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BANK MODELING

ABOUT OUR CASE STUDY

- We are going to build an annual forecast model, as well as dividend discount and residual income valuation models for Valley National Bank (ticker VLY).
- VLY is a regional bank with $14.1 billion in assets, $2.3 billion in market cap. VLY operates 200 branches through NY/NJ, has 2,700 employees, and is the 40th largest commercial bank in the US. It is considered one of a few remaining banks that can credibly describe themselves as conservative. VLY has had consistent shareholder returns, with focus on credit quality. As a result, VLY had far less bad loans during the recession.
- Some other interesting highlights - deposits represent 73% of the company’s liabilities. VLY is considered “well-capitalized” by regulatory standards (the highest rating), and has an affluent, heavily populated, and strong customer base.

Case study details

- We are going to build an annual forecast model for VLY.
- The company reports on a December 31 fiscal year end.
- The latest available reporting period as of printing is 12/31/2010.
- Source document: VLY 2010 10K

Before you begin

1. If you have not already done so, please read the manual titled Bank Modeling Program – Bank Industry Primer. This manual was included with your materials. Once finished, come back here to get started on the modeling.
2. Open VLY’s 2010 10K (we have provided you with a specially bookmarked version of the 10K, so use this one instead of going to sec.gov).
3. Open the model template that we have provided you. If you have 2 model templates, open the model labeled ‘empty’
4. Download and install the Boost Add-In for Excel at http://wspanalytics.com/boost/download

How to succeed in this course

In this guide, we lay out step-by-step instructions for building a forecast model and valuation models for VLY. The instructions are sequential, so follow them in order. It is strongly recommended that you first read and finish a section (section headers are denoted with an UPPERCASE), and then proceed to complete
the modeling exercises prescribed in this section. When you are finished with modeling the exercises described in a section, refer back to this guide and read the next section before getting back in the model.

Good luck!

**INPUTTING THE HISTORICAL BALANCE SHEET (BS)**

- Input historical BS results (VLY 2010 10K, p.81)
- Insert a balance checker
- Format your BS

**FORECASTING THE BS (NO PUN INTENDED)**

- Skip cash and due from banks
- Skip Interest bearing deposits with banks

**INVESTMENT SECURITIES**

- In a separate schedule below the BS, input historical balances for THREE years, as disclosed (on p.57 of VLY’s 10K) and calculate the 2009 and 2010 growth rates in investment balances.
- Forecast 5% annual growth in investments throughout the forecast period and calculate the investments in the schedule.
- Caution: Do not link this forecast to the BS yet. Do not link any forecasts to the BS unless explicitly instructed to. We will link all the projections derived in the schedules back up to the BS at the end.

**GROSS LOANS**

- We skip loans held for sale at fair value, in a separate schedule below investment securities, input historical balances for FIVE years, as disclosed (on p.63 of VLY’s 10K) and calculate growth rates from 2007-2010.
- Calculate the 2006-2010 CAGR, and use this rate to forecast growth in gross loans in the schedule.

**Best practices for forecasting loans**

Forecasting gross loan growth is a challenging, yet critical model driver and is often sensitized in analysis. Loans drive interest income, and loan growth needs to be supported by deposit growth. In the absence of management guidance, loan growth should be forecast in line with industry averages, which are driven by macroeconomic forecasts and a sector specific outlook. Deviations from growth rates in line with industry averages need to be justified (for example, if the analyst believes the bank will gain or reduce market share).

Other factors may be at play as well. For example, a conservative bank may choose to cut back loan growth when demand is high because of shrinking returns. This was the case at VLY at the end of 2010, when the company indicated on the conference call:

Valley National Bancorp Q4 2010 Earnings Call Transcript
Input historical balances for FIVE years, as disclosed on page 70 of VLY’s 10K.

**Forecasting provisions**

Management estimates provisions based on expectations of future charge-offs, as well as the amount of existing reserves. These estimates are driven off performance expectations of the company’s specific loan portfolio, in the context of broader macroeconomic factors, as well as historical experience.

An exchange from VLY’s Q1 2011 earnings call transcript is instructive about how management thinks about provisions.

**Valley National Bancorp Q1 2011 Earnings Call Transcript**

*Jason O’Donnell* - Boenning & Scattergood: “Then, just switching to asset quality. I’m just wondering – this is more of a general question, but just given the improvement in asset quality you’re seeing and the potential for further improvement, I’m just wondering what your appetite is to release reserves going forward or potentially take negative provisions down the road?”

*Gerald H. Lipkin* - Chairman, President and CEO: “Historically it has been our philosophy not to release reserves. We may not add more to the reserve account, but we have never to the best of my recollection ever released earnings coming out of the reserve – build our earnings by pulling money out of the reserve. In fact, we actually built our reserve this past quarter if you see, (indiscernible) of the fact, we actually added more to the loan loss reserve than our losses.”

*Alan D. Eskow* - SEVP and CFO: “That takes into account the fact that we’ve got loan growth in addition to anything else. So as loans are growing even if credit quality improves, you’re still going to have to be mindful of providing for future losses. We’re pretty much are bound by the kind of model we use, which takes into account all those various pieces and it takes into account loan growth. So, we’re not anticipating at this point any reserve releases. Lower provisions could possibly happen, but that will really as I said depend on credit quality and loan growth.”

As such, these estimates are forward looking and subjective, which makes “earnings management” possible. As a result, forecasting provisions for the analyst is difficult. If management guidance is available, this is usually a helpful starting point. In the absence of guidance, a historical review coupled with an analysis of the loan portfolio and thesis on macroeconomic factors serve as drivers.

For VLY, our forecast is as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provisions</td>
<td>30,000</td>
<td>20,000</td>
<td>15,000</td>
<td>15,000</td>
</tr>
</tbody>
</table>

This assumption for reduction in provision reflects continued normalization of credit environment to pre-crisis levels.
REFERENCE QUICK GUIDES

FORECASTING FINANCIAL STATEMENTS QUICK GUIDE

Below we outline forecasting conventions and best practices for a bank operating model. Analysts should remember that these forecasts represent rules of thumbs; many exceptions may apply depending on circumstances and availability of information.

- Table 1: Forecasting balance sheet items
- Table 2: Forecasting income statement items
- Table 3: Forecasting net interest income

Table 1: Forecasting balance sheet items

<table>
<thead>
<tr>
<th>Line item</th>
<th>Forecast</th>
<th>Additional Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash and equivalents</td>
<td>As a % of deposits</td>
<td></td>
</tr>
<tr>
<td>Federal funds sold / Deposits held with banks</td>
<td>If A&lt;L+E: Prior year balance + surplus</td>
<td>This line is the “plug” in the model. If A&lt;L+E, our model is projecting larger sources of capital (L+E) than we are using. As a result, federal funds sold or interest-bearing deposits held with banks must increase to put the excess capital &quot;somewhere.&quot;</td>
</tr>
<tr>
<td></td>
<td>If A&gt;L+E: Prior year balance</td>
<td></td>
</tr>
<tr>
<td>Investment securities</td>
<td>Growth rate</td>
<td>Historical growth is usually a guide. Comprised of held to maturity; available for sale; and trading securities. Difficult to project growth rates definitively.</td>
</tr>
<tr>
<td>Loans held for sale</td>
<td>As % of gross loans</td>
<td></td>
</tr>
<tr>
<td>Gross Loans</td>
<td>Growth rate of aggregate or by loan portfolio composition.</td>
<td>Historical growth is usually a guide. If analysts have conviction about particular parts of a loan portfolio (residential vs. commercial loans) a more detailed analysis can be performed. This projection drives deposit liabilities</td>
</tr>
<tr>
<td>Allowance for loan losses</td>
<td>Prior year balance – NCOs + provision for credit losses (IS)</td>
<td>Project NCOs based on ratio of NCO/prior year provision (IS). NCO are comprised of charge-offs, net of recoveries of previously charged off loans.</td>
</tr>
<tr>
<td>Net loans</td>
<td>Gross loans - allowance for loan losses</td>
<td>Balance sheet presentation of loans is on a net basis</td>
</tr>
<tr>
<td>Premises &amp; equipment</td>
<td>Prior year balance + capital expenditures (CF investing outflow) - depreciation expense (IS)</td>
<td></td>
</tr>
</tbody>
</table>
| Bank owned life insurance (BOLI)  | Straight-line or; Prior year balance + change in surrender value (IS income) - benefit proceeds (CFs investing inflow) | • What is BOLI? Due to tax advantages, banks buy life insurance for employees, pay premiums, and collect the payouts.  
  • Forecasting rationale: Straight-lining assumes that future appreciation in surrender value is offset by increases benefit proceeds. |
| Accrued interest receivable       | Straight-line                                 | Primarily used in the trade of goods. For example, a manufacturer needs to be paid by a retailer: The retailer's bank, under certain financial conditions between the bank and its customer, accepts to pay for the goods. The bank is substituting its creditworthiness for that of its customer in order to assure the manufacturer of payment after shipping the goods. The acceptance is then sent to the |
| Due from customers on acceptances outstanding | Straight-line or historical growth rate |                                                                                                                                                   |