Project Seed

Phase III - Loan model scenarios

May 5, 2008

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May 5, 2008

Lynn Harwell
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Dear Ms. Harwell:

PricewaterhouseCoopers LLP ("PwC" or "we") has performed certain advisory services to assist California Institute for Regenerative Medicine ("CIRM", "Client" or "you") in your evaluation of existing state-funded programs in accordance with our engagement letter dated February 25, 2008 and subject to the terms and conditions contained therein.

Our services were performed in accordance with Standards for Consulting Services established by the American Institute of Certified Public Accountants ("AICPA"). The services did not constitute an audit conducted in accordance with generally accepted auditing standards, an examination of any type, an accounting opinion, or other attestation or review services in accordance with standards established by the AICPA, by the Public Company Accounting Oversight Board or by any other professional governing body. Accordingly, PwC provides no opinion or any other form of assurance with respect to the services or the information upon which our work was based.

The services were performed, and this report prepared, at the direction of and in accordance with instructions provided by CIRM, exclusively for CIRM's sole benefit and use. The services and report are not intended for, nor may they be relied upon by any other party. This report and its contents may not be distributed to, discussed with, or otherwise disclosed to any third party without PwC's prior written consent. This report is not to be referred to or quoted, in whole or in part, in any offering memorandum, prospectus, registration statement, public filing, loan or other agreement or document without our express written approval, which may require that we perform additional work.

PwC accepts no duty, obligation, liability or responsibility to any party, other than CIRM, with respect to the services and/or this report. PwC makes no representation regarding the sufficiency of the services for any purpose.

The underlying prospective financial information referred to in this report was prepared and developed by management. PwC did not prepare any prospective financial information nor develop any assumptions therein. Any tables aggregating PwC's comments and observations of vulnerabilities and sensitivities do not represent restatements of the prospective financial information, or revised prospective financial information; they are provided as a means of summarizing our comments and to assist you with your evaluation of the prospective financial information. It is your responsibility to consider our comments and make your own decisions based on the information available to you. Because events and circumstances frequently do not occur as expected, there will usually be differences between predicted and actual results, and those differences may be material. We take no responsibility for the achievement of predicted results.

To the extent the report is considered written advice under Treasury Regulations Circular 230, the report was not intended or written to be used, and it cannot be used for the purpose of: (i) avoiding penalties that may be imposed on any taxpayer, or (ii) supporting the promotion or marketing of any transactions or matters addressed in the report.

We appreciate the opportunity to assist you with this matter.

Very truly yours,

PricewaterhouseCoopers LLP

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Section 1
Executive Summary

Summary of CIRM Loan Program

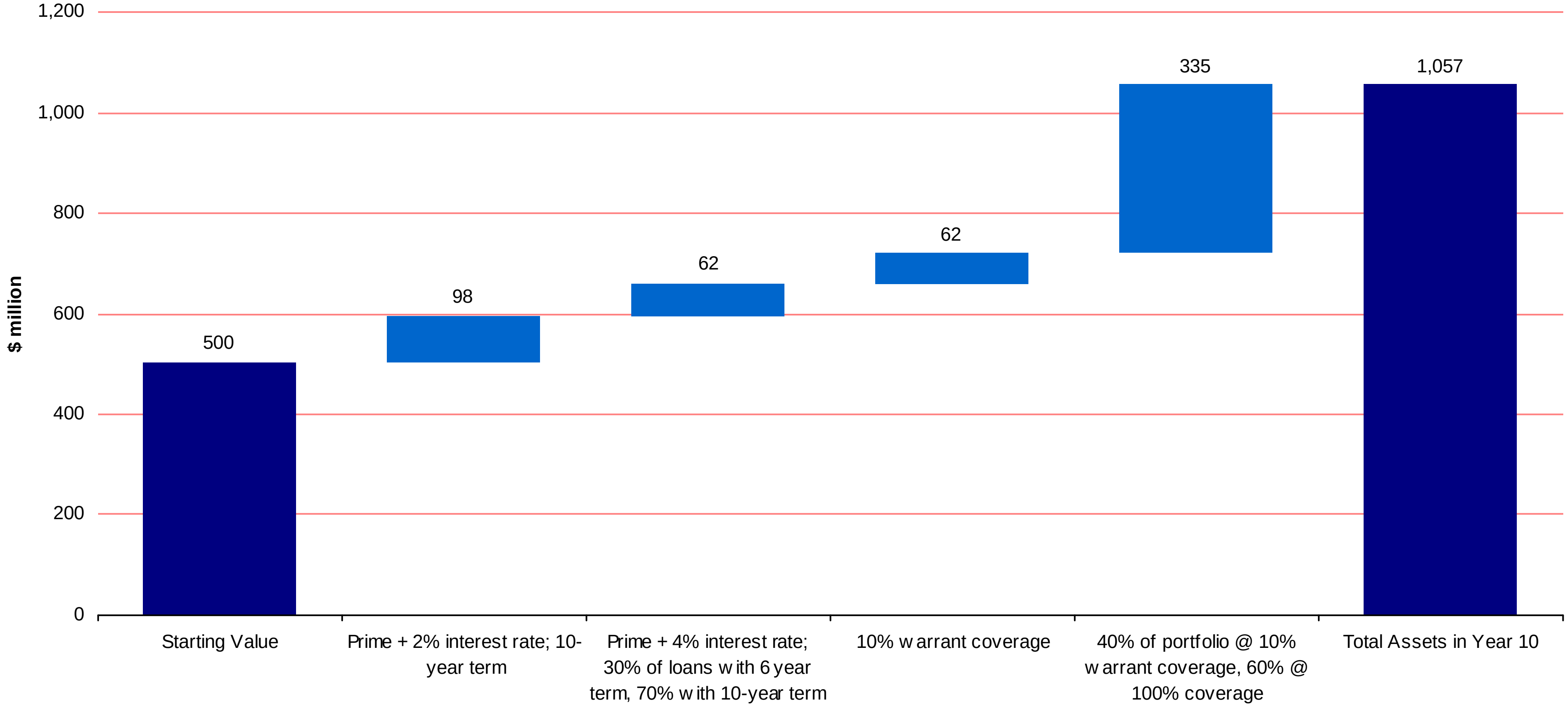
The CIRM Loan Program could be sustainable based upon prudent underwriting and venture capital default/loss experience

- In Phase I, PwC completed a benchmarking study with over a dozen state sponsored loan programs in the United States to identify those terms and issues associated with a successful loan program
- In Phase II, PwC interviewed 14 Venture Capital firms, Venture Banks and prospective borrowers to review the CIRM Loan Program draft term sheet that was developed based upon the work completed in Phase I
- In Phase III, PwC incorporated the CIRM modifications to the term sheet to understand the long-term implications of the loan program based upon the following key assumptions
  - $500 M of funds to lend to borrowers over 7 years
  - Loans could be made to companies of various stages of development (pre-clinical to Phase 2a)
  - Loans could vary in size from a million dollars to several million dollars
  - Terms of loans could range from 6 to 10 years
  - Interest rates could range from Prime plus 2% to 4%
  - Loans could have warrant coverage from 10% to 100% based upon recourse status
  - Loans would have a default rate reflective of venture capital experience with companies in similar fields and phases of development
  - All returns of interest, principal and warrant equity returns would occur at liquidation events that reflect venture capital experience

- A financial review of the CIRM Loan Program based upon the current term sheet and the above assumptions suggests the following:
  - The program could be sustainable, that is, it could be self renewing as the returns and recoveries on loans exceeds write-offs
  - Total assets of the program could increase from $500 M to between $600 M and $1 B over ten years

The CIRM assumptions, when applied to the model, could generate an increase from $500 million in assets to a possible $1 billion in assets over 10 years

The summary bridge below maps out the incremental value of each loan term assumption and its affect on the total value of assets in Year 10. The final value represents a loan program with: prime +4% interest; 30% of loans at 6-year terms; 70% at 10-year terms; and 40% of loans with 10% warrant coverage, 60% with 100% coverage.

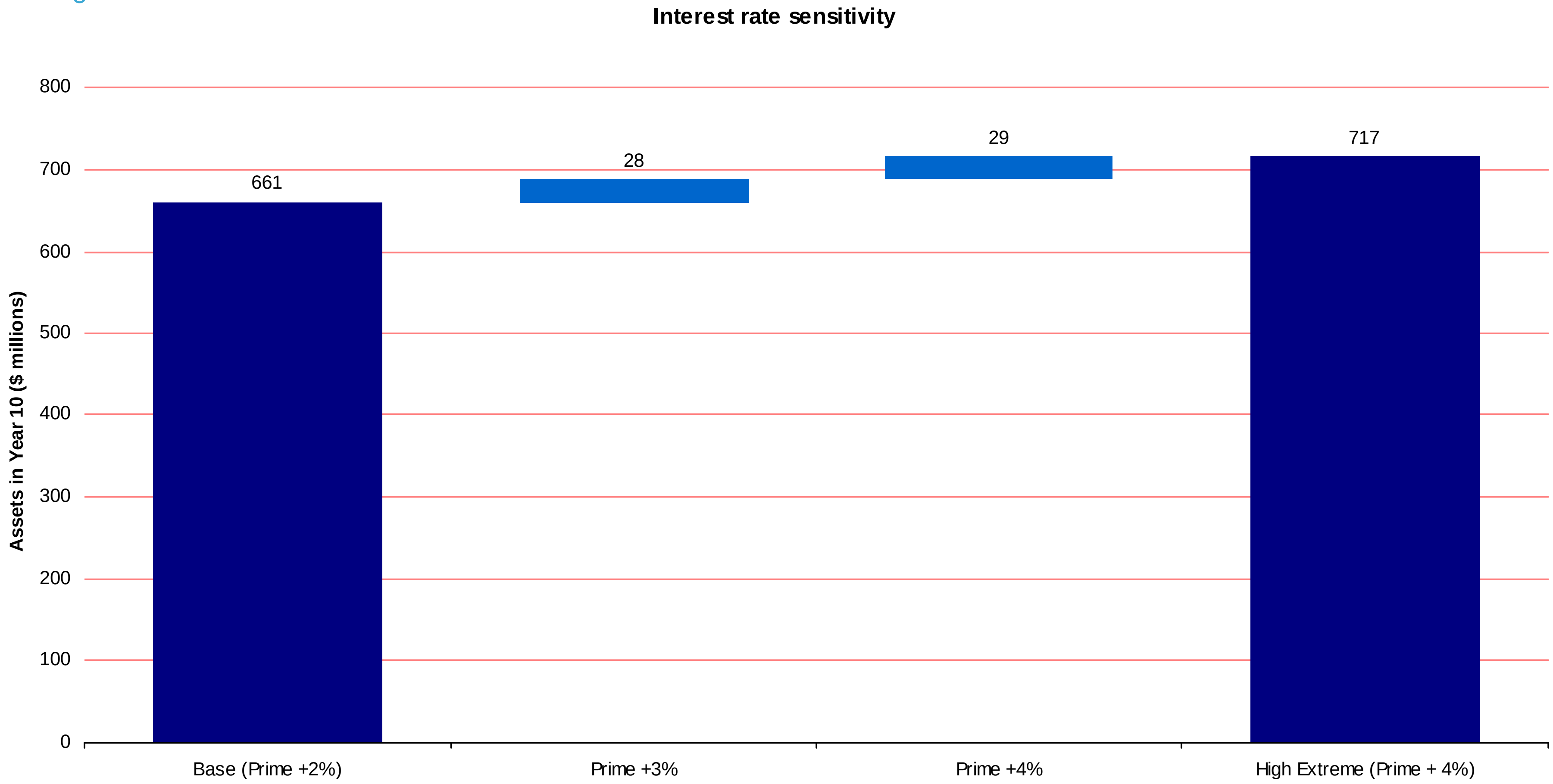


Note: With the exception of Starting Value, all values represent total assets in Year 10 of loan program. All proceeds from loan maturity and liquidation are not reinvested but held in cash.

Section 2
Sensitivities

Adjustments to the interest rates do not appear to have a significant impact on total assets in year 10; a 1% change in interest rate creates $30 M of additional value

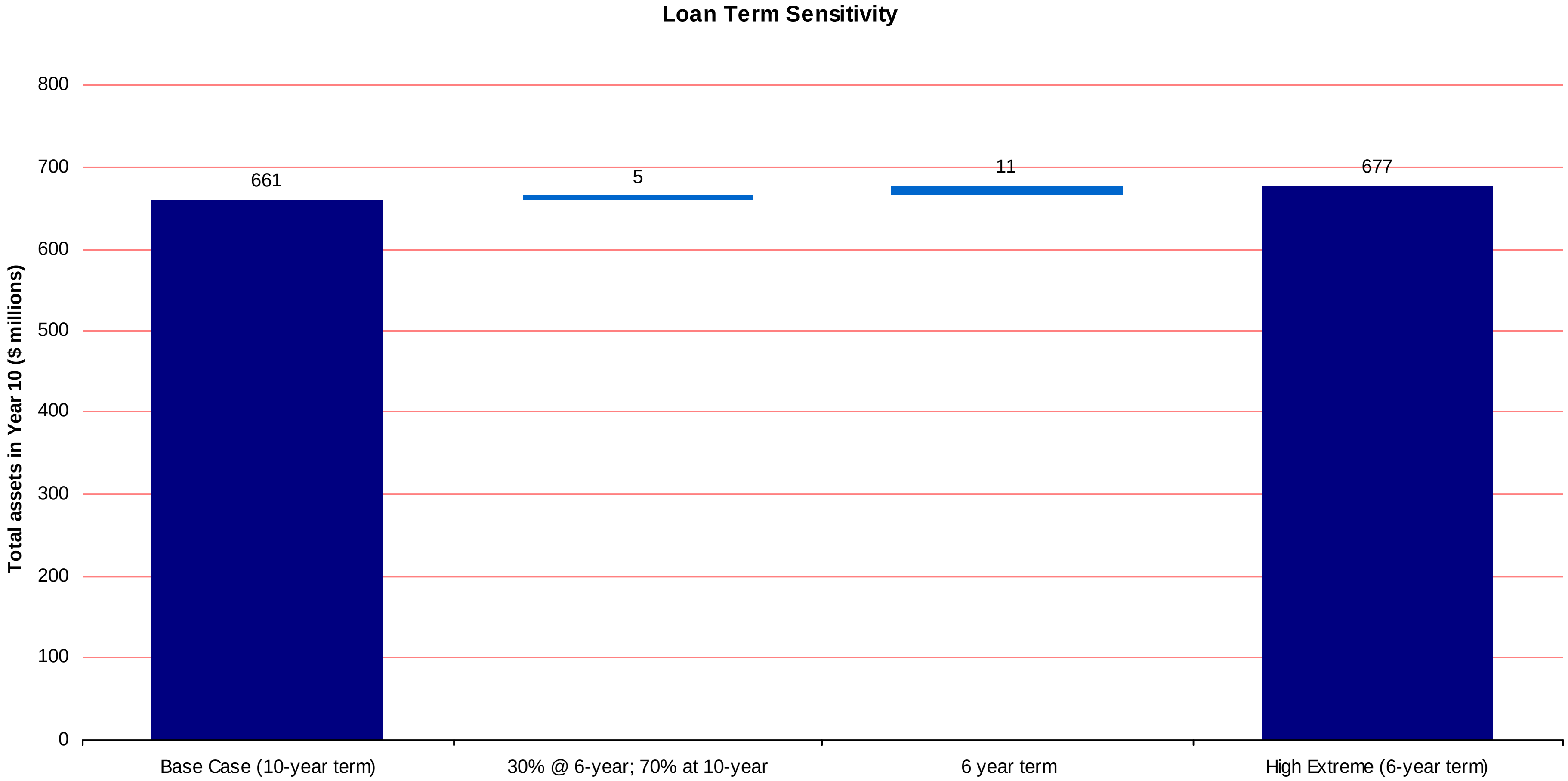
We isolated the interest rate, holding base assumptions constant in order to test the sensitivity to changes between 2-4% over prime. The chart below outlines the incremental value of successive increases in interest rates. Note that the extreme high value is 9% higher than the base case.



Note: Loan term held constant at 10-years; warrant coverage held constant 10%

Adjustments to loan terms appear to have very little impact on total assets in year 10 since loan proceeds are held in cash and not invested

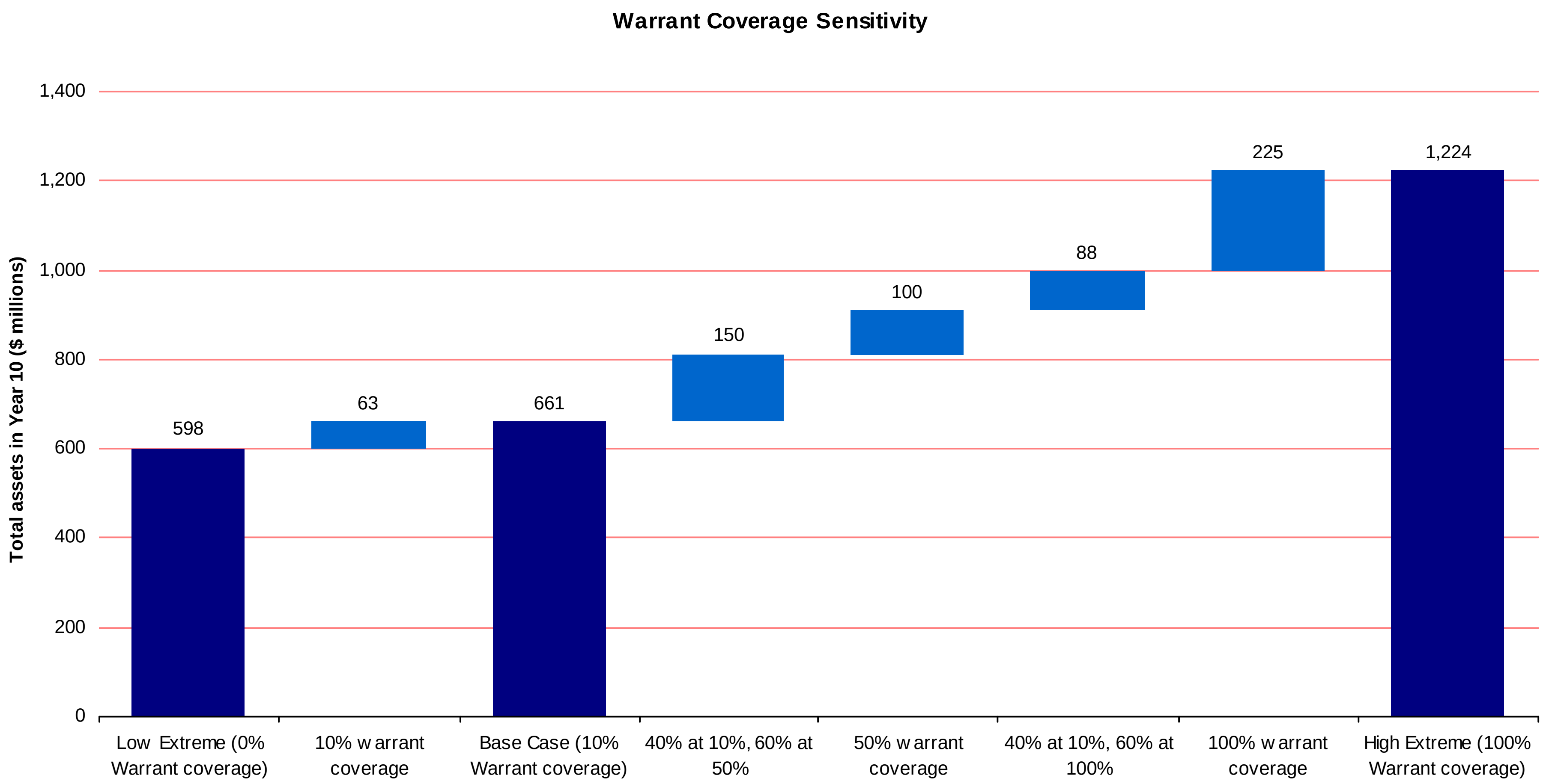
We isolated loan terms, holding base assumptions constant in order to test the sensitivity to changes between 6 and 10 years. The chart below outlines the incremental value of reducing the loan terms. Note that the extreme high value is only 2% more than the extreme low value



Note: Interest rate held constant at prime + 2%; warrant coverage held constant 10%

Adjustments to warrant coverage appear to have the most significant impact on the value of assets in Year 10 when compared to the other assumptions

We held base assumptions constant in order to test the sensitivity to changes in warrant coverage. The chart below outlines the incremental value of the successive increases in warrant coverage scenarios. Note that the extreme high value is nearly double the value of the base case.



Note: Interest rate held constant at prime + 2%; loan term held constant at 10-years

We made a comparison of the total assets in year one ($500 M) and the final year under several discrete assumptions and found that results in year 10 vary drastically

Assumptions used in various cases

Base Case

Warrant Coverage 10%
Interest rate prime+ 2%
10 year term

Total Assets in Yr 10:	**660.6**

Mid-range Case

40% recourse (with 10% warrant coverage); 60% non-recourse (100% Warrant coverage)
Interest rate prime+ 3%
30% @ 6-year term; 70% at 10-year term

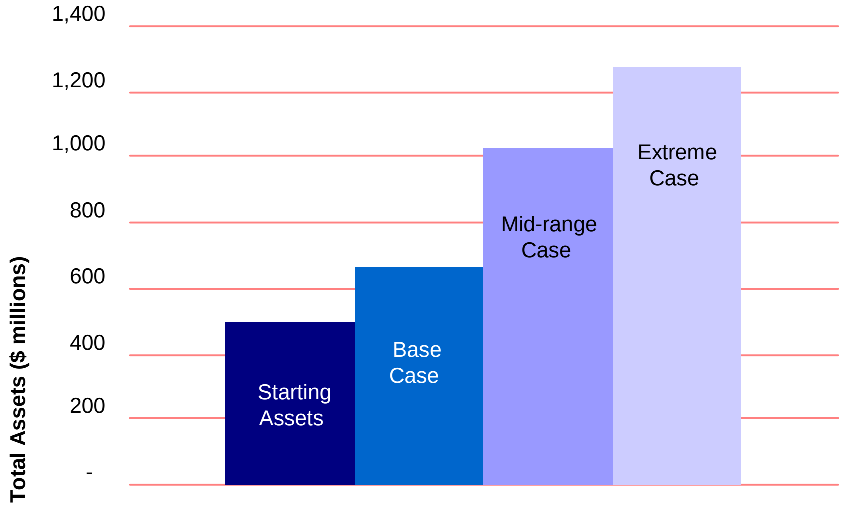
Total Assets in Yr 10:	**1027.8**

Extreme Case

Warrant Coverage 100%
Interest rate prime+ 4%
10 year term

Total Assets in Yr 10:	**1280.2**

Results in year 10, based on the various assumptions



Appendix 1
Financial model basic assumptions

In our Phase II report, we developed a financial model of the expected results of the loan program over a ten year time frame

The following assumptions were used as a basis for the Phase II financial model:

CIRM Loan Program

Assumptions

$ millions

	% of Port	$ Alloc	Yr Alloc	$ Avg Loan	# Loans	PreM Val	War Cov	Liquidity Mult	Int Rate	Term	Pre PMT
Pre-clinical	10.0%	50	7	1	50	3	10.0%	3	8.0%	10	0.0%
1A	15.0%	75	7	2	38	6	10.0%	3	8.0%	10	0.0%
1B	30.0%	150	7	3	50	9	10.0%	3	8.0%	10	0.0%
2A	45.0%	225	7	5	45	15	10.0%	3	8.0%	10	0.0%
	100.0%	**500**			**183**						

Default Rate	**Yr 1**	**Yr 2**	**Yr 3**	**Yr 4**	**Yr 5**	**Yr 6**	**Yr 7**	**Yr 8**	**Yr 9**	**Yr 10**	**Total**
Pre-clinical			10.0%	10.0%	30.0%						50.0%
1A				20.0%	10.0%	10.0%					40.0%
1B					10.0%	10.0%	10.0%				30.0%
2A							10.0%	10.0%			20.0%

Loan Repayment	**Yr 1**	**Yr 2**	**Yr 3**	**Yr 4**	**Yr 5**	**Yr 6**	**Yr 7**	**Yr 8**	**Yr 9**	**Yr 10**	**Total**
Pre-clinical					10.0%	10.0%	20.0%	20.0%	20.0%	20.0%	100.0%
1A				10.0%	10.0%	20.0%	20.0%	20.0%	20.0%		100.0%
1B			10.0%	10.0%	20.0%	20.0%	20.0%	20.0%			100.0%
2A		10.0%	10.0%	20.0%	20.0%	20.0%	20.0%				100.0%

Note: Default and repayment assumptions were reviewed by VCs and VC lenders, who thought these assumptions seemed reasonable.

The loan model assumptions were based on CIRM decisions, interview feedback, and estimates that were reviewed by Venture Capital groups and Venture Lenders

The following is the rationale behind the loan model assumptions for Phase II:

Guide to assumptions

Term	Description	Notes
% of Port	Percent of loan portfolio in terms of dollars	Subject to change; allocation to be decided by CIRM
$ Alloc	Amount of money allocated to each loan group (Pre-clinical, 1A, 1B, 2A)	Calculation: (total budget) x (% of portfolio)
Yr Alloc	Number of years over which the $500 million budget is distributed	Seven years, as per discussion with CIRM
$ Avg Loan	Average loan size for each loan group	$1-5 million, as per discussion with CIRM
# Loans	Number of loans for each loan group	Calculation: (Allocation) / (Average loan size)
PreM Val	Pre-money value	Calculation: (Loan amount) x (Liquidity multiple)
War Cov	Warrant coverage	As per discussion with CIRM, warrant coverage to up to 10% of the CIRM loan amount for recourse loans, 50% for non-recourse loans
Liquidity Mult	Liquidity multiple	Interviews with VCs indicate expected return is 3-5 times their money back within 5-7 years
Int Rate	Interest Rate	Prime rate plus 3% (this is similar to interest rates in other programs)
Term	Term of loan	As per discussion with CIRM, loan term is 10 years
Pre PMT	Early repayment penalty	As per discussion with CIRM, there will be no pre-payment penalty (our interviews with other programs indicate that it is common to assess a pre-payment penalty)
Default Rate	Default Rate	Default schedule based on interviews and feedback from PwC MoneyTree
Loan Repayment	Schedule of early repayments	Loan repayment schedule was reviewed by VCs and VC lenders, who though the assumptions appeared reasonable

Based on our assumptions, we found that the loan program could yield sufficient returns to enable CIRM to perpetuate its loan program beyond the proposed 10 year window

According to the model, by year ten CIRM would have issued $500 million in loans and could have increased its assets from $500 million to $662 million.

CIRM Loan Program

Summary Financial Information

Cash	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10
Pre-clinical	42.9	35.7	28.6	21.4	14.9	9.1	4.6	8.9	14.8	22.4
1A	64.3	53.6	42.9	33.4	25.2	19.8	17.4	28.8	43.6	58.6
1B	128.6	107.1	88.7	73.0	64.0	61.8	66.7	101.1	135.4	167.8
2A	192.9	164.9	141.4	127.5	123.6	130.4	148.6	199.2	245.7	288.3
Total cash	**428.6**	**361.3**	**301.5**	**255.3**	**227.8**	**221.1**	**237.2**	**338.0**	**439.6**	**537.1**

Loans	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10
Pre-clinical	7.7	16.0	24.1	31.7	35.9	39.9	42.7	36.6	28.3	20.3
1A	11.6	24.1	37.6	47.8	56.0	60.2	61.9	50.4	37.9	24.2
1B	23.1	48.1	72.4	95.6	110.8	116.6	116.6	93.5	68.2	43.6
2A	34.7	68.4	100.6	126.5	139.7	139.7	139.7	104.6	70.4	37.1
Total loans	**77.1**	**156.6**	**234.6**	**301.6**	**342.4**	**356.4**	**361.0**	**285.0**	**204.8**	**125.2**

Assets	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10
Pre-clinical	50.6	51.8	52.6	53.1	50.8	48.9	47.3	45.5	43.1	42.7
1A	75.9	77.6	80.4	81.2	81.2	80.1	79.3	79.1	81.5	82.8
1B	151.7	155.3	161.1	168.6	174.8	178.4	183.3	194.6	203.6	211.4
2A	227.6	233.3	242.0	254.0	263.3	270.1	288.3	303.8	316.1	325.4
Total assets	**505.7**	**518.0**	**536.2**	**556.9**	**570.2**	**577.5**	**598.2**	**623.0**	**644.3**	**662.4**

Note: Our model assumes that all funds collected go into a cash account with 0% return
Warrant trigger assumed at repayment time; model assumes total loss for companies that do not enter into repayment

We altered some of the assumptions from the Phase II model in order to test their affect on the value of total assets in year 10 of the loan program

The following assumptions were used as a base case for the new model. Note that alterations from the original model include: interest rate changed to prime + 2%, loan terms were split into two types of maturity, 30% 6-year and 70% 10-year, and loans were split into 40% by recourse (10% warrant coverage) and 60% non-recourse (100% warrant coverage)

CIRM Loan Program

Assumptions

$ millions

	% of Port	$ Alloc	Yr Alloc	$ Avg Loan	# Loans	PreM Val	War Cov R	War Cov N	% Port with War Cov R	% Port with War Cov N	Liquid-ity Mult	Prime Rate	Spread over Prime	Int Rate	Term Group A	Term Group B	% Group A Loans	% Group B Loans
Pre-clinical	10%	50	7	1	50	3	10%	100%	40%	60%	3	5.3%	2%	7.3%	6	10	30%	70%
1A	15%	75	7	2	38	6	10%	100%	40%	60%	3	5.3%	2%	7.3%	6	10	30%	70%
1B	30%	150	7	3	50	9	10%	100%	40%	60%	3	5.3%	2%	7.3%	6	10	30%	70%
2A	45%	225	7	5	45	15	10%	100%	40%	60%	3	5.3%	2%	7.3%	6	10	30%	70%
	100.0%	**500**			**183**													

Default Rate	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Total
Pre-clinical			10%	10%	30%						50%
1A				20%	10%	10%					40%
1B					10%	10%	10%				30%
2A							10%	10%			20%

Loan Repayment	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Total
Pre-clinical					10%	10%	20%	20%	20%	20%	100%
1A				10%	10%	20%	20%	20%	20%		100%
1B			10%	10%	20%	20%	20%	20%			100%
2A		10%	10%	20%	20%	20%	20%				100%

Note: For loans with terms less than 10 years, default and loan repayment rates were adjusted by accelerating the remaining balance in the final year of the loan. For example, for a 6-year loan, the repayment rate for pre-clinical loans in year 6 would be 90%.

We found that the new assumptions yielded substantially higher returns

The new assumptions yielded over $1 billion in total assets in year ten, roughly 60% more than the $662 expected total assets in year ten of the original model

CIRM Loan Program

Summary Financial Information

Cash	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10
Pre-clinical	42.9	35.7	28.6	21.4	15.3	11.7	9.9	17.2	26.6	38.0
1A	64.3	53.6	42.9	34.3	27.9	28.0	31.6	49.8	71.9	94.2
1B	128.6	107.1	91.0	80.3	80.6	95.5	119.4	173.9	228.8	278.4
2A	192.9	168.7	152.8	154.3	174.0	215.7	273.2	363.1	443.4	514.7
Total cash	**428.6**	**365.1**	**315.2**	**290.3**	**297.7**	**350.9**	**434.1**	**604.1**	**770.6**	**925.4**

Loans	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10
Pre-clinical	7.8	16.3	24.6	32.6	37.0	39.9	42.1	35.6	27.3	19.0
1A	11.7	24.5	38.5	49.2	57.9	61.2	62.6	50.9	38.1	24.0
1B	23.4	49.0	74.2	98.7	115.3	120.2	120.2	96.8	70.9	45.3
2A	35.1	69.3	102.0	127.8	145.1	149.9	149.9	114.8	75.8	43.0
Total loans	**78.0**	**159.1**	**239.3**	**308.3**	**355.3**	**371.2**	**374.8**	**298.0**	**212.0**	**131.3**

Assets	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10
Pre-clinical	50.7	52.0	53.2	54.0	52.3	51.6	52.1	52.8	53.8	57.0
1A	76.0	78.1	81.3	83.5	85.8	89.1	94.2	100.7	110.0	118.2
1B	152.0	156.1	165.2	179.0	195.8	215.7	239.5	270.7	299.7	323.8
2A	228.0	238.0	254.8	282.1	319.1	365.6	423.1	477.9	519.1	557.7
Total assets	**506.6**	**524.2**	**554.5**	**598.6**	**653.0**	**722.0**	**808.9**	**902.1**	**982.7**	**1,056.7**

Appendix 2
Phase II findings

We assisted CIRM with the development of its loan program through three work streams: benchmarking of similar programs, creating and testing loan terms in the investment community, and creating a loan model to estimate possible outcomes of the loan program

Work stream	Summary of work conducted	Summary of findings
Benchmarking Report	We provided a benchmarking report of existing similar loan programs. We profiled 12 programs in 10 states, examining average loan sizes, loan terms, procedures and review processes.	While no program was of a similar magnitude to the CIRM program, we identified a number of best practices that are applicable to the program in California. Detailed findings can be found in the Phase I Benchmarking Report.
Gap Analysis and Capital Provider Feedback	Based on this feedback from the benchmarking report, combined with input presented at CIRM Loan Task Force meetings and discussions, CIRM developed a sample term sheet. We conducted 14 interviews with industry representatives, Venture Capital and Venture Debt groups to test the proposed terms set forth by CIRM in order to identify necessary modifications needed in the program to meet anticipated future capital provider needs.	We found that most of the terms would be viewed as favorable to program applicants and follow-on investors. However, there was consensus among interviewees that the program's proposed repayment triggers need to be altered in order to attract applicants and investors. Some interviewees also recommended that the CIRM loan program eligibility extend beyond stage 2A in order to fulfill its purpose of assisting companies to cross the "valley of death." The term sheet and detailed findings can be found in section 2 of the Phase II Report.
Loan Model	We developed a financial model of the possible results of the loan program. Our base assumptions incorporated interest rates, pre-money value, portfolio allocation, term (length) of loan, warrant coverage, pre-payment penalty, liquidity multiple and default and repayment rates experienced by similar early stage companies over time.	Given the base assumptions, we found that the structure of the loan program could yield sufficient returns to enable CIRM to perpetuate its loan program beyond the proposed 10 year window, if CIRM makes prudent investments and has reasonable levels of losses. Assumptions and the associated loan repayment schedule is included in section 3 of the Phase II report. A loan model, which allows users to alter the various assumptions, has been provided to CIRM.

Appendix 3
Interviews

We conducted 14 interviews with industry representatives, Venture Capital and Venture Debt groups to test the proposed terms set forth by CIRM

Company	Category
Bay City Capital*	Venture Capital
Comerica	Venture Debt
Cytori Therapeutics	Industry Representative
Enterprise Partners Venture Capital	Venture Capital
Forward Ventures	Venture Capital
Geron	Industry Representative
Geron	Industry Representative
Hercules Technology Growth Capital	Venture Debt
Invitrogen	Industry Representative
Novocell	Industry Representative
Proteus Venture Partners*	Venture Capital
Silicon Valley Bank, Private Equity Group*	Venture Capital
Square 1 Bank	Venture Debt
StemCells Inc.	Industry Representative

* Denotes interviewees who provided guidance in creating the terms, which were then tested by the other interviewees.