias into the estimated spread. Financial market participants view callable debt as a combination of straight debt and a call option and generally calculate the value of callable debt using that type of decomposition. Because the GSEs may have only a small advantage in the options market (owing to their higher credit quality, which enhances liquidity), the prices that they pay for options should be only slightly lower than those paid by other market participants. Thus, the advantage on the callable debt is likely to be dominated by the subsidy on its straight debt component. The practical reason for approximating the funding advantage of callable debt by the estimated advantage of bullet debt is that data on comparable callable bonds are difficult to obtain. There are few private issues available for comparison, and the more complicated structure of callable bonds tends to add noise to any estimate of yield differentials. In sum, although attributing the same funding advantage to callable and noncallable debt probably has led to an understatement of the subsidy, CBO chose to rely on an estimate based on more reliable data.

Long-Term Average Spreads

The spread between GSE and comparable private securities varies over time. For instance, in times of market stress, there may be a "flight to quality," which reduces rates on U.S. Treasury and GSE securities relative to private rates. An increase in demand for safe, government-backed securities, therefore, increases the gross subsidy to the GSEs and widens the spread between rates on GSE debt and conforming mortgages. Such episodes—two have occurred since mid-1998—provide the GSEs with highly profitable opportunities to increase their portfolio holdings of mortgages, and they appear to have done so.[7] Although yield spreads observed during a short period are useful in gauging current conditions, an average of spreads observed over a wide range of market conditions is a more statistically reliable, as well as a more conservative, indicator of the long-term benefits of GSE status.

5. See Ambrose and Warga, *An Update on Measuring GSE Funding Advantages*.

6. CBO's 1996 estimates of the subsidy on GSE securities used a higher subsidy estimate for the GSEs' callable debt than for their noncallable debt.

7. See, for example, Kenneth Posner, *Finance: Specialty and Mortgage*, Morgan Stanley Dean Witter, March 13, 2001, p. 5.

In fact, although the historical spread fluctuates, it shows no apparent trend over time. On the basis of that observation, CBO assumes that the spread was fixed over the estimation period and going forward will equal the average observed spread in the past.

With the supply of Treasury securities shrinking, however, the demand for GSE debt securities may rise in the future, further widening the spread between GSE rates and those paid by AA and A banking institutions. Furthermore, using a time-averaged spread without adjusting for changes in the amount of debt issued over time neglects the fact that the GSEs tend to increase debt issuance when spreads are high and decrease debt issuance when spreads are low.

They also adjust the volume of MBSs and debt in response to changing market conditions. A more accurate measure of the federal subsidy, therefore, would calculate the funding advantage as the average of observed spreads weighted by the volume of securities issued at each spread. That approach would increase the contribution of the most favorable observed spreads to the "average" benefit. Alternatively, the funding advantage could be permitted to vary for each period. However, the variance of the estimated spreads is often large relative to the year-to-year changes in the advantage. Accordingly, CBO uses the unweighted average of observed funding advantages for the period even though doing so is likely to undervalue the benefits of GSE status.

Comparison Sample

The funding advantage for the housing GSEs is calculated by comparing rates on GSE debt with rates on debt issues from a sample of 70 large national financial institutions, eight of which were rated AA+, AA, or AA- and 62 of which were A+, A, or A-. Both Fannie Mae and Freddie Mac have obtained a hypothetical rating of AA- under the assumption that they would operate as they do currently and would hold an unchanged amount of capital if they were fully private. The FHLBs have not received a comparable rating but it appears unlikely that they would receive a higher rating than Fannie Mae or Freddie Mac or a rating lower than A. Thus, all three GSEs are within the range covered by the sample.

The hypothetical AA- rating for Fannie Mae and Freddie Mac lies between the A and AA ratings of those comparison firms. Very few AA-rated financial firms are available to be included in a comparison sample because most financial companies find it advantageous to operate in a way that results in an A rather than an AA rating on their long-term debt. Taken together, the handful of private AA financial institutions issued fewer than four comparable bonds in four of the five years studied; and in one of those years, there were no comparable AA issues. Inferences about funding advantage drawn from such a small sample would be subject to large errors. Hence, CBO chose to base the analysis on the broader sample.[8] CBO also performed a sensitivity analysis based on the full sample of firms, giving equal weight to the small number of AA issues and the large number of A issues. This weighting reduced the estimated funding advantage on debt by considerably less than the bounds reported in the sensitivity analysis in the last section of this study.

The Subsidy Rate on Effective Short-Term Debt

The rate reduction on GSE securities may vary with the maturity of the security issued, in part because default risk is lower over a short horizon than over a longer time period. Even though the Ambrose and Warga study found no systematic pattern in spreads as a function of maturity for debt issues with a maturity of more than 300 days, spreads could be lower for issues with a shorter maturity. For example, a study commissioned by Freddie Mac estimates the advantage on short-term debt to be between 10 and 20 bps, relying on index value data.[9] Accordingly, CBO uses an estimate of the spread on effective short-term debt of 15 bps.

Determining the fraction of effective short-term debt issued by the GSEs is not a straightforward cal-

8. This approach follows Freddie Mac's own example in calculating the GSEs' funding advantage based on both A and AA issues in its report *Financing America's Housing: The Vital Role of Freddie Mac*.

9. See James Pearce and James C. Miller III, "Freddie Mac and Fannie Mae: Their Funding Advantage and Benefits to Consumers" (prepared for Freddie Mac, January 9, 2001), available at www.freddiemac.com/news/analysis/pdf/cbo-final-pearcemiller.pdf.

culation because of their extensive use of derivative securities such as swaps, which effectively transform short-term borrowing into long-term borrowing and vice versa. In order to calculate the *effective* quantity of the GSEs' short-term debt, their positions in derivative securities also must be analyzed. That information is not publicly available, nor would it be easy to interpret if it were. However, Fannie Mae and Freddie Mac report that the percentage of total debt that was effectively short-term after "synthetic extension" at year-end 1999 was, respectively, 13 percent and 7 percent.[10] Those amounts contrast with the figures for nominal short-term debt of 41 percent and 49 percent reported on their respective balance sheets. Percentages of effective short-term debt reported for earlier years are higher—between 20 percent and 30 percent. In its estimate, CBO sets the fraction of effective short-term debt at 20 percent, in line with past practice but weighted toward current practice, and assumes that it remains at 20 percent going forward in time.[11]

Computation of an Average Spread

CBO estimates an overall funding advantage of 41 basis points on all GSE debt securities. A weighted average, the estimate considers effective short-term debt to be 20 percent of outstanding debt and to have a 15 bp advantage, and effective long-term debt to be 80 percent of outstanding debt and to have a 47 bp advantage.

Converting Yield Spreads to Subsidy Values

CBO's calculation of the total benefit from lower borrowing costs employs a methodology designed to capture the total subsidy associated with new credit extended in a given year, or the "capitalized subsidy." It contrasts with a "subsidy-flow" calculation, a single-year subsidy calculated by multiplying the reduction in borrowing costs by the total amount of outstanding GSE debt, which CBO used in its 1996 study.

As a measure of the federal benefit and its change over time, the subsidy-flow methodology suffers significant shortcomings. First, it recognizes subsidies conferred today only gradually over many years, rather than in the year that the commitment to funding is made. Second, it records subsidies today for funding from years earlier. When GSE debt is priced and sold, the benefits of a lower interest rate are secured for each year the financing is expected to be outstanding, not just for the current year. Similarly, a mortgage borrower locks in the benefit of lower rates over the life of the mortgage. The subsidy flow, therefore, understates the value that has been transferred by the government in the current year, while including some of the benefits of previous years' transactions. A more timely measure would recognize all of the current and future benefits of this year's transactions but exclude subsidies from past commitments.

A related shortcoming of the subsidy-flow measure is bias: downward when the GSEs are growing rapidly, upward when they are expanding slowly. In recent years, the debt issued by the housing GSEs has been growing at an annual rate of more than 20 percent, although that growth slowed to 12 percent in 2000. Throughout this high-growth period, the subsidy-flow method would have underestimated the size of the benefits conferred. Conversely, if the GSEs were to stop growing, the subsidy-flow measure would continue to show net new subsidies to the GSEs, even though they would primarily be receiving deferred benefits from past transactions.

10. As an example of the synthetic extension process, a GSE may borrow $100 million by issuing a one-year security and intend to maintain that $100 million outstanding over five years using a succession of one-year securities. That short-term borrowing is transformed to long-term borrowing using an interest rate swap. Under the swap contract, the GSE agrees to make five years of fixed-rate interest payments based on a $100 million principal value in exchange for receiving five years of floating rate payments. The GSE can use the floating rate payments received from the swap to pay its obligations in the one-year market and in effect it is left with a fixed-rate interest obligation.

11. CBO assumes that the funding advantage on effective long-term debt equals the funding advantage on original-issue long-term debt. Fannie Mae and Freddie Mac have asserted, to the contrary, that the funding advantage on synthetically extended debt is no greater than that on short-term debt because the GSEs have no advantage in the swap market. If so, however, Fannie Mae and Freddie Mac finance the synthetically extended portion of their debt at only a 15 bp advantage, when a 47 bp advantage is available on otherwise similar securities that they could issue. Although it is possible that Fannie Mae and Freddie Mac do not always choose the most advantageous funding, such behavior is implausible in the face of such large rate differentials. Accordingly, CBO's estimates of the funding advantage are based on the assumption that the GSEs fully exploit their funding advantage.

CBO's decision to use the capitalized subsidy measure is also consistent with the objective of the Credit Reform Act of 1990, which is to recognize and disclose the costs of long-lived credit transactions when the commitment to that assistance is made. Through law and generally accepted accounting principles, the federal government requires that the present value of all future benefits conveyed by new loans and guarantees issued in the current year be recognized.[12] The subsidy estimates here differ in some respects from the treatment of financial guarantees under the Credit Reform Act to reflect that there is no explicit guarantee to the GSEs. Instead, the calculations closely follow private-sector capital budgeting practices, which were similarly designed to reflect the present value of future commitments.

The more forward-looking approach to measuring subsidies adopted in this study has been recommended by several observers.[13] That method can be illustrated by a familiar example. If a home buyer obtains a 30-year fixed-rate $100,000 mortgage at 7.75 percent, rather than 8 percent, the first year's savings is $250 (0.25 percentage points times $100,000). But the borrower will also enjoy interest savings each year thereafter until the mortgage is paid off. The sum of lower interest payments in all years is sometimes (incorrectly) used as the savings from the lower mortgage rate, but that figure overstates the benefit to a borrower because it treats a future dollar saved as equal in value to a dollar saved today.[14] To adjust for differences in the value of money over time, future interest savings must be discounted with an appropriate interest rate. Capitalization refers to the process of discounting and summing annual benefits.

Although the basic procedure is straightforward, its use raises the question of the life of the subsidy benefit. The GSEs finance mortgages with initial maturities that are usually 15 or 30 years but that may be shorter, with debt ranging in maturity from a few days to 30 years. Maturing or prepaid mortgages are almost always replaced with new mortgages, extending the effective life of the subsidy.

CBO has considered two maturity horizons—seven years and perpetuity—that provide lower and upper bounds, respectively, for the subsidy estimates. However, to link the subsidy more explicitly to the mortgages acquired or guaranteed in a given year, all subsidy estimates reported in this study use the lower bound estimate unless otherwise indicated.[15] That maturity is considerably shorter than the 15- or 30-year term of a typical new mortgage because a large fraction of mortgages are paid off early through refinancing or the sale of houses. Because the GSEs structure their debt financing to match expected mortgage cash flows, it is reasonable to expect that the borrowing advantage on debt is also locked in on average over that seven-year period.[16]

For the seven-year horizon, incremental borrowing in a given year has two components. One component is the increase in the total debt that is outstanding. The second component is an estimate of new mortgages that are replacing mortgages maturing in the current year, called the "rollover amount" (which is absent when the maturity horizon is considered to be perpetuity). The subsidy estimate therefore reflects the average life of new mortgages acquired in a given year, incorporating the sum of new growth and the rollover of maturing mortgages. To calculate the rollover amount, CBO assumes a distribution of lifetimes for new mortgages and uses this distribution to

12. Credit Reform Act of 1990 and Statement of Federal Financial Accounting Standards 2.

13. Robert S. Seiler Jr., "Estimating the Value and Allocation of Federal Subsidies to Fannie Mae and Freddie Mac" (paper presented at the American Enterprise Institute conference "Fannie Mae and Freddie Mac: Public Purposes and Private Interests," Washington, D.C., March 24, 1999), revised April 1, 1999, and Alden L. Toevs, "A Critique of the CBO's Sponsorship Benefit Analysis" (report submitted by First Manhattan Consulting Group to Fannie Mae, September 6, 2000).

14. A dollar in 30 years is equivalent to only $0.23 today because $0.23 invested at 5 percent today would grow to $1 in 30 years.

15. Over time, the anticipated average life of a mortgage varies because of variations in the interest rate environment that affect prepayment rates. In recent years, the average life of a typical mortgage has been less than seven years. Using seven years as the basis for the subsidy calculations is conservative, however, because the high probability that maturing mortgages will be replaced by new mortgages implies a much longer effective life of new commitments.

16. Conceptually, the focus is on the life of the mortgages financed, rather than on the life of the supporting debt, because mortgage borrowers are the intended beneficiaries of the estimated subsidy and that subsidy is received over the life of the mortgages. The average maturity of liabilities rather than of assets could be used to determine the subsidy horizon and would lead to similar results. Fannie Mae and Freddie Mac maintain that their interest rate risk is limited by their hedging strategies. Accordingly, the effective maturity of their liabilities is close to that of their assets.

Table 5.
Subsidies to GSE Debt, 1995-2000 (In billions of dollars)

	1995	1996	1997	1998	1999	2000
Capitalized Subsidies[a]						
Fannie Mae	1.7	1.5	1.8	3.2	3.3	3.6
Freddie Mac	0.8	1.1	0.8	3.3	2.4	2.4
FHLBs	1.2	1.1	2.0	2.6	4.5	2.8
Total	3.7	3.7	4.5	9.1	10.2	8.8

SOURCE: Congressional Budget Office.

a. The subsidies to GSE debt are present values.

update the assumed maturity distribution of debt-financed mortgages.[17]

An assumption of perpetual life for new obligations implies only that the GSEs' assets do not decline over time.[18] If there is no growth, the GSEs retire individual securities as they come due and issue new securities to replace those that are maturing. In fact, GSE securities consistently have shown year-over-year increases in recent decades,[19] while the overall conventional mortgage debt secured by one- to four-family houses has increased every year in the United States since World War II. The continuous addition of new stock and the rollover of existing properties ensure that even without inflation, total mortgage debt will grow. If the GSEs merely maintained a constant share of housing finance, they would grow indefinitely, as this case assumes.

The capitalized subsidy is calculated in two steps. First, the annual incremental benefit is obtained by multiplying the net increase in debt outstanding during a year plus any assumed rollover of debt by the reduction in interest rates from the federal subsidy. Second, the present value of the annual benefit is determined by discounting those annual flows over the assumed horizon, using the cost of funds to the GSEs.[20]

For example, the subsidy from lower borrowing costs on the debt issued by the housing GSEs in 2000 is calculated as follows:

1. Multiply the interest rate reduction (0.0041) by the net increase in debt that remains outstanding in a given year, plus any assumed rollover amount: this increase in subsidized debt is $375 billion if the maturity horizon is assumed to be seven years and $227 billion over a perpetual horizon.[21] In the latter calculation, the figure implies an annual interest savings of $0.93 billion in every future year. Similarly, in the former calculation, the figure implies a benefit of $1.54 billion in the first year and a decreasing amount over the next 30 years (consistent with an average life of seven years), because the

17. More precisely, CBO's calculations are based on the assumption that mortgages are paid off at 275 percent PSA, which implies an average life of just under seven years. The PSA scale, devised by the Public Securities Association, is an industry standard used to describe the rate and pattern of prepayments over time.

18. Assuming a perpetual horizon does not lead to an infinite subsidy value because of the effect of discounting. As a result, the estimated subsidy based on a 30-year horizon differs by only a few percentage points from a subsidy based on a perpetual horizon.

19. There have been years in which the outstanding debt of an individual GSE has declined (for example, Freddie Mac's dropped slightly in 1992), but the growth of total GSE debt has been consistently positive since 1990. The growth of total outstanding MBSs has been positive in every year since 1980.

20. Using a discount rate that does not reflect risk would be consistent with standard government accounting practices but at variance with the standard capital budgeting practice of using risk-adjusted discount rates. A risk-free rate would increase the estimated value of the subsidy. The rate selected reflects the reasoning that the risk of the subsidy is similar to that of GSE debt, and, hence, that the debt rate is appropriate for discounting.

21. The difference in the two cases is the estimated rollover amount, which is based on reported assets in past years and the assumed distribution of repayments.

Table 6.
Subsidies to Mortgage-Backed Securities Guaranteed by Fannie Mae and Freddie Mac, 1995-2000
(In billions of dollars)

	1995	1996	1997	1998	1999	2000
Capitalized Subsidies[a]						
Fannie Mae	1.5	1.7	1.7	2.3	2.1	1.9
Freddie Mac	1.0	1.3	1.1	1.1	2.1	1.8
Total	2.5	3.0	2.8	3.4	4.2	3.6

SOURCE: Congressional Budget Office.

a. The subsidies to MBSs guaranteed by Fannie Mae and Freddie Mac are present values.

principal that is outstanding is reduced by amortization and prepayment.

2. Convert those annual flows into a present value by discounting at the GSEs' average cost of debt financing: that rate is estimated to be 6.3 percent in 2000. Thus, when a perpetual horizon is assumed, the capitalized subsidy is $14.6 billion. With a seven-year horizon, it is $8.8 billion.

The gross value of federal subsidies on GSE debt securities, calculated using the capitalized measure with a seven-year horizon, ranged from $3.7 billion in 1995 to $10.2 billion in 1999, before dropping in 2000 (see Table 5).

The Subsidy to Mortgage-Backed Securities

The advantage conferred to MBSs guaranteed by the GSEs over MBSs guaranteed by private financial firms is difficult to measure with precision. In principle, the noncredit cost of providing a guarantee should be similar for the GSEs and for private guarantors, although the two types of guarantees are often structured differently.[22] The cost of providing a credit guarantee, however, is lower for the GSEs because of the perceived government backing. In particular, the market requires greater capital backing for a fully private guarantee, and providing that capital is costly to private firms. Consequently, Fannie Mae and Freddie Mac have the latitude to charge fees in excess of guarantee costs. CBO uses a point estimate of 30 basis points in calculating the total capitalized subsidy value on MBSs, and that total is divided between the portion retained by the GSEs and the benefit passed through to borrowers.

CBO's approach to estimating the subsidy rate on MBSs is largely deductive. Calculations described below show that the advantage passed through to conforming mortgage borrowers is approximately 25 bp. Because borrowers whose mortgages are eventually sold into an MBS compete for the most favorable rates with borrowers whose mortgages are held by the GSEs, the advantage passed through should be approximately equal in both cases. That benefit to borrowers is one component of the total subsidy to MBSs. The second significant component is the amount retained by the GSEs because of the higher guarantee fees that they can charge as a result of their special status. Currently, the GSEs charge approximately 20 bp for that guarantee, which puts an upper bound on the benefit that they can retain from this line of business. CBO assumes, following the analyses by Treasury and by Toevs (both cited earlier), that the GSEs retain 5 bps. Overall,

22. Other financial firms usually enhance the credit of their MBSs through a structure of senior (guaranteed) and subordinated (guarantor) claims on income from the mortgage pool. The value of the guarantee is therefore a function of the extent of overcollateralization and the quality of the underlying assets. Fannie Mae and Freddie Mac, by contrast, issue blanket assurance (for a fee) that payments will be made to all MBS holders when due.

Table 7.
Total Federal Subsidies to the Housing GSEs, 1995-2000 (In billions of dollars)

	1995	1996	1997	1998	1999	2000
Subsidies to Debt and MBSs[a]						
Fannie Mae	3.2	3.2	3.5	5.5	5.4	5.5
Freddie Mac	1.8	2.4	1.8	4.4	4.5	4.2
FHLBs	1.2	1.1	2.0	2.6	4.5	2.8
Subtotal	6.2	6.7	7.3	12.5	14.4	12.4
Tax and Regulatory Subsidies[b]						
Fannie Mae	0.3	0.4	0.4	0.5	0.6	0.6
Freddie Mac	0.2	0.2	0.2	0.3	0.4	0.4
FHLBs	0.2	0.2	0.2	0.2	0.2	0.2
Subtotal	0.6	0.8	0.8	1.0	1.2	1.2
Total	6.8	7.4	8.1	13.5	15.6	13.6

SOURCE: Congressional Budget Office.

a. The subsidies to GSE debt and mortgage-backed securities (MBSs) are present values.

b. The tax and regulatory subsidies are savings for the current year only.

then, CBO estimates that the total subsidy to MBSs is 30 bps.

Several earlier studies estimated the federal subsidy to GSE-guaranteed MBSs by comparing the yield on senior guaranteed private securities with the yield on GSE MBSs. (The compared yields did not include the guarantee and other associated fees.) According to those studies, over the last several years, MBSs guaranteed by Fannie Mae and Freddie Mac have paid investors 20 to 40 bps less than the rates paid on privately guaranteed MBSs. In part, that broad range is due to the fact that the private and GSE securities often differ in other characteristics such as the quality of the underlying assets and the precise structure of the securities and guarantees.[23]

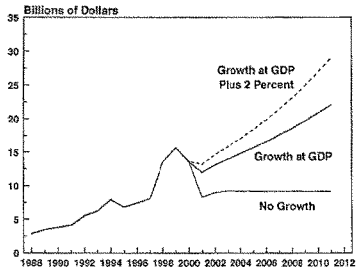
23. Although CBO's estimate of a 30 bp advantage lies in the center of the range, such comparisons are a less satisfactory way to estimate the subsidy to MBSs because the estimate reflects only one source of difference, the interest rate required by investors. It neglects other differences that affect the total size and distribution of the subsidy, including differences in guarantee fees, rating fees, and operating costs.

In CBO's calculations, the gross subsidies to MBSs guaranteed by Fannie Mae and Freddie Mac are capitalized in the year of issue for the same reason that subsidies are capitalized for GSE debt issues. By CBO's estimates, gross subsidies to MBSs grew from $2.5 billion in 1995 to $4.2 billion in 1999 (see Table 6). That increase corresponds to the growth in MBSs outstanding plus any rollover amount guaranteed by Fannie Mae and Freddie Mac during this period. Slowed growth in 2000 reduced the estimated subsidy in that year to $3.6 billion.

Putting the Elements Together: The Total Subsidy

The estimated capitalized value of subsidies provided to all securities issued or guaranteed by the housing GSEs rose from $6.2 billion in 1995 to $14.4 billion in 1999, before falling back to $12.4 billion in 2000 (see Table 7). Combined with the current value of

Figure 3.
Total Subsidies to the Housing GSEs Under Three Scenarios, 1988-2011



SOURCE: Congressional Budget Office.

the tax and regulatory exemptions provided to the enterprises—$1.2 billion[24] in 1999 and 2000—the total estimated subsidy was $15.6 billion in 1999 and $13.6 billion in 2000, up from $6.8 billion in 1995.[25]

The capitalized subsidy in any year depends critically on the growth rate of GSEs' borrowing and issuance of MBSs in that year. The total subsidy (including tax and regulatory benefits) would evolve differently in the next 10 years under three different scenarios for the growth of debt and MBSs: no growth, growth at nominal GDP (estimated by CBO to average 5.8 percent annually), and growth at nominal GDP plus 2 percent (see Figure 3). Under the no-growth scenario, there is a continuing subsidy because of the rollover of old mortgages. Under the high-growth scenario, the total subsidy would exceed $28 billion in 2011. Even the high-growth scenario assumes a growth rate that is significantly lower than the GSEs' growth in the last two decades and, hence, is conservative. Such conservatism is sensible because over the long term, growth that is significantly higher than nominal GDP is unsustainable under current policy, as the supply of conforming mortgages is limited.

24. This number is not capitalized because it is more closely related to current operating costs than to future commitments. Such treatment is consistent with that of administrative costs of credit programs under federal accounting standards.

25. CBO's current estimates are not directly comparable to its 1996 estimates because of methodological and other technical changes.

Estimated Distribution of Benefits

Not all of the subsidy is passed through to mortgage borrowers in the form of lower interest rates and fees on mortgages. The GSEs' stockholders and other stakeholders retain a portion of the subsidy from GSE status, and a portion of it also accrues to nonmortgage borrowers through FHLB member institutions. To quantify this division of benefits, CBO estimates the pass-through to conforming mortgage borrowers and assumes that the balance of the total estimated subsidy is retained by the publicly traded GSEs and the stakeholders of the FHLBs (see Figure 4).[1]

The actual distribution of the subsidy is difficult to determine deductively. Shareholders of the GSEs presumably provide management with incentives to retain as much of the subsidy as is feasible. Although Fannie Mae and Freddie Mac have a dominant position in the conforming mortgage market that confers considerable market power, competition between the two can force benefits to pass through to mortgage borrowers and originators.[2]

Determining the distribution of the subsidy to Federal Home Loan Banks is also complicated. The banks are cooperatively owned by retail financial institutions that have elected to become members of the FHLB System and are eligible to borrow from the FHLBs. Because members are both owners and customers of the FHLBs, it is likely that almost all of the benefit of GSE status is passed through to them, either in the form of concessions on advances or via dividends.[3] Because retail lending is a highly competitive industry, members may be forced to pass most of the benefit through to their own customers.[4] More specifically, CBO assumes that FHLB members use the benefit to match the subsidy that Fannie Mae and Freddie Mac pass through on conforming mortgages, and allocate the remainder in equal shares across the other assets they hold. Those assumptions lead to the conclusion, explained at greater length below, that the FHLBs reduce interest rates on jumbo mortgages by 3 basis points.[5] To the extent that

1. Because the estimate of the pass-through is based on the amount of new debt and because the new debt is used in part to finance multifamily mortgages and some other assets, the estimate reflects the subsidy received by other borrowers as well as by conforming mortgage borrowers.

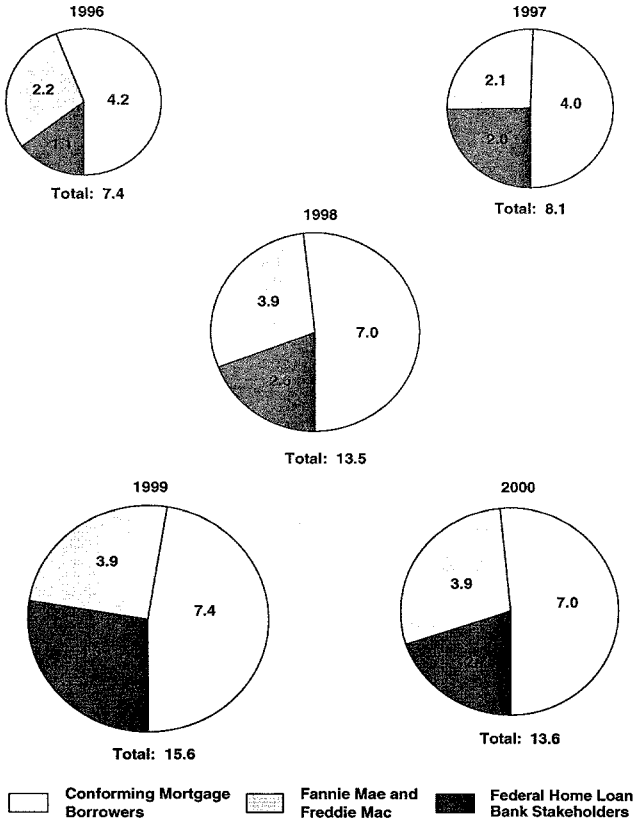
2. See Benjamin E. Hermalin and Dwight Jaffee, "The Privatization of Fannie Mae and Freddie Mac: Implications for Mortgage Industry Structure," in Department of Housing and Urban Development, Office of Policy Development and Research, *Studies on Privatizing Fannie Mae and Freddie Mac* (May 1996), pp. 225-302.

3. In 1999, interest rates on FHLB advances averaged 8 basis points above the interest rate on FHLB debt, and the banks paid an average dividend to members of 6.65 percent of paid-in capital.

4. Similarly, the assumption that mortgage borrowers rather than originators receive the subsidy passed through by Fannie Mae and Freddie Mac rests on the assumption that the origination business is highly competitive. To the extent that FHLB members or mortgage originators have market power, some of the subsidy assigned to nonmortgage borrowers is retained by members or originators.

5. In CBO's estimates, the subsidy to FHLBs is assumed to be spread over assets held by the member banks. To the extent that some of it benefits liability holders (for example, depositors and stockholders) through more branches and ATMs (automated teller machines) or in higher deposit rates, the pass-through estimated to accrue to borrowers of jumbo mortgages would be reduced. It has also been suggested that jumbo loan rates may be reduced by borrowers' substitution of conforming mortgages for jumbo loans, but a possibly offsetting effect is that the liquidity of the market for jumbo loans is reduced by the dominance and special status of conforming mortgages.

Figure 4.
Distribution of Subsidies by Beneficiary, 1996-2000 (In billions of dollars)



SOURCE: Congressional Budget Office.

FHLB members are able to retain part of that benefit. CBO's method overestimates the pass-through to jumbo borrowers. However, that potential overestimate is unlikely to have a significant influence on the estimated benefit to conforming mortgage borrowers.

The traditional approach to estimating the distribution of the subsidy to the GSEs has been to compare interest rates on loans eligible for financing by them (that is, conforming mortgages) with rates on mortgage loans that are not eligible (that is, jumbo loans) and to attribute the difference to a pass-through.[6] CBO continues to use a variant of that approach, which incorporates statistical controls that reduce the biases inherent in a raw comparison of rates on jumbo and conforming loans.[7] CBO estimates that effective interest rates on jumbo mortgages averaged 18 to 25 bps higher than the rates on conforming mortgages during the period of 1995 through the second quarter of 2000; the point estimate is 22 bps.[8]

The influence of subsidies to the FHLBs on the rates on jumbo mortgages must be factored into the analysis to accurately measure the subsidy passed through to conforming mortgage borrowers. To do that, CBO assessed the extent to which the banks reduce the rate on jumbo mortgages and thus cause the jumbo/conforming spread to understate the pass-through to conforming mortgage borrowers. The logic is that the subsidy to the FHLBs passes through to member institutions and to users of the financial system. At year-end 1999, members held $1.13 trillion in residential mortgages and $3.7 trillion in total assets. Using Pearce and Miller's estimate that 52 percent of members' mortgages are jumbo mortgages, CBO estimates that conforming mortgages accounted for $542 billion. Relying on the 22 bp estimate of the observed jumbo/conforming spread and calculating the reduction in rates on all other assets (including jumbo mortgages) that fully exhausts the FHLBs' subsidy, CBO concludes that the subsidy to the FHLBs reduces the rates on jumbo loans by 3 bps. Combining that reduction with an estimated jumbo/conforming differential of 22 bps produces an estimate of 25 bps for the pass-through on conforming mortgages.

If Fannie Mae and Freddie Mac are passing through 25 basis points of subsidy to borrowers, then they are retaining 16 bps (of the total 41 bps) of subsidy received on each dollar of debt. For MBSs, CBO assumes the same pass-through of 25 bps. Thus, a larger portion of the benefit, 25 of the total 30 bps, goes to borrowers, and Fannie Mae and Freddie Mac retain only 5 bps. One explanation for a lower retained benefit on MBSs is that the risk assumed by the GSEs is considerably less than on mortgages held in their portfolios. Because of risk considerations, the GSEs may be equating the marginal benefit of issuing debt and MBSs, even though the subsidy on debt is greater. Nevertheless, the difference in the subsidy may help to explain Fannie Mae's and Freddie Mac's increased use of debt relative to MBSs over recent years.

As is the case with subsidies to debt and to MBSs, the value of the subsidies provided to borrowers in a single year is measured by capitalizing future interest savings rather than a single year's savings. The capitalized subsidy going to the GSEs' conforming mortgage borrowers rose from $3.7 billion in 1995 to $7.4 billion in 1999 and fell back to $7.0 billion in 2000 (see Table 8).

Because Fannie Mae and Freddie Mac are restricted to operating in the conforming mortgage market, CBO assumes that the portion of the subsidy not passed through is retained by shareholders and other stakeholders. Subtracting the amount of subsidy passed through by Fannie Mae and Freddie Mac from their total subsidy ($10.6 billion in 2000) leaves $3.9 billion as the amount that they retained. For the

6. See Patric H. Hendershott and James D. Shilling, "The Impact of the Agencies on Conventional Fixed-Rate Mortgage Yields," *Journal of Real Estate Finance and Economics*, vol. 2, no. 2 (June 1989), pp. 101-115; Robert F. Cotterman and James E. Pearce, "The Effects of the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation on Conventional Fixed-Rate Mortgage Yields," in Department of Housing and Urban Development, *Studies on Privatizing Fannie Mae and Freddie Mac*, pp. 97-168.

7. See Congressional Budget Office, "Interest Rate Differentials Between Jumbo and Conforming Mortgages, 1995-2000," CBO paper (May 2001).

8. CBO's estimate is close to the range of 18 to 23 bps recently estimated by Wayne Passmore, Roger Sparks, and Jamie Ingpen, *GSEs, Mortgage Rates, and the Long-Run Effects of Mortgage Securitization*, Finance and Economics Discussion Series, Federal Reserve Board (December 2000). The estimate is somewhat higher than the estimate of 19 bps reported in Toevs, "A Critique of the CBO's Sponsorship Benefit Analysis." One possible source of difference is that this CBO study uses nationwide data, including areas where the market for jumbo loans is small and inactive and jumbo rates tend to be higher.

Table 8.
Distribution of Subsidies by Intermediary and Beneficiary, 1995-2000 (In billions of dollars)

	1995	1996	1997	1998	1999	2000
Passed Through to Conforming Mortgage Borrowers[a]						
Fannie Mae	2.3	2.4	2.5	3.9	3.7	3.8
Freddie Mac	1.3	1.7	1.4	2.9	3.2	2.9
FHLBs[b]	0.1	0.1	0.2	0.2	0.4	0.3
Subtotal	3.7	4.2	4.0	7.0	7.4	7.0
Retained by[c]						
Fannie Mae	1.2	1.3	1.4	2.2	2.2	2.3
Freddie Mac	0.7	0.9	0.7	1.7	1.7	1.6
FHLB stakeholders[d]	1.3	1.1	2.0	2.6	4.3	2.7
Subtotal	3.2	3.3	4.1	6.5	8.2	6.6
Total	6.8	7.4	8.1	13.5	15.6	13.6
Memorandum:						
Percentage of Subsidies Retained by Fannie Mae and Freddie Mac	35	36	35	37	36	37

SOURCE: Congressional Budget Office.

a. The subsidies passed through to conforming mortgage borrowers are present values.

b. The estimates assume that conforming mortgages financed by FHLB members were a constant share of members' portfolios from 1995 to 2000.

c. Retained subsidies are gross subsidies less the amounts passed through to conforming mortgage borrowers.

d. Includes member institutions, the federal government, non-conforming-mortgage borrowers, and other borrowers.

FHLBs, CBO estimates that their conforming mortgage borrowers received $0.3 billion out of the $3.0 billion total subsidy. Presumably, the balance reduced borrowing rates on other types of loans, including jumbo mortgages, and accrued to other FHLB stakeholders.

Because other market participants must offer terms that are competitive with the GSEs in order to attract borrowers, interest rates on mortgages eligible for financing by Fannie Mae and Freddie Mac are reduced even if those mortgages are financed by others. Because that effect is costless to the GSEs, it is not part of CBO's subsidy estimates. Nevertheless, CBO has estimated its size, finding that in terms of a capitalized amount, there is no pass-through to mortgage borrowers that can be attributed to other intermediaries. The result reflects the fact that the GSEs have increased their share of conforming mortgages to the point at which no new conforming mortgages are being made that are not subsidized by the GSEs. That is, the net increase in outstanding fixed-rate conforming mortgages for one- to four-family housing ($228 billion in 1999) is less than the net increase in conforming mortgages financed or guaranteed by Fannie Mae and Freddie Mac ($256 billion). Therefore, the calculation of the pass-through to borrowers from the GSEs reflects the entire benefit to new borrowers.[9]

9. Appendix A includes further discussion of how much of the mortgage market is served by other financial institutions.

Sensitivity Analysis

As with all such calculations, data limitations and the complexity of the underlying processes imply that uncertainty surrounds CBO's point estimates. By consistently adjusting all of the parameter values in a single direction, the estimates can be forced significantly higher or lower. In assessing those estimates, therefore, it is important to note that when missing or insufficient data necessitate judgments about parameter values, those judgments are not consistently in one direction or the other. CBO has endeavored to balance those judgments so as to arrive at point estimates that are free of systematic bias.

Certain assumptions may have lowered the estimated subsidy. They include using a short time horizon over which to measure the benefit from securities issued in the current year; using a risk-adjusted discount rate, rather than a Treasury rate to convert savings into present values; attributing no benefit to the GSEs' ability to adjust their security sales and mortgage purchases to changes in yield spreads; and assigning a zero value to the benefit of federal backing for derivatives and call options.

Other assumptions may have raised the estimated subsidy. They include basing the funding advantage on GSE debt on a sample of non-GSE securities more heavily weighted toward A than toward AA issues (an approach made necessary by data limitations); assuming that the funding advantage is based solely on government backing rather than on an advantage in operating efficiency; and assigning the same funding advantage to short-term debt that is "effectively long" as assigned to long-term debt.

Exactly how all of those approximations have affected the estimated subsidy is impossible to determine, but it is possible to look at the sensitivity of the estimates to several of the key parameters. Those include assumptions about the horizon over which the subsidy to this year's activity continues, the borrowing advantage on debt, the rate differential between GSE-guaranteed and privately guaranteed MBSs, the discount rate, and the rate used to calculate the subsidy passed through to mortgage borrowers.

The effects of varying those factors within plausible bounds on the total subsidy estimates (or in one case the pass-through amount) are summarized in Table 9. The results show the effect of changing one factor at a time, while holding all other variables at their assumed values in the base case. The ranges chosen for each variable are based on the following considerations:

- **Borrowing advantage on debt.** The variation in the borrowing advantage on long-term debt of 15 bps is based on standard errors reported in Ambrose and Warga's analysis. CBO assumes that the same uncertainty applies to the advantage on short-term debt. A plus or minus one standard deviation range implies a borrowing advantage of between 26 and 56 bps.

Table 9.
Sensitivity Analysis of CBO's Base Case of Federal Subsidies to the Housing GSEs (In billions of dollars)

Basis Points per Year	1999	2000
Changes in Total Subsidy (Base case = $15.6 billion in 1999 and $13.6 billion in 2000)		
Borrowing Advantage on Debt (Base case = 41 bps)		
26	-3.74	-3.21
56	3.74	3.21
Discount Rate (Base case = 660 bps on average)		
610	0.28	0.23
710	-0.28	-0.23
Borrowing Advantage on Mortgage-Backed Securities (Base case = 30 bps)		
25	-0.70	-0.61
40	1.40	1.22
Changes in Pass-Through to Conforming Mortgage Borrowers (Base case = $7.4 billion in 1999 and $7.0 billion in 2000)		
Rate of Pass-Through[a] (Base case = 25 bps)		
15	-3.90	-3.36
30	1.95	1.68

SOURCE: Congressional Budget Office.

a. Assumes no change in the total subsidy.

- **Discount rate.** The variation in the discount rate is plus or minus 50 bps, which is approximately the spread between Treasury and AAA-rated securities.

- **Advantage on MBSs.** The rate differential between GSE-guaranteed and privately guaranteed MBSs varies between 25 and 40 bps.

- **Rate of pass-through to borrowers.** Under CBO's assumptions, the lower bound for the rate passed through to mortgage borrowers is 15 bps, and the upper bound 30 bps.[1] That range reflects the uncertainty in direct estimates based on jumbo/conforming spreads and the divergence of views on how much competition affects the subsidy passed through.

- **Horizon.** As discussed earlier, the GSEs' credit expansion appears to be permanent, providing an infinite upper bound on the lifetime of incremental debt and MBSs. Subsidy estimates using a perpetual horizon are reported in Appendix B. The lower bound assumes that the current commitment extends only seven years. The lower-bound estimates are the ones provided in the body of this report.

Among the variations considered, the greatest sensitivity is to the borrowing advantage on debt and to the pass-through to borrowers. Changes in the discount rate or the advantage on MBSs have less effect on the subsidy calculations.

1. The range is not symmetric around the base case because the upper bound of a symmetric range would imply a larger pass-through than the total subsidy to MBSs.

Appendix A

Responses to Analyses of the Congressional Budget Office's 1996 Subsidy Estimates

Fannie Mae and Freddie Mac have questioned several aspects of the subsidy estimates reported by the Congressional Budget Office (CBO) in its mandated study *Assessing the Public Costs and Benefits of Fannie Mae and Freddie Mac*, released in 1996. Those objections are summarized below, along with CBO's responses.

Questions Addressed

In that 1996 study, CBO estimated:

- The total subsidy accruing to Fannie Mae and Freddie Mac from their special status and
- The division of that total subsidy among those government-sponsored enterprises' (GSEs') shareholders, mortgage borrowers, and other beneficiaries.

The current study revisits those same issues, as requested by Congressman Baker.

Fannie Mae, Freddie Mac, and their contractors have suggested that CBO focus on a different question: how big is the benefit to GSEs compared with the benefit to mortgage borrowers?[1] In their critiques of CBO's estimates, they often respond to that alternative question, stating that the benefit to borrowers exceeds the benefit to the GSEs.

CBO believes that the questions addressed in its studies not only reflect the questions asked by the Congress but also are a better way to look at the benefit provided by the federal government. The question that Fannie Mae and Freddie Mac pose and answer assumes that if the estimated benefit to borrowers exceeds the benefit to the GSEs, then the current distribution of the benefits is somehow appropriate. As CBO's approach emphasizes, the subsidy to the GSEs has two distinct components, the portion passing through to mortgage borrowers and the portion retained by shareholders and to a lesser extent other stakeholders. It is not clear what question can be answered by comparing the estimated gross benefit to the GSEs, which includes most of the subsidy to borrowers, with an estimate of the total subsidy to borrowers, which for some years includes a small number of additional borrowers who benefit from lower conforming rates but whose mortgages are not intermediated by the GSEs. One interpretation is that

1. See, for example, Pearce and Miller, "Freddie Mac and Fannie Mae: Their Funding Advantage and Benefits to Consumers"; Toevs, "A Critique of the CBO's Sponsorship Benefit Analysis"; and Federal Home Loan Mortgage Corporation, *Financing America's Housing: The Vital Role of Freddie Mac*, p. 33.

Table A-1.
Fannie Mae's and Freddie Mac's Estimated Share of One- to Four-Family Mortgages, December 31, 2000 (in trillions of dollars)

All One- to Four-Family Mortgages	
Total mortgages	5.2
Minus federally insured mortgages	-0.8
Equals conventional mortgages	4.4
Minus jumbos	-0.9
Equals conforming conventional mortgages	3.5
Minus adjustable-rate mortgages (ARMs)	-0.7
Equals fixed-rate conforming conventional mortgages	2.8
One- to Four-Family Mortgages Financed or Securitized by Fannie Mae and Freddie Mac	
Portfolio holdings of conforming mortgages	0.9
Plus mortgage-backed securities	1.3
Minus federally insured and multifamily mortgages, and ARMs	-0.2
Equals fixed-rate conforming conventional mortgages	2.0
Memorandum: Fannie Mae's and Freddie Mac's share of fixed-rate conforming mortgages (Percent)	71

SOURCE: Congressional Budget Office.

NOTE: Conventional mortgages are those not guaranteed by a federal agency.

they believe it is appropriate for shareholders to retain a dollar for every dollar provided to home buyers.

A better question for the stockholder-owned GSEs would be the following: could the same benefits be delivered to home buyers even if shareholders received less? Many mechanisms (restrictions on the size of the GSEs' portfolios, charter auctions under which other financial institutions could bid for the same set of benefits, or guarantee fees) would reduce the share of the subsidy accruing to shareholders but leave the function of the GSEs largely unchanged. Although the GSEs have contributed to the efficiency of the mortgage market, future efficiency does not depend on shareholders' receiving dollar-for-dollar compensation for providing benefits to home buyers.

Another issue is whether the GSEs should be credited with "passing through" subsidies that are paid by other lenders. Through market dominance, the presence of Fannie Mae and Freddie Mac has reduced rates on all conforming mortgages, not just those that they hold in portfolio or have securitized. Because the market rate for fixed-rate conforming mortgages has been reduced about 25 bps by the GSEs, all lenders must accept a 25 bp reduction in yield on those mortgages.[2] However, Fannie Mae and Freddie Mac do not give up any of their retained

2. The figure of 25 bps may overestimate the amount by which the GSEs lower rates on conforming loans. The measurement is based on current spreads between the rates for fixed-rate jumbo loans and those for conforming loans but does not take into account that the GSEs may crowd out some other market participants. Any rate reduction that would have been achieved by those other participants is attributed to the GSEs in this calculation.

subsidy to pay for the benefit of lower rates on mortgages financed by others. Those benefits come at the expense of lower income to non-GSE lenders. Accordingly, no credit is given for "passing through" a benefit whose cost has been shifted to others. As a practical matter, this argument is less important than in the past. As discussed earlier, non-GSEs have a shrinking share of the conforming market and, hence, provide no incremental subsidies to mortgage borrowers at this time.

Competition in the Secondary Market for Conforming Mortgages

Fannie Mae asserts that intense competition forces the pass-through of all subsidies and that none is retained by the GSEs. As evidence, Fannie Mae cites its estimate that—as of December 31, 2000—it and Freddie Mac together held only 22.7 percent of the fixed-rate single-family mortgages that are outstanding in the United States. However, the market that Fannie Mae uses for comparison includes jumbo mortgages—those whose original principal is above the conforming ceiling and therefore are not eligible for purchase by Fannie Mae and Freddie Mac. It also includes mortgages explicitly guaranteed by agencies of the federal government—the Federal Housing Administration, the Veterans Administration, and the Department of Agriculture's Rural Housing Service—that are eligible for securitization by the federally owned Ginnie Mae, which guarantees most securities backed by those mortgages. Removing the fixed-rate mortgages that are either ineligible or already federally insured reduces the size of the market in which Fannie Mae and Freddie Mac operate by one-third. Adding the GSEs' outstanding MBSs to their portfolio holdings increases Fannie Mae and Freddie Mac's share to 71 percent of the market (see Table A-1).[3]

3. According to Department of Housing and Urban Development, Office of Federal Housing Enterprise Oversight, *2000 Report to Congress* (June 15, 2000), p. 10, "The enterprises dominate the secondary market for conventional mortgages." Further analysis of the structure of the secondary mortgage market can be found in Hermalin and Jaffee, "The Privatization of Fannie Mae and Freddie Mac: Implications for Mortgage Industry Structure," pp. 225-302.

Subsidies on Callable Debt

In the 1996 study, CBO estimated subsidy rates for callable and noncallable (or bullet) debt separately. Fannie Mae and Freddie Mac have argued that the subsidy rates applied to callable debt were implausibly high (105 basis points), especially in relation to the estimated subsidy rate on noncallable debt (46 basis points).

The ability to issue large amounts of callable debt, at interest rates that apparently decline as the volume of issues increases, is one of the advantages of GSE status. Indeed, according to market observers, issues of callable debt by private financial firms are sufficiently unusual that the liquidity advantage on GSE callables is greater than their liquidity advantage on bullet debt. Nonetheless, for the reasons cited earlier, CBO now makes the conservative assumption that the GSEs receive no more subsidy on callable debt than on noncallable debt and attributes the same funding advantage to all long-term debt.

Subsidies on Short-Term Debt

CBO's 1996 study used the same subsidy rate for short-term and long-term debt. Fannie Mae and Freddie Mac have asserted and CBO agrees that their funding advantage is lower on short-term debt. In the current estimate, CBO uses a lower funding advantage for short-term debt than long-term debt.

Adjustment for Liquidity

Although the GSEs' contend that liquidity is a major source of their funding advantage, CBO does not estimate the value of liquidity separately. Rather, it is assumed that the value of greater liquidity is reflected in the spreads used to estimate the subsidies on debt securities and MBSs; investors are willing to pay more for more liquid securities. More fundamentally, CBO attributes the greater liquidity of GSE securities over those of other financial firms to the implicit

guarantee, much as the government guarantee of Treasury securities is often cited as the reason for their liquidity. To the extent that the greater liquidity is a result of operating efficiencies that exceed those achieved by other financial institutions, this assumption imparts an upward bias to the subsidy estimate. It seems likely, however, that the sophisticated financial institutions with which the GSEs compete also manage their debt operations so as to capture any available gains from enhanced liquidity.

Subsidies to MBSs

In its 1996 study, CBO referred to the lower rates on GSE-guaranteed MBSs as "cost savings to the GSEs," some of which were characterized as "passed on to borrowers" and some as retained by the GSEs. Fannie Mae objected to that characterization on the grounds that the savings from lower interest rates on GSE-guaranteed MBSs pass directly from lenders to borrowers without going through a GSE.

The current study describes federal subsidies to securities issued or guaranteed by the housing GSEs and then categorizes those subsidies by their final recipient, either one of the GSEs or borrowers. That approach avoids the implication that Fannie Mae receives a benefit on its guarantees that exceeds its guarantee fee, but it has no effect on the estimated size or distribution of the subsidies.

Appendix B

Subsidy Estimates When Growth Is Permanent

As discussed earlier, over the past two decades the housing GSEs' year-by-year credit expansion appears to be permanent, suggesting that assuming an infinite upper bound on the lifetime of incremental debt and MBSs provides a useful measure of the subsidies to the GSEs. The value of total subsidies and their distribution under this assumption are presented in Table B-1.

Table B-1.
Federal Subsidies to the Housing GSEs Using a Perpetual Horizon, 1995-2000
(in billions of dollars)

	1995	1996	1997	1998	1999	2000
Subsidies by GSE and by Source						
Fannie Mae						
Debt	2.7	2.1	2.5	6.7	6.3	6.2
Mortgage-backed securities	1.3	1.7	1.5	3.1	2.2	1.3
Tax and regulatory exemptions	0.3	0.4	0.4	0.5	0.6	0.6
Freddie Mac						
Debt	1.7	2.4	1.0	8.5	5.3	4.3
Mortgage-backed securities	-0.1	0.7	0.1	0.1	3.1	1.8
Tax and regulatory exemptions	0.2	0.2	0.2	0.3	0.4	0.4
FHLBs						
Debt	2.0	1.3	3.5	5.3	10.7	4.3
Tax and regulatory exemptions	0.2	0.2	0.2	0.2	0.2	0.2
Total	8.3	9.0	9.4	24.7	28.8	19.1
Subsidies by Beneficiary						
Conforming mortgage borrowers	3.8	4.8	3.8	12.4	12.4	9.4
Fannie Mae and Freddie Mac	2.5	2.8	2.2	7.2	6.5	5.6
FHLB stakeholders[a]	2.0	1.4	3.4	5.1	9.9	4.1
Total	8.3	9.0	9.4	24.7	28.8	19.1

SOURCE: Congressional Budget Office.

NOTE: Subsidies to GSE debt and mortgage-backed securities are present values over a perpetual horizon. The annual savings from tax and regulatory exemptions are for the current year only.

a. The estimates assume that conforming mortgages financed by FHLB members were a constant share of members' portfolios from 1995 to 2000.

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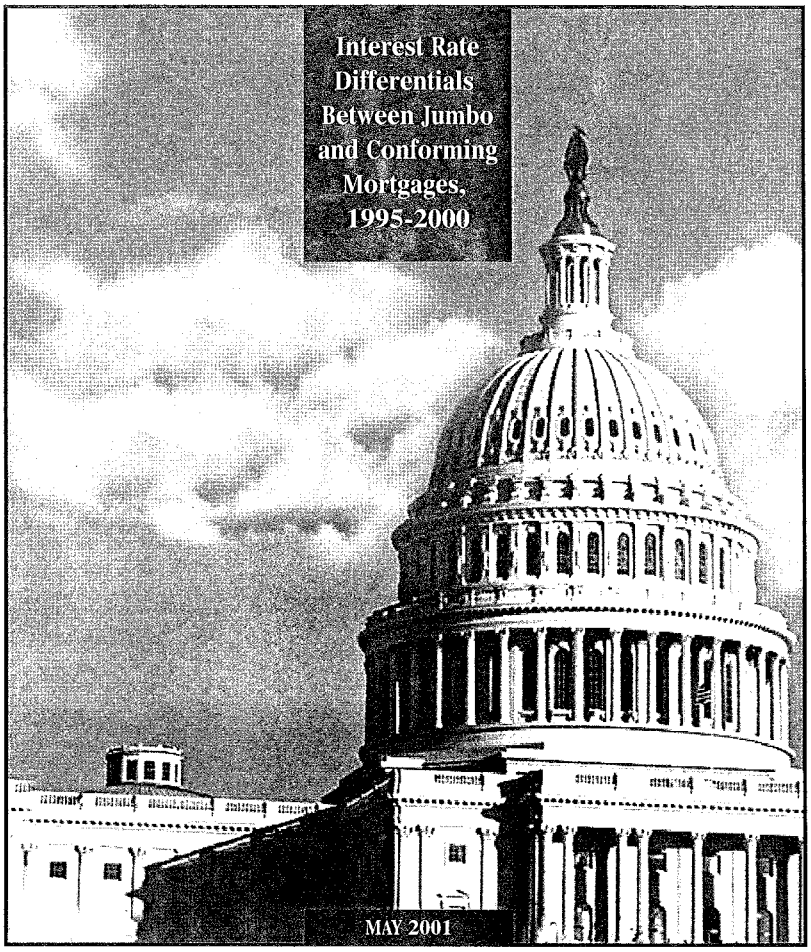
Interest Rate Differentials Between Jumbo and Conforming Mortgages, 1995-2000



MAY 2001

INTEREST RATE DIFFERENTIALS BETWEEN JUMBO AND CONFORMING MORTGAGES, 1995-2000

May 2001

PREFACE

This Congressional Budget Office (CBO) paper estimates the difference between interest rates on two types of mortgage loans: conforming loans, which are for amounts of $275,000 or less, most of which are ultimately purchased by one of the three government-sponsored enterprises (GSEs) that deal with housing finance (Fannie Mae, Freddie Mac, and the Federal Home Loan Banks); and jumbo loans, which are larger than $275,000 and may not be purchased by the GSEs.

The degree to which interest rates on conforming loans are lower than rates on jumbo loans serves as a rough measure of the benefits that the housing GSEs pass on to borrowers in the mortgage market. This paper explains in more detail some of the estimates contained in CBO's new study *Federal Subsidies and the Housing GSEs*, prepared at the request of the Subcommittee on Capital Markets, Insurance, and Government-Sponsored Enterprises of the House Committee on Financial Services.

David Torregrosa of CBO's Microeconomic and Financial Studies Division wrote this paper under the supervision of Marvin Phaup and Roger Hitchner. Coleman Bazelon, Chuck Capone, Debbie Lucas, and Angelo Mascaro of CBO reviewed the analysis at many stages, as did Wayne Passmore of the Federal Reserve Board, Ron Feldman of the Federal Reserve Bank of Minneapolis, and Robert Seiler Jr. of the Office of Federal Housing Enterprise Oversight (OFHEO). Their assistance is greatly appreciated. Barry Anderson, Perry Beider, Arlene Holen, Susanne Mehlman, Preston Miller, David Moore, Nathan Musick, and Tom Woodward of CBO provided helpful comments, as did Patrick Lawler and Tom Lutton of OFHEO and Mario Ugoletti of the Treasury Department. Tim Forsberg and Joe McKenzie of the Federal Housing Finance Board provided the data used in this analysis and patiently responded to numerous questions. Eric Warasta and John McMurray of CBO and DaRon Ross and Sean Corcoran, formerly of CBO, provided research assistance at various stages of the analysis.

Chris Spoor edited the paper, and John Skeen proofread it. Rae Roy prepared the paper for publication, and Lenny Skutnik provided the printed copies. Annette Kalicki prepared the electronic versions for CBO's Web site (www.cbo.gov).

Dan L. Crippen
Director

May 2001

INTRODUCTION AND SUMMARY

The federal government has a range of policies that promote home ownership. Most are aimed at lowering borrowing costs, either directly or indirectly. The tax deduction for mortgage interest payments, for example, is intended to make housing more affordable for most buyers. Likewise, mortgage guarantees provided by the Federal Housing Administration and the Department of Veterans Affairs are designed to improve access and make homes more affordable for moderate- and low-income borrowers. Indirectly, the federal government also subsidizes home mort-gages through three government-sponsored enterprises (GSEs)—Fannie Mae, Freddie Mac, and the Federal Home Loan Bank System—which serve as conduits between the capital markets and local housing markets.

This paper examines how those GSEs lower mortgage costs for borrowers; it also estimates the benefits that those enterprises pass through to borrowers. Specifically, the paper explains in detail some of the estimates used in the Congressional Budget Office's (CBO's) new report on the public benefits and costs of the housing GSEs.[1]

Introduction: The Role of Government-Sponsored Enterprises in Housing Markets

Government-sponsored enterprises are hybrid organizations, created by the federal government for a public purpose but with nongovernment ownership. Fannie Mae and Freddie Mac, whose shares are traded on the New York Stock Exchange, are owned by investors; the 12 Federal Home Loan Banks (FHLBs) are cooperatives owned by their members (mainly private financial institutions).[2] Those Congressionally chartered GSEs receive substantial benefits, or unpriced subsidies, from the government in return for accepting certain responsibilities in the housing finance markets and various restrictions on the scope of their business operations.

The GSEs do not originate mortgages; instead, they support a secondary (resale) market for mortgages by purchasing "conforming" mortgages that banks, thrifts, mortgage companies, and others originate. (Conforming mortgages are single-family loans that meet Fannie Mae's and Freddie Mac's underwriting standards and are eligible to be purchased by the GSEs.[3] Most of those mortgages are "conven-

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1. Congressional Budget Office, *Federal Subsidies and the Housing GSEs* (May 2001).

2. See Congressional Budget Office, *The Federal Home Loan Banks in the Housing Finance System* (July 1993).

3. For a description of how Fannie Mae views its role in housing markets and the risks it assumes, as well as its regulatory requirements, see Franklin D. Raines, "New Frontiers in Financial Institution Risk Management" (address given at the Brookings Institution, Washington, D.C., December 15, 2000), available at www.fanniemae.com/news/speeches/speech_158.html.

tional" mortgages, ones that have not been guaranteed or insured by the Federal Housing Administration or the Department of Veterans Affairs.) In addition, the GSEs guarantee securities backed by a pool of mortgages they purchase—a process known as securitization. Those securities entitle their buyers to a share of the cash flow of principal and interest from the underlying mortgages. In case of default on those mortgages, the GSEs guarantee payment to the holders of the securities. Unlike Fannie Mae and Freddie Mac, the FHLBs have only recently entered the secondary market on a limited, but growing, basis.[4] Their primary activity is making loans, or "advances," to their member institutions, including banks and thrifts (savings and loan associations and mutual savings banks). They also pay dividends to their members.

Although the federal government does not explicitly guarantee or insure the GSEs' securities, investors generally assume that an implicit government guarantee exists on the basis of numerous instances in which federal law treats GSE securities as no riskier than risk-free Treasury securities.[5] The GSEs' "agency" status effectively lowers their funding costs and allows Fannie Mae and Freddie Mac to offer loan originators attractive prices for mortgages. It also allows the FHLBs to pass their lower borrowing costs through to their member banks, which in turn pass part of that subsidy through to mortgage borrowers and other loan customers. How attractive the offering prices are and how much of the federal subsidy is passed through to borrowers depend in part on the extent of competition between Fannie Mae and Freddie Mac. Those two enterprises control almost all of the secondary market for conforming conventional loans, and the federal benefits they receive virtually preclude entry by completely private firms.[6] As a result of that limited competition, few analysts expect Fannie Mae and Freddie Mac to pass through all of the subsidy they receive.[7] Some of their federal benefits are retained as profits.

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4. Outstanding loans in the banks' Mortgage Partnership Finance Program increased from $1.8 billion in 1999 to $15.4 billion in 2000; see Federal Home Loan Bank of Chicago, "Federal Home Loan Bank of Chicago Reports Excellent 2000 Results" (press release, Chicago, Ill., February 20, 2001), available at www.fhlbc.com/2000_results.htm. For current details of the FHLBs' secondary-market activities, see Joy C. Shaw, "Fannie Mae, Freddie Mac Outweigh Rival: The FHLB Program Still Is Vying for Secondary-Mortgage Market," *Wall Street Journal*, February 6, 2001, p. B-15.

5. Congressional Budget Office, *Assessing the Public Costs and Benefits of Fannie Mae and Freddie Mac* (May 1996), pp. 9-12.

6. Fannie Mae and Freddie Mac purchased $1.1 trillion in fixed-rate mortgages in 1998 and 1999—more than two-thirds of the volume of conforming fixed-rate loans originated in those years. They also purchase adjustable-rate mortgages and multifamily loans. See Department of Housing and Urban Development, Office of Federal Housing Enterprise Oversight, *2000 Report to Congress* (June 15, 2000), p. 10.

7. For an analysis of the importance of industry structure in the secondary mortgage market, see John L. Goodman and S. Wayne Passmore, *Market Power and the Pricing of Mortgage Securitization*, Finance and Economics Discussion Series Working Paper No. 187 (Federal Reserve Board, March 1993); and Benjamin E. Hermalin and Dwight M. Jaffee, "The Privatization of Fannie Mae and Freddie Mac: Implications for Mortgage Industry Structure," in Department of Housing and Urban

At the request of the House Committee on Financial Services, CBO recently updated its 1996 estimate of the federal subsidy to the GSEs and the distribution of that subsidy among borrowers, the GSEs, and other beneficiaries.[8] An important component of that estimate—and the main focus of this paper—is determining the portion of the subsidy that benefits borrowers of conforming mortgages.

Summary: Determining the Benefits That the GSEs Pass Through to Borrowers

This analysis estimates the amount of subsidy that the housing GSEs pass through to borrowers by estimating a proxy measure—the average difference in interest rates (or adjusted spread) between conforming and jumbo mortgages that is attributable to the GSEs. (Conforming mortgages are currently subject to a ceiling of $275,000.[9] Jumbo loans are single-family loans larger than that amount.) The GSEs may provide other benefits to housing markets, such as increasing home ownership by moderate- and low-income families, but those benefits are not measured in this analysis.[10]

Following the analytic framework of previous researchers, CBO estimated the interest rate differential between 30-year fixed-rate jumbo and conforming mortgages using the Monthly Interest Rate Survey (MIRS) data set maintained by the Federal

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Development, Office of Policy Development and Research, *Studies on Privatizing Fannie Mae and Freddie Mac* (May 1996), pp. 225-302. For conditions under which secondary-market activities fail to lower mortgage rates, see Andrea Heuson, Wayne Passmore, and Roger Sparks, *Credit Scoring and Mortgage Securitization: Implications for Mortgage Rates and Credit Availability*, Finance and Economics Discussion Series Working Paper No. 2000-4 (Federal Reserve Board, December 21, 2000).

8. The 1996 estimate was published in Congressional Budget Office, *Assessing the Public Costs and Benefits of Fannie Mae and Freddie Mac*, pp. xi-xii and 18-20.

9. The conforming-loan ceiling is the same in all of the 48 contiguous states but is 50 percent higher in Hawaii and Alaska, which have substantially higher housing costs. That ceiling is adjusted each year for the change in housing prices (based on the average percentage increase in the value of homes with conventional mortgages over a 12-month period beginning in October, using the Federal Housing Finance Board's Monthly Interest Rate Survey).

10. Judging by the current distribution of credit risk, depository institutions, the Federal Housing Administration, and the Department of Veterans Affairs appear more willing to bear the mortgage credit risk of low-income families than the GSEs are. For a description of the affordable-housing goals that the Department of Housing and Urban Development sets for the GSEs, as well as a discussion of the types and characteristics of loans they purchase, see Department of Housing and Urban Development, "HUD's Regulation of the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac); Final Rule," *Federal Register*, vol. 65, no. 211 (October 31, 2000), pp. 65043-65229.

Housing Finance Board.[11] Unlike most previous studies, CBO's analysis used pooled data from the entire nation, had less restrictive data screens, and compared effective mortgage rates (mortgage interest rates adjusted for any points and fees paid by the borrower). Thus, CBO's estimate was based on a larger sample of mortgages and a better measure of borrowing costs than previous estimates. To isolate the difference in mortgage rates that is attributable to the GSEs, CBO controlled for some of the factors that affect rates, such as the size of the mortgage (the average cost of originating and servicing a mortgage falls with loan size) and the loan-to-value ratio (a proxy for the risk of default). As a test of the robustness of the estimates, CBO fitted the MIRS data set to a variety of alternatively specified models and also estimated the differential between jumbo and conforming mortgages using only zero-point loans.

Controlling for differences in loan characteristics, CBO estimates that rates on fixed-rate jumbo mortgages exceeded those on similar conforming mortgages by an average of 18 to 25 basis points (0.18 to 0.25 percentage points) between 1995 and June 2000, depending on the estimation technique and the data sample.[12] The interest rate differentials varied significantly throughout that period, in part because of changes in liquidity and risk premiums in the financial markets. In particular, differentials widened during "flights to quality," when investors sought safe, liquid securities, including the GSEs' debt issues and mortgage-backed securities. Spreads tightened when liquidity and risk premiums dropped and thereby reduced the advantages of the GSEs' "agency" status.

CBO's analysis is subject to some of the same limitations as previous studies; thus, those estimates of differentials may not be as precise as they appear. Because the MIRS data set has no information on borrowers' credit history, income, or wealth—which affect the rates that borrowers pay—CBO could not control for all of the economic factors that influence the jumbo/conforming interest rate differential. Consequently, CBO's estimates assume that borrowers in the conforming and jumbo markets present the same risks. But research indicates that both the likelihood of prepayment and the risk of default may be greater for jumbo mortgages.[13] Thus, if

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11. Using an established analytic framework makes it easier for other researchers to evaluate CBO's results. Moreover, Fannie Mae has validated estimates based on this approach in the past. See Fannie Mae, "Fannie Mae Review of the Cotterman-Pearce and Ambrose-Warga Papers," in Department of Housing and Urban Development, *Studies on Privatizing Fannie Mae and Freddie Mac*, pp. 218-219.

12. CBO did not estimate spreads for adjustable-rate mortgages, which have a wide variety of pricing provisions that complicate any comparison. Those mortgages make up less than 5 percent of the GSEs' mortgage holdings.

13. For evidence about prepayment rates and default losses, see Kyle G. Lundstedt, "The Influence of Non-Option-Related Variables Upon Corporate Default and Residential Mortgage Termination" (Ph.D. dissertation, University of California, Berkeley, 1999), p. 37.

all other factors are held equal, rates on jumbo mortgages are likely to be higher than rates on conforming mortgages. In addition, CBO's estimates do not control for conditions in local housing markets. If, as one study has shown, housing prices are more volatile for expensive properties, which are more likely to have jumbo mortgages, lenders should be charging jumbo borrowers more for that additional risk.[14] In summary, the available evidence suggests that CBO's approach probably overstates the jumbo/conforming interest rate differential and thus the amount of subsidy that the GSEs pass through to borrowers.

THE SOURCES AND SIGNIFICANCE OF DIFFERENCES BETWEEN JUMBO AND CONFORMING MORTGAGE RATES

The mortgage rates that most borrowers pay are determined by prices and yields in the secondary market. Two secondary markets for conventional mortgages exist: one for conforming mortgages, the housing loans that the GSEs may purchase, and one for jumbo mortgages, which they may not purchase. Selling conforming loans to the secondary market is particularly attractive for loan originators because they receive better prices for those mortgages than for jumbo loans.[15] Most loan originators match their underwriting criteria to the GSEs' guidelines for purchases. Moreover, they frequently use the GSEs' own automated underwriting software to identify credit risk more efficiently, speed up the loan application process, and facilitate sales in the secondary market.[16] A variety of factors influence prices and yields in that market—and thus interest rates on mortgages.

GSE Status

The "agency" status of the housing GSEs can be expected to lower interest rates on conforming loans relative to those on jumbo loans because investors in mortgage-

14. See Brent W. Ambrose, Richard Buttimer, and Thomas Thibodeau, "A New Spin on the Jumbo/Conforming Loan Rate Differential," *Journal of Real Estate Finance and Economics*, vol. 23, no. 3 (forthcoming).

15. For an analysis of which loans a bank chooses to sell, see Wayne Passmore, Roger Sparks, and Jamie Ingpen, *GSEs, Mortgage Rates, and the Long-Run Effects of Mortgage Securitization*, Finance and Economics Discussion Series (Federal Reserve Board, forthcoming); and Wayne Passmore and Roger Sparks, "Putting the Squeeze on a Market for Lemons: Government-Sponsored Mortgage Securitization," *Journal of Real Estate Finance and Economics*, vol. 13, no. 1 (1996), pp. 27-43.

16. Automated underwriting has also facilitated the GSEs' entry into the subprime market (which targets borrowers with poorer credit histories). But most of their purchases have been at the upper end of that market (so-called A- loans) rather than at the lower and riskier end (B and C loans). However, automated underwriting may also lead originators to reduce the quality of the loans they choose to sell to the GSEs. See Wayne Passmore and Roger W. Sparks, "Automated Underwriting and the Profitability of Mortgage Securitization," *Real Estate Economics*, vol. 28, no. 2 (2000), pp. 285-305.

backed securities are willing to accept lower interest rates on securities guaranteed by GSEs than on jumbo loans guaranteed by private institutions.[17] There are several reasons for that greater willingness. First, most investors perceive an implied federal guarantee of GSE securities, so they virtually ignore any risk of default on those securities. Second, those securities enjoy the full advantages of GSE debt, so they are highly liquid. (Liquidity, which is the ability to trade a security quickly with little impact on its price, is particularly important during periods of stress in the financial markets.) Third, federal regulators require banks and thrifts to hold two and a half times less capital against GSE securities than against privately guaranteed mortgage-backed securities and whole loans.[18] They also impose no limits on the amount of GSE debt and securities that banks and thrifts can hold.

The secondary market for jumbo mortgage-backed securities is becoming more liquid as the volume of those securities increases. As a result, interest rates in that market are falling.[19] To increase the attractiveness of those privately guaranteed securities to investors, investment bankers generally take bundles of jumbo loans and create different classes of securities with different levels of risk. Risk for those securities can also be reduced through private credit enhancements, such as additional guarantees or collateralization.[20] Nevertheless, even the least risky securities backed by jumbo mortgages will be issued at significantly higher interest rates than GSE securities will. In large part, that difference results from the superior liquidity of the GSE issues and the fragmented nature of the jumbo market rather than from differences in credit risk.

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17. For a general analysis of differences between the conforming and jumbo markets, see General Accounting Office, *Housing Enterprises: Potential Impacts of Severing Government Sponsorship*, AO/GGD-96-120 (May 1996), pp. 54-70; and Robert S. Seiler Jr., "Estimating the Value and Allocation of Federal Subsidies to Fannie Mae and Freddie Mac" (paper presented at the American Enterprise Institute conference "Fannie Mae and Freddie Mac: Public Purposes and Private Interests," Washington, D.C., March 24, 1999), revised April 1, 1999.

18. Regulators require a 50 percent risk weighting for individual (or "whole") mortgages versus a 20 percent risk weighting for GSE mortgage-backed securities. In contrast, other types of loans to individuals and firms, as well as corporate debt, receive a full risk weighting, which requires 8 percent capital backing.

19. Although the jumbo market has been growing, it is still several times smaller than the market for mortgage-backed securities guaranteed by the GSEs. For example, $133 billion in jumbo mortgage-backed securities were issued in 1998, whereas purchases of conforming loans by Fannie Mae and Freddie Mac totaled $637 billion in 1998, which was a big year for refinancing. See *The Mortgage Market Statistical Annual*, vol. 1, *The Primary Mortgage Market* (Washington, D.C.: Inside Mortgage Finance Publications, 1999), pp. 1-2.

20. The level of credit enhancements varies among issuers of jumbo mortgage-backed securities (MBSs). See Jeffrey Wolf and others, *Theme and Variation—Understanding Why Credit Enhancement Levels Vary Among Jumbo MBS Issuers*, Structured Finance Special Report (New York: Moody's Investors Service, September 17, 1998).

Other Determinants of Interest Rates and Spreads

Prices paid in the secondary market are generally negotiated between lenders and the GSEs (or between lenders and investment banks in the case of jumbo loans) and reflect the variation in expected returns on the mortgages. Interest rates on mortgages, plus fees and charges, must cover those parties' costs, including the cost of originating and servicing loans; the risks of default, changing interest rates, and prepayment; capital requirements; the cost of funds; and other cost factors. Because the cost of originating and servicing loans is basically fixed, it falls relative to the size of the loan, which makes larger loans cheaper to originate and administer.

The risk of default varies with the relative size of the down payment, the creditworthiness of the borrower, the presence or absence of mortgage insurance, and the price volatility of the property carrying the mortgage. The larger the down payment, the safer the loan.[21] In fact, if the down payment is large enough, the lender may devote less effort to evaluating the creditworthiness of the borrower. If the down payment is small, however, private mortgage insurance may be required. Stable housing markets present less risk to lenders than volatile markets because the value of the mortgages' collateral is more predictable. If home prices have been rising rapidly in an area, for example, lenders may be more cautious because the housing market could be more susceptible to price declines. Lenders can compensate for volatility in housing prices by raising interest rates.

Interest rate risk can arise when loan originators borrow in short-term markets and lend in long-term markets. That mismatch of maturities between liabilities and assets makes lenders vulnerable to a rise in interest rates.[22] When rates rise, the value of assets with a fixed stream of payments falls. For example, if rates increase, banks receive the same stream of income from 30-year fixed-rate mortgages but pay more interest on short-term deposits, which can reduce their profitability.

Mortgage lenders can also be vulnerable to unexpected drops in interest rates, because in those circumstances, borrowers may choose to prepay their mortgage and refinance it at a lower rate. Prepayments are costly to a lender because the institution must generally reinvest the funds at a lower rate. Most lenders do not impose penalties for prepayment, but they try to account for that risk in their pricing, which is one reason that fixed-rate loans are generally made at higher interest rates than

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21. For an analysis of delinquency and default, see Robert B. Avery and others, "Credit Risk, Credit Scoring, and the Performance of Home Mortgages," *Federal Reserve Bulletin*, vol. 82, no. 7 (July 1996), pp. 621-648.

22. Shifts in the yield curve (which reflects the maturity structure of interest rates) also present risks. Long-term rates are generally above short-term rates when the economy is expanding, but they have often been below short-term rates during the onset of an economic contraction. Interest rate risk measures the difference in sensitivity of the market value of assets and liabilities to changes in rates.

adjustable-rate loans.[23] The savings to borrowers from refinancing a loan rise with the size of the loan, so prepayment risk increases with loan size.

Lenders have several strategies for mitigating interest rate and prepayment risks. First, they can shift most of the interest rate risk to borrowers by making adjustable-rate loans. Even though adjustable-rate mortgages generally carry lower rates than fixed-rate mortgages, they are much less popular with most borrowers in most interest rate environments.

Second, lenders can attempt to hedge their interest rate and prepayment risks by purchasing derivative products or entering into interest rate swap agreements. Hedging can reduce the variability of their income streams; however, the fees, transaction costs, and personnel costs of hedging can be significant. In addition, prepayment models used to decide on optimal hedging strategies are not always reliable.

Third, originators can use the secondary markets to reduce or eliminate interest rate risk. Selling loans outright eliminates that risk, but most depository institutions swap loans in the secondary market for mortgage-backed securities from Fannie Mae and Freddie Mac. Holding those securities allows lenders to still use mortgages as investments while guaranteeing them against default, enhancing liquidity, and lowering the amount of required capital. In addition, institutions can purchase mortgage-backed securities with expected payment flows that match their risk preferences better than whole loans do.[24]

Using the Jumbo/Conforming Differential as a Proxy for the Benefits Passed Through to Borrowers

No direct measure exists of the benefits that the housing GSEs pass through to borrowers.[25] Although some analysts suggest that those benefits can be measured by comparing the advertized rates that lenders offer for conforming and jumbo loans, that measure fails to control for other important factors that affect rates and may not represent the mortgage rates used in transactions. To isolate the difference in rates that is attributable to the presence of the GSEs in the conforming market, analysts use statistical methods that first adjust gross spreads for the impact of loan size, down

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23. Prepayment penalties are common on subprime loans but not on conventional conforming loans.

24. Secondary-market transactions can also leave interest rate risk unchanged. In swap programs, banks exchange their mortgages for GSE securities that represent ownership in the same mortgages.

25. The subsidy passed through to borrowers reduces mortgage interest rates, which should benefit borrowers, but other parties may also benefit. Some of the value of the subsidy could be capitalized in higher home prices and flow to builders of new homes or owners of existing homes.

payments, and other factors on interest rates. This paper refers to that adjusted interest rate spread as the jumbo/conforming differential.

Spreads can change with investors' preferences for risk and the premium they place on liquidity, prepayment risk, and other factors.[26] During periods of financial crisis, investors often increase their demand for safe and liquid assets. That "flight to quality" benefits the market for GSE securities and conforming mortgages but penalizes privately guaranteed mortgage-backed securities and jumbo mortgages. Thus, the jumbo/conforming differential can be expected to widen during periods of financial stress. Increased competition between Fannie Mae and Freddie Mac would also be likely to widen that differential because the agencies would be bidding up the price of conforming mortgages, which would allow lenders to lower interest rates on those mortgages. For example, the two GSEs have been competing since 1999 to enter into special business arrangements with large mortgage originators.[27] Conversely, as the market for jumbo-mortgage-backed securities matures or broadens as more issues are funded, liquidity in that market should improve and more economies of scale be realized in creating and administering the securities. Those structural improvements should contribute to tightening the differential over time.

Differences in borrowers' behavior in the jumbo and conforming markets may also influence spreads, but in ways that are difficult to assess. For example, borrowers in the jumbo market are less likely to have fixed-rate mortgages than borrowers in the conforming market (as evidenced by the fact that fixed-rate loans make up a lower percentage of jumbo mortgages than of all conventional loans; see Table 1). Whether that difference means that jumbo borrowers are more willing to accept the risk of changing interest rates or that lenders are less willing to originate fixed-rate mortgages in the jumbo market is uncertain.[28]

The jumbo/conforming differential is merely a proxy for the benefits passed through to borrowers because it is impossible to know what the housing market would be like without the GSEs. In addition, some analysts argue that the GSEs push

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26. For an analysis of spreads in other financial markets, see John V. Duca, "What Credit Market Indicators Tell Us," *Economic and Financial Review*, Federal Reserve Bank of Dallas (Third Quarter 1999), pp. 2-13.

27. Smaller lenders may also be getting better deals; see Robert Julavits, "Fannie, Freddie Moving to Woo Small Lenders," *American Banker* (March 14, 2001), p. 9. Some analysts also argue that the decline in the average guarantee fee the GSEs charge is evidence that they are competing strongly. However, others contend that increased use of credit enhancements may explain much of the decrease in fees. See Office of Federal Housing Enterprise Oversight, *2000 Report to Congress*, pp. 25-26.

28. Some analysts argue that the GSEs have less effect on the rates of adjustable-rate mortgages than on the rates of fixed-rate mortgages. See James E. Pearce and James C. Miller III, *Freddie Mac and Fannie Mae: Their Funding Advantage and Benefits to Consumers* (prepared for Freddie Mac, January 9, 2001), available at www.freddiemac.com/news/analysis/pdf/cbo-final-pearcemiller.pdf.

TABLE 1. SINGLE-FAMILY CONVENTIONAL LOANS AND THE CONFORMING LOAN LIMIT, 1995-2000

	As a Percentage of All Conventional Mortgages[a]				Fixed-Rate Jumbo Loans as a Percentage of All Jumbo Loans	Conforming Loan Limit[b] (Dollars)
	Conforming Loans	Jumbo Loans	Fixed-Rate Loans	Fixed-Rate Jumbo Loans		
1995	92.2	7.8	68	2.6	32.7	203,150
1996	90.7	9.3	73	3.2	34.8	207,000
1997	90.4	9.6	78	5.1	52.7	214,600
1998	91.3	8.7	88	5.2	59.2	227,150
1999	90.8	9.2	79	4.8	51.7	240,000
2000	90.1	9.9	76	3.7	37.0	252,700

SOURCE: Congressional Budget Office based on data from the Federal Housing Finance Board and the board's Monthly Interest Rate Survey, Tables 24 and 25.

a. Excludes loans that are insured or guaranteed by the federal government. Jumbo loans would be a larger percentage as a share of the total dollar value of conventional mortgages.

b. The limit on conforming loans for single-family homes is 50 percent higher in Alaska and Hawaii.

up rates in the jumbo market, in which case the differential overstates the extent to which the GSEs lower rates in the conforming market. Those analysts' argument is that by segmenting the relatively small jumbo market from the rest of the mortgage market, GSEs reduce the liquidity, size, and diversification of the jumbo market. That point is particularly important because the greater geographic concentration of jumbo mortgages in high-cost housing markets probably increases credit risk for privately guaranteed mortgage-backed securities.[29] Rates in the jumbo market would fall, they argue, if those loans could be packaged with conforming loans and sold to investors.

Research also indicates that differences in volatility between high- and low-priced homes can produce rate differentials. If housing prices are generally more volatile in the jumbo market—particularly at the upper end of that market—lenders should be protecting themselves against that risk by charging higher rates on jumbo

29. Passmore, Sparks, and Ingpen, *GSEs, Mortgage Rates, and the Long-Run Effects of Mortgage Securitization,* argues that combining the jumbo and conforming markets might significantly improve the liquidity of jumbo mortgage-backed securities.

loans.[30] In addition, some researchers have found that jumbo mortgages have higher rates of prepayment and default.[31] If lenders are accounting for those factors in their pricing, the effect of the GSEs on interest rate differentials may be overstated.

Conversely, Freddie Mac and Fannie Mae argue that the jumbo/conforming differential understates the benefits of the housing GSEs.[32] They contend that the GSEs lower rates in the jumbo market because the additional capital from GSEs that flows into the conforming market allows depository institutions to increase their supply of funds to the jumbo market, reducing rates there. However, it is unclear why depository institutions and other investors would funnel the extra funds largely to the jumbo mortgage market rather than to the entire range of investment opportunities, including the conforming mortgage market. Consequently, that substitution effect is unlikely to have a significant impact on rates in the jumbo market.

The GSEs also offer a related version of the substitution effect to bolster their claim that the differential understates the benefits they confer. To the extent that home buyers can substitute between conforming and jumbo mortgages, competition from the conforming market may force down rates for some jumbo loans. Some borrowers take out a first mortgage at the conforming limit and a second and riskier (home equity) loan for the remainder of their mortgage rather than a single jumbo mortgage. That strategy works best for borrowers when the total amount of their loans is not too far above the conforming limit.[33] Whether jumbo rates fall to remain competitive with conforming rates for situations in which borrowers can substitute between jumbo and conforming mortgages depends on the ability of originators to absorb the lower returns that come from lower rates.

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30. Ambrose, Buttimer, and Thibodeau, "A New Spin on the Jumbo/Conforming Loan Rate Differential." That study looked only at the Dallas housing market, which may be atypical. Moreover, it found that conforming loan markets were more volatile than jumbo markets in the 1990s but less volatile in the 1980s.

31. Lundstedt, "The Influence of Non-Option-Related Variables Upon Corporate Default and Residential Mortgage Termination," p. 37. Analyzing a sample of more than 400,000 30-year fixed-rate conventional mortgages, Lundstedt found that 24 percent of conforming loans were prepaid and only 0.46 percent were defaulted on during the 1980-1997 period. In contrast, 37 percent of jumbo loans were prepaid and 1.06 percent were defaulted on.

32. Some analysts argue that deposit insurance could affect interest rate differentials. But to the extent that subsidized federal deposit insurance lowers banks' cost of funds, interest rates on all loans are likely to be equally affected, so the differential is unlikely to change. See Pearce and Miller, *Freddie Mac and Fannie Mae: Their Funding Advantage and Benefits to Consumers.*

33. For a discussion of the range of strategies that borrowers have at their disposal to avoid taking out a jumbo loan, see Patrick Barta, "Jumbo Mortgages? Not A Huge Problem," *Wall Street Journal*, December 7, 2000, p. C-1.

The observed spread may also understate the benefits that Fannie Mae and Freddie Mac pass through to borrowers if low-cost advances (loans from the Federal Home Loan Banks to their members) disproportionately reduce rates in the jumbo market. Some analysts argue that member banks and thrifts direct a significant portion of their subsidized advances to the jumbo market.[34]

PREVIOUS RESEARCH ON JUMBO/CONFORMING DIFFERENTIALS

The benefits that the GSEs pass through to borrowers in the form of lower interest rates are usually measured as the difference in rates for conforming and jumbo mortgages that exists after accounting for factors other than the GSEs that affect those rates. Estimates of that differential are sensitive to both the time period being examined and the methodological approach.

The simplest method for determining the rate spread is to compare the advertized, or "posted," rates that lenders offer for conforming and jumbo loans. (Those rates are readily available in newspapers and on various Web sites.) However, for various reasons, those rates are only a rough measure.[35] First, not all borrowers qualify for posted rates, which may be available only to the best credit risks. Second, buyers who are particularly sensitive to interest rates may shop for the best rate. In particular, borrowers in the jumbo market may have a greater incentive to spend time searching for the lowest rate. Third, some analysts contend that lenders use their posted rates to manage their flow of mortgage applications. For example, if lenders are receiving too few applications, they lower rates.[36] For those and other reasons, most analysts use "contract" rates instead—the interest rates actually agreed to by lenders and paid by borrowers.

To isolate the impact of GSEs on the jumbo/conforming spread, researchers use statistical methods (regression analysis) to control for some of the other factors that are thought to affect rates. In particular, they generally adjust for the overall size of the mortgage and for its size relative to the price of the house—the loan-to-value (LTV) ratio, which is a proxy for default risk (because the larger the loan as a percentage of the home's price, the smaller the down payment and the greater the risk of default).

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34. See Pearce and Miller, *Freddie Mac and Fannie Mae: Their Funding Advantage and Benefits to Consumers.*

35. See Department of the Treasury, *Government Sponsorship of the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation* (July 11, 1996), pp. 70-75.

36. In addition, banks may raise their posted rates to discourage too many applicants and then offer rates below those posted rates to their best credit risks.

Controlling for loan size, LTV ratios, and other variables (such as the month in which the loan was originated), Patric Hendershott and James Shilling found that contract rates on conforming loans were approximately 25 to 35 basis points lower than rates on jumbo loans in 1986.[37] Their sample was restricted to California, the largest housing market, for the months of May, June, and July, which were chosen as the peak of annual housing sales. A study by ICF, a consulting firm, estimated the jumbo/conforming differential at 10 to 23 basis points in 1987 for a seven-state sample.[38] Robert Cotterman and James Pearce, using data from 1989 through 1993, found that interest rates on conforming loans were 15 to 60 basis points lower than rates on jumbo loans.[39] Their differential varied greatly over that period and was lowest in the second half of 1993. That study separately analyzed California and 11 other states with the largest jumbo markets. CBO's 1996 study of the housing GSEs used Cotterman and Pearce's central estimate of 35 basis points as the amount by which the benefits of GSE status lowered mortgage interest rates.[40]

The importance of controlling for factors other than the GSEs that affect interest rates is highlighted by looking at unadjusted rates. Raw data on effective rates (contract rates that factor in any initial fees paid to lenders) indicate that in four of the past six years, unadjusted rates on jumbo loans were lower, not higher, than rates on conforming loans (see Table 2). Thus, unadjusted data might suggest that borrowers in the conforming market received little, if any, benefit from the GSEs' presence in that market.

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37. The range of 25 to 35 basis points reflects the sensitivity of the results to how the model is specified; see Patric H. Hendershott and James D. Shilling, "The Impact of the Agencies on Conventional Fixed-Rate Mortgage Yields," *Journal of Real Estate Finance and Economics*, vol. 2, no. 2 (June 1989), pp. 101-115.

38. ICF Inc., *Effects of the Conforming Loan Limit on Mortgage Markets* (prepared for the Department of Housing and Urban Development, March 1990), pp. 23-26 and 53-58.

39. Robert F. Cotterman and James E. Pearce, "The Effects of the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation on Conventional Fixed-Rate Mortgage Yields," in Department of Housing and Urban Development, *Studies on Privatizing Fannie Mae and Freddie Mac*, pp. 97-168.

40. Congressional Budget Office, *Assessing the Public Costs and Benefits of Fannie Mae and Freddie Mac*, pp. 18-20.

TABLE 2. UNADJUSTED DIFFERENCES IN INTEREST RATES BETWEEN JUMBO AND CONFORMING LOANS, 1995-2000

	Effective Rate on Fixed-Rate Jumbo Loans (Percent)	Effective Rate on Fixed-Rate Conforming Loans (Percent)	Differential (Basis points)[a]
1995	8.16	8.18	-2
1996	8.08	7.98	10
1997	7.88	7.89	-1
1998	7.32	7.18	14
1999	7.38	7.44	-6
2000	8.24	8.25	-1

SOURCE: Congressional Budget Office based on data from the Federal Housing Finance Board and the board's Monthly Interest Rate Survey, Table 21.

NOTE: Effective rates are contract rates adjusted for any initial fees and other charges paid to the lender (amortized over 10 years). These raw data are not adjusted for various other factors that affect mortgage interest rates.

a. A basis point is one-hundredth of a percentage point.

ESTIMATING NATIONAL JUMBO/CONFORMING DIFFERENTIALS FOR 30-YEAR FIXED-RATE MORTGAGES SINCE 1995

CBO recently produced new estimates of jumbo/conforming differentials in effective rates for the 48 contiguous states.[41] Following the approach of Cotterman and Pearce, CBO did not estimate differentials directly. Instead, it estimated the effective rate on individual mortgage loans as the dependent variable in a regression equation, with the natural logarithm of loan size, the LTV ratio, the month of origination, the type of lender, a conforming-loan indicator (to signify whether the mortgage is a conforming loan), and a new-house indicator serving as independent, or explanatory, variables. The coefficient on the conforming-loan indicator picks up the size of the differential. Because the differential is expected to vary considerably over time, CBO

41. As a matter of convenience, CBO's analysis excludes the housing markets in Hawaii and Alaska, where the ceiling on conforming loans is 50 percent higher than in the other 48 states. The estimate of differentials is a fixed effect calculated in a regression equation that controls for various other factors that might influence interest rates.

ran separate regressions for each quarter from 1995 through the second quarter of 2000.

The main regression equation that CBO used (Equation 1) takes the following form:

$$\text{Effective rate} = \text{constant} + b_1(\text{log loan size}) + b_2(\text{LTV}) + b_3(\text{Month}) + b_4(\text{Lender Type}) + b_5(\text{New House}) + b_6(\text{Conforming Loan}) + \text{error term}$$

with b_i as the coefficient on the explanatory variable that follows in parentheses.

Effective loan rates are contract rates adjusted for any points (initial fees and charges expressed as a percentage of the loan) paid to the lender. Lenders sometimes charge points to cover their origination costs. They also offer lower rates and higher points to appeal to buyers who are less likely to prepay a mortgage. In general, buyers who expect to stay in a home for a significant period (say, more than five years) often find it financially advantageous to "buy down" their interest rate by paying more points up front.[42]

Effective rates can be expected to decline as loan size increases because origination and servicing costs are essentially fixed and fall as a percentage of the loan amount as loan size rises. LTV ratios measure default risk, so effective rates should increase with higher LTV ratios. The constant term in the equation and the indicators for month of loan origination pick up the effect of the level of other interest rates, such as Treasury rates, on mortgage rates. (Given that CBO estimated equations using cross-section data, little would be gained by adding Treasury rates directly as an explanatory variable.)

CBO expects the coefficient on the indicator for lender type—whether mortgage companies (Lender 1), commercial banks (Lender 2), or thrifts (which serve as the benchmark for that variable)—to be statistically insignificant. Although some institutions, such as savings and loans, may have had comparative advantages in originating mortgages in the past, the playing field is widely believed to be more level now. The new-house indicator is intended to pick up the possibility that rates are lower for new homes than for older homes, either because of lower default rates or because builders sometimes offer access to preferential financing through an authorized lender as an incentive to buy rather than lowering the price of a home. For

42. The Federal Housing Finance Board computes effective interest rates by amortizing points over 10 years, which it assumes is the effective maturity of home mortgages. Because homeowners who use points to buy down their mortgage rate are likely to stay in their home longer than average, that method may overstate their effective rate. However, unless jumbo borrowers respond differently to points than conventional borrowers do, the method used to translate points into effective rates should not bias the estimate of the differential.

example, some builders induce buyers to use their lender in exchange for paying closing costs on the loan.

The Data Set

CBO's analysis used data from the Federal Housing Finance Board's Monthly Interest Rate Survey, which is the only large, publicly available sample of contract rates for first mortgages.[43] MIRS excludes several types of loans: those insured or guaranteed by either the Federal Housing Administration (FHA) or the Department of Veterans Affairs[44]; loans that refinance existing mortgages[45]; and loans above a certain size ($636,750 in 2000), which are likely to be in the thinnest segment of the mortgage market. Lenders who specialize in serving the subprime market (which targets borrowers with blemished credit histories) are excluded as well. Despite those exclusions, the sample is still large. In 1999, for example, it contained over 250,000 fixed- and adjustable-rate loans. All of those loans closed in the last five days of the month, which is the survey's sampling period. Fannie Mae and Freddie Mac use information from MIRS to determine the increase in the conforming-loan ceiling each year. (However, the survey does not indicate which conforming loans are purchased by Fannie Mae or Freddie Mac.)

The MIRS data set suffered from measurement errors in the 1980s and early 1990s. For example, lenders frequently misreported adjustable-rate mortgages as fixed-rate mortgages. Consequently, Cotterman and Pearce's 1996 study filtered out interest rates that appeared to be too low for fixed-rate mortgages. Because the Federal Housing Finance Board now screens the data more effectively for errors in reporting rates, the data quality is much higher.[46] As a result, CBO minimized the use of filters, although it did screen for "buydown" rates—rates that are lower in the first year than in subsequent years.[47]

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43. Complete details about the survey and its data set are available at the Federal Housing Finance Board's Web site (www.fhfb.gov/MIRS/MIRS.htm).

44. Fannie Mae and Freddie Mac can and do buy mortgages guaranteed by the FHA; however, those purchases are an insignificant part of their business.

45. The market makes little or no distinction between mortgages used to purchase a home and those used for refinancing. Purchases and guarantees of refinanced loans account for more than half of the GSEs' business in some years. See Office of Federal Housing Enterprise Oversight, *2000 Report to Congress*, p. 40.

46. The board screens out observations in which the contract rate is more than 100 basis points below the previous month's average rate.

47. "Teaser" rates are more prevalent on adjustable-rate mortgages; however, fixed-rate mortgages may have "buydowns," which act like teasers but are usually paid by the seller of the house.

MIRS also reports a weight for each lender that the board uses to adjust the sample's distribution to that of the general population. The board calculates those weights on the basis of the type of mortgages the institution holds relative to those of other lenders, the type of institution, and its geographic location. For instance, if the sample contains a smaller proportion of savings and loans in Texas than exists in the population, loans reported by Texas thrifts will receive a weight greater than 1. Cotterman and Pearce's 1996 study used the weighted observations, but CBO relied on the unweighted observations because the market for mortgages is now essentially a national one in which neither region nor type of lender is likely to be systematically related to interest rates.[48] (CBO did, however, run regressions using the sample weights as a test for robustness and comparability.)

Although CBO's analysis filtered out some observations believed to be misreported or unlikely to meet the GSEs' underwriting standards, in general, CBO screened out fewer observations than did some other studies to avoid erroneously discarding valid data. Cotterman and Pearce, for example, restricted their sample to loans with an LTV ratio of at least 70 percent. CBO's sample includes loans with LTV ratios between 20 percent and 97 percent. (Loans smaller than 20 percent of the home's value might be second mortgages, and until recently, the GSEs did not buy loans with LTV ratios over 97 percent.) CBO also restricted the data to loans between 25 percent and 200 percent of the conforming limit for technical reasons.[49]

The MIRS data set has no information about any of the characteristics of individual borrowers—such as credit history, income, or wealth—that affect the rates borrowers pay. It also lacks information about local real estate conditions. Since jumbo loans have higher default rates than conforming loans, those omissions could cause CBO's estimate of the differential to be too high. In addition, MIRS does not identify which loans have private mortgage insurance or its cost.[50] That omission

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48. Some analysts qualify that assertion—for example, by saying that the lack of uniformity in state laws covering bankruptcy and foreclosure may affect mortgage rates and loan size. See Karen Pence, "Foreclosing on Opportunity? State Laws and Mortgage Credit" (draft, University of Wisconsin at Madison, December 2000).

49. The log-linear specification of loan size in the regression makes both the loan-size variable and the conforming-loan variable sensitive to very small or large loans. Cotterman and Pearce also limited their sample for that reason, but with a higher upper bound.

50. No evidence exists that would allow CBO to judge whether omitting private mortgage insurance from the analysis affects the estimates of the interest rate differential. A typical fee for private mortgage insurance is 35 to 50 basis points per year for a 90 percent LTV mortgage. For an analysis of private mortgage insurance, see Stanley D. Longhofer, "PMI Reform: Good Intentions Gone Awry," *Economic Commentary*, Federal Reserve Bank of Cleveland (March 15, 1997); and Glenn B. Canner, Wayne Passmore, and Monisha Mittal, "Private Mortgage Insurance," *Federal Reserve Bulletin*, vol. 80, no. 10 (October 1994), pp. 883-899.

could affect the precision of the estimated coefficients on the LTV ratios. For example, a loan with a 10 percent down payment and private mortgage insurance may be as safe, or even safer, to the lender as one with a 20 percent down payment but no insurance.

Results

CBO's analysis found that interest rates on jumbo mortgages remained higher than rates on conforming mortgages after controlling for some of the other loan characteristics that affect those rates. Based on Equation 1, the average differential (or adjusted spread) between the first quarter of 1995 and the second quarter of 2000 was 23 basis points. The quarterly differentials ranged from 4 basis points to 35 basis points (see Table 3).[51] All but one of the quarterly estimates (the 4.1 basis point differential for the first quarter of 1995) were statistically significant—that is, statistically different from zero.

Spreads in other financial markets vary substantially over time as premiums for risk and liquidity change; consequently, the estimated differentials in the mortgage market can also be expected to vary. The high differentials in 1998, which averaged 32 basis points, stand out. The financial markets' early flight-to-quality response to the Asian currency crisis, which began in 1987, is the most likely explanation for the high differentials in the first half of 1998. Other analysts point to unusually heavy activity in mortgage markets.[52] The flight to quality more clearly explains the large differentials in the second half of the year, which persisted into the first quarter of 1999. The spreads between Treasury rates and interest rates for most

51. The 22 quarterly estimates have an unweighted mean of 22.8 basis points and a standard deviation (a statistical measure of the distribution of observations around the mean) of 7.9 basis points. As a test for robustness and comparability, CBO ran the same regression with the weighted observations and found relatively little difference. Using the weighted observations raised the differential by less than 0.5 basis points, on average. One reason that CBO relied on unweighted observations is that it was uncertain how the weights were determined and how they should be interpreted.

52. Rates on Treasury securities, for example, fell in the first half of 1998, at least in part because of the effects of the Asian crisis. But spreads in other financial markets were relatively stable during the first half of 1998 compared with the second half. For a description of developments in international financial markets and domestic housing markets during that period, see Federal Reserve Board, "Monetary Policy Report to the Congress," *Federal Reserve Bulletin*, vol. 84, no. 8 (August 1998), pp. 586, 589-591, and 600-603.

TABLE 3. DIFFERENCES IN EFFECTIVE INTEREST RATES BETWEEN JUMBO AND CONFORMING 30-YEAR FIXED-RATE LOANS, BY QUARTER, WITH LOAN SIZE SPECIFIED AS A NATURAL LOG, 1995-2000 (In basis points)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Average
		1995			
Differential	4.1[a]	20.7	32.3	32.0	22.3
Standard Error of Differential	4.3	1.9	1.6	1.6	
Number of Observations	5,987	14,118	17,904	13,927	
		1996			
Differential	28.3	19.0	17.4	15.6	20.1
Standard Error of Differential	1.8	2.0	1.7	1.6	
Number of Observations	16,307	15,620	13,285	12,525	
		1997			
Differential	17.3	10.3	17.5	22.8	17.0
Standard Error of Differential	1.6	1.1	1.0	1.0	
Number of Observations	14,637	24,865	28,775	28,821	
		1998			
Differential	33.1	30.2	30.2	35.2	32.2
Standard Error of Differential	0.9	0.8	0.8	0.8	
Number of Observations	33,193	49,061	48,064	44,592	
		1999			
Differential	28.4	19.0	20.3	23.7	22.9
Standard Error of Differential	1.0	0.8	1.3	1.3	
Number of Observations	38,633	43,810	31,705	24,949	
		2000[b]			
Differential	19.5	25.5			22.5
Standard Error of Differential	1.5	1.3			
Number of Observations	20,860	33,539			
		1995-2000			
Average Quarterly Differential					22.8

SOURCE: Congressional Budget Office based on the Federal Housing Finance Board's Monthly Interest Rate Survey.

NOTES: Loans that were more than 25 percent below the conforming limit or 200 percent above the limit were dropped from the analysis, as were mortgages with loan-to-value ratios below 20 percent or above 97 percent.

A basis point is one-hundredth of a percentage point.

a. Coefficient is statistically insignificant at the 10 percent level (that is, it may be zero).

b. CBO's estimates cover only the first two quarters of 2000.

securities expanded greatly in the second half of 1998 after Russia defaulted on its bonds in mid-August and demand for U.S. government securities increased.[53]

In CBO's analysis, estimated differentials were as large at the end of the period as at the beginning. In contrast, Cotterman and Pearce found differentials generally narrowing over the period of their study as the secondary market for jumbo mortgage-backed securities became increasingly liquid.

The Role of Other Explanatory Variables

By specifying loan size in natural logarithmic form, Equation 1 embodies the premise that as the loan amount rises, the interest rate falls because of the declining average cost of originating and servicing loans. As expected, the results show effective mortgage rates declining with loan size. (A complete set of regression results for Equation 1 appears in Appendix A.)

By contrast, rates generally rise with loan-to-value ratios. The regression used several ranges of LTVs: 50 percent to 70 percent (LTV1), 70 percent to 80 percent (LTV2), 80 percent to 90 percent (LTV3), and 90 percent to 97 percent (LTV4). The excluded category of loans, those with LTV ratios of 20 percent to 50 percent, has the lowest default risk in the sample, so it serves as the benchmark. The coefficients on the variable LTV4 for 1999 indicate that the effective rates on loans with LTV ratios between 90 percent and 97 percent were 9 to 13 basis points higher than rates on loans with LTV ratios below 50 percent (see Table A-5 in Appendix A). However, over the 1995-2000 period, the coefficients on the LTVs were not always statistically significant.[54] That may not be surprising given that CBO could not identify the presence of private mortgage insurance, which can substitute for a higher mortgage rate. The GSEs generally require that private mortgage insurance be taken out on loans with LTV ratios above 80 percent.

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53. For analysis of the market's changing risk perceptions during that period, see Counsel of Economic Advisers, *Economic Report of the President* (February 1999), pp. 55-62; and Federal Reserve Board, "Monetary Policy Report to the Congress," *Federal Reserve Bulletin*, vol. 85, no. 3 (March 1999), pp. 147-177. First Manhattan, a consulting firm hired by Fannie Mae, argues that increases in Fannie Mae's monthly purchases significantly lowered rates for new conforming mortgages in September and October 1998. See Alden L. Toevs, "A Critique of the CBO's Sponsorship Benefit Analysis" (report submitted by the First Manhattan Consulting Group to Fannie Mae, September 6, 2000). Also see Capital Economics, "An Economic Analysis of Freddie Mac's (and Fannie Mae's) Contribution to Liquidity in the Residential Mortgage-Backed Securities Market During the Credit Crunch of 1998" (unpublished paper, May 2000). The Congressional Budget Office's estimates of both the size and the timing of the effect of those purchases differ from Toevs's estimates.

54. Tables for all of the regressions not shown are available from the author.

Interest rates also differ by type of lender in some periods, but those differences were not always statistically significant or persistent. For example, rates on loans originated by commercial banks were 2 to 6 basis points higher than rates on loans originated by thrifts in the third and fourth quarters of 1998 but 5 to 12 basis points lower than rates on loans originated by thrifts in 1999. Rates on loans originated by mortgage companies were slightly lower than those on loans originated by thrifts in the first two quarters of 1999 but significantly higher in the last two quarters.

Effective rates were not consistently lower on loans for new homes than on loans for existing homes; sometimes they were higher, as in the first quarter of 1999. Moreover, the new-home variable was often statistically insignificant.

Given that CBO could not control for differences in borrowers' credit quality or the expected price volatility of the house, CBO's method cannot be expected to explain much of the variation in effective rates. Still, it is noteworthy that it explains less than 10 percent of the variation in effective loan rates (as indicated by the low adjusted r-squares shown in Appendix A).[55] In contrast, Cotterman and Pearce were able to explain more than 25 percent of the variation in rates in their earlier sample using observations only from California and 20 percent of the variation in rates using observations from 11 states.[56] The lower explanatory power of CBO's approach may result from its focus on the national market, use of a slightly different dependent variable, and later time period.

THE ROBUSTNESS OF CBO'S ESTIMATES

As a check on the reliability of its estimates, CBO fitted the MIRS data to a variety of alternatively specified equations. The results varied slightly with changes in the form of the equation. For example, specifying loan size using a quadratic transformation, using 15-year mortgages rather than 30-year mortgages, and sampling loans with no fees or other charges produced small variations in the jumbo/conform-

55. When CBO ran the regression equation using annual rather than quarterly data, it was able to explain 37 percent of the variation in effective rates over the period. The adjusted r-squares ranged from 0.13 to 0.52.

56. See Cotterman and Pearce, "The Effects of the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation on Conventional Fixed-Rate Mortgage Yields," pp. 161-62, Tables 16 and 17.

ing differential.[57] CBO also compared its results with raw nonregression measures of the differential and with recent estimates by other researchers.

Alternative Ways to Specify Loan Size

Analysts have suggested that estimates of the jumbo/conforming differential may be sensitive to the way in which the explanatory variable for loan size is specified.[58] The reason is that some factors—such as origination and servicing costs, which are relatively fixed with respect to loan size—should cause mortgage rates to decline as loan size increases, but other factors may push up rates as loan size increases. As an example of the latter, because the benefits of refinancing rise with loan size, so does the risk of prepayment. In addition, the jumbo market, particularly at the high end, is smaller than the conforming market in almost all areas of the country, which means greater underlying volatility in home prices and thus higher risk of default. Greater prepayment and default risks would put upward pressure on rates as loan size increases.

If rates do start to rise with loan size beyond some point, that effect cannot be measured by the logarithmic functional form. CBO's analysis of raw MIRS data suggests that may be a problem. For example, the data for the second quarter of 1999—unadjusted for either month of origination or LTV ratio—indicate that rates (adjusted for points) fall steadily with loan size up to the conforming limit, make a discrete jump of 19 basis points as soon as the conforming limit is exceeded, then trend down slightly, before rising just at or immediately above 200 percent of the conforming limit.[59]

Specifying loan size in quadratic form is an alternative to the logarithmic form. CBO's equation with quadratic form uses loan size (Size) and the square of loan size

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57. Although CBO cannot be sure that the adjusted spreads are not sensitive to the presence of private mortgage insurance, one admittedly imperfect test suggests that any effect is likely to be fairly small. When CBO excluded loans with down payments of less than 20 percent, which are the loans most likely to carry private mortgage insurance, the estimated jumbo/conforming differential was 23.9 basis points, just 1 basis point higher than the estimates for Equation 1.

58. Department of the Treasury, *Government Sponsorship of the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation* (July 11, 1996), p. 73. CBO's approach assumes that loan size is not affected by interest rates. In reality, however, borrowers are likely to adjust the size of their mortgage to changes in interest rates. For example, they may take out bigger loans when rates are lower. That potential endogenicity problem may bias CBO's coefficients on loan size and perhaps also spill over to the dummy variable for conforming loans.

59. That analysis, which is not a regression result, is available from the author. The data also show a relatively large number of loans either right at or just below the conforming limit and few loans immediately above or even 10 percent above the limit. That clustering is additional evidence that rates are lower for conforming loans.

(Size Squared) as explanatory variables. That functional specification allows rates to first fall and then rise with loan size. (The coefficient on the Size variable is negative and the coefficient on the Size Squared variable is positive.) According to regression analysis of that equation, the coefficients on the variables for loan size in the second quarter of 1999 indicate that rates fell with loan size until $341,600—about $100,000 above the conforming-loan limit in that year—and then increased (with all else held constant).[60] For most quarters, the quadratic specification of loan size does a better job of handling the more expensive loans in the sample than the log specification does, as indicated by coefficients on Size and Size Squared that generally are statistically significant. The estimated jumbo/conforming spread averages about 22 basis points over the period with a quadratic specification versus 23 basis points when loan size is specified in log form (see Table 4).[61] The similarity of those estimates is evidence of their robustness. (Complete regression results for the alternative equation appear in Appendix B.)

Differentials for 15-Year Fixed-Rate Mortgages Relative to 30-Year Mortgages

Annual estimates for 15-year fixed-rate mortgages show an average jumbo/conforming differential of 25 basis points over the 1995-2000 period (see Table 5). The fact that the differential is only about 1 basis point higher than the comparable spread for 30-year mortgages using annual estimates is another sign of robustness.[62] Some difference in spreads can be expected because the conforming and jumbo markets for 15-year fixed-rate loans are much smaller and therefore less liquid than the markets for 30-year loans.

Using Rates on No-Point Loans to Determine Differentials

Many ways exist to adjust mortgage interest rates for the fees, points, and other charges that most borrowers pay, and the method used might affect estimates of spreads. In the MIRS data, those additional costs are amortized over 10 years and

60. The quadratic transformation imposes a symmetry on rate changes; however, rates may fall more quickly than they rise with loan size. If that is the case, in the above example rates may start rising before a loan amount of $341,600.

61. When loan size was specified as a quadratic transformation, the mean for the 22 quarterly estimates of the spread was 21.8 basis points, with a standard deviation of 7.7 basis points.

62. The average of annual estimates is slightly different from the unweighted average of quarterly estimates because mortgage originations show some seasonal variation. For example, they tend to be lower than average in the first quarter.

TABLE 4. DIFFERENCES IN EFFECTIVE INTEREST RATES BETWEEN JUMBO AND CONFORMING 30-YEAR FIXED-RATE LOANS, BY QUARTER, WITH LOAN SIZE SPECIFIED IN QUADRATIC FORM, 1995-2000 (In basis points)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Average
		1995			
Differential	5.4[a]	18.4	34.4	29.4	21.9
Standard Error of Differential	6.1	2.8	2.3	2.4	
Number of Observations	5,987	14,118	17,904	13,927	
		1996			
Differential	28.7	23.7	18.0	12.7	20.8
Standard Error of Differential	2.5	3.0	2.5	2.3	
Number of Observations	16,307	15,620	13,285	12,525	
		1997			
Differential	18.7	8.3	17.2	21.5	16.4
Standard Error of Differential	2.3	1.6	1.4	1.3	
Number of Observations	14,637	24,865	28,775	28,821	
		1998			
Differential	32.0	28.6	29.5	29.3	29.9
Standard Error of Differential	1.3	1.1	1.1	1.1	
Number of Observations	33,193	49,061	48,064	44,592	
		1999			
Differential	27.2	17.2	17.0	16.8	19.6
Standard Error of Differential	1.4	1.1	1.9	1.8	
Number of Observations	38,633	43,810	31,705	24,949	
		2000[b]			
Differential	20.2	25.0			22.6
Standard Error of Differential	2.2	1.9			
Number of Observations	20,860	33,539			
		1995-2000			
Average Quarterly Differential					21.8

SOURCE: Congressional Budget Office based on the Federal Housing Finance Board's Monthly Interest Rate Survey.

NOTES: Loans that were more than 25 percent below the conforming limit or 200 percent above the limit were dropped from the analysis, as were mortgages with loan-to-value ratios below 20 percent or above 97 percent.

A basis point is one-hundredth of a percentage point.

a. Coefficient is statistically insignificant at the 10 percent level (that is, it may be zero).

b. CBO's estimates cover only the first two quarters of 2000.

TABLE 5. ANNUAL DIFFERENCES IN EFFECTIVE INTEREST RATES BETWEEN JUMBO AND CONFORMING 15-YEAR AND 30-YEAR FIXED-RATE LOANS, WITH LOAN SIZE SPECIFIED AS A NATURAL LOG, 1995-2000 (In basis points)

	1995	1996	1997	1998	1999	2000[a]	Average, 1995-2000
15-Year Mortgages							
Differential	24.6	19.2	22.1	29.2	26.8	29.7	24.9
Standard Error of Differential	2.5	2.4	1.6	1.1	1.5	3.2	
Number of Observations	7,903	9,151	12,531	23,835	15,774	4,516	
30-Year Mortgages							
Differential	27.0	20.3	17.4	32.0	23.4	22.9	23.9
Standard Error of Differential	1.0	0.9	0.6	0.4	0.5	1.0	
Number of Observations	51,936	57,737	97,098	174,910	139,097	54,399	

SOURCE: Congressional Budget Office based on the Federal Housing Finance Board's Monthly Interest Rate Survey.

NOTES: Regressions were run for each year using dummy variables for the months, with loan size specified in log form. The low standard errors indicate that all of the estimates of the coefficients for the differentials are statistically significant.

A basis point is one-hundredth of a percentage point.

a. CBO's estimates cover only the first six months of 2000.

added to the contract rate to determine the effective rate.[63] Whether that method overstates or understates effective rates is uncertain. CBO has no reason to believe that the adjustment distorts the jumbo/conforming differential (in the absence of different behavior by borrowers in the two markets).[64] Nevertheless, for the sake of

63. MIRS still assumes that 10 years is the average life of a mortgage, but that assumption may be dated. Many market participants argue that the average life of a 30-year fixed-rate mortgage is now closer to five to seven years. The cost of refinancing a loan has fallen, and borrowers are now more aware of the advantages of refinancing when interest rates decline.

64. Borrowers in the jumbo market may well behave differently than those in the conforming market. For example, borrowers in different tax brackets may respond differently to the trade-off between points and the interest rate paid. Points paid on a mortgage are generally fully tax-deductible in the year the mortgage is originated. Because jumbo borrowers are more likely to be in higher tax brackets than borrowers with conforming loans, they might find paying more points a more attractive trade-off than conforming borrowers would. However, the MIRS data set reveals no consistent pattern with respect to the points paid by jumbo and conforming borrowers. In some years, the average points paid on jumbo loans exceed the points paid on conforming loans, but between 1997 and 2000, fewer points were paid on jumbos. See MIRS Table 21, "Terms on Conventional Single-Family Mortgages, All Homes, Jumbo and Nonjumbo Mortgages," available at www.fhfb.gov/MIRS/MIRS_loans_downloads.htm.

comparison, CBO also estimated differentials using contract rates for loans with no points, fees, or other charges.

In general, the spreads for no-point loans were smaller than those for the entire sample (with loan size specified in natural logarithmic form and regressions run on quarterly data). During the 1995-2000 period, quarterly spreads for no-point loans averaged 18 basis points whereas those for the entire sample of 30-year fixed-rate loans averaged 23 basis points (see Table 6).[65] However, the number of observations used in that regression was significantly smaller, since no-point loans make up less than one-quarter of the loans in the entire sample. (Complete regression results for no-point loans appear in Appendix C.)

Nonregression Methods to Estimate Differentials

Comparing effective rates on loans just above the conforming limit with those at the limit provides a raw measure of spreads unadjusted for other factors (such as LTV ratios) that affect rates. CBO's analysis indicates that the difference between rates at 110 percent to 120 percent of the conforming limit and those at the limit averaged 22.5 basis points, or about 0.3 basis points less than the estimate of 22.8 basis points using regression analysis (see Table 7).[66] That result is based on the difference between the mean observations in those categories of loan size; however, given the size of the estimate's standard deviations, none of the differences are statistically significant.[67]

Comparisons with Other Estimates

CBO's finding of average jumbo/conforming differentials in the range of 18 to 25 basis points is consistent with several recent studies prepared for Fannie Mae and Freddie Mac, a study by academic economists, and another by the Federal Reserve

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65. The mean of the 22 quarterly estimates for no-point loans was 17.6 basis points, with a standard deviation of 9.7 basis points.

66. The range of 110 percent to 120 percent of the conforming limit was chosen to ensure a large number of observations. There is widespread evidence of borrowers clustering at or just below the conforming limit, with few loans made 10 percent above the limit. Most borrowers can easily avoid being just over the conforming limit by taking out a second mortgage. Consequently, the relatively few mortgages in the range of 100 percent to 110 percent of the limit may not be representative of all jumbo borrowers.

67. A full reporting of mortgage rates, including the adjustment for points, as a function of loan size by quarter is available from the author.

TABLE 6. DIFFERENCES IN EFFECTIVE INTEREST RATES BETWEEN JUMBO AND CONFORMING 30-YEAR FIXED-RATE LOANS WITH NO POINTS, BY QUARTER, 1995-2000 (In basis points)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Average
		1995			
Differential	9.9[a]	20.8	30.6	32.1	23.4
Standard Error of Differential	9.3	3.4	2.7	2.6	
Number of Observations	1,696	4,702	6,262	5,166	
		1996			
Differential	35.2	18.8	5.1[a]	5.3	16.1
Standard Error of Differential	2.8	3.4	3.2	2.7	
Number of Observations	5,530	4,790	4,102	4,199	
		1997			
Differential	12.1	3.1[a]	10.5	18.1	11.0
Standard Error of Differential	2.5	2.2	1.9	1.8	
Number of Observations	4,524	5,215	6,447	5,865	
		1998			
Differential	23.5	21.3	24.7	30.5	25.0
Standard Error of Differential	1.7	1.4	1.5	1.6	
Number of Observations	8,173	11,399	9,865	10,047	
		1999			
Differential	23.4	12.5	3.8[a]	22.2	15.5
Standard Error of Differential	2.2	1.9	3.3	3.1	
Number of Observations	8,859	8,487	5,635	5,084	
		2000[b]			
Differential	9.4	13.3			11.4
Standard Error of Differential	3.5	2.6			
Number of Observations	4,717	8,702			
		1995-2000			
Average Quarterly Differential					17.6

SOURCE: Congressional Budget Office based on the Federal Housing Finance Board's Monthly Interest Rate Survey.

NOTES: Loans that were more than 25 percent below the conforming limit or 200 percent above the limit were dropped from the analysis, as were mortgages with loan-to-value ratios below 20 percent or above 97 percent.

A basis point is one-hundredth of a percentage point.

a. Coefficient is statistically insignificant at the 10 percent level (that is, it may be zero).

b. CBO's estimates cover only the first two quarters of 2000.

TABLE 7. UNADJUSTED DIFFERENCES IN INTEREST RATES BETWEEN JUMBO AND CONFORMING 30-YEAR FIXED-RATE LOANS, BY QUARTER, 1995-2000
(In percentage points)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Average
	1995				
Effective Rate at 100 Percent	9.07	8.27	7.88	7.63	
of the Conforming Limit	(0.46)	(0.49)	(0.38)	(0.35)	
Effective Rate at 110 to 120 Percent	9.07	8.36	8.23	7.92	
of the Conforming Limit	(0.65)	(0.58)	(0.37)	(0.40)	
Unadjusted Differential (Basis points)	0	9	35	29	18.3
Regression Differential (Basis points)	4.1	20.7	32.3	32.0	22.3
	(4.3)	(1.9)	(1.6)	(1.6)	
	1996				
Effective Rate at 100 Percent	7.52	8.17	8.34	8.09	
of the Conforming Limit	(0.41)	(0.38)	(0.31)	(0.33)	
Effective Rate at 110 to 120 Percent	7.78	8.50	8.52	8.19	
of the Conforming Limit	(0.47)	(0.58)	(0.43)	(0.45)	
Unadjusted Differential (Basis points)	26	33	18	10	21.8
Regression Differential (Basis points)	28.3	19.0	17.4	15.6	20.1
	(1.8)	(2.0)	(1.7)	(1.6)	
	1997				
Effective Rate at 100 Percent	7.90	8.14	7.72	7.49	
of the Conforming Limit	(0.30)	(0.32)	(0.33)	(0.31)	
Effective Rate at 110 to 120 Percent	8.13	8.24	7.92	7.76	
of the Conforming Limit	(0.39)	(0.36)	(0.34)	(0.37)	
Unadjusted Differential (Basis points)	23	12	20	27	20.5
Regression Differential (Basis points)	17.3	10.3	17.5	22.8	17.0
	(1.6)	(1.1)	(1.0)	(1.0)	
	1998				
Effective Rate at 100 Percent	7.20	7.21	7.05	6.84	
of the Conforming Limit	(0.26)	(0.26)	(0.29)	(0.27)	
Effective Rate at 110 to 120 Percent	7.55	7.51	7.33	7.24	
of the Conforming Limit	(0.36)	(0.32)	(0.33)	(0.43)	
Unadjusted Differential (Basis points)	35	30	28	40	33.3
Regression Differential (Basis points)	33.1	30.2	30.2	35.2	32.2
	(0.9)	(0.8)	(0.8)	(0.8)	
	1999				
Effective Rate at 100 Percent	6.94	7.15	7.73	7.88	
of the Conforming Limit	(0.30)	(0.31)	(0.36)	(0.31)	
Effective Rate at 110 to 120 Percent	7.22	7.30	7.87	8.14	
of the Conforming Limit	(0.35)	(0.36)	(0.50)	(0.51)	
Unadjusted Differential (Basis points)	28	15	14	26	20.8
Regression Differential (Basis points)	28.4	19.0	20.3	23.7	22.9
	(1.0)	(0.8)	(1.3)	(1.3)	

(Continued)

TABLE 7. CONTINUED

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Average
		2000[a]			
Effective Rate at 100 Percent of the Conforming Limit	8.26 (0.32)	8.33 (0.29)			
Effective Rate at 110 to 120 Percent of the Conforming Limit	8.40 (0.52)	8.57 (0.45)			
Unadjusted Differential (Basis points)	14	24			19.0
Regression Differential (Basis points)	19.5 (1.5)	25.5 (1.3)			22.5
		1995-2000			
Average Quarterly Unadjusted Differential (Basis points)					22.5
Average Quarterly Regression Differential (Basis points)					22.8

SOURCE: Congressional Budget Office based on the Federal Housing Finance Board's Monthly Interest Rate Survey.

NOTE: The standard deviations for the effective rates are shown in parentheses, and the standard errors for the conforming dummy variable are shown in parentheses for the estimate of the differential using regression techniques and specifying loan size in log form.

a. CBO's estimates cover only the first two quarters of 2000.

Board.[68] However, researchers disagree about whether those adjusted spreads underestimate or overestimate the impact of the housing GSEs on mortgage interest rates.

Alden Toevs of First Manhattan Consulting Group, under contract with Fannie Mae, concludes that the jumbo/conforming differential for the 1994-1999 period was 19 basis points, but he argues that the figure understates the benefits passed through to borrowers by 10 basis points.[69] He and James Pearce and James Miller also contend that to the extent that investments in the conforming and jumbo markets are substitutes, some investors and depository institutions may react to the lower rates and yields on GSE securities and conventional mortgages by increasing their demand

68. That range of 18 to 25 basis points includes the average differentials with the two alternative specifications for loan size, with annual estimates, and with no-point loans (shown in Tables 3 through 6).

69. Toevs, "A Critique of the CBO's Sponsorship Benefit Analysis," p. 10.

for privately guaranteed mortgage-backed securities and supplying more funds to the jumbo market.[70]

That argument makes little sense, however. The credit enhancement of conforming mortgages does not make jumbo mortgages a more attractive investment. Consequently, no reason exists that Fannie Mae and Freddie Mac would cause more investors to fund jumbo mortgages. The mortgage-backed securities guaranteed by the GSEs do provide investors with a safer investment than would otherwise be the case, but the risk-adjusted return should not change. Thus, without a portfolio reallocation, rates on jumbo mortgages should be unchanged. Depository institutions might reallocate some capital to the jumbo market, but they would have the entire range of investment opportunities available to them and would probably direct their funds where the risk-adjusted returns were highest. CBO does not know how much funding would shift to the jumbo mortgage market or how significant any impact on mortgage rates might be.[71]

Pearce updated his and Cotterman's 1996 study and found that the jumbo/conforming differential over the 1992-1999 period averaged 27 basis points in California and 24 basis points for an 11-state sample. Differentials were higher in 1998, averaging nearly 32 basis points in California and 30 basis points in the 11-state sample.[72] However, Pearce and Miller argue that their regression estimates most likely understate the full effect of Freddie Mac and Fannie Mae on conforming loans. They contend that indirect estimates of the adjusted spread, based on inferences from borrowers' decisions on adjustable-rate versus fixed-rate jumbo mortgages, suggest that the full effect could be considerably greater—perhaps as much as 65 basis points. Such indirect estimates are speculative and are based on restrictive assumptions about why borrowers choose adjustable-rate mortgages.[73]

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70. Pearce and Miller, *Freddie Mac and Fannie Mae: Their Funding Advantage and Benefits to Consumers*, pp. 12-13.

71. The market for GSE securities is very deep and highly liquid, so it is unclear whether much capital would be reallocated to other markets. Moreover, the market for jumbo mortgage-backed securities is very different from the market for conforming securities. That segmentation may limit the extent to which any of the reallocation is directed to the jumbo market.

72. That study filtered the MIRS data to create a more homogeneous set of observations for 30-year fixed-rate loans. For example, Pearce used only loans with LTV ratios between 70 percent and 90 percent and excluded loans with balances below 20 percent or above 200 percent of the conforming limit. In contrast to Cotterman and Pearce's previous study, the update did not use the MIRS weights because they could have distorted the results in some cases. Pearce's regression models accounted for about 25 percent of the variation in effective mortgage rates. See James Pearce, "Conforming Loan Differentials: 1992-1999" (Welch Consulting, November 22, 2000).

73. Pearce and Miller assume a stable relationship between the adjustable-rate and fixed-rate differential and the share of adjustable-rate mortgages (ARMs). Specifically, their indirect estimate assumes that a decline of 30 basis points in the spread between ARMs and fixed-rate mortgages will produce a

Academic economists Brent Ambrose, Richard Buttimer, and Thomas Thibodeau estimate that conforming loan rates were an average of 25 basis points lower than jumbo rates in Dallas during the 1990-1999 period.[74] However, they argue that a considerable portion of that difference probably resulted from differences in the risk of the underlying collateral and was not necessarily associated with liquidity factors. After adjusting for the underlying price volatility of the homes backing the loans, they found that, at most, 16 basis points of the differential could be attributed to Fannie Mae and Freddie Mac. Any rate adjustments for volatility in other local housing markets are likely to be significantly smaller because the Texas market, particularly during that period, was probably more volatile than most. However, the finding does establish the importance of the link between housing price volatility and mortgage interest rates.

Looking just at selected slices of the California market, Wayne Passmore and Jamie Ingpen of the Federal Reserve Board and Roger Sparks, an academic economist, found that the average differential ranged from 18 to 23 basis points, with a sizable standard error.[75] They suggest that their spread probably overstates the benefits that Fannie Mae and Freddie Mac pass through to borrowers primarily because segmenting the market makes the pools of jumbo mortgages that back privately guaranteed mortgage-backed securities necessarily smaller, less diversified, and more unpredictable than pools of conforming mortgages. Those qualities raise the risk and reduce the liquidity of jumbo mortgage-backed securities, which increases the rates that investors require as well as the rates that jumbo borrowers must pay for a mortgage.

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decline of 10 percentage points in the share of ARMs. Because the share of ARMs in the conforming market is more than 20 percentage points less than the share of ARMs in the jumbo market, Pearce and Miller contend that the difference is consistent with the GSEs' reducing interest rates on fixed-rate conforming mortgages by 60 basis points or more. However, that bivariate relationship is too simplistic a model of borrowers' behavior. For example, expectations about future interest rate changes and mobility also affect the decision to take out an adjustable- or fixed-rate mortgage. Moreover, some analysts believe that borrowers in the jumbo market are more income constrained and thus are pushed into taking out adjustable-rate mortgages in order to qualify for a larger mortgage. Because the interest rates charged on ARMs are generally below those on fixed-rate mortgages at origination, the initial mortgage payments are generally lower on ARMs than on fixed-rate mortgages. Finally, some analysts argue that the relatively illiquid secondary market for jumbo mortgages may lead some lenders to offer fixed-rate jumbo mortgages at less attractive rates.

74. Ambrose, Buttimer, and Thibodeau, "A New Spin on the Jumbo/Conforming Loan Rate Differential."

75. The authors focused on California because they concluded that it had the most fully developed market for jumbo loans. Moreover, jumbo loans in states with very small jumbo markets might be qualitatively different from jumbo loans in California. The authors note that the substantial variation in the spreads lowers their confidence in the point estimates. (Spreads were negative for part of 1994.) Using a confidence interval of two standard deviations, they suggest that spreads of zero to 50 basis points are possible. Passmore, Sparks, and Ingpen, *GSEs, Mortgage Rates, and the Long-Run Effects of Mortgage Securitization*.

CONCLUSIONS

CBO's analysis confirms that the housing GSEs pass some of the subsidy they receive from the federal government through to borrowers. Controlling for several other factors that affect mortgage interest rates, CBO found that rates on jumbo mortgages exceeded those on conforming loans by an average of 18 to 25 basis points between January 1995 and June 2000, depending on the estimation technique and the data sample used. Those differentials were fairly volatile throughout the period. When conditions in other financial markets caused investors to place a high premium on liquidity and show less tolerance for risk, the jumbo/conforming differential increased.

CBO's analysis is subject to some of the same limitations as previous studies, which means that its estimated jumbo/conforming differential is an imperfect proxy for the benefits that the GSEs deliver. The major deficiency of the differential is that factors other than subsidies from the GSEs can create differences between jumbo and conforming rates. CBO could not control for some important factors—including the creditworthiness of borrowers and the price volatility in the local housing market —that affect the rates that borrowers pay. Other researches have found higher default rates and greater underlying volatility in home prices for jumbo mortgages. Moreover, CBO's estimates do not account for the adverse effects that the GSEs may have on liquidity in the jumbo market. In summary, the available evidence suggests that CBO's approach most likely overstates the jumbo/conforming differential and thus the size of the subsidy that the housing GSEs pass through to borrowers.

APPENDIX A: REGRESSION ESTIMATES WITH LOAN SIZE SPECIFIED IN LOGARITHMIC FORM

The regression results from Equation 1 support the notion that interest rates vary consistently with the size of the mortgage and with whether it is below the conforming limit. The coefficients on the loan-to-value (LTV) indicators were generally positive but frequently statistically insignificant, particularly in the early years of the sample (see Tables A-1 through A-6). In particular, the rates for mortgages with LTV ratios between 50 percent and 70 percent (LTV1) were often statistically indistinguishable from those for loans with LTV ratios below 50 percent, the benchmark range. That result may simply reflect the likelihood that default probabilities are extremely low for borrowers who make down payments of 30 percent to 50 percent, and thus, those probabilities have little room to decline when down payments exceed 50 percent.

Rates on new homes were lower than those on existing homes only in 1995; otherwise, they were generally higher. That result is inconsistent with the hypothesis that rates are usually lower on new homes.

TABLE A-1. REGRESSION ESTIMATES WHEN LOAN SIZE IS SPECIFIED IN LOG FORM, 1995 (Standard errors in parentheses)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
	Dependent Variable			
Effective Rate (Percent)	9.09	8.31	7.97	7.78
	(0.52)	(0.42)	(0.41)	(0.38)
	Independent Variables			
Intercept	10.13	10.49	9.65	9.17
	(0.24)	(0.13)	(0.11)	(0.11)
Log of Loan Size	-0.684	-0.143	-0.128	-0.085
	(0.019)	(0.010)	(0.009)	(0.009)
LTV1	-0.034[a]	0.045	0.051	0.032
	(0.043)	(0.022)	(0.019)	(0.019)
LTV2	-0.071	0.015[a]	0.032	-0.001[a]
	(0.040)	(0.020)	(0.017)	(0.018)
LTV3	-0.045[a]	0.056	0.070	0.038
	(0.041)	(0.021)	(0.018)	(0.019)
LTV4	-0.040[a]	0.076	0.087	0.024[a]
	(0.040)	(0.020)	(0.018)	(0.018)
Lender1	0.102	0.070	-0.025	-0.028
	(0.014)	(0.007)	(0.006)	(0.007)
Lender2	0.039[a]	-0.045	-0.116	-0.106
	(0.033)	(0.018)	(0.016)	(0.017)
New Home	-0.108	-0.022	0.009[a]	-0.018
	(0.018)	(0.010)	(0.009)	(0.009)
Conforming Loan	-0.041[a]	-0.207	-0.323	-0.320
	(0.043)	(0.019)	(0.016)	(0.016)
Adjusted R-Square	0.094	0.362	0.048	0.092
Number of Observations	5,987	14,118	17,904	13,927

SOURCE: Congressional Budget Office.

NOTES: The table shows the mean of the dependent variable along with the root mean square error for the equation. Each regression also included month indicators for the last two months of the quarter.

LTV = loan-to-value ratio.

a. Coefficient is not statistically significant at the 10 percent level.

TABLE A-2. REGRESSION ESTIMATES WHEN LOAN SIZE IS SPECIFIED IN LOG FORM, 1996 (Standard errors in parentheses)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
	Dependent Variable			
Effective Rate (Percent)	7.53	8.21	8.41	8.11
	(0.43)	(0.46)	(0.38)	(0.38)
	Independent Variables			
Intercept	7.74	7.83	9.21	9.68
	(0.12)	(0.13)	(0.12)	(0.12)
Log of Loan Size	-0.003[a]	0.038	-0.050	-0.114
	(0.010)	(0.011)	(0.009)	(0.010)
LTV1	0.053	-0.004[a]	0.013[a]	0.053
	(0.021)	(0.023)	(0.019)	(0.019)
LTV2	0.024[a]	-0.024[a]	-0.004[a]	0.046
	(0.020)	(0.021)	(0.018)	(0.018)
LTV3	0.051	-0.007[a]	0.020[a]	0.046
	(0.020)	(0.022)	(0.019)	(0.019)
LTV4	0.037	-0.044	0.013[a]	0.027[a]
	(0.020)	(0.021)	(0.018)	(0.018)
Lender1	-0.065	-0.099	-0.007[a]	0.033
	(0.007)	(0.008)	(0.007)	(0.007)
Lender2	-0.109	0.004[a]	-0.011[a]	-0.075
	(0.019)	(0.022)	(0.021)	(0.018)
New Home	0.039	0.007[a]	0.042	0.112
	(0.010)	(0.011)	(0.009)	(0.008)
Conforming Loan	-0.283	-0.190	-0.174	-0.156
	(0.018)	(0.020)	(0.017)	(0.016)
Adjusted R-Square	0.108	0.120	0.024	0.136
Number of Observations	16,307	15,620	13,285	12,525

SOURCE: Congressional Budget Office.

NOTES: The table shows the mean of the dependent variable along with the root mean square error for the equation. Each regression also included month indicators for the last two months of the quarter.

LTV = loan-to-value ratio.

a. Coefficient is not statistically significant at the 10 percent level.

TABLE A-3. REGRESSION ESTIMATES WHEN LOAN SIZE IS SPECIFIED IN LOG FORM, 1997 (Standard errors in parentheses)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
	Dependent Variable			
Effective Rate (Percent)	8.04	8.25	7.88	7.65
	(0.38)	(0.36)	(0.38)	(0.38)
	Independent Variables			
Intercept	9.42	9.70	9.64	9.75
	(0.11)	(0.08)	(0.08)	(0.08)
Log of Loan Size	-0.112	-0.125	-0.145	-0.166
	(0.009)	(0.007)	(0.007)	(0.006)
LTV1	0.055	0.015[a]	0.047	0.039
	(0.019)	(0.014)	(0.014)	(0.013)
LTV2	0.043	0.029	0.070	0.062
	(0.018)	(0.013)	(0.013)	(0.013)
LTV3	0.054	0.066	0.102	0.113
	(0.019)	(0.013)	(0.013)	(0.013)
LTV4	0.031	0.048	0.086	0.095
	(0.018)	(0.013)	(0.013)	(0.013)
Lender1	0.034	0.108	0.100	0.074
	(0.007)	(0.005)	(0.005)	(0.005)
Lender2	0.020[a]	0.023	0.016[a]	-0.016[a]
	(0.017)	(0.012)	(0.010)	(0.011)
New Home	0.058	-0.005[a]	0.039	0.022
	(0.007)	(0.006)	(0.006)	(0.005)
Conforming Loan	-0.173	-0.103	-0.175	-0.228
	(0.016)	(0.011)	(0.010)	(0.010)
Adjusted R-Square	0.021	0.051	0.042	0.066
Number of Observations	14,637	24,865	28,775	28,821

SOURCE: Congressional Budget Office.

NOTES: The table shows the mean of the dependent variable along with the root mean square error for the equation. Each regression also included month indicators for the last two months of the quarter.

LTV = loan-to-value ratio.

a. Coefficient is not statistically significant at the 10 percent level.

TABLE A-4. REGRESSION ESTIMATES WHEN LOAN SIZE IS SPECIFIED IN LOG FORM, 1998 (Standard errors in parentheses)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
	Dependent Variable			
Effective Rate (Percent)	7.34	7.33	7.20	6.96
	(0.36)	(0.35)	(0.36)	(0.38)
	Independent Variables			
Intercept	8.95	8.89	9.02	8.60
	(0.07)	(0.06)	(0.06)	(0.06)
Log of Loan Size	-0.116	-0.117	-0.137	-0.124
	(0.006)	(0.005)	(0.005)	(0.005)
LTV1	0.016[a]	0.035	0.043	0.042
	(0.012)	(0.010)	(0.010)	(0.010)
LTV2	0.025	0.042	0.052	0.050
	(0.011)	(0.009)	(0.009)	(0.009)
LTV3	0.063	0.086	0.104	0.087
	(0.011)	(0.009)	(0.010)	(0.010)
LTV4	0.057	0.074	0.089	0.092
	(0.011)	(0.009)	(0.009)	(0.009)
Lender1	0.057	0.054	0.082	0.051
	(0.005)	(0.004)	(0.004)	(0.004)
Lender2	-0.003[a]	-0.014	0.017	0.063
	(0.011)	(0.008)	(0.008)	(0.010)
New Home	0.056	0.018	0.051	0.069
	(0.005)	(0.004)	(0.004)	(0.005)
Conforming Loan	-0.331	-0.302	-0.302	-0.352
	(0.009)	(0.008)	(0.008)	(0.008)
Adjusted R-Square	0.049	0.039	0.083	0.061
Number of Observations	33,193	49,061	48,064	44,592

SOURCE: Congressional Budget Office.

NOTES: The table shows the mean of the dependent variable along with the root mean square error for the equation. Each regression also included month indicators for the last two months of the quarter.

LTV = loan-to-value ratio.

a. Coefficient is not statistically significant at the 10 percent level.

TABLE A-5. REGRESSION ESTIMATES WHEN LOAN SIZE IS SPECIFIED IN LOG FORM, 1999 (Standard errors in parentheses)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
	Dependent Variable			
Effective Rate (Percent)	7.06	7.26	7.86	8.01
	(0.39)	(0.35)	(0.37)	(0.36)
	Independent Variables			
Intercept	8.82	8.95	9.93	9.90
	(0.07)	(0.06)	(0.07)	(0.08)
Log of Loan Size	-0.137	-0.142	-0.188	-0.157
	(0.006)	(0.005)	(0.006)	(0.006)
LTV1	0.061	0.027	0.026	0.025
	(0.012)	(0.010)	(0.012)	(0.013)
LTV2	0.060	0.036	0.059	0.050
	(0.011)	(0.009)	(0.011)	(0.012)
LTV3	0.099	0.077	0.115	0.126
	(0.011)	(0.010)	(0.012)	(0.013)
LTV4	0.095	0.093	0.129	0.128
	(0.011)	(0.010)	(0.012)	(0.012)
Lender1	-0.021	-0.014	0.115	0.130
	(0.005)	(0.004)	(0.006)	(0.007)
Lender2	-0.049	-0.062	-0.097	-0.119
	(0.010)	(0.015)	(0.012)	(0.011)
New Home	0.112	-0.006[a]	-0.043	-0.005[a]
	(0.005)	(0.005)	(0.006)	(0.006)
Conforming Loan	-0.284	-0.190	-0.203	-0.237
	(0.010)	(0.008)	(0.013)	(0.013)
Adjusted R-Square	0.048	0.140	0.144	0.073
Number of Observations	38,633	43,810	31,705	24,949

SOURCE: Congressional Budget Office.

NOTES: The table shows the mean of the dependent variable along with the root mean square error for the equation. Each regression also included month indicators for the last two months of the quarter.

LTV = loan-to-value ratio.

a. Coefficient is not statistically significant at the 10 percent level.

TABLE A-6. REGRESSION ESTIMATES WHEN LOAN SIZE IS SPECIFIED IN LOG FORM, FIRST AND SECOND QUARTERS 2000
(Standard errors in parentheses)

	First Quarter	Second Quarter
Dependent Variable		
Effective Rate (Percent)	8.34 (0.37)	8.45 (0.38)
Independent Variables		
Intercept	10.03 (0.09)	10.27 (0.07)
Log of Loan Size	-0.158 (0.007)	-0.155 (0.006)
LTV1	0.017[a] (0.015)	-0.011[a] (0.012)
LTV2	0.055 (0.014)	0.033 (0.011)
LTV3	0.104 (0.015)	0.101 (0.012)
LTV4	0.125 (0.014)	0.117 (0.011)
Lender1	0.169 (0.008)	0.145 (0.006)
Lender2	-0.088 (0.011)	-0.107 (0.009)
New Home	0.015 (0.007)	0.031 (0.006)
Conforming Loan	-0.195 (0.015)	-0.255 (0.013)
Adjusted R-Square	0.132	0.098
Number of Observations	20,860	33,539

SOURCE: Congressional Budget Office.

NOTES: The table shows the mean of the dependent variable along with the root mean square error for the equation. Each regression also included month indicators for the last two months of the quarter.

LTV = loan-to-value ratio.

a. Coefficient is not statistically significant at the 10 percent level.

APPENDIX B: REGRESSION ESTIMATES WITH LOAN SIZE SPECIFIED IN QUADRATIC FORM

Equation 2 specifies loan size in quadratic form to permit effective rates to fall initially with loan size (because of economies of scale in origination and servicing) and then rise for larger loans (because of greater prepayment risk and more volatility in home prices). In general, the regression results for Equation 2 are consistent with that pattern of interest rates, as indicated by the negative coefficients on the loan-size variable and the positive coefficients on the loan-size-squared variable in most quarters (see Tables B-1 through B-6). On the basis of the estimated coefficients, it appears that, controlling for other factors, rates generally do not start to rise until loan size is significantly above the conforming limit, where the market is thin and potentially more volatile.

Comparing the results for Equation 2 with those for Equation 1 (in Appendix A) shows that the form in which loan size is specified also affects the coefficients on the loan-to-value (LTV) variables and the conforming-loan indicator. Overall, the two equations are similar in how much of the variation in effective mortgage rates they explain, as shown by comparing the adjusted r-squares.

TABLE B-1. REGRESSION ESTIMATES WHEN LOAN SIZE IS SPECIFIED IN QUADRATIC FORM, 1995 (Standard errors in parentheses)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
	Dependent Variable			
Effective Rate (Percent)	9.09	8.31	7.97	7.78
	(0.52)	(0.42)	(0.41)	(0.38)
	Independent Variables			
Intercept	9.43	9.02	8.34	8.28
	(0.07)	(0.03)	(0.30)	(0.03)
Loan Size ($1,000s)	-0.00081[a]	-0.00231	-0.00160	-0.00148
	(0.00055)	(0.00027)	(0.00022)	(0.00023)
Loan Size Squared ($1,000s)	8.28E-10[a]	4.19E-9	1.83E-9	2.99E-9
	(0.00000)	(0.00000)	(0.00000)	(0.00000)
LTV1	-0.035[a]	0.044	0.051	0.032[a]
	(0.043)	(0.022)	(0.019)	(0.019)
LTV2	-0.073	0.015[a]	0.030	-0.001[a]
	(0.040)	(0.020)	(0.017)	(0.018)
LTV3	-0.047[a]	0.055	0.068	0.038
	(0.041)	(0.021)	(0.018)	(0.019)
LTV4	-0.041[a]	0.075	0.085	0.024[a]
	(0.040)	(0.020)	(0.018)	(0.018)
Lender1	0.102	0.070	-0.025	-0.028
	(0.014)	(0.007)	(0.006)	(0.007)
Lender2	0.041[a]	-0.044	-0.116	-0.107
	(0.033)	(0.018)	(0.016)	(0.017)
New Home	-0.109	-0.022	0.009[a]	-0.018
	(0.018)	(0.010)	(0.009)	(0.009)
Conforming Loan	-0.054[a]	-0.184	-0.344	-0.294
	(0.061)	(0.028)	(0.023)	(0.024)
Adjusted R-Square	0.093	0.362	0.048	0.092
Number of Observations	5,987	14,118	17,904	13,927

SOURCE: Congressional Budget Office.

NOTES: The table shows the mean of the dependent variable along with the root mean square error for the equation. Each regression also included indicators for the last two months of the quarter.

The coefficients on the Loan Size Squared variable are very small and thus are denoted in exponential notation. For example, 1.0E-5 = 0.00001.

LTV = loan-to-value ratio.

a. Coefficient is not statistically significant at the 10 percent level.

TABLE B-2. REGRESSION ESTIMATES WHEN LOAN SIZE IS SPECIFIED IN QUADRATIC FORM, 1996 (Standard errors in parentheses)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
	Dependent Variable			
Effective Rate (Percent)	7.53	8.21	8.41	8.11
	(0.43)	(0.46)	(0.38)	(0.38)
	Independent Variables			
Intercept	7.71	8.25	8.70	8.50
	(0.03)	(0.04)	(0.03)	(0.03)
Loan Size ($1,000s)	-3.23E-6[a]	0.00101	-0.00063	-0.00198
	(0.00024)	(0.00029)	(0.00024)	(0.00023)
Loan Size Squared ($1,000s)	-9.37E-11[a]	-2.80E-9	7.68E-10[a]	3.87E-9
	(0.00000)	(0.00000)	(0.00000)	(0.00000)
LTV1	0.053	-0.004[a]	0.013[a]	0.053
	(0.021)	(0.023)	(0.019)	(0.019)
LTV2	0.024[a]	-0.024[a]	-0.005[a]	0.045
	(0.020)	(0.021)	(0.018)	(0.018)
LTV3	0.051	-0.008[a]	0.020[a]	0.046
	(0.020)	(0.022)	(0.019)	(0.019)
LTV4	0.037	-0.045	0.013[a]	0.028[a]
	(0.020)	(0.021)	(0.018)	(0.018)
Lender1	-0.065	-0.099	-0.007[a]	0.033
	(0.007)	(0.008)	(0.007)	(0.007)
Lender2	-0.109	0.004[a]	-0.011[a]	-0.076
	(0.019)	(0.022)	(0.021)	(0.018)
New Home	0.039	0.007[a]	0.042	0.111
	(0.010)	(0.011)	(0.009)	(0.008)
Conforming Loan	-0.287	-0.237	-0.180	-0.127
	(0.025)	(0.030)	(0.025)	(0.023)
Adjusted R-Square	0.108	0.120	0.024	0.137
Number of Observations	16,307	15,620	13,285	12,525

SOURCE: Congressional Budget Office.

NOTES: The table shows the mean of the dependent variable along with the root mean square error for the equation. Each regression also included indicators for the last two months of the quarter.

The coefficients on the Loan Size and Loan Size Squared variables are very small and thus are denoted in exponential notation. For example, 1.0E-5 = 0.00001.

LTV = loan-to-value ratio.

a. Coefficient is not statistically significant at the 10 percent level.

TABLE B-3. REGRESSION ESTIMATES WHEN LOAN SIZE IS SPECIFIED IN QUADRATIC FORM, 1997 (Standard errors in parentheses)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
	Dependent Variable			
Effective Rate (Percent)	8.04	8.25	7.88	7.65
	(0.38)	(0.36)	(0.38)	(0.38)
	Independent Variables			
Intercept	8.27	8.41	8.14	8.03
	(0.03)	(0.02)	(0.02)	(0.02)
Loan Size ($1,000s)	-0.00138	-0.00190	-0.00195	-0.00237
	(0.00022)	(0.00015)	(0.00014)	(0.00013)
Loan Size Squared ($1,000s)	1.65E-9	3.27E-9	2.87E-9	3.73E-9
	(0.00000)	(0.00000)	(0.00000)	(0.00000)
LTV1	0.054	0.014[a]	0.045	0.038
	(0.019)	(0.014)	(0.014)	(0.013)
LTV2	0.042	0.028	0.068	0.060
	(0.018)	(0.013)	(0.013)	(0.013)
LTV3	0.053	0.065	0.100	0.112
	(0.019)	(0.013)	(0.013)	(0.013)
LTV4	0.029[a]	0.048	0.083	0.094
	(0.018)	(0.013)	(0.013)	(0.013)
Lender1	0.034	0.108	0.100	0.074
	(0.007)	(0.005)	(0.005)	(0.005)
Lender2	0.020[a]	0.023	0.016[a]	-0.016[a]
	(0.017)	(0.012)	(0.010)	(0.011)
New Home	0.058	-0.005[a]	0.039	0.022
	(0.007)	(0.006)	(0.006)	(0.005)
Conforming Loan	-0.187	-0.083	-0.172	-0.215
	(0.023)	(0.016)	(0.014)	(0.013)
Adjusted R-Square	0.021	0.051	0.041	0.066
Number of Observations	14,637	24,865	28,775	28,821

SOURCE: Congressional Budget Office.

NOTES: The table shows the mean of the dependent variable along with the root mean square error for the equation. Each regression also included indicators for the last two months of the quarter.

The coefficients on the Loan Size Squared variable are very small and thus are denoted in exponential notation. For example, 1.0E-5 = 0.00001.

LTV = loan-to-value ratio.

a. Coefficient is not statistically significant at the 10 percent level.

TABLE B-4. REGRESSION ESTIMATES WHEN LOAN SIZE IS SPECIFIED IN QUADRATIC FORM, 1998 (Standard errors in parentheses)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
	Dependent Variable			
Effective Rate (Percent)	7.34	7.33	7.20	6.96
	(0.36)	(0.35)	(0.36)	(0.37)
	Independent Variables			
Intercept	7.74	7.67	7.59	7.28
	(0.02)	(0.15)	(0.02)	(0.16)
Loan Size ($1,000s)	-0.00154	-0.00159	-0.00175	-0.00217
	(0.00012)	(0.00009)	(0.00010)	(0.00011)
Loan Size Squared ($1,000s)	2.29E-9	2.44E-9	2.46E-9	4.27E-9
	(0.00000)	(0.00000)	(0.00000)	(0.00000)
LTV1	0.015[a]	0.034	0.042	0.041
	(0.012)	(0.010)	(0.010)	(0.010)
LTV2	0.024	0.040	0.050	0.049
	(0.011)	(0.009)	(0.009)	(0.009)
LTV3	0.061	0.085	0.102	0.088
	(0.011)	(0.009)	(0.010)	(0.010)
LTV4	0.056	0.073	0.087	0.092
	(0.011)	(0.009)	(0.009)	(0.009)
Lender1	0.058	0.054	0.082	0.051
	(0.005)	(0.004)	(0.004)	(0.004)
Lender2	-0.002[a]	-0.014	0.016	0.063
	(0.011)	(0.008)	(0.008)	(0.010)
New Home	0.056	0.018	0.050	0.070
	(0.005)	(0.004)	(0.004)	(0.005)
Conforming Loan	-0.320	-0.286	-0.295	-0.293
	(0.013)	(0.011)	(0.011)	(0.011)
Adjusted R-Square	0.049	0.039	0.082	0.062
Number of Observations	33,193	49,061	48,064	44,592

SOURCE: Congressional Budget Office.

NOTES: The table shows the mean of the dependent variable along with the root mean square error for the equation. Each regression also included indicators for the last two months of the quarter.

The coefficients on the Loan Size Squared variable are very small and thus are denoted in exponential notation. For example, 1.0E-5 = 0.00001.

LTV = loan-to-value ratio.

a. Coefficient is not statistically significant at the 10 percent level.

TABLE B-5. REGRESSION ESTIMATES WHEN LOAN SIZE IS SPECIFIED IN QUADRATIC FORM, 1999 (Standard errors in parentheses)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
	Dependent Variable			
Effective Rate (Percent)	7.06	7.26	7.86	8.01
	(0.39)	(0.35)	(0.37)	(0.36)
	Independent Variables			
Intercept	7.39	7.46	7.95	8.23
	(0.02)	(0.02)	(0.02)	(0.02)
Loan Size ($1,000s)	-0.00172	-0.00185	-0.00253	-0.00255
	(0.00012)	(0.0000001)	(0.00014)	(0.00015)
Loan Size Squared ($1,000s)	2.40E-9	2.70E-9	3.85E-9	4.75E-9
	(0.00000)	(0.00000)	(0.00000)	(0.00000)
LTV1	0.060	0.025	0.024	0.024
	(0.012)	(0.010)	(0.012)	(0.013)
LTV2	0.058	0.034	0.056	0.049
	(0.011)	(0.009)	(0.011)	(0.012)
LTV3	0.097	0.075	0.112	0.126
	(0.011)	(0.010)	(0.012)	(0.013)
LTV4	0.093	0.091	0.127	0.128
	(0.011)	(0.009)	(0.012)	(0.012)
Lender1	-0.021	-0.014	0.115	0.130
	(0.005)	(0.004)	(0.006)	(0.007)
Lender2	-0.049	-0.061	-0.097	-0.119
	(0.010)	(0.015)	(0.012)	(0.011)
New Home	0.112	-0.006[a]	-0.043	-0.005[a]
	(0.005)	(0.005)	(0.006)	(0.006)
Conforming Loan	-0.272	-0.172	-0.170	0.168
	(0.014)	(0.011)	(0.019)	(0.018)
Adjusted R-Square	0.048	0.140	0.143	0.074
Number of Observations	38,633	43,810	31,705	24,949

SOURCE: Congressional Budget Office.

NOTES: The table shows the mean of the dependent variable along with the root mean square error for the equation. Each regression also included indicators for the last two months of the quarter.

The coefficients on the Loan Size Squared variable are very small and thus are denoted in exponential notation. For example, 1.0E-5 = 0.00001.

LTV = loan-to-value ratio.

a. Coefficient is not statistically significant at the 10 percent level.

TABLE B-6. REGRESSION ESTIMATES WHEN LOAN SIZE IS SPECIFIED IN QUADRATIC FORM, FIRST AND SECOND QUARTERS 2000
(Standard errors in parentheses)

	First Quarter	Second Quarter
Dependent Variable		
Effective Rate (Percent)	8.34	8.45
	(0.37)	(0.38)
Independent Variables		
Intercept	8.38	8.64
	(0.03)	(0.02)
Loan Size ($1,000s)	-0.00171	-0.00179
	(0.00015)	(0.00014)
Loan Size Squared ($1,000s)	1.92E-9	2.25E-9
	(0.00000)	(0.00000)
LTV1	0.016[a]	-0.013[a]
	(0.015)	(0.012)
LTV2	0.052	0.031
	(0.014)	(0.011)
LTV3	0.102	0.098
	(0.015)	(0.012)
LTV4	0.122	0.115
	(0.014)	(0.011)
Lender1	0.169	0.144
	(0.008)	(0.006)
Lender2	-0.088	-0.107
	(0.011)	(0.009)
New Home	0.015	0.031
	(0.007)	(0.006)
Conforming Loan	-0.202	-0.250
	(0.022)	(0.019)
Adjusted R-Square	0.131	0.097
Number of Observations	20,860	33,539

SOURCE: Congressional Budget Office.

NOTES: The table shows the mean of the dependent variable along with the root mean square error for the equation. Each regression also included indicators for the last two months of the quarter.

The coefficients on the Loan Size Squared variable are very small and thus are denoted in exponential notation. For example, 1.0E-5 = 0.00001.

LTV = loan-to-value ratio.

a. Coefficient is not statistically significant at the 10 percent level.

APPENDIX C: REGRESSION ESTIMATES FOR NO-POINT LOANS

Because borrowers face a trade-off between the amount of points they pay on a loan and the contract interest rate, estimates of the conforming/jumbo differential can be affected by the method used to adjust mortgage rates for the fees and charges that borrowers pay up front. In particular, the longer the amortization period, the smaller will be the contribution of points to the effective interest rate. Moreover, the amount of points paid by borrowers in the conforming market versus those in the jumbo market has differed over the 1995-2000 period. Since 1997, borrowers in the conforming market have paid higher points, on average, than borrowers in the jumbo market. In addition, the average amount of points paid on all loans has fallen during the 1995-2000 period.[1] Those trends are consistent with the notions that origination and servicing costs fall proportionately with the size of the mortgage and that technology lowers those costs over time. However, no public data exist comparing points paid and the duration of mortgages. For all of those reasons, the Congressional Budget Office also estimated the differential using contract rates for loans with no points or other charges (see Tables C-1 through C-6).

The jumbo/conforming differential for no-point loans averaged 18 basis points over the 1995-2000 period, whereas for the entire sample of 30-year fixed-rate loans, it averaged 23 basis points (using Equation 1). These estimates were more volatile than the ones using the full sample (shown in Appendix A). In four of the quarters, the differential was statistically insignificant. The quarterly differentials for no-point loans were highest in 1998, when they averaged more than 25 basis points.

The implications of these results are unclear. On the one hand, borrowers who choose no-point loans may be systematically different from other borrowers. They might expect, and be expected, to prepay their loan sooner than other borrowers. On the other hand, the findings could imply that amortizing points over 10 years rather than over a shorter period biases the estimate of the jumbo/conforming differential upward.

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1. For example, in 2000, borrowers in the conforming market for fixed-rate mortgages paid an average of 75 basis points for fees, points, and charges, whereas borrowers in the jumbo market paid an average of 59 basis points. In 1995, the corresponding figures were 100 basis points for conforming loans and 116 basis points for jumbo loans. See Federal Housing Finance Board, MIRS Table 21, "Terms on Conventional Single-Family Mortgages, All Homes, Jumbo and Nonjumbo Mortgages," available at www.fhfb.gov/MIRS/MIRS_loans_downloads.htm

TABLE C-1. REGRESSION ESTIMATES FOR NO-POINT LOANS, 1995
(Standard errors in parentheses)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
	Dependent Variable			
Effective Rate (Percent)	9.06	8.30	7.96	7.79
	(0.56)	(0.41)	(0.38)	(0.34)
	Independent Variables			
Intercept	10.39	10.24	9.28	9.02
	(0.51)	(0.21)	(0.18)	(0.18)
Log of Loan Size	-0.087	-0.122	-0.099	-0.074
	(0.040)	(0.017)	(0.014)	(0.014)
LTV1	0.019[a]	0.062[a]	0.036[a]	0.017[a]
	(0.091)	(0.039)	(0.030)	(0.028)
LTV2	-0.111[a]	0.032[a]	0.037[a]	-0.006[a]
	(0.083)	(0.036)	(0.028)	(0.026)
LTV3	-0.025[a]	0.088	0.082	0.059
	(0.085)	(0.036)	(0.029)	(0.027)
LTV4	-0.117[a]	0.119	0.113	0.072
	(0.083)	(0.035)	(0.028)	(0.026)
Lender1	0.017[a]	-0.000[a]	-0.037	-0.007[a]
	(0.029)	(0.012)	(0.010)	(0.010)
Lender2	-0.064[a]	-0.057	-0.032[a]	-0.031[a]
	(0.082)	(0.034)	(0.025)	(0.026)
New Home	-0.197	-0.051	0.017[a]	-0.019[a]
	(0.043)	(0.020)	(0.016)	(0.016)
Conforming Loan	-0.099[a]	-0.208	-0.306	-0.321
	(0.093)	(0.034)	(0.027)	(0.026)
Adjusted R-Square	0.042	0.374	0.049	0.097
Number of Observations	1,696	4,702	6,262	5,166

SOURCE: Congressional Budget Office.

NOTES: The table shows the mean of the dependent variable along with the root mean square error for the equation. Each regression also included month indicators for the last two months of the quarter.

LTV = loan-to-value ratio.

a. Coefficient is not statistically significant at the 10 percent level.

TABLE C-2. REGRESSION ESTIMATES FOR NO-POINT LOANS, 1996
(Standard errors in parentheses)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
	Dependent Variable			
Effective Rate (Percent)	7.54	8.24	8.40	8.08
	(0.38)	(0.40)	(0.35)	(0.34)
	Independent Variables			
Intercept	8.26	8.55	8.94	9.30
	(0.19)	(0.21)	(0.19)	(0.190)
Log of Loan Size	-0.043	-0.033	-0.038	-0.090
	(0.015)	(0.016)	(0.015)	(0.015)
LTV1	0.027[a]	0.063	0.043[a]	0.038[a]
	(0.031)	(0.036)	(0.034)	(0.031)
LTV2	0.016[a]	0.027[a]	0.017[a]	0.012[a]
	(0.029)	(0.033)	(0.032)	(0.029)
LTV3	0.080	0.064	0.078	0.061
	(0.030)	(0.034)	(0.033)	(0.030)
LTV4	0.106	0.123	0.121	0.092
	(0.029)	(0.033)	(0.032)	(0.029)
Lender1	-0.020	-0.027	-0.042	0.013[a]
	(0.011)	(0.012)	(0.011)	(0.011)
Lender2	-0.085	-0.141	-0.048[a]	0.016[a]
	(0.027)	(0.040)	(0.042)	(0.032)
New Home	0.036	-0.048	-0.042	0.048
	(0.019)	(0.020)	(0.018)	(0.015)
Conforming Loan	-0.352	-0.188	-0.051[a]	-0.053
	(0.028)	(0.034)	(0.032)	(0.027)
Adjusted R-Square	0.116	0.151	0.044	0.161
Number of Observations	5,530	4,790	4,102	4,199

SOURCE: Congressional Budget Office.

NOTES: The mean of the dependent variable is shown along with the root mean square error for the equation. Each regression also included month indicators for the last two months of the quarter.

LTV = loan-to-value ratio.

a. Coefficient is not statistically significant at the 10 percent level.

TABLE C-3. REGRESSION ESTIMATES FOR NO-POINT LOANS, 1997
(Standard errors in parentheses)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
	Dependent Variable			
Effective Rate (Percent)	8.00	8.20	7.85	7.61
	(0.33)	(0.33)	(0.33)	(0.33)
	Independent Variables			
Intercept	9.32	9.17	8.61	8.70
	(0.18)	(0.17)	(0.15)	(0.16)
Log of Loan Size	-0.107[a]	-0.080	-0.054	-0.071
	(0.014)	(0.013)	(0.012)	(0.013)
LTV1	-0.002[a]	-0.026[a]	0.042	-0.026[a]
	(0.030)	(0.028)	(0.024)	(0.026)
LTV2	0.010[a]	-0.020[a]	0.022[a]	-0.033[a]
	(0.028)	(0.026)	(0.023)	(0.025)
LTV3	0.056	0.034[a]	0.069	0.034[a]
	(0.029)	(0.027)	(0.024)	(0.026)
LTV4	0.091	0.038	0.052	-0.022[a]
	(0.028)	(0.026)	(0.023)	(0.025)
Lender1	0.021	0.001[a]	-0.039	-0.007[a]
	(0.010)	(0.009)	(0.009)	(0.009)
Lender2	0.009[a]	0.022[a]	-0.008[a]	-0.047
	(0.030)	(0.027)	(0.029)	(0.027)
New Home	-0.009[a]	-0.009[a]	0.065	0.032
	(0.012)	(0.011)	(0.011)	(0.011)
Conforming Loan	-0.121	-0.031[a]	-0.105	-0.181
	(0.025)	(0.022)	(0.019)	(0.018)
Adjusted R-Square	0.031	0.046	0.036	0.066
Number of Observations	4,525	5,215	6,447	5,865

SOURCE: Congressional Budget Office.

NOTES: The table shows the mean of the dependent variable along with the root mean square error for the equation. Each regression also included month indicators for the last two months of the quarter.

LTV = loan-to-value ratio.

a. Coefficient is not statistically significant at the 10 percent level.

TABLE C-4. REGRESSION ESTIMATES FOR NO-POINT LOANS, 1998
(Standard errors in parentheses)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
	Dependent Variable			
Effective Rate (Percent)	7.31	7.30	7.15	6.89
	(0.33)	(0.32)	(0.34)	(0.33)
	Independent Variables			
Intercept	8.29	8.14	8.24	7.91
	(0.13)	(0.11)	(0.12)	(0.12)
Log of Loan Size	-0.064	-0.056	-0.071	-0.068
	(0.011)	(0.009)	(0.010)	(0.010)
LTV1	-0.015[a]	0.012[a]	0.059	0.007[a]
	(0.021)	(0.017)	(0.019)	(0.016)
LTV2	-0.018[a]	-0.012[a]	0.021[a]	-0.004[a]
	(0.020)	(0.016)	(0.018)	(0.015)
LTV3	0.023[a]	0.032	0.099	0.051
	(0.021)	(0.017)	(0.019)	(0.016)
LTV4	0.015[a]	0.014[a]	0.075	0.094
	(0.021)	(0.016)	(0.018)	(0.016)
Lender1	-0.002[a]	0.032	0.041	-0.010[a]
	(0.008)	(0.006)	(0.007)	(0.007)
Lender2	-0.155	-0.117	-0.062	-0.023[a]
	(0.021)	(0.017)	(0.019)	(0.019)
New Home	0.023	-0.051	-0.036	-0.021
	(0.010)	(0.008)	(0.009)	(0.009)
Conforming Loan	-0.235	-0.213	-0.247	-0.305
	(0.017)	(0.014)	(0.015)	(0.016)
Adjusted R-Square	0.032	0.033	0.100	0.064
Number of Observations	8,173	11,399	9,865	10,047

SOURCE: Congressional Budget Office.

NOTES: The table shows the mean of the dependent variable along with the root mean square error for the equation. Each regression also included month indicators for the last two months of the quarter.

LTV = loan-to-value ratio.

a. Coefficient is not statistically significant at the 10 percent level.

TABLE C-5. REGRESSION ESTIMATES FOR NO-POINT LOANS, 1999
(Standard errors in parentheses)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
	Dependent Variable			
Effective Rate (Percent)	7.02	7.19	7.80	7.93
	(0.42)	(0.37)	(0.45)	(0.39)
	Independent Variables			
Intercept	8.43	8.24	9.29	9.26
	(0.16)	(0.15)	(0.21)	(0.19)
Log of Loan Size	-0.108	-0.095	-0.153	-0.102
	(0.012)	(0.012)	(0.017)	(0.015)
LTV1	0.027[a]	0.022[a]	-0.017[a]	0.034[a]
	(0.025)	(0.024)	(0.036)	(0.033)
LTV2	0.010[a]	0.014[a]	0.047[a]	0.064
	(0.023)	(0.022)	(0.033)	(0.030)
LTV3	0.119	0.068	0.121	0.107
	(0.024)	(0.023)	(0.034)	(0.031)
LTV4	0.095	0.103	0.103	0.072
	(0.024)	(0.023)	(0.033)	(0.030)
Lender1	-0.042	0.042	0.165	0.077
	(0.010)	(0.009)	(0.014)	(0.014)
Lender2	-0.084	0.010[a]	-0.058	-0.107
	(0.024)	(0.023)	(0.020)	(0.016)
New Home	-0.010[a]	0.029	-0.001[a]	0.013[a]
	(0.013)	(0.011)	(0.016)	(0.014)
Conforming Loan	-0.234	-0.125	-0.038[a]	-0.222
	(0.022)	(0.019)	(0.033)	(0.031)
Adjusted R-Square	0.039	0.091	0.117	0.051
Number of Observations	8,859	8,487	5,635	5,084

SOURCE: Congressional Budget Office.

NOTES: The table shows the mean of the dependent variable along with the root mean square error for the equation. Each regression also included month indicators for the last two months of the quarter.

LTV = loan-to-value ratio.

a. Coefficient is not statistically significant at the 10 percent level.

TABLE C-6. REGRESSION ESTIMATES FOR NO-POINT LOANS, FIRST AND SECOND QUARTERS, 2000 (Standard errors in parentheses)

	First Quarter	Second Quarter
Dependent Variable		
Effective Rate (Percent)	8.26 (0.41)	8.39 (0.40)
Independent Variables		
Intercept	9.14 (0.22)	9.20 (0.16)
Log of Loan Size	-0.084 (0.017)	-0.071 (0.012)
LTV1	0.006[a] (0.037)	-0.029[a] (0.027)
LTV2	0.037[a] (0.033)	-0.007[a] (0.024)
LTV3	0.079 (0.034)	0.061 (0.025)
LTV4	0.040[a] (0.033)	0.039[a] (0.024)
Lender1	0.133 (0.016)	0.137 (0.012)
Lender2	-0.066 (0.018)	-0.089 (0.014)
New Home	0.045 (0.016)	0.054 (0.013)
Conforming Loan	-0.094 (0.035)	-0.133 (0.026)
Adjusted R-Square	0.074	0.077
Number of Observations	4,717	8,702

SOURCE: Congressional Budget Office.

NOTES: The table shows the mean of the dependent variable along with the root mean square error for the equation. Each regression also included month indicators for the last two months of the quarter.

LTV = loan-to-value ratio.

a. Coefficient is not statistically significant at the 10 percent level.

CONGRESSIONAL BUDGET OFFICE
U.S. CONGRESS
WASHINGTON, DC 20515

Dan L. Crippen
Director

June 20, 2001

The Honorable Harold E. Ford, Jr.
U. S. House of Representatives
Washington, D.C. 20515

Dear Congressman:

At the May 23 hearing on Federal Subsidies for the Housing Government-Sponsored Enterprises, you asked why the Congressional Budget Office (CBO) did not measure the benefits to borrowers by comparing the advertized rates that lenders offer for conforming and jumbo loans. You also noticed that a recent comparison of rates reported in the Memphis paper showed a higher spread than the 25 basis points (0.25 percentage points) estimate used in our study.

For several reasons, a comparison of advertized rates provides only a rough measure of the benefits. First, such a comparison would have to take into account the fact that individual lenders offer different rates and points on different size loans and that not all borrowers qualify for these rates, which may be available only to the best credit risks. Second, buyers who are particularly sensitive to interest rates may shop for the best rates. In particular, borrowers in the jumbo market may have a greater incentive to spend time searching for the lowest rate. Third, some analysts contend that lenders use their advertized rates to manage their flow of mortgage applications. For example, banks may raise their listed rates to discourage too many applications and then offer rates below those posted rates to their best credit risks. For these and other reason, most analysts, including consultants to Freddie Mac, use "contract" rates instead—the interest rates actually agreed to by lenders and paid by borrowers.

To isolate the effect of the GSEs on the jumbo/conforming spread, researchers use statistical methods to control for some of the other factors that are thought to affect rates. In particular, they adjust for the overall size of the mortgage and for its size relative to the price of the house—the loan-to-value ratio. This ratio is a proxy for default risk because the larger the loan as a percentage of the home's price, the smaller the down payment and the greater the risk of default.

Controlling for differences in loan characteristics, CBO estimates that rates on fixed-rate jumbo mortgages exceeded those on similar conforming mortgages by an average of 18 to 25 basis points between 1995 and June 2000. The interest rate differentials varied significantly throughout the period, in part because of changes in liquidity and risk premiums in the financial markets. Differentials widened during "flights to quality," when investors sought safe, liquid securities, including the GSEs' debt issues and mortgage-backed securities. Spreads tightened when liquidity and risk premiums dropped and thereby reduced the advantages of the GSEs' "agency" status.

CBO compared these results with estimates by other researchers and found that they are consistent with recent studies prepared for Fannie Mae and Freddie Mac, a study by academic economists, one by the Federal Reserve Board, and another just completed by the Federal Housing Finance Board.

I hope this explanation is helpful. David Torregrosa in our Microeconomics and Financial Studies Division can provide more details on the methodology used to estimate the interest rate differential between jumbo and conforming mortgages. He is the primary author of the enclosed study which addresses you question in great detail. David can be reached at 225-6926 or be e-mailed at DavidT@cbo.gov.

Sincerely,

Dan L. Crippen
Director