Integrating Liquidity Based Forecasting and The Capital Budget Forecast

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Liquidity Forecasting Fundamentals
Cash (Liquidity) Forecasting - Defined

**Cash forecasting defined**: the modeling of a company or entity's future financial liquidity over a specific time frame.
Cash Forecasting - Overview

- Cash forecasting is an extremely important tool for public and private sector organizations.

- A majority of organizations have ineffective cash forecasting processes.

- Many organizations face the same kinds of forecasting challenges:
  - Insufficient resources
  - Poor information access/exchange
  - Ineffective forecast methodology
  - Poor internal knowledge of cash flows
Cash Forecasting - Why?

Cash forecasting supports key Treasury activities:

- Funding operations
- Short-term investment and borrowing
- Cash concentration/balance transfer scheduling
- Non-discretionary payments planning
  - P&I repayments
  - Taxes
  - Acquisitions
Cash Forecasting – Best Practices

Optimal Cash Forecasting Process

Data Collection

Methodology

Variance Analysis & Analytics

Execution

Reporting

Investments

Data Inputs

1. Centralized Collection Tool
2. Forecasting Model
3. Variance Analysis
4. Forecast Refinement Process
5. Process Feedback
6. Fine-tuning
7. Output Reports to User

- Business Units (Scheduled events)
- Financial Units (Scheduled events)
- Systems (e.g., Oracle, FXpress)
- Bank Data (Historical data)
Forecasting Techniques

- Balance Sheet Method
- Receipts and Disbursements Method
- Statistical Methods
Sources of Data: Liquidity Oriented Forecasts

- Bank Transactions and Balances (Bank Portals)
- A/R System (ERP & A/R Department)
- Investment & Debt Maturities (ERP & Treasury)
- FX & Derivative Settlements (ERP & Treasury)
- Repetitive Payments (Various Sources: Tax, Payroll, Insurance, Accounting, Finance)
- Sales Forecast (Sales Department)
- Accounts Payable System (ERP & A/P Department)
- Interest Flows (ERP & Treasury)
- Capital Expenditures (Business Planning)
Effective Cash Forecasting

**Distinction** between forecast precision and forecast effectiveness and accuracy:

Forecast precision is less vital than forecast effectiveness for funding beyond today.
Supporting Liquidity Decisions

12 Month Investment Horizon - Projected Interest Rates and Cash Position

Blue line = Yield Curve
Red Line = Liquidity Forecast

Cash FC
$ MM

$ 18
$ 17
$ 16
$ 15
$ 14
$ 13
$ 12
$ 11
$ 10
$ 9
$ 8
$ 7
$ 6
$ 5
$ 4
$ 3
$ 2
$ 1
Celgene & The Capital Budgeting Forecast Process
Celgene: Our Mission and Vision

Celgene is building a preeminent global biopharmaceutical company focused on the discovery, development and commercialization of innovative therapies for unmet medical needs in cancer and immune-inflammatory diseases.
### Celgene: About Us

#### Global, Fully Integrated
- Operations in >50 countries
- Sales in >70 countries
- Manufacturing facilities in US and EU
- Key research facilities in NJ, CA, MA & Spain
- ~5,000 employees globally

#### Unique R&D Capabilities
- Expertise in hematology, oncology, and immunology
- Diverse technology platforms
- Rich pipeline
  - 19 programs in preclinical development
  - 16 treatments in clinical trials
  - >30 pivotal / phase III programs underway

#### Portfolio of Leading Products

- **Revlimid**
- **Abraxane®**
- **Vidaza®**
- **Thalomid®**
- **ISTRODAX®**
- **Pomalyst (pomalidomide) capsules**
Our 2017 Financial Commitment

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue ($B)</th>
<th>EPS ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013E</td>
<td>$6B</td>
<td>$5.55 - $5.65</td>
</tr>
<tr>
<td>2015E</td>
<td>$8-9B</td>
<td>$8.00 - $9.00</td>
</tr>
<tr>
<td>2017E</td>
<td>~$12B+</td>
<td>$13.00 - $14.00</td>
</tr>
</tbody>
</table>

**Revenue Growth**
- 19% CAGR

**EPS Growth**
- 25% CAGR

Categories:
- I&I/Other
- Oncology
- Hematology
Key Assumptions: 2017 Earnings Targets

- Investment in I&I infrastructure
- Continuous operating margin improvement through 2017
- Tax rate: 16.5%
- Fully diluted shares outstanding: 430M

**EPS² ($)**
- 2013E: $5.55-$5.65
- 2015E: $8.00-$9.00
- 2017E: $13.00-$14.00

25% CAGR³
Celgene: Financial Model

- IP, manufacturing and distributions centered in Switzerland – contributing to low effective tax rate
- Accumulating “permanent” cash balance outside US
- Dynamic capital structure with periodic US debt raise and ongoing share repurchase program
- Significant operating leverage in small-molecule drug sold through proprietary risk-controlled distribution system to hospitals and specialty pharmacies
Consolidated Cash Flow Forecasting

5-year P&L developed through annual strategic review
- Collaborative effort throughout entire Company
- Iterative process
- Serves as cornerstone of all long-range planning

Treasury developed 5-year Balance Sheet (BS) and Statement of Cash Flows (SCF)
- **Built from:**
  - historical financial relationships between BS and P&L
  - Tax planning
  - Supply chain planning
  - Alliance management, royalties and milestones
Sources of Data: Capital Budgeting Forecast

- Accounting: (Pro-forma Financial Statements)
- Tax: (Tax projection, credits, tax accruals)
- Treasury: (Cash balances, Investment & Debt schedules)
- FP&A: (Scenario analysis)
- Sales Department: (Revenue forecasts)
- Operating Units: (P&L forecasts)
- International BU’s: (Global projections)
- Capital Planning: (Business and capital improvement initiatives)
Consolidated Cash Flow Forecasting

Interdependent models and collaborative assumptions

Treasury built models in blue
# Projected Statement of Cash Flows

## Celgene

**Global Cash Flows, Custom Forecast, Manual Scenario**

<table>
<thead>
<tr>
<th></th>
<th>Proj. 31-Dec-13</th>
<th>Proj. 31-Dec-14</th>
<th>Proj. 31-Dec-15</th>
<th>Proj. 31-Dec-16</th>
<th>Proj. 31-Dec-17</th>
<th>Proj. 31-Dec-18</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Net income</strong></td>
<td>1,556</td>
<td>1,674</td>
<td>1,964</td>
<td>2,312</td>
<td>2,685</td>
<td>2,918</td>
</tr>
<tr>
<td>+ Depreciation &amp; Amortization</td>
<td>52</td>
<td>52</td>
<td>52</td>
<td>52</td>
<td>52</td>
<td>52</td>
</tr>
<tr>
<td>+ Amortization of Intangibles</td>
<td>274</td>
<td>235</td>
<td>230</td>
<td>230</td>
<td>230</td>
<td>230</td>
</tr>
<tr>
<td>+ Stock Option Expense (Add Back)</td>
<td>260</td>
<td>283</td>
<td>317</td>
<td>307</td>
<td>332</td>
<td>358</td>
</tr>
<tr>
<td>(inc) dec in WC</td>
<td>(202)</td>
<td>(134)</td>
<td>(46)</td>
<td>(65)</td>
<td>(72)</td>
<td>(135)</td>
</tr>
<tr>
<td>(inc) dec in Other Assets</td>
<td>71</td>
<td>84</td>
<td>14</td>
<td>(25)</td>
<td>(27)</td>
<td>(29)</td>
</tr>
<tr>
<td>inc (dec) in Other Liabilities</td>
<td>38</td>
<td>(149)</td>
<td>(120)</td>
<td>32</td>
<td>112</td>
<td>165</td>
</tr>
<tr>
<td>including Non-Cash Taxes (Add Back)</td>
<td>(1)</td>
<td>(55)</td>
<td>(49)</td>
<td>(44)</td>
<td>30</td>
<td>76</td>
</tr>
<tr>
<td><strong>Operating cash flow</strong></td>
<td>2,050</td>
<td>2,046</td>
<td>2,411</td>
<td>2,843</td>
<td>3,313</td>
<td>3,559</td>
</tr>
<tr>
<td>Acquisitions</td>
<td>(422)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Milestone payments</td>
<td>(339)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>(20)</td>
<td>-</td>
</tr>
<tr>
<td>Capital expenditure</td>
<td>(120)</td>
<td>(114)</td>
<td>(127)</td>
<td>(142)</td>
<td>(153)</td>
<td>(165)</td>
</tr>
<tr>
<td><strong>Investing cash flow</strong></td>
<td>(881)</td>
<td>(114)</td>
<td>(127)</td>
<td>(142)</td>
<td>(173)</td>
<td>(165)</td>
</tr>
<tr>
<td>inc (dec) in Commercial Paper - Core</td>
<td>92</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>inc (dec) in LT debt</td>
<td>1,500</td>
<td>-</td>
<td>-</td>
<td>(21)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Proceeds from exercise of stock options</td>
<td>729</td>
<td>869</td>
<td>719</td>
<td>934</td>
<td>1,215</td>
<td>1,354</td>
</tr>
<tr>
<td>Share issuance / (repurchases)</td>
<td>(1,836)</td>
<td>(1,000)</td>
<td>(1,000)</td>
<td>(1,000)</td>
<td>(1,000)</td>
<td>(1,000)</td>
</tr>
<tr>
<td><strong>Financing cash flow</strong></td>
<td>485</td>
<td>(131)</td>
<td>(281)</td>
<td>(86)</td>
<td>215</td>
<td>354</td>
</tr>
<tr>
<td><strong>NET CASH FLOW</strong></td>
<td>1,654</td>
<td>1,801</td>
<td>2,003</td>
<td>2,615</td>
<td>3,355</td>
<td>3,747</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
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<th>31-Dec-18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning US Cash</td>
<td>1,161</td>
<td>1,587</td>
<td>1,666</td>
<td>1,604</td>
<td>1,665</td>
<td>1,923</td>
</tr>
<tr>
<td>Beginning R.O.W. Cash</td>
<td>2,739</td>
<td>3,967</td>
<td>5,690</td>
<td>7,755</td>
<td>10,308</td>
<td>13,405</td>
</tr>
<tr>
<td><strong>Beginning Total Cash</strong></td>
<td>3,900</td>
<td>5,554</td>
<td>7,355</td>
<td>9,358</td>
<td>11,974</td>
<td>15,328</td>
</tr>
<tr>
<td>US Cash Flow</td>
<td>426</td>
<td>78</td>
<td>(62)</td>
<td>61</td>
<td>258</td>
<td>507</td>
</tr>
<tr>
<td>R.O.W. Cash Flow</td>
<td>1,228</td>
<td>1,723</td>
<td>2,065</td>
<td>2,554</td>
<td>3,097</td>
<td>3,240</td>
</tr>
<tr>
<td><strong>Total Cash Flow</strong></td>
<td>1,654</td>
<td>1,801</td>
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<td>3,747</td>
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<td>16,645</td>
</tr>
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<td>9,358</td>
<td>11,974</td>
<td>15,328</td>
<td>19,075</td>
</tr>
</tbody>
</table>
Celgene: Summary

- Treasury – led cash flow forecast and capital planning process
- Model/process has been adopted by CFO and FP&A team as source for cash flow forecast
- Drives debt and share repurchase decision making
- Plays integral role in Celgene’s ability to offer investors 5-year EPS guidance
Integration & Leverage of Liquidity Forecasting and The Capital Budgeting Process
What are the similarities and differences between the two forecasts?

<table>
<thead>
<tr>
<th>Unique to Liquidity Forecasting</th>
<th>Unique to Budget Forecasting</th>
<th>Common to Both Forecast Processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Intra-month view</td>
<td>- Period end cash view</td>
<td>- Forecast Period Cash</td>
</tr>
<tr>
<td>- Quantitative modeling</td>
<td>- Driven by internal data</td>
<td>- Utilize historical data</td>
</tr>
<tr>
<td>- Can utilize external data</td>
<td>- Book cash perspective</td>
<td>- Utilize data from ERP</td>
</tr>
<tr>
<td>- Can be tech driven</td>
<td>- Financial reporting view</td>
<td>- Internal (Dept.) inputs</td>
</tr>
<tr>
<td>- Flexible views/timeframes</td>
<td>- Accounting/GAAP SME</td>
<td>- Variance analysis</td>
</tr>
<tr>
<td>- Can decompose cash</td>
<td></td>
<td>- Knowledge of company</td>
</tr>
<tr>
<td>- Bank cash perspective</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Treasury &amp; Quant SME</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Integration & Leverage: What benefits result from bridging the two processes?
Benefits of bridging the processes

- Streamlines data request demands, internally
- Adds efficiency in both Treasury and FP&A
- Provides congruency relating to projected cash levels
- Applies best practices across both areas
- Leverages common tools and technology
- Improves standardization
Integration & Leverage:

How Do You Bridge the Two Processes?
Integration & Leverage: Mapping Both Processes

- Develop mapping to define key steps and timing in each process
- Look for commonalities and differences
  - Data collection
  - Data verification/validation
  - Projections/smoothing/seasonal adjustment
  - Tools/methodologies
  - Reporting
- Examine and identify ways to integrate practices and processes
Integration & Leverage: Policies & Procedures

Creating common policy and procedures serves to guide both processes in the same direction:

• Providing guidance on commonalities associated with data, technology and resources
• Establishing the communication channels
• Common processes and templates should be explained in a Policy and Procedure document so employees understand how their data is being used and their role in providing it

Policy and procedures must be communicated and accessible to Treasury, FP&A and other groups involved in the liquidity forecast and capital budgeting processes.
Integration & Leverage: Communication Is Key

- Each method of forecasting relies on communications with parties outside the process to gather data
- Look for ways to share / combine data collection steps
Integration & Leverage: Creating Common Templates

• Using common templates to gather data promotes standardization and commonality of data elements
Integration & Leverage:
Tools and Internal Systems

Consider ways to use the same tools and processes where appropriate
• Adds efficiency and standardization
• Leads to better, more accurate data gathering

Common data gathering tools/systems may include:
• Spreadsheets
• ERP system
• Treasury Management System
• On-line Banking Platforms
Integration & Leverage: Estimates & Projections

Both liquidity forecasts and budgets are based upon estimates and projections

- Using standard calculations and formulas whenever possible, will improve the efficiency of both processes and produce identical line-item results

- Building synchronized tools to verify assumptions, projections and calculations, will ensure that appropriate logic and accuracy apply across both processes
Integration & Leverage: Variance Analysis

Liquidity forecasting requires analysis on a periodic basis (usually monthly) to review variances between actual activity and forecasted activity

- Variance analysis serves to fine-tune and maintain the accuracy of the forecasting model

Communicating variance analysis results to the FP&A group will support its efforts in calibrating the capital budget for adjustments and changes in patterns within the organization

- The capital budget is updated less frequently than the liquidity forecast and therefore not as “nimble” at detecting changes in sales patterns, disbursements, etc.
Integration & Leverage: Historical Data

Historical cash data can be used for capital budgeting
- Using a common point of reference can bridge the gap between the two processes

<table>
<thead>
<tr>
<th>Company XYZ Cash Forecast</th>
<th>Company XYZ Capital Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Period 1</strong></td>
</tr>
<tr>
<td><strong>Beginning Cash</strong></td>
<td>$XXX</td>
</tr>
<tr>
<td></td>
<td>XX</td>
</tr>
<tr>
<td></td>
<td>XX</td>
</tr>
<tr>
<td></td>
<td>XX</td>
</tr>
<tr>
<td></td>
<td>XX</td>
</tr>
<tr>
<td></td>
<td>$XXX</td>
</tr>
<tr>
<td><strong>Ending Cash Balance</strong></td>
<td>$XXX</td>
</tr>
</tbody>
</table>

| Projected Revenue         | $XXX         | $XXXXX       | $XXX         | $XXXXX       |
| Project Costs             | (XX)         | (X)          | (XX)         | (X)          |
| Net Intetrest             | $XX          | $XX          | $XX          | $XX          |

Beg Cash Balance | $XX | $XX | $XX |
End Cash Balance  | $XX | $XX | $XX | $XX |
Integration & Leverage: Examples of Common Processes & Procedures

• Operating units will forecast sales for budget. Treasury can convert those sales to cash inflows by factoring in collection period (i.e. January “sales” are February “collections”)

• A similar process is used for converting budgeted expenses to liquidity disbursements

• For the current month, base the forecast collections and disbursements on the actual production data that is in your ERP’s Payables and Receivables modules
To Summarize…..

• Liquidity and capital budgeting forecasts may have different objectives, but can benefit through common practices

• Through proper integration, you can add efficiency, and utilize best practices in each method of forecasting

• There are avenues to bridge the gap between liquidity forecasting and the capital budgeting process

• The process of integrating takes some time, but pays large dividends when done properly
Questions