



FDIC Large Bank Deposit
Insurance Determination
Cost Estimation
Methodology

April 2, 2015

Cost Estimation Methodology Overview

The Cost Estimation Model was architected in 6 high-level steps

Step	Description
1	Gathered High-level Requirements <ul style="list-style-type: none">Met with FDIC team to understand pending rule-making and model requirementsMet with banking and technology SMEs to architect an approach to determine deposit insurance
2	Built Model and Documented Assumptions <ul style="list-style-type: none">Gathered bank operating, labor, technology, and business process assumptions during conversations with banking and technology SMEs
3	Identified Complexity Factors <ul style="list-style-type: none">Identified and validated factors that would influence the time and effort required for banks to determine insured depositsWeighted and calibrated Complexity Factor coefficients for each component of the model
4	Ran data through Cost Estimation Model <ul style="list-style-type: none">Used FDIC-provided data to run the largest 36 banks through the Cost Estimation Model
5	Determined Cost Estimation Ranges <ul style="list-style-type: none">Used Cost Estimation of largest 36 banks to identify Cost Ranges by bank complexity, bank type and project phase
6	Validated Cost Estimation Ranges <ul style="list-style-type: none">Compared Model Cost Ranges to ensure similar projects in the US and UK

FDIC, banking and technology SMEs were consulted throughout the building of the Model to validate Assumptions, Complexity Factors and final Cost Ranges.

Gathered High-level Requirements

Model requirements were defined, revised and validated in consultation with FDIC, banking SMEs, and technology SMEs

	Monday	Tuesday	Wednesday	Thursday	Friday
Week Ending 03/13					Kick-Off Meeting
Week Ending 03/20	Basic Complexity Factors Identified		Initial Model Submitted		
Week Ending 03/27	Working Session (In-person)		Working Session (Phone)		Working Session (In-person)
Week Ending 04/03			Closing Session & Final Model Submitted		

 SME Interviews conducted

The banking and technology SMEs consulted and interviewed had experience at ten (10) of the Large Banks defined by FDIC.

Built Model and Documented Assumptions

Cost Components related to the process of determining insured deposits were identified and related Assumptions were documented

Cost Components

Elements of the total cost to a bank to determine insured deposits. These elements map directly to the process by which a bank would determine its insured deposits.

1. Insurance Calculation
2. Legacy Data Clean-Up
3. Data Extraction
4. Data Aggregation
5. Data Standardization
6. Data Quality Controls & Compliance
7. Reporting
8. Ongoing Operations

General Industry Assumptions

The following Assumptions were made about each Component in the Model:

- Banks will use a combination of internal and contracted labor to perform this implementation
- Banks have existing technologies that support ETL, data aggregation, and most of the other basic operations required to perform insurance determination
- Banks are currently in compliance with all current regulations governing the types of data they capture and analyze

In the Model, each Cost Component worksheet includes a list of related Assumptions similar to the example given below for “Ongoing Operations”.

Assumptions:

- > **OP-A1:** Banks will be required to test their ability to perform insurance determinations annually.
- > **OP-A2:** Account title data quality fixes will be minimal, as a result of a bank's initial legacy data cleanup efforts.
- > **OP-A3:** Regulations with respect to insurance calculations will not significantly change year over year.
- > **OP-A4:** Banks will largely use in-house staff to perform ongoing functions.
- > **OP-A5:** Labor rates and LOEs are based on industry averages for similar efforts.

Identified Complexity Factors

Bank attributes that could influence the time and effort required to determine insured deposits were identified and weighted

Complexity Factors	Complexity Application and Weighting
<p>Attributes about a bank, its operating model, and its business that may influence the costs associated with determining insured deposits.</p> <ol style="list-style-type: none"> 1. Deposit Accounts 2. Deposit Platforms 3. Depository Legal Entities 4. Geographic Reach 5. Deposit Accounts with Sweep Option 6. Line of Business 	<p>In discussions with FDIC and banking and technology SMEs, six (6) Complexity Factors were identified that could influence the time and effort required to perform deposit insurance determination. These Factors were limited to those we could reasonably answer given SME knowledge and available data.</p> <p>Data provided by FDIC for each of the 36 Large Banks was matched against each Complexity Factor. Based on the initial results, banks were categorized as having HIGH, MEDIUM or LOW complexity.</p> <p>Each Complexity Factor weighs differently across Cost Components. Weights were assigned based on the impact that Factor has on a particular Cost Component. These weights can be adjusted within the “Complexity Impact” worksheet.</p>

The “Complexity Impact” worksheet example below visually indicates which Cost Components are impacted by each Complexity Factor.

✓ Cost is impacted by complexity factor

	Cost Component							
Complexity Factor	1. Insurance Calculation	2. Legacy Data Clean-up	3. Data Extraction	4. Data Aggregation	5. Data Standardization	6. Data Quality Controls & Compliance	7. Reporting	8. Ongoing Operations
Deposit Platforms		✓	✓	✓	✓			✓

Determined Cost Estimation Ranges

Bank data run through the Model produced Cost Estimation Ranges by overall Bank Complexity, Bank Type, and Functional Phase

Cost Range Categories

Cost Ranges are calculated within each Cost Component worksheet for each bank based on their bank complexity ratings of HIGH, MEDIUM and LOW.

Each bank was further defined by its primary Line of Business based on Deloitte's industry knowledge. Cost Ranges were calculated for each of those categories.

- Universal
- Retail
- Investment

This Complexity Factor can be adjusted within the "Input Data" worksheet.

4 Phases

The project lifecycle for determining insured deposits was distilled into four (4) Functional Phases based on Complexity Factors. For each Phase, an estimated cost was calculated in the "Summary" worksheet by bank complexity.

Phase 1

- Insurance Calculation
- Data Extraction
- Data Aggregation
- Data Standardization

Phase 2

- DQ Control & Compliance
- Reporting

Phase 3

- Legacy Data Clean-Up

Phase 4

- Ongoing Operations

Validated Cost Estimation Ranges

To ensure the Cost Range outcomes of the Model were reasonable, a few validation mechanisms were applied

Validation	Description
1	<p>Validated against similar efforts</p> <ul style="list-style-type: none">▪ Bank and technology SMEs shared Cost Ranges for similar regulatory compliance efforts undertaken by banks which were compared to the Model's Cost Ranges▪ FDIC can further compare the Model's Cost Ranges to cost statistics from previous regulatory compliance efforts undertaken by banks
2	<p>Compared to estimated UK regulation costs</p> <ul style="list-style-type: none">▪ The UK Fast Payout reform of 2008 required banks to have the data necessary to provide depositors with FSCS compensation payments within 7 days of bank failure▪ The estimated cost of this regulation to the entire UK banking industry* was between £0.4bn and £1.0bn as compared to the Model's US Large Bank estimated cost of \$0.25bn▪ Bank obligations to FSCS regarding depositor account data aggregation, clean-up and maintenance are similar to those proposed to calculate insured deposits for FDIC
3	<p>Additional Validation : Survey a control group of Large Banks</p> <ul style="list-style-type: none">▪ FDIC can further validate Cost Ranges by applying specific bank details for a select set of Large Banks to the Model and extrapolating those calculations to represent the entire industry▪ Relevant bank details that could influence the cost include existing technologies, degree of regulatory compliance currently in place, and current depositor data aggregation schemes

*The UK banking industry includes very large and small banks, building societies, and credit unions as defined by Ernest & Young in their "Fast payout study – final report", November 2008.

Implementation Alternatives

FDIC can roll-out the deposit insurance determination regulation in different ways depending on its timing and calculation preferences

Alternatives	Description
1	Full Implementation <ul style="list-style-type: none">▪ Banks would follow all steps outlined in the Cost Estimation Model▪ Banks would determine their own insurance calculation and report those to FDIC
2	4 Functional Phases <ul style="list-style-type: none">▪ Banks would follow the 4 Phases outlined in the Cost Estimation Model▪ Banks would determine their own insurance calculation and report those to FDIC▪ Legacy data clean-up would be a separate function tackled over time, not immediately
3	FDIC determines Insurance Calculation <ul style="list-style-type: none">▪ Banks would aggregate depositor account and balance data, then send to FDIC▪ FDIC would use that data to determine the insurance calculation for banks

Comparison to UK regulations

The 2008 UK Fast Payout banking reform was similar to the insured deposit determination effort as it required banks to improve depositor data

UK Regulation

As a result of the 2008 financial crisis, the FSCS sought to improve the compensation arrangements between failed banks and their depositors. The goal was to have the necessary customer data available, should a bank fail, to compensate depositors within 7 calendar days. Ernest & Young performed a Fast Payout Study beginning in August 2008 to understand the implications, costs, and benefits to the UK banking industry should this compensation reform be enacted.

Study Results

Study Statistics

- Estimated cost of this regulation to the entire UK banking industry was between £0.4bn and £1.0bn
- The banks surveyed were categorized into three (3) types: Large Banks/Very Large Building Societies, Mid-Size Banks/Smaller Banks/Building Societies, and Credit Unions
- Banks surveyed directly were a mix of all 3 bank types and represented 41% of the total UK protected deposits
- Large Banks/Very Large Building Societies represent 70% of all protected deposits in the UK
- The study identified seven (7) Large Banks in the UK market as of 2008 which were categorized as having protected deposit amounts of over £25 bn each

Overall Benefits to Stakeholders

- Improve consumer confidence in the UK banking industry
- Improve banks' customer data
- Improve FSCS/FSA's access to detailed consumer data from banks

Implementation Alternatives

- Determined 12 different alternatives for fast payout setup and maintenance
- 6 alternatives had the failed bank calculating and executing the payout, while the other 6 alternatives had FSCS performing those functions on behalf of the failed bank

Cost Estimation Methodology

- Identified key areas where policy decisions were required
- Assigned cost categories to both banks and FSCS
- Chose a mix of banks to survey and collected data
- Assessed banks according to size, complexity and IT environments, estimated costs per bank and added them together to represent the industry

Source: Liver, John, and Steven Wynn. "Fast Payout Study - Final Report." Fast Payout Study – Final Report (2008): Ernst & Young Research into the Fast Payout Proposals. Ernest & Young, Nov. 2008. Web. 2 Apr. 2015.

Ongoing Considerations

FDIC should take heed of the ongoing industry operating considerations and exploit recent compliance measures the industry has enacted

Ongoing Operational Considerations

Timing Considerations: The frequency and reporting requirements of regulations will directly impact ongoing costs

- How often will banks be required to test their ability to perform insurance determinations?
- Will regulations with respect to insurance calculations change significantly year over year?

Labor Considerations: The following are labor assumptions made in the Model with regard to Ongoing Operations

- Banks will largely use in-house staff to perform ongoing functions
- Labor rates and LOEs are based on industry averages for similar efforts

Industry Preparedness and Potential Benefits

Previous regulations have already prompted industry evolution:

- Compliant with 360.9 since 2008
- Primed data to calculate the Liquidity Capital Ratio
- Primed data for CCAR
- Modernized technology in recent years in order to comply with these and other legislative requirements

By enacting this regulation, large banks will potentially incur the following benefits:

- Improved customer data (depositor or beneficiary) to potentially aid with customer retention and acquisition
- Clearer picture of insured deposits should another financial crisis hit

Appendix

Cost Estimation Complexity Factors

These factors may increase the time and effort required to determine insured deposits

Factor	Description and Value in Estimating Complexity
Deposit Accounts	A higher number of accounts directly impacts the processing time and manual labor required to aggregate data and standardize titles for accounts
Deposit Platforms	Many disparate core servicing platforms may increase complexity in comparing accounts across servicing platforms, and may cause duplication of efforts in creating the right data extract
Depository Legal Entities	If a bank has many legal entities or separate organizational units, tying accounts across these units may add complexity
Geographic Reach	These factors affect geographic dispersal of accounts and customers, which may add complexity through inconsistent data quality, differing data entry practices at branches, etc.
Deposit Accounts with Sweep Option	Sweep accounts will directly affect the complexity of insurance determination calculation, specifically in determining real-time insured account positions.
Line of Business	These factors affect the complexity of lines of business, accounts, and business operations the banks perform, which may add complexity to the business rules governing deposit insurance determination.

Cost Components

These costs buckets are associated with determining insured deposits

Component	Description
Insurance Calculation	The insurance calculator is the tool that provides the specific business rules and equations required to calculate the specific insurance eligibility of a depositor. It operates on the data set provided by the data aggregation and standardization layer, and outputs a result set of individual depositors and the insurance to which they are entitled.
Legacy Data Clean-up	This component is the set of activities banks must perform to bring their current data up to the standard required to perform insurance determination calculations with 100% accuracy. There are both systematic and manual components involved in this components.
Data Extraction	The data extraction layer provides the capability to identify and transmit the fields required for account titling and insurance determination to the data aggregation layer. This effort requires the bank to examine each deposit platform to capture the required data for future calculations.
Data Aggregation	The data aggregation component takes data sets from each platform extractor and converts it into a unified set of data suitable for insurance determination and reporting purposes.
Data Standardization	The data standardization component analyzes the aggregated data from the individual platforms, looks for discrepancies and outliers, and runs basic procedures to align data from each platform into a unified set of business rules for each field. Some activities may include matching account titles across platforms, applying uniform business rules to calculate missing fields, and identifying outliers.
Data Quality Controls & Compliance	This component provides the ability for banks to process data exceptions, or to “spot check” individual data elements for compliance. This will requirement the development of a set of tools for the bank to monitor and validate the data capture and insurance determination process.
Reporting	The reporting component generates standardized reports based on regulatory requirements for deposit insurance self-determination. It operates on the data collected and calculated in the other components and outputs a repeatable, clearly-formatted set of reports suitable for internal and regulatory reporting.
Ongoing Operations	Banks will incur ongoing costs as a result of the regulator's implementation requirements. This may include the banks testing their ability to perform insurance calculations regularly, performing regular reports for FDIC inquiries, and mitigating relevant data quality gaps on a regular schedule.

Deloitte.

Large Bank Deposit Insurance Determination Cost Model



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Large Bank Deposit Insurance Determination Cost Model

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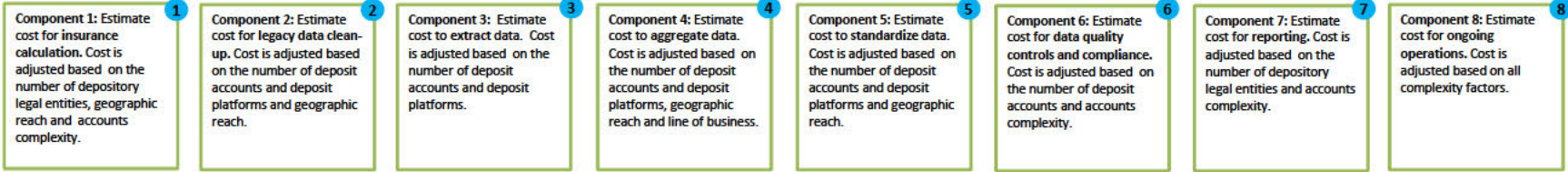
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Types of Cells	Color
Formulas & references (calculations)	White background
Editable inputs	Yellow background

Methodology



General Assumptions

ID	Description
A-1	Banks will use a combination of internal and contracted labor to perform this implementation.
A-2	Banks have existing technologies that support ETL, data aggregation, and most of the other basic operations required to perform insurance determination.
A-3	Banks are currently in compliance with all current regulations governing the types of data they capture and analyze.

Complexity Factors

Factor	Description
Deposit Accounts	A higher number of accounts directly impacts the processing time and manual labor required to aggregate data and standardize titles for accounts
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Ongoing Operations	Banks will incur ongoing costs as a result of the regulation's implementation requirements. This may include the banks testing their ability to perform insurance calculations regularly, performing regular reports for FDIC inquiries, and mitigating relevant data quality gaps on a regular schedule.



Large Bank Deposit Insurance Determination Cost Model

Overall Cost Ranges

Cost Ranges by Bank's Complexity

Complexity	Bank Count	Min Cost	Max Cost	Average Cost	Total Cost
High	4	\$ 23,359,751	\$ 100,748,888	\$ 50,279,271	\$ 201,117,082
Medium	20	\$ 3,052,910	\$ 8,973,528	\$ 4,811,764	\$ 96,235,274
Low	12	\$ 1,751,112	\$ 2,992,188	\$ 2,542,789	\$ 30,513,467
Industry Total Cost	36	\$ 1,751,112	\$ 100,748,888	\$ 9,107,384	\$ 327,865,823

Overall Cost Per Line of Business

Primary LOB	Bank Count	Insurance Calculation	Legacy Data Clean-Up	Data Extraction	Data Aggregation	Data Standardization	DQ Control & Compliance	Reporting	Ongoing Operations	Total Cost
Universal	5	\$ 1,368,800	\$ 105,124,970	\$ 20,102,440	\$ 47,437,971	\$ 27,063,019	\$ 7,015,296	\$ 843,600	\$ 479,174	\$ 209,435,270
Retail	24	\$ 6,090,000	\$ 51,563,038	\$ 4,300,081	\$ 13,766,043	\$ 7,530,976	\$ 8,570,910	\$ 3,825,800	\$ 1,899,102	\$ 97,545,950
Investment	7	\$ 1,763,200	\$ 7,444,432	\$ 1,473,263	\$ 4,151,728	\$ 2,474,889	\$ 1,976,562	\$ 1,102,600	\$ 497,930	\$ 20,884,603
Overall Cost	36	\$ 9,222,000	\$ 164,132,440	\$ 25,875,784	\$ 65,355,742	\$ 37,068,884	\$ 17,562,768	\$ 5,772,000	\$ 2,876,205	\$ 327,865,823

Project Phase Cost Estimates

Project Phase 3

Complexity	Insurance Calculation	Data Extraction	Data Aggregation	Data Standardization	Total Cost
High	\$ 1,090,400	\$ 19,930,951	\$ 46,860,201	\$ 26,746,835	\$ 94,628,387
Med	\$ 5,092,400	\$ 4,250,554	\$ 12,912,805	\$ 7,185,924	\$ 29,441,683
Low	\$ 3,039,200	\$ 1,694,279	\$ 5,582,736	\$ 3,136,125	\$ 13,452,340
Overall Cost	\$ 9,222,000	\$ 25,875,784	\$ 65,355,742	\$ 37,068,884	\$ 137,522,410

Project Phase 3

Complexity	DQ Control & Compliance	Reporting	Total Cost
High	\$ 6,408,633	\$ 673,400	\$ 7,082,033
Med	\$ 7,811,779	\$ 3,189,400	\$ 11,001,179
Low	\$ 3,342,356	\$ 1,909,200	\$ 5,251,556
Overall Cost	\$ 17,562,768	\$ 5,772,000	\$ 23,334,768

Project Phase 3

Complexity	Legacy Data Clean-Up
High	\$ 99,022,248
Med	\$ 54,216,684
Low	\$ 10,893,509
Overall Cost	\$ 164,132,440

Project Phase 3

Complexity	Ongoing Operations
High	\$ 384,414
Med	\$ 1,575,729
Low	\$ 916,063
Overall Cost	\$ 2,876,205

Insurance Calculation

Complexity	Bank Count	Min Cost	Max Cost	Average Cost	Total Cost
High	34	\$ 243,600	\$ 278,400	\$ 257,588	\$ 8,758,000
Med	2	\$ 232,000	\$ 232,000	\$ 232,000	\$ 464,000
Overall Cost	36	\$ 232,000	\$ 278,400	\$ 256,167	\$ 9,222,000

Data Extraction

Complexity	Bank Count	Min Cost	Max Cost	Average Cost	Total Cost
High	2	\$ 1,884,253	\$ 16,673,004	\$ 9,278,629	\$ 18,557,257
Med	12	\$ 217,817	\$ 696,661	\$ 360,776	\$ 4,329,311
Low	22	\$ 108,589	\$ 171,489	\$ 135,873	\$ 2,989,215
Overall Cost	36	\$ 108,589	\$ 16,673,004	\$ 718,772	\$ 25,875,784

Data Standardization

Complexity	Bank Count	Min Cost	Max Cost	Average Cost	Total Cost
High	4	\$ 1,005,272	\$ 22,070,118	\$ 6,686,709	\$ 26,746,835
Med	12	\$ 312,363	\$ 940,964	\$ 441,237	\$ 5,294,841
Low	20	\$ 217,559	\$ 298,228	\$ 251,360	\$ 5,027,208
Overall Cost	36	\$ 217,559	\$ 22,070,118	\$ 1,029,691	\$ 37,068,884

Reporting

Complexity	Bank Count	Min Cost	Max Cost	Average Cost	Total Cost
High	5	\$ 170,200	\$ 170,200	\$ 170,200	\$ 851,000
Med	16	\$ 162,800	\$ 162,800	\$ 162,800	\$ 2,604,800
Low	15	\$ 148,000	\$ 155,400	\$ 154,413	\$ 2,316,200
Overall Cost	36	\$ 148,000	\$ 170,200	\$ 160,333	\$ 5,772,000

Legacy Data Clean-Up

Complexity	Bank Count	Min Cost	Max Cost	Average Cost	Total Cost
High	4	\$ 18,015,816	\$ 31,221,498	\$ 24,755,562	\$ 99,022,248
Med	24	\$ 1,052,069	\$ 6,530,009	\$ 2,484,126	\$ 59,619,023
Low	8	\$ 228,628	\$ 986,786	\$ 686,396	\$ 5,491,169
Overall Cost	36	\$ 228,628	\$ 31,221,498	\$ 4,559,234	\$ 164,132,440

Data Aggregation

Complexity	Bank Count	Min Cost	Max Cost	Average Cost	Total Cost
High	6	\$ 1,237,615	\$ 38,609,122	\$ 8,294,643	\$ 49,767,858
Med	16	\$ 529,417	\$ 780,600	\$ 608,220	\$ 9,731,518
Low	14	\$ 364,273	\$ 487,536	\$ 418,312	\$ 5,856,366
Overall Cost	36	\$ 364,273	\$ 38,609,122	\$ 1,815,437	\$ 65,355,742

Data Quality Control and Compliance

Complexity	Bank Count	Min Cost	Max Cost	Average Cost	Total Cost
High	4	\$ 1,006,594	\$ 2,158,410	\$ 1,602,158	\$ 6,408,633
Med	19	\$ 300,335	\$ 631,429	\$ 400,227	\$ 7,604,320
Low	13	\$ 229,046	\$ 296,147	\$ 273,063	\$ 3,549,814
Overall Cost	36	\$ 229,046	\$ 2,158,410	\$ 487,855	\$ 17,562,768

Ongoing Operations

Complexity	Bank Count	Min Cost	Max Cost	Average Cost	Total Cost
High	5	\$ 92,423	\$ 99,660	\$ 95,835	\$ 479,174
Medium	25	\$ 75,601	\$ 86,617	\$ 79,127	\$ 1,978,179
Low	6	\$ 65,211	\$ 72,228	\$ 69,809	\$ 418,853
Overall Cost	36	\$ 65,211	\$ 99,660	\$ 79,895	\$ 2,876,205

Bank Name	Estimated Total Cost	Deposit Accounts	Deposit Platforms	Depository Legal Entities	Geographic Reach	Deposit Accounts with Sweep Option	Line of Business	Pre Determined Insurance Calculation Cost	Pre Determined Insurance Calculation Complexity	Assign Insurance Calculation Complexity	Insurance Calculation Cost	Pre Determined Legacy Data Clean Up Cost	Pre Determined Legacy Data Clean Up Complexity	Assign Legacy Data Clean Up Complexity	Legacy Data Clean Up Cost	Pre Determined Data Extraction Cost	Pre Determined Data Extraction Complexity	Assign Data Extraction Complexity	Data Extraction Cost	Pre Determined Data Aggregation Cost	Pre Determined Data Aggregation Complexity	Assign Data Aggregation Complexity	Data Aggregation Cost
JPMorgan Chase Bank NA		47,987,168								No Change				No Change				No Change				No Change	
Bank Of America NA		73,277,278								No Change				No Change				No Change				No Change	
Wells Fargo Bank NA		84,167,117								No Change				No Change				No Change				No Change	
Citibank National Assn		33,648,843								No Change				No Change				No Change				No Change	
US Bank National Assn		16,108,006								No Change				No Change				No Change				No Change	
PNC Bank National Assn		17,194,272								No Change				No Change				No Change				No Change	
Bank Of New York Mellon		45,881								No Change				No Change				No Change				No Change	
State Street Bank&Trust Co		14,596								No Change				No Change				No Change				No Change	
Capital One National Assn		13,435,632								No Change				No Change				No Change				No Change	
TD Bank National Assn		14,655,922								No Change				No Change				No Change				No Change	
Suntrust Bank		6,855,655								No Change				No Change				No Change				No Change	
Branch Banking And Trust Co		6,659,791								No Change				No Change				No Change				No Change	
HSBC Bank Usa National Assn		1,506,345								No Change				No Change				No Change				No Change	
Fifth Third Bank		5,688,428								No Change				No Change				No Change				No Change	
Chase Bank Usa National Assn		3,016,922								No Change				No Change				No Change				No Change	
Morgan Stanley Bank		3,172,593								No Change				No Change				No Change				No Change	
Regions Bank		6,643,787								No Change				No Change				No Change				No Change	
Goldman Sachs Bank USA	FOIA Exemptions 4, 5, 8	2,291,695	FOIA Exemptions 4, 5, 8	FOIA Exemption 5	FOIA Exemption 5	FOIA Exemptions 4, 5, 8	FOIA Exemption 5	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8	No Change	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8	No Change	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8	No Change	FOIA Exemptions 4, 5, 8	
MUFG Union Bank, National Association		2,488,900								No Change				No Change				No Change				No Change	
Charles Schwab Bank		5,709,181								No Change				No Change				No Change				No Change	
Northern Trust Co		163,536								No Change				No Change				No Change				No Change	
Ally Bank		1,766,772								No Change				No Change				No Change				No Change	
Citizens Bank, National Assn		4,718,434								No Change				No Change				No Change				No Change	
BMO Harris Bank National Association		2,197,222								No Change				No Change				No Change				No Change	
Manufacturers & Traders Tr Co		3,551,011								No Change				No Change				No Change				No Change	
Keybank National Assn		2,965,333								No Change				No Change				No Change				No Change	
Capital One Bank USA NA		3,184,905								No Change				No Change				No Change				No Change	
Discover Bank		2,388,289								No Change				No Change				No Change				No Change	
Santander Bank, NA		3,103,259								No Change				No Change				No Change				No Change	
BBVA Compass Bank		2,240,070								No Change				No Change				No Change				No Change	
Bank Of The West		1,999,998								No Change				No Change				No Change				No Change	
USAA Federal Savings Bank		9,395,660								No Change				No Change				No Change				No Change	
Huntington National Bank		3,539,134								No Change				No Change				No Change				No Change	
E Trade Bank		2,951,030								No Change				No Change				No Change				No Change	
American Express Centurion Bank		6,424,893								No Change				No Change				No Change				No Change	
Banco Popular De Puerto Rico		2,139,265								No Change				No Change				No Change				No Change	
Industry Total Cost	\$ 327,865,823							\$ 9,222,000			\$ 9,222,000	\$ 164,132,440			\$ 164,132,440	\$ 25,875,784			\$ 25,875,784	\$ 65,355,742			\$ 65,355,742

Bank Name	Pre Determined Data Standardization Cost	Pre Determined Data Standardization Complexity	Assign Data Standardization Complexity	Data Standardization Cost	Pre Determined Data Quality Control & Compliance Cost	Pre Determined Data Quality Control & Compliance Complexity	Assign Data Quality Control & Compliance Complexity	Data Quality Control & Compliance Cost	Pre Determined Reporting Cost	Pre Determined Reporting Complexity	Assign Reporting Complexity	Reporting Cost	Pre Determined Ongoing Operations Cost	Pre Determined Ongoing Operations Complexity	Assign Ongoing Operations Complexity	Ongoing Operations Cost	Estimated Total Cost Adjusted with New Assigned Complexity	Overall Complexity	Estimated Time Range (months)
JPMorgan Chase Bank NA			No Change				No Change				No Change				No Change				
Bank Of America NA			No Change				No Change				No Change				No Change				
Wells Fargo Bank NA			No Change				No Change				No Change				No Change				
Citibank National Assn			No Change				No Change				No Change				No Change				
US Bank National Assn			No Change				No Change				No Change				No Change				
PNC Bank National Assn			No Change				No Change				No Change				No Change				
Bank Of New York Mellon			No Change				No Change				No Change				No Change				
State Street Bank&Trust Co			No Change				No Change				No Change				No Change				
Capital One National Assn			No Change				No Change				No Change				No Change				
TD Bank National Assn			No Change				No Change				No Change				No Change				
Suntrust Bank			No Change				No Change				No Change				No Change				
Branch Banking And Trust Co			No Change				No Change				No Change				No Change				
HSBC Bank Usa National Assn			No Change				No Change				No Change				No Change				
Fifth Third Bank			No Change				No Change				No Change				No Change				
Chase Bank Usa National Assn			No Change				No Change				No Change				No Change				
Morgan Stanley Bank			No Change				No Change				No Change				No Change				
Regions Bank			No Change				No Change				No Change				No Change				
Goldman Sachs Bank USA	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8	No Change	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8	No Change	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8	No Change	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8	No Change	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8
MUFG Union Bank, National Association			No Change				No Change				No Change				No Change				
Charles Schwab Bank			No Change				No Change				No Change				No Change				
Northern Trust Co			No Change				No Change				No Change				No Change				
Ally Bank			No Change				No Change				No Change				No Change				
Citizens Bank, National Assn			No Change				No Change				No Change				No Change				
BMO Harris Bank National Association			No Change				No Change				No Change				No Change				
Manufacturers & Traders Tr Co			No Change				No Change				No Change				No Change				
Keybank National Assn			No Change				No Change				No Change				No Change				
Capital One Bank USA NA			No Change				No Change				No Change				No Change				
Discover Bank			No Change				No Change				No Change				No Change				
Santander Bank, NA			No Change				No Change				No Change				No Change				
BBVA Compass Bank			No Change				No Change				No Change				No Change				
Bank Of The West1			No Change				No Change				No Change				No Change				
USAA Federal Savings Bank			No Change				No Change				No Change				No Change				
Huntington National Bank			No Change				No Change				No Change				No Change				
E Trade Bank			No Change				No Change				No Change				No Change				
American Express Centurion Bank			No Change				No Change				No Change				No Change				
Banco Popular De Puerto Rico			No Change				No Change				No Change				No Change				
Industry Total Cost	\$ 37,068,884			\$ 37,068,884	\$ 17,562,768			\$ 17,562,768	\$ 5,772,000			\$ 5,772,000	\$ 2,876,205			\$ 2,876,205	\$327,865,823.37		

----- Overall Complexity -----

<i>Low</i>	<	\$ 3,000,000.00
<i>Medium</i>		
<i>High</i>	>	\$ 10,000,000.00

----- Estimated Time Ranges -----

<i>Low</i>	<	8-10
<i>Medium</i>		14-16
<i>High</i>	>	20-24



Large Bank Deposit Insurance Determination Cost Model

✓ Cost is impacted by complexity factor

* Complexity weighting can be adjusted in the table below by changing the pre-assigned percentages. Base costs are adjusted based on complexity rating. To exclude a complexity weighting from the cost calculation you can do so by assigning 0% to that category.

Complexity Factor	Cost Component							
	1. Insurance Calculation	2. Legacy Data Clean-up	3. Data Extraction	4. Data Aggregation	5. Data Standardization	6. Data Quality Controls & Compliance	7. Reporting	8. Ongoing Operations
Deposit Accounts		✓	✓	✓	✓	✓		✓
	0%	0.000000%	0.0000010%	0.000001%	0.000001%	0.000010%	0%	0.000000%
JPMorgan Chase Bank NA								
Bank Of America NA								
Wells Fargo Bank NA								
Citibank National Assn								
US Bank National Assn								
PNC Bank National Assn								
Bank Of New York Mellon								
State Street Bank&Trust Co								
Capital One National Assn								
TD Bank National Assn								
Suntrust Bank								
Branch Banking And Trust Co								
HSBC Bank Usa National Assn								
Fifth Third Bank								
Chase Bank Usa National Assn								
Morgan Stanley Bank								
Regions Bank								
Goldman Sachs Bank USA								
MUFG Union Bank, National Association								
Charles Schwab Bank								
Northern Trust Co								
Ally Bank								
Citizens Bank, National Assn								
BMO Harris Bank National Association								
Manufacturers & Traders Tr Co								
Keybank National Assn								
Capital One Bank USA NA								
Discover Bank								
Santander Bank, NA								
BBVA Compass Bank								
Bank Of The West1								
USAA Federal Savings Bank								
Huntington National Bank								
E*Trade Bank								
American Express Centurion Bank								
Banco Popular De Puerto Rico								

FOIA Exemptions 4, 5, 8

Deposit Platforms		✓	✓	✓	✓			✓
	0%	20%	100%	50%	50%	0%	0%	0%
JPMorgan Chase Bank NA	<h2>FOIA Exemptions 4, 5, 8</h2>							
Bank Of America NA								
Wells Fargo Bank NA								
Citibank National Assn								
US Bank National Assn								
PNC Bank National Assn								
Bank Of New York Mellon								
State Street Bank&Trust Co								
Capital One National Assn								
TD Bank National Assn								
Suntrust Bank								
Branch Banking And Trust Co								
HSBC Bank Usa National Assn								
Fifth Third Bank								
Chase Bank Usa National Assn								
Morgan Stanley Bank								
Regions Bank								
Goldman Sachs Bank USA								
MUFG Union Bank, National Association								
Charles Schwab Bank								
Northern Trust Co								
Ally Bank								
Citizens Bank, National Assn								
BMO Harris Bank National Association								
Manufacturers & Traders Tr Co								
Keybank National Assn								
Capital One Bank USA NA								
Discover Bank								
Santander Bank, NA								
BBVA Compass Bank								
Bank Of The West1								
USAA Federal Savings Bank								
Huntington National Bank								
E*Trade Bank								
American Express Centurion Bank								
Banco Popular De Puerto Rico								

Depository Legal Entities	✓						✓	✓
Low	0%	0%	0%	0%	0%	0%	0%	0%
Medium	5%	0%	0%	0%	0%	0%	5%	5%
High	10%	0%	0%	0%	0%	0%	10%	10%
JPMorgan Chase Bank NA								
Bank Of America NA								
Wells Fargo Bank NA								
Citibank National Assn								
US Bank National Assn								
PNC Bank National Assn								
Bank Of New York Mellon								
State Street Bank&Trust Co								
Capital One National Assn								
TD Bank National Assn								
Suntrust Bank								
Branch Banking And Trust Co								
HSBC Bank Usa National Assn								
Fifth Third Bank								
Chase Bank Usa National Assn								
Morgan Stanley Bank								
Regions Bank								
Goldman Sachs Bank USA								
MUFG Union Bank, National Association								
Charles Schwab Bank								
Northern Trust Co								
Ally Bank								
Citizens Bank, National Assn								
BMO Harris Bank National Association								
Manufacturers & Traders Tr Co								
Keybank National Assn								
Capital One Bank USA NA								
Discover Bank								
Santander Bank, NA								
BBVA Compass Bank								
Bank Of The West1								
USAA Federal Savings Bank								
Huntington National Bank								
E*Trade Bank								
American Express Centurion Bank								
Banco Popular De Puerto Rico								

FOIA Exemptions 4, 5, 8

Geographic Reach	✓	✓		✓	✓			✓
<i>Low</i>	-5%	-5%	0%	-5%	-5%	0%	0%	-5%
<i>Medium</i>	0%	0%	0%	0%	0%	0%	0%	0%
<i>High</i>	5%	5%	0%	5%	5%	0%	0%	5%
<i>JPMorgan Chase Bank NA</i>	<h1>FOIA Exemptions 4, 5, 8</h1>							
<i>Bank Of America NA</i>								
<i>Wells Fargo Bank NA</i>								
<i>Citibank National Assn</i>								
<i>US Bank National Assn</i>								
<i>PNC Bank National Assn</i>								
<i>Bank Of New York Mellon</i>								
<i>State Street Bank&Trust Co</i>								
<i>Capital One National Assn</i>								
<i>TD Bank National Assn</i>								
<i>Suntrust Bank</i>								
<i>Branch Banking And Trust Co</i>								
<i>HSBC Bank Usa National Assn</i>								
<i>Fifth Third Bank</i>								
<i>Chase Bank Usa National Assn</i>								
<i>Morgan Stanley Bank</i>								
<i>Regions Bank</i>								
<i>Goldman Sachs Bank USA</i>								
<i>MUFG Union Bank, National Association</i>								
<i>Charles Schwab Bank</i>								
<i>Northern Trust Co</i>								
<i>Ally Bank</i>								
<i>Citizens Bank, National Assn</i>								
<i>BMO Harris Bank National Association</i>								
<i>Manufacturers & Traders Tr Co</i>								
<i>Keybank National Assn</i>								
<i>Capital One Bank USA NA</i>								
<i>Discover Bank</i>								
<i>Santander Bank, NA</i>								
<i>BBVA Compass Bank</i>								
<i>Bank Of The West1</i>								
<i>USAA Federal Savings Bank</i>								
<i>Huntington National Bank</i>								
<i>E*Trade Bank</i>								
<i>American Express Centurion Bank</i>								
<i>Banco Popular De Puerto Rico</i>								

Deposit Accounts with Sweep Option	✓					✓	✓	✓
Medium	0%	0%	0%	0%	0%	0%	0%	0%
High	5%	0%	0%	0%	0%	5%	5%	5%
JPMorgan Chase Bank NA	<h2>FOIA Exemptions 4, 5, 8</h2>							
Bank Of America NA								
Wells Fargo Bank NA								
Citibank National Assn								
US Bank National Assn								
PNC Bank National Assn								
Bank Of New York Mellon								
State Street Bank&Trust Co								
Capital One National Assn								
TD Bank National Assn								
Suntrust Bank								
Branch Banking And Trust Co								
HSBC Bank Usa National Assn								
Fifth Third Bank								
Chase Bank Usa National Assn								
Morgan Stanley Bank								
Regions Bank								
Goldman Sachs Bank USA								
MUFG Union Bank, National Association								
Charles Schwab Bank								
Northern Trust Co								
Ally Bank								
Citizens Bank, National Assn								
BMO Harris Bank National Association								
Manufacturers & Traders Tr Co								
Keybank National Assn								
Capital One Bank USA NA								
Discover Bank								
Santander Bank, NA								
BBVA Compass Bank								
Bank Of The West1								
USAA Federal Savings Bank								
Huntington National Bank								
E*Trade Bank								
American Express Centurion Bank								
Banco Popular De Puerto Rico								

Line of Business				✓				✓
Low	0%	0%	0%	-10%	0%	0%	0%	-10%
Medium	0%	0%	0%	10%	0%	0%	0%	0%
High	0%	0%	0%	10%	0%	0%	0%	10%
JPMorgan Chase Bank NA								
Bank Of America NA								
Wells Fargo Bank NA								
Citibank National Assn								
US Bank National Assn								
PNC Bank National Assn								
Bank Of New York Mellon								
State Street Bank&Trust Co								
Capital One National Assn								
TD Bank National Assn								
Suntrust Bank								
Branch Banking And Trust Co								
HSBC Bank Usa National Assn								
Fifth Third Bank								
Chase Bank Usa National Assn								
Morgan Stanley Bank								
Regions Bank								
Goldman Sachs Bank USA								
MUFG Union Bank, National Association								
Charles Schwab Bank								
Northern Trust Co								
Ally Bank								
Citizens Bank, National Assn								
BMO Harris Bank National Association								
Manufacturers & Traders Tr Co								
Keybank National Assn								
Capital One Bank USA NA								
Discover Bank								
Santander Bank, NA								
BBVA Compass Bank								
Bank Of The West1								
USAA Federal Savings Bank								
Huntington National Bank								
E*Trade Bank								
American Express Centurion Bank								
Banco Popular De Puerto Rico								

FOIA Exemptions 4, 5, 8

Total Cost Increase/Decrease %

JPMorgan Chase Bank NA
Bank Of America NA
Wells Fargo Bank NA
Citibank National Assn
US Bank National Assn
PNC Bank National Assn
Bank Of New York Mellon
State Street Bank&Trust Co
Capital One National Assn
TD Bank National Assn
Suntrust Bank
Branch Banking And Trust Co
HSBC Bank Usa National Assn
Fifth Third Bank
Chase Bank Usa National Assn
Morgan Stanley Bank
Regions Bank
Goldman Sachs Bank USA
MUFG Union Bank, National Association
Charles Schwab Bank
Northern Trust Co
Ally Bank
Citizens Bank, National Assn
BMO Harris Bank National Association
Manufacturers & Traders Tr Co
Keybank National Assn
Capital One Bank USA NA
Discover Bank
Santander Bank, NA
BBVA Compass Bank
Bank Of The West1
USAA Federal Savings Bank
Huntington National Bank
E*Trade Bank
American Express Centurion Bank
Banco Popular De Puerto Rico

FOIA Exemptions 4, 5, 8

Data For IDI Internal Deposit Insurance Determination Cost Estimation 3/18/2015

Cert Number	Bank Name	Total Assets (\$1,000) [12/31/14 Call Report]	Number of Accounts [12/31/14 Call Report]	Deposit Systems [LBDIDM]	Primary Deposit System Name [LBDIDM]	Deposit Accounts with Sweep Option [LBDIDM]	Number of Countries with Branches [SNL]	Holding Co. Number of Depository Subsidiaries [SNL]	Holding Co. Number of Material Legal Entities [165(d) Public Plans]	Primary LOB
628	JPMorgan Chase Bank NA	\$ 2,074,952,000	47987168	FOIA Exemptions 4, 5, 8			33	4	32	Universal
3510	Bank Of America NA	\$ 1,574,093,000	73277278				8	3	24	Universal
3511	Wells Fargo Bank NA	\$ 1,532,784,000	84167117				11	6	7	Universal
7213	Citibank National Assn	\$ 1,356,781,000	33648843				1	4	21	Universal
6548	US Bank National Assn	\$ 398,978,359	16108006				2	4	2	Universal
6384	PNC Bank National Assn	\$ 335,060,015	17194272				2	1	2	Retail
639	Bank Of New York Mellon	\$ 304,166,000	45881				15	4	14	Investment
14	State Street Bank&Trust Co	\$ 269,781,143	14596				11	3	14	Investment
4297	Capital One National Assn	\$ 255,011,219	13435632				2	2	4	Retail
18409	TD Bank National Assn	\$ 230,280,000	14655922				1	2	6	Retail
867	Suntrust Bank	\$ 185,909,845	6855655				1	1	4	Retail
9846	Branch Banking And Trust Co	\$ 182,489,046	6659791				1	1	4	Retail
57890	HSBC Bank Usa National Assn	\$ 178,676,927	1506345				1	2	8	Investment
6672	Fifth Third Bank	\$ 136,279,317	5688428				1	1	3	Retail
23702	Chase Bank Usa National Assn	\$ 130,662,640	3016922				33	4	32	Retail
32992	Morgan Stanley Bank	\$ 125,528,000	3172593				2	2	21	Investment
12368	Regions Bank	\$ 118,801,412	6643787				1	1	1	Retail
33124	Goldman Sachs Bank USA	\$ 118,214,000	2291695				1	2	21	Investment
22826	MUFG Union Bank, National Association	\$ 113,120,106	2488900				1	2	4	Retail
57450	Charles Schwab Bank	\$ 111,238,000	5709181				1	1	3 ²	Investment
913	Northern Trust Co	\$ 109,596,957	163536				18	2	8	Retail
57803	Ally Bank	\$ 104,474,692	1766772				1	1	6	Retail
57957	Citizens Bank, National Assn	\$ 102,971,333	4718434				1	2	3 ²	Retail
16571	BMO Harris Bank National Association	\$ 97,496,905	2197222				1	2	6	Retail
588	Manufacturers & Traders Tr Co	\$ 95,920,564	3551011				2	2	2	Retail
17534	Keybank National Assn	\$ 91,782,513	2965333				2	2	3	Retail
33954	Capital One Bank USA NA	\$ 90,652,741	3184905				2	2	4	Retail
5649	Discover Bank	\$ 81,661,915	2388289				1	2	8	Retail
29950	Santander Bank, NA	\$ 80,472,892	3103259				1	2	7	Retail
19048	BBVA Compass Bank	\$ 79,624,593	2240070				1	1	3	Retail
3514	Bank Of The West ¹	\$ 71,682,343	1999998				1	2	5	Retail
32188	USAA Federal Savings Bank	\$ 67,301,894	9395660				1	2 ²	7 ²	Retail
6560	Huntington National Bank	\$ 66,111,039	3539134				3	1	2	Retail
30746	E*Trade Bank	\$ 44,672,387	2951030				1	2	(No Plan) ³	Investment
27471	American Express Centurion Bank	\$ 34,758,392	6424893				1	2	8	Retail
34968	Banco Popular De Puerto Rico	\$ 27,088,000	2139265				1	2	(No Plan) ³	Retail

¹ Included because Bank Of The West reported 2,038,963 deposit accounts on its 09/30/2014 Call Report.

² Source is Public CIDI Plan

³ Neither the parent (nor IDI) has assets of \$50 billion or more; as a result, neither a 165(d) nor a CIDI plan is required
LBDIDM is the Large bank Deposit Insurance Determination Modernization Program

----- Insurance Calculation -----

Description The insurance calculator is the tool that provides the specific business rules and equations required to calculate the specific insurance eligibility of a depositor. It operates on the data set provided by the data aggregation and standardization layer, and outputs a result set of individual depositors and the insurance to which they are entitled. Activities estimated as a piece of this component include:

- Determining how FDIC insurance rules apply to the specific institution
- Providing high level requirements to the other component projects
- Building and validating an insurance calculation function

Assumptions

- > **IC-A1** Banks will have clear instructions and guidance from the FDIC on the business rules of insurance
- > **IC-A2** Banks have a variety of basic and complex account types.
- > **IC-A3** Banks that engage in sweeps will incur a higher level of complexity for this efforts than banks that do not.
- > **IC-A4** The presence of a high level of pass-through coverage accounts, statutory insurance categories, prepaid card accounts, and trust accounts will increase the complexity of insurance calculations.
- > **IC-A5** Labor rates and LOEs are based on industry averages for similar efforts.

----- Cost Ranges -----

Low	<	\$ 232,000.00
Medium		
High	>	\$ 232,000.00

Cost Category	Estimated LOE (hours)	Labor Rate (\$/hr)	Estimated Base Cost (\$)
Resource Plan			
1) System Developer	320	\$ 100.00	\$ 32,000.00
2) ETL/Data Architect	160	\$ 150.00	\$ 24,000.00
3) Business Analyst	320	\$ 150.00	\$ 48,000.00
4) System Architect	80	\$ 200.00	\$ 16,000.00
5) Program Manager	40	\$ 300.00	\$ 12,000.00
6) Project Manager	160	\$ 250.00	\$ 40,000.00
7) Compliance Analyst	320	\$ 150.00	\$ 48,000.00
8) Deposit Platform Analyst	80	\$ 150.00	\$ 12,000.00
Total	1,480		\$ 232,000.00

Bank Name	Complexity - Adjusted Cost (\$)	Complexity - Adjusted Labor (Hrs)
JPMorgan Chase Bank NA		
Bank Of America NA		
Wells Fargo Bank NA		
Citibank National Assn		
US Bank National Assn		
PNC Bank National Assn		
Bank Of New York Mellon		
State Street Bank&Trust Co		
Capital One National Assn		
TD Bank National Assn		
Suntrust Bank		
Branch Banking And Trust Co		
HSBC Bank Usa National Assn		
Fifth Third Bank		
Chase Bank Usa National Assn		
Morgan Stanley Bank		
Regions Bank		
Goldman Sachs Bank USA		
MUFG Union Bank, National Association	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8
Charles Schwab Bank		
Northern Trust Co		
Ally Bank		
Citizens Bank, National Assn		
BMO Harris Bank National Association		
Manufacturers & Traders Tr Co		
Keybank National Assn		
Capital One Bank USA NA		
Discover Bank		
Santander Bank, NA		
BBVA Compass Bank		
Bank Of The West1		
USAA Federal Savings Bank		
Huntington National Bank		
E*Trade Bank		
American Express Centurion Bank		
Banco Popular De Puerto Rico		

Legacy Data Clean Up

Description: This component is the set of activities banks must perform to bring their current data up to the standard required to perform insurance determination calculations with 100% accuracy. There are both systematic and manual components involved in this component. Specific activities include:

- Identifying missing fields and data elements required for accurate insurance determination
- Building systematic functions to repair or recover missing data (e.g. complex ETL, OCR)
- Training branch employees or other distributed personnel to perform manual data fixes
- Performing manual data identification and cleanup (e.g. recovering missing TINs from beneficiaries)

Assumptions:

- > **LD-A1:** Banks will be required to calculate insurance determinations with 100% accuracy.
- > **LD-A2:** 5% of deposit-related data at a given bank is currently insufficient or inaccurate to calculate insurance determinations.
- > **LD-A3:** The automated effort will be performed centrally by bank technology staff.
- > **LD-A4:** The size of the manual effort is directly proportional to the number of deposit accounts held by the bank.
- > **LD-A5:** The manual effort will be performed by bank branch personnel most closely related to deposit accounts, or by contracted distributed staff.
- > **LD-A6:** On average, 10 accounts can be resolved manually per hour.
- > **LD-A7:** Labor rates and LOEs are based on industry averages for similar efforts.

Cost Ranges		
Low	<	\$ 1,000,000.00
Medium		
High	>	\$ 10,000,000.00

Cost Category	Estimated LOE (hours)	Labor Rate (\$/hr)	Estimated Base Cost (\$)
Resource Plan			
1) System Developer	160	\$ 100.00	\$ 16,000.00
2) ETL/Data Architect	160	\$ 150.00	\$ 24,000.00
3) Business Analyst	160	\$ 150.00	\$ 24,000.00
4) System Architect	40	\$ 200.00	\$ 8,000.00
5) Program Manager	40	\$ 300.00	\$ 12,000.00
6) Project Manager	160	\$ 250.00	\$ 40,000.00
7) Compliance Analyst	40	\$ 150.00	\$ 6,000.00
8) Deposit Platform Analyst	160	\$ 150.00	\$ 24,000.00
Total	920	-	\$ 154,000.00

Other Assumptions	
% of Erroneous Accounts	5%
# of Accounts Fixed/Hr	10
Internal Labor	\$ 65.00
External Labor	\$ 85.00
% of Labor done Internally	60%

Manual Data Clean-Up

Bank Name	Adjusted Automated Solution Cost (\$)	Total Accounts	Erroneous Accounts	Estimated LOE (hours)	Total Complexity - Adjusted Cost (\$)	Total Complexity - Adjusted Labor (Hrs)
JPMorgan Chase Bank NA	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8
Bank Of America NA						
Wells Fargo Bank NA						
Citibank National Assn						
US Bank National Assn						
PNC Bank National Assn						
Bank Of New York Mellon						
State Street Bank&Trust Co						
Capital One National Assn						
TD Bank National Assn						
Suntrust Bank						
Branch Banking And Trust Co						
HSBC Bank Usa National Assn						
Fifth Third Bank						
Chase Bank Usa National Assn						
Morgan Stanley Bank						
Regions Bank						
Goldman Sachs Bank USA						
MUFG Union Bank, National Association						
Charles Schwab Bank						
Northern Trust Co						
Ally Bank						
Citizens Bank, National Assn						
BMO Harris Bank National Association						
Manufacturers & Traders Tr Co						
Keybank National Assn						
Capital One Bank USA NA						
Discover Bank						
Santander Bank, NA						
BBVA Compass Bank						
Bank Of The West1						
USAA Federal Savings Bank						
Huntington National Bank						
E*Trade Bank						
American Express Centurion Bank						
Banco Popular De Puerto Rico						

Data Extraction

Description The data extraction layer provides the capability to identify and transmit the fields required for account titling and insurance determination to the data aggregation layer. This effort requires the bank to examine each deposit platform to capture the required data for future calculations.

Assumptions

- > **DE-A1:** Banks have the knowledge required (either in-house or through their servicers) to identify data fields through data dictionaries and other software documentation.
- > **DE-A2:** The complexity of each platform is assumed in its average.
- > **DE-A3:** The output of each extractor will contain a set of account titles, dollar amounts, and business rules required to support subsequent activities.
- > **DE-A4:** The total value for data extraction is a multiple of the number of distinct deposit platforms employed by the bank.
- > **DE-A5:** The average number of accounts per platform will increase the complexity of the effort.
- > **DE-A6:** All fields are used for their intended purposes and entered according to design specifications. (See "legacy data quality" tab for exceptions.)
- > **DE-A7:** Banks will consistently extract the same end-of-day data for each platform.
- > **DE-A8:** No additional software or hardware will be required to perform data extraction procedures.
- > **DE-A9:** Labor rates and LOEs are based on industry averages for similar efforts, per deposit platform.

Cost Ranges

Low	<	\$ 200,000.00
Medium		
High	>	\$ 1,000,000.00

Cost Category	Estimated LOE (hours)	Labor Rate (\$/hr)	Estimated Base Cost (\$)
Resource Plan			
1) System Developer	160	\$ 100.00	\$ 16,000.00
2) ETL/Data Architect	40	\$ 150.00	\$ 6,000.00
3) Business Analyst	40	\$ 150.00	\$ 6,000.00
4) System Architect	40	\$ 200.00	\$ 8,000.00
5) Program Manager	5	\$ 300.00	\$ 1,500.00
6) Project Manager	40	\$ 250.00	\$ 10,000.00
7) Compliance Analyst	5	\$ 150.00	\$ 750.00
8) Deposit Platform Analyst	40	\$ 150.00	\$ 6,000.00
Total	370	-	\$ 54,250.00

Bank Name	Complexity - Adjusted Cost (\$)	Complexity - Adjusted Labor (Hrs)
JPMorgan Chase Bank NA		
Bank Of America NA		
Wells Fargo Bank NA		
Citibank National Assn		
US Bank National Assn		
PNC Bank National Assn		
Bank Of New York Mellon		
State Street Bank&Trust Co		
Capital One National Assn		
TD Bank National Assn		
Suntrust Bank		
Branch Banking And Trust Co		
HSBC Bank Usa National Assn		
Fifth Third Bank		
Chase Bank Usa National Assn		
Morgan Stanley Bank		
Regions Bank		
Goldman Sachs Bank USA	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8
MUFG Union Bank National Association		
Charles Schwab Bank		
Northern Trust Co		
Ally Bank		
Citizens Bank, National Assn		
BMO Harris Bank National Association		
Manufacturers & Traders Tr Co		
Keybank National Assn		
Capital One Bank USA NA		
Discover Bank		
Santander Bank, NA		
BBVA Compass Bank		
Bank Of The West1		
USAA Federal Savings Bank		
Huntington National Bank		
E*Trade Bank		
American Express Centurion Bank		
Banco Popular De Puerto Rico		

----- Data Aggregation -----

Description: The data aggregation component takes data sets from each platform extractor and converts it into a unified set of data suitable for insurance determination and reporting purposes.

Assumptions:

- > **DA-A1** Account names/titles can be matched across deposit platforms.
- > **DA-A2** Total number of deposit platforms will affect the complexity of aggregation and standardization.
- > **DA-A3** Banks have pre-existing, preferred ETL and aggregation tools as a part of their existing Enterprise Architecture.
- > **DA-A4** Banks may have to supplement software licenses and physical hardware space to accommodate this effort.
- > **DA-A5** Labor rates and LOEs are based on industry averages for similar efforts.

----- Cost Ranges -----

Low	<	\$ 500,000.00
Medium		
High	>	\$ 1,000,000.00

Cost Category	Estimated LOE (hours)	Labor Rate (\$/hr)	Estimated Base Cost (\$)
Resource Plan			
1) System Developer	640	\$ 100.00	\$ 64,000.00
2) ETL/Data Architect	320	\$ 150.00	\$ 48,000.00
3) Business Analyst	320	\$ 150.00	\$ 48,000.00
4) System Architect	160	\$ 200.00	\$ 32,000.00
5) Program Manager	40	\$ 300.00	\$ 12,000.00
6) Project Manager	160	\$ 250.00	\$ 40,000.00
7) Compliance Analyst	-	\$ 150.00	\$ -
8) Deposit Platform Analyst	40	\$ 150.00	\$ 6,000.00
Total	1,680	-	\$ 250,000.00

Bank Name	Complexity - Adjusted Cost (\$)	Complexity - Adjusted Labor (Hrs)
JPMorgan Chase Bank NA	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8
Bank Of America NA		
Wells Fargo Bank NA		
Citibank National Assn		
US Bank National Assn		
PNC Bank National Assn		
Bank Of New York Mellon		
State Street Bank&Trust Co		
Capital One National Assn		
TD Bank National Assn		
Suntrust Bank		
Branch Banking And Trust Co		
HSBC Bank Usa National Assn		
Fifth Third Bank		
Chase Bank Usa National Assn		
Morgan Stanley Bank		
Regions Bank		
Goldman Sachs Bank USA		
MUFG Union Bank, National Association		
Charles Schwab Bank		
Northern Trust Co		
Ally Bank		
Citizens Bank, National Assn		
BMO Harris Bank National Association		
Manufacturers & Traders Tr Co		
Keybank National Assn		
Capital One Bank USA NA		
Discover Bank		
Santander Bank, NA		
BBVA Compass Bank		
Bank Of The West1		
USAA Federal Savings Bank		
Huntington National Bank		
E*Trade Bank		
American Express Centurion Bank		
Banco Popular De Puerto Rico		

Data Standardization

Description The data standardization component analyzes the aggregated data from the individual platforms, looks for discrepancies and outliers, and runs basic procedures to align data from each platform into a unified set of business rules for each field. Some activities may include matching account titles across platforms, applying uniform business rules to calculate missing fields, and identifying outliers.

Assumptions

- > **DS-A1** Banks have a pre-existing set of ETL tools used for data standardization as a part of its enterprise architecture.
- > **DS-A2** Most ETL functions for fields available in their source systems will be performed as a part of data extraction.
- > **DS-A3** Complex data investigations and manipulations (e.g. OCR, manual entry), are not part of this effort.
- > **DS-A4** Labor rates and LOEs are based on industry averages for similar efforts.

Cost Ranges

Low	<	\$ 300,000.00
Medium		
High	>	\$ 1,000,000.00

Cost Category	Estimated LOE (hours)	Labor Rate (\$/hr)	Estimated Base Cost (\$)
Resource Plan			
1) System Developer	240	\$ 100.00	\$ 24,000.00
2) ETL/Data Architect	120	\$ 150.00	\$ 18,000.00
3) Business Analyst	120	\$ 150.00	\$ 18,000.00
4) System Architect	40	\$ 200.00	\$ 8,000.00
5) Program Manager	30	\$ 300.00	\$ 9,000.00
6) Project Manager	120	\$ 250.00	\$ 30,000.00
7) Compliance Analyst	120	\$ 150.00	\$ 18,000.00
8) Deposit Platform Analyst	120	\$ 150.00	\$ 18,000.00
Total	910		\$ 143,000.00

Bank Name	Complexity - Adjusted Cost (\$)	Complexity - Adjusted Labor (Hrs)
JPMorgan Chase Bank NA		
Bank Of America NA		
Wells Fargo Bank NA		
Citibank National Assn		
US Bank National Assn		
PNC Bank National Assn		
Bank Of New York Mellon		
State Street Bank&Trust Co		
Capital One National Assn		
TD Bank National Assn		
Suntrust Bank		
Branch Banking And Trust Co		
HSBC Bank Usa National Assn		
Fifth Third Bank		
Chase Bank Usa National Assn		
Morgan Stanley Bank		
Regions Bank		
Goldman Sachs Bank USA		
MUFG Union Bank, National Association	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8
Charles Schwab Bank		
Northern Trust Co		
Ally Bank		
Citizens Bank, National Assn		
BMO Harris Bank National Association		
Manufacturers & Traders Tr Co		
Keybank National Assn		
Capital One Bank USA NA		
Discover Bank		
Santander Bank, NA		
BBVA Compass Bank		
Bank Of The West1		
USAA Federal Savings Bank		
Huntington National Bank		
E*Trade Bank		
American Express Centurion Bank		
Banco Popular De Puerto Rico		

Data Quality Controls & Compliance

Description This component provides the ability for banks to process data exceptions, or to "spot check" individual data elements for compliance. This will require the development of a set of tools for the bank to monitor and validate the data capture and insurance determination process. Activities include:

- Development of a web-enabled UI for bank staff to view "flagged" data elements or account
- Constructing a dashboard and approval process for bank executives to approve aggregated data and reports prior to completion or submission to regulators

Assumptions

> **DQ-A1** Banks will be required to quality check their own work prior, and provide evidence of such activities, to the FDIC as part of its regulatory mandate.

> **DQ-A2** Labor rates and LOEs are based on industry averages for similar efforts.

Cost Ranges

Low	<	\$ 300,000.00
Medium		
High	>	\$ 1,000,000.00

Cost Category	Estimated LOE (hours)	Labor Rate (\$/hr)	Estimated Base Cost (\$)
Resource Plan			
1) System Developer	640	\$ 100.00	\$ 64,000.00
2) ETL/Data Architect	160	\$ 150.00	\$ 24,000.00
3) Business Analyst	160	\$ 150.00	\$ 24,000.00
4) System Architect	80	\$ 200.00	\$ 16,000.00
5) Program Manager	40	\$ 300.00	\$ 12,000.00
6) Project Manager	160	\$ 250.00	\$ 40,000.00
7) Compliance Analyst	160	\$ 150.00	\$ 24,000.00
8) Deposit Platform Analyst	160	\$ 150.00	\$ 24,000.00
Total	1,560		\$ 228,000.00

Bank Name	Complexity - Adjusted Cost (\$)	Complexity - Adjusted Labor (Hrs)
JPMorgan Chase Bank NA		
Bank Of America NA		
Wells Fargo Bank NA		
Citibank National Assn		
US Bank National Assn		
PNC Bank National Assn		
Bank Of New York Mellon		
State Street Bank&Trust Co		
Capital One National Assn		
TD Bank National Assn		
Suntrust Bank		
Branch Banking And Trust Co		
HSBC Bank Usa National Assn		
Fifth Third Bank		
Chase Bank Usa National Assn		
Morgan Stanley Bank		
Regions Bank		
Goldman Sachs Bank USA		
MUFG Union Bank, National Association	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8
Charles Schwab Bank		
Northern Trust Co		
Ally Bank		
Citizens Bank, National Assn		
BMO Harris Bank National Association		
Manufacturers & Traders Tr Co		
Keybank National Assn		
Capital One Bank USA NA		
Discover Bank		
Santander Bank, NA		
BBVA Compass Bank		
Bank Of The West1		
USAA Federal Savings Bank		
Huntington National Bank		
E*Trade Bank		
American Express Centurion Bank		
Banco Popular De Puerto Rico		

Reporting

Description The reporting component generates standardized reports based on regulatory requirements for deposit insurance self-determination. It operates on the data collected and calculated in the other components and outputs a repeatable, clearly-formatted set of reports suitable for internal and regulatory reporting.

Assumptions

- > **RE-A1** Banks will be required to provide reports on insurance liabilities to the FDIC on a quarterly basis.
- > **RE-A2** Banks must be able to run these reports on-demand, regardless of the regulatory schedule.
- > **RE-A3** Banks will be provided with a pre-determined set of reports, data elements, and rules that guide report output and formatting.
- > **RE-A4** Banks have pre-existing, preferred report generation tools as a part of their existing Enterprise Architecture.
- > **RE-A5** Labor rates and LOEs are based on industry averages for similar efforts.

Cost Ranges

Low	<	\$ 160,000.00
Medium		
High	>	\$ 170,000.00

Cost Category	Estimated LOE (hours)	Labor Rate (\$/hr)	Estimated Base Cost (\$)
Resource Plan			
1) System Developer	160	\$ 100 00	\$ 16,000.00
2) ETL/Data Architect	160	\$ 150 00	\$ 24,000.00
3) Business Analyst	160	\$ 150 00	\$ 24,000.00
4) System Architect	40	\$ 200 00	\$ 8,000.00
5) Program Manager	40	\$ 300 00	\$ 12,000.00
6) Project Manager	160	\$ 250 00	\$ 40,000.00
7) Compliance Analyst	160	\$ 150 00	\$ 24,000.00
8) Deposit Platform Analyst	-	\$ 150 00	\$ -
Total	880	-	\$ 148,000.00

Bank Name	Complexity - Adjusted Cost (\$)	Complexity - Adjusted Labor (Hrs)
JPMorgan Chase Bank NA		
Bank Of America NA		
Wells Fargo Bank NA		
Citibank National Assn		
US Bank National Assn		
PNC Bank National Assn		
Bank Of New York Mellon		
State Street Bank&Trust Co		
Capital One National Assn		
TD Bank National Assn		
Suntrust Bank		
Branch Banking And Trust Co		
HSBC Bank Usa National Assn		
Fifth Third Bank		
Chase Bank Usa National Assn		
Morgan Stanley Bank		
Regions Bank		
Goldman Sachs Bank USA		
MUFG Union Bank, National Association	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8
Charles Schwab Bank		
Northern Trust Co		
Ally Bank		
Citizens Bank, National Assn		
BMO Harris Bank National Association		
Manufacturers & Traders Tr Co		
Keybank National Assn		
Capital One Bank USA NA		
Discover Bank		
Santander Bank, NA		
BBVA Compass Bank		
Bank Of The West1		
USAA Federal Savings Bank		
Huntington National Bank		
E*Trade Bank		
American Express Centurion Bank		
Banco Popular De Puerto Rico		

Ongoing Operations

Description Banks will incur ongoing costs as a result of the regulation's implementation requirements. This may include the banks testing their ability to perform insurance calculations regularly, performing regular reports for FDIC inquiries, and mitigating relevant data quality gaps on a regular schedule.

Assumptions

- > **OP-A1** Banks will be required to test their ability to perform insurance determinations annually.
- > **OP-A2** Account title data quality fixes will be minimal, as a result of a bank's initial legacy data cleanup efforts.
- > **OP-A3** Regulations with respect to insurance calculations will not significantly change year over year.
- > **OP-A4** Banks will largely use in-house staff to perform ongoing functions.
- > **OP-A5** Labor rates and LOEs are based on industry averages for similar efforts.

Cost Ranges

Low	<	\$ 75,000.00
Medium		
High	>	\$ 90,000.00

Cost Category	Estimated LOE (hours)	Labor Rate (\$/hr)	Estimated Base Cost (\$)
Resource Plan			
1) System Developer	-	\$ 100.00	\$ -
2) ETL/Data Architect	-	\$ 150.00	\$ -
3) Business Analyst	160	\$ 150.00	\$ 24,000.00
4) System Architect	-	\$ 200.00	\$ -
5) Program Manager	-	\$ 300.00	\$ -
6) Project Manager	-	\$ 250.00	\$ -
7) Compliance Analyst	160	\$ 150.00	\$ 24,000.00
8) Deposit Platform Analyst	160	\$ 150.00	\$ 24,000.00
Total	480		\$ 72,000.00

Bank Name	Complexity - Adjusted Cost (\$)	Complexity - Adjusted Labor (Hrs.)
JPMorgan Chase Bank NA		
Bank Of America NA		
Wells Fargo Bank NA		
Citibank National Assn		
US Bank National Assn		
PNC Bank National Assn		
Bank Of New York Mellon		
State Street Bank&Trust Co		
Capital One National Assn		
TD Bank National Assn		
Suntrust Bank		
Branch Banking And Trust Co		
HSBC Bank Usa National Assn		
Fifth Third Bank		
Chase Bank Usa National Assn		
Morgan Stanley Bank		
Regions Bank		
Goldman Sachs Bank USA		
MUFG Union Bank, National Association	FOIA Exemptions 4, 5, 8	FOIA Exemptions 4, 5, 8
Charles Schwab Bank		
Northern Trust Co		
Ally Bank		
Citizens Bank, National Assn		
BMO Harris Bank National Association		
Manufacturers & Traders Tr Co		
Keybank National Assn		
Capital One Bank USA NA		
Discover Bank		
Santander Bank, NA		
BBVA Compass Bank		
Bank Of The West1		
USAA Federal Savings Bank		
Huntington National Bank		
E*Trade Bank		
American Express Centurion Bank		
Banco Popular De Puerto Rico		