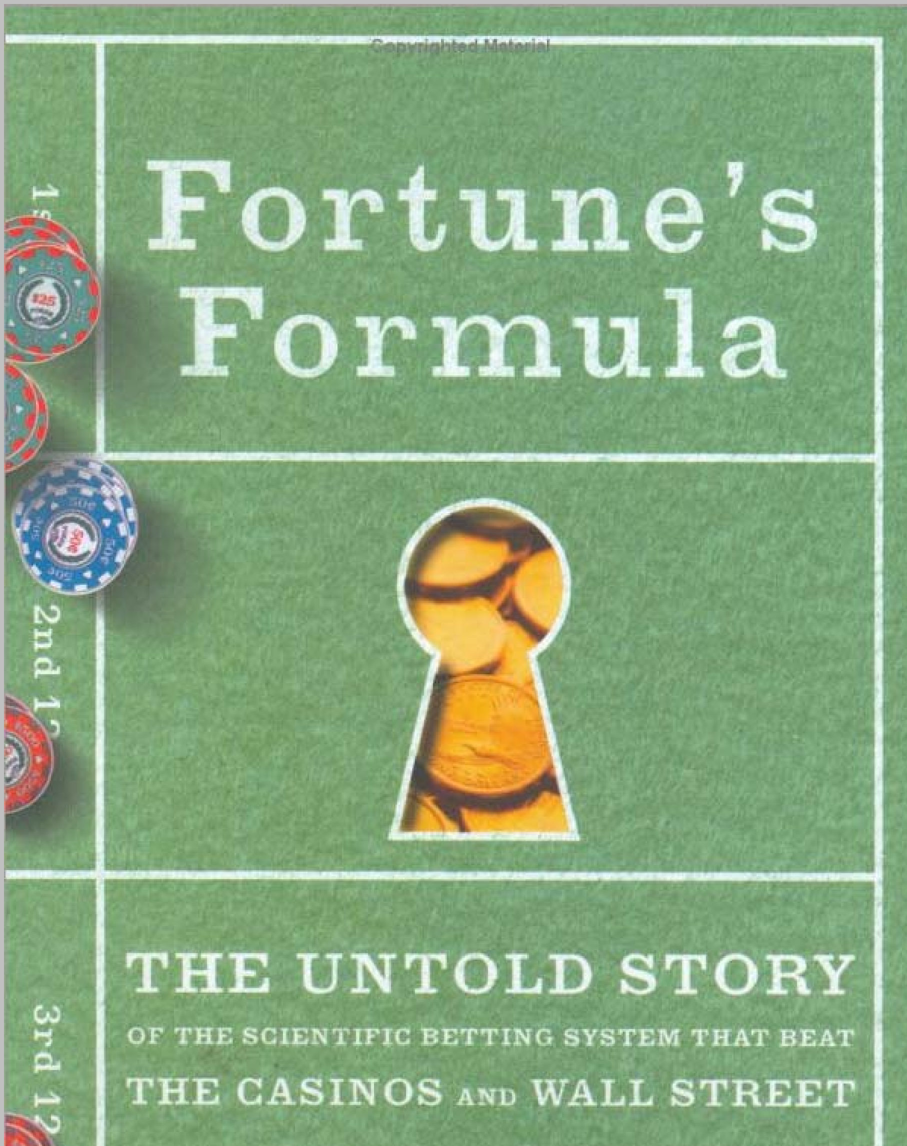
Delivering Predictable Results in Uncertain Times

John I. Howell III
President
Portfolio Decisions, Inc.

“Markets are constantly in a state of uncertainty and flux and money is made by discounting the obvious and betting on the unexpected”

George Soros



William Poundstone

Hill and Wang, 2005

When is an opportunity a “good investment” versus a “bad gamble” . . . and how can you tell the difference?

Predictable Results

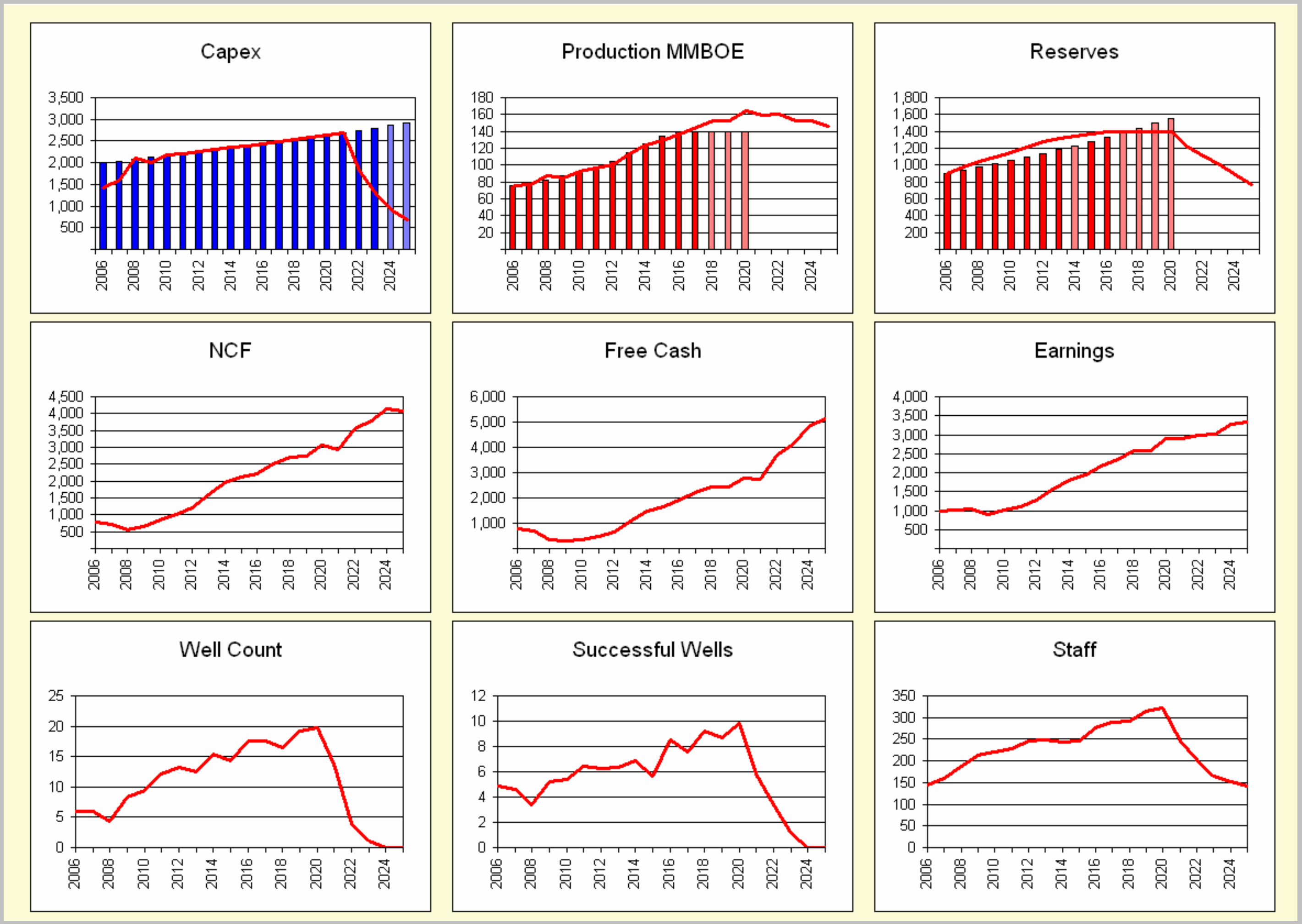
- Why should companies aspire to deliver predictable results?
- What are the tradeoffs? Predictability versus Growth?
- How can companies manage the tradeoffs?
- Who in your company needs to manage these tradeoffs (project level, business level, corporate level)?

Managing Uncertainty
Example

- $5B company wants to grow as measured by production, reserves and earnings
- Company wants to fund all growth initiatives from operating cash flow
- Joint Venture opportunity
  - Very profitable
  - Large near-term investment
  - Opens many additional opportunities
  - JV is considered "Strategic"
  - "Considerable" political and commercial uncertainty
- Company has built their strategy around the JV opportunity

Example

The Plan



10 Yr investment Plan

Enpv = $15.9B

Program is self Funding

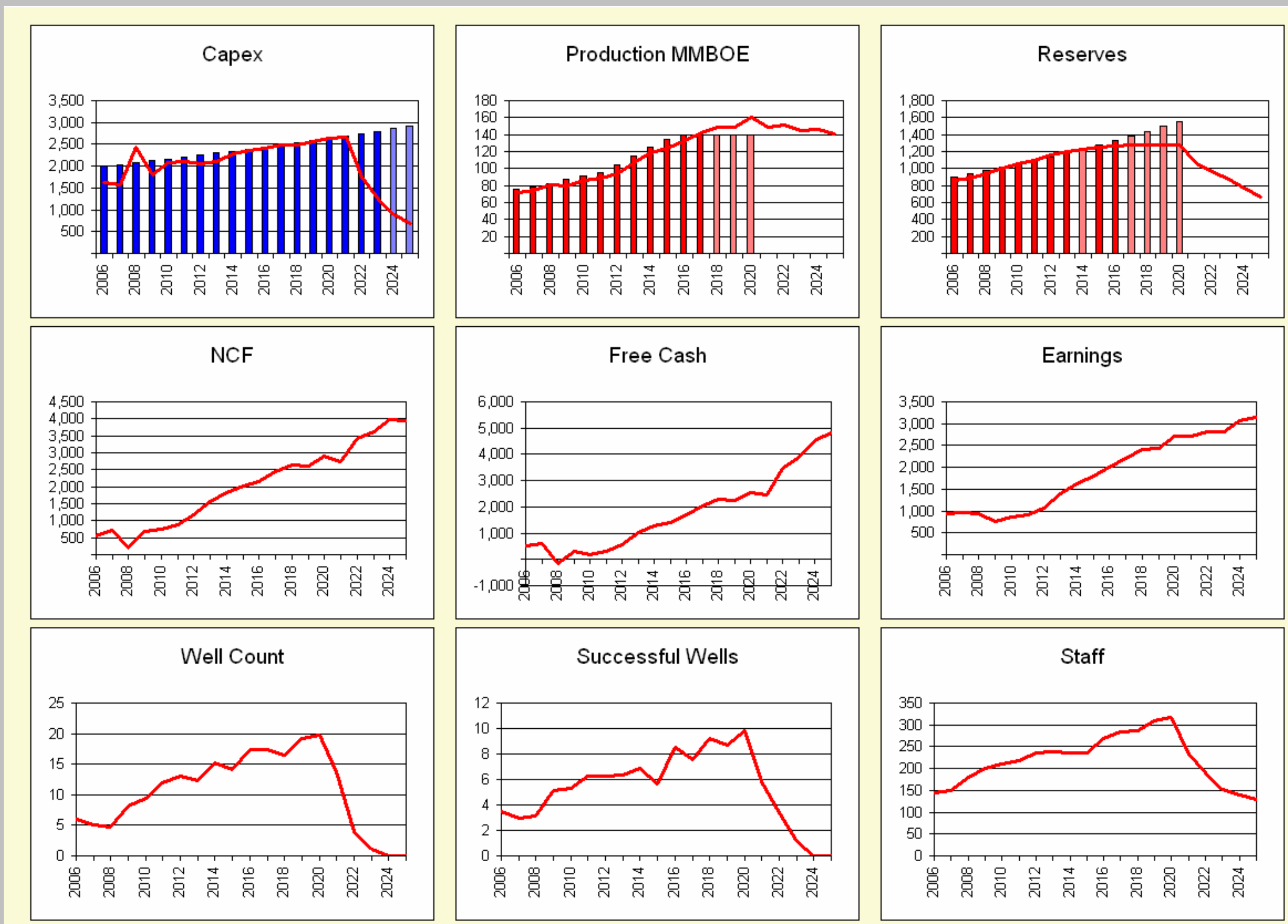
6% Production Growth

1.3 Avg. Reserve Replacement

1 Very large, high-risk JV Project in 2006

Example

Results at end of 2006



Large JV project failed and several other projects worked

Fail near-term capex

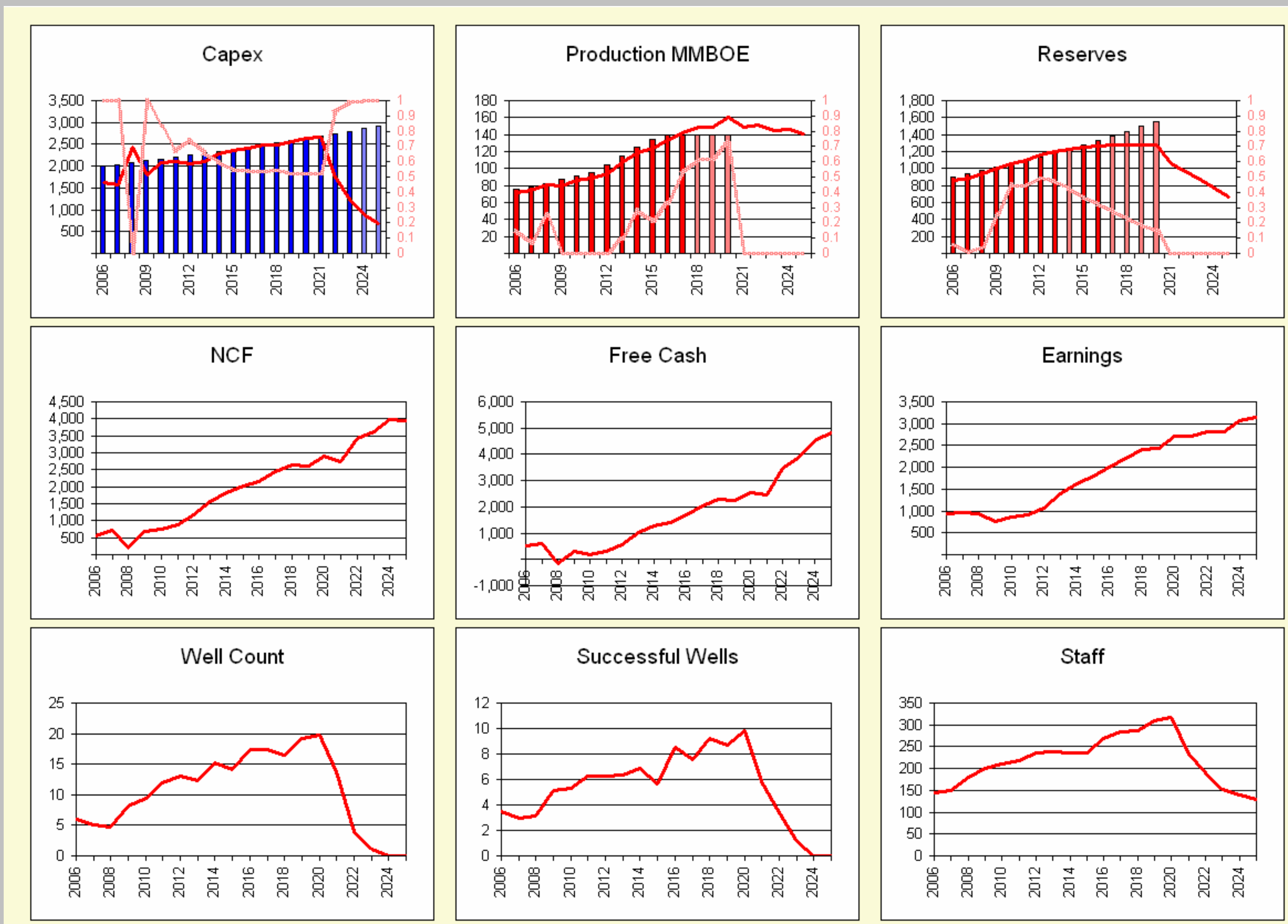
Fail near and mid-term production

Fail long term Reserves

Free Cash flow and NCF approach zero

Example

Results at end of 2006 with uncertainty



Large high-risk project failed and several projects worked

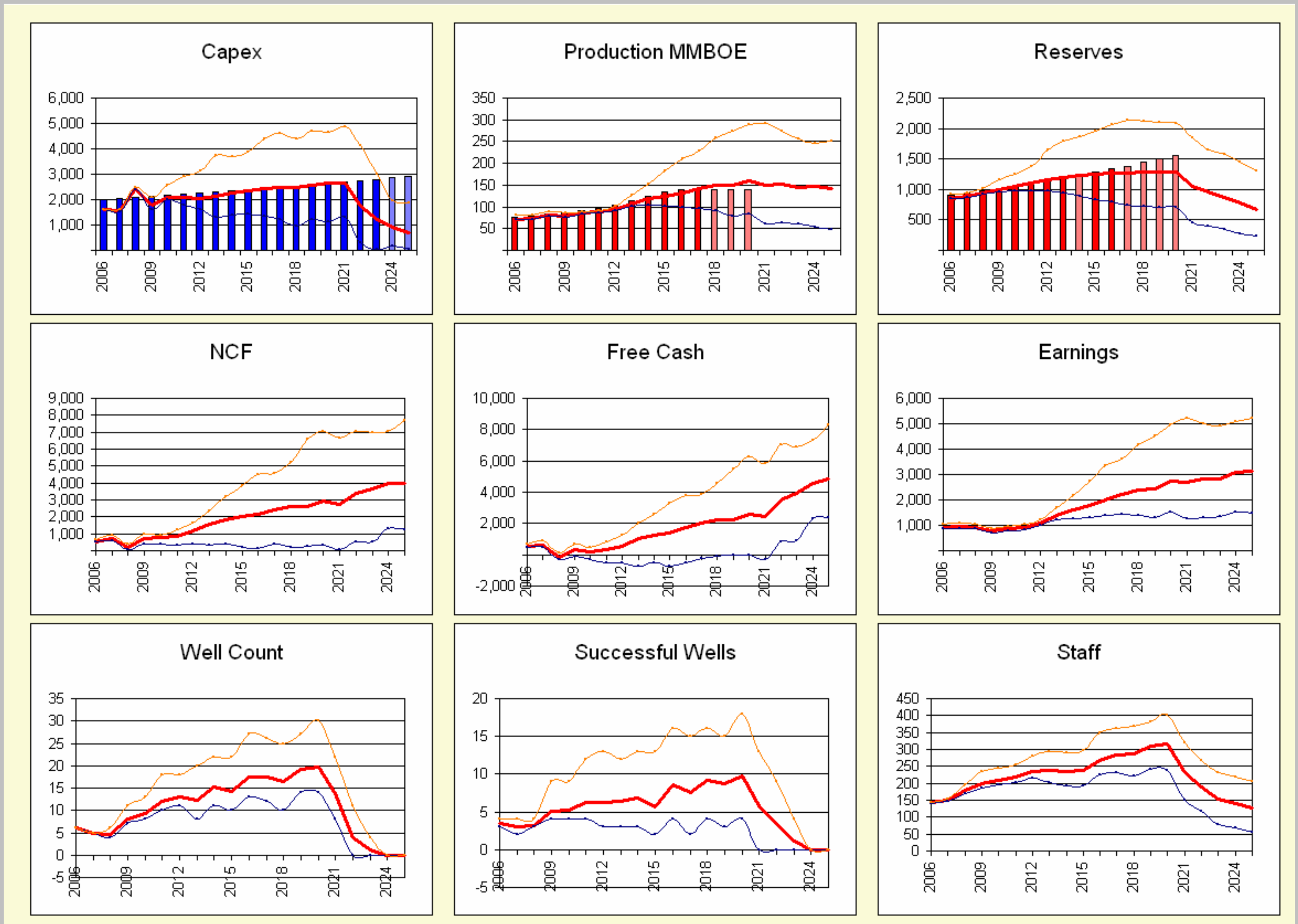
Probability of meeting production is poor

Probability of meeting reserves is poor

Too big a bet was placed on the large, high-risk project

Example

Results at end of 2006 with uncertainty



Large high-risk project failed and several projects worked

Probability of meeting production is poor

Probability of meeting reserves is poor

Too big a bet was placed on the large, high-risk project

Example
Lessons Learned

- The gap caused by the failure of the large, high-risk project is small, however the chance of other projects filling the gap is minimal.
- The uncertainties associated with the large, high-risk project were not diversifiable.
- The down-side exposure was too great for the company

What determines whether an uncertainty is diversifiable?

– Size of company versus magnitude of uncertainty
– Size of annual investment pool
– Investment inventory: Diversity (economic and uncertainties) and number of projects
– Corporate performance goals
– Managements expectations of meeting goals
– **All of the above**

Example

How did this situation evolve?

- Management assumed that “The Plan” was a guarantee.
- Downside exposure was not evaluated.
  - Uncertainties were not quantified
  - Uncertainties known but ignored
  - Uncertainties unknown
- Downside exposure was evaluated but not discussed with management
- “We had no other options”

Ideal Outcome

- Expose your company to upside
- Control the downside exposure
  - High confidence of meeting expected goals
    - What constitutes “high confidence”
  - Minimal downside risk with high growth projects
    - What constitutes “minimal downside”
      - Probability of failure?
      - Magnitude of failure?
      - Both?

Why should you care?

- Predictable results are essential for corporate and executive credibility.
- Most of the information is owned by the technical and commercial staff.
- Your work materially impacts the credibility of your company.
- Delivering predictable results depends upon clear bi-directional communications and begins with you.

Starting Over
Key Steps to Success

1. Understand corporate goals and confidence limits
2. Ensure all significant uncertainties are described “in an acceptable manner”
3. Provide high confidence results with balanced investments
4. Explore non-diversifiable investments relative to their impact on confidence levels for the corporate portfolio

Starting Over
Understanding Corporate Goals

- Talk to executives about the goals
  - Are some mandatory while others are desirable?
  - Are certain goals more important in specific timeframes?
  - What constitutes acceptable confidence limits?
  - Who owns the corporate goals?

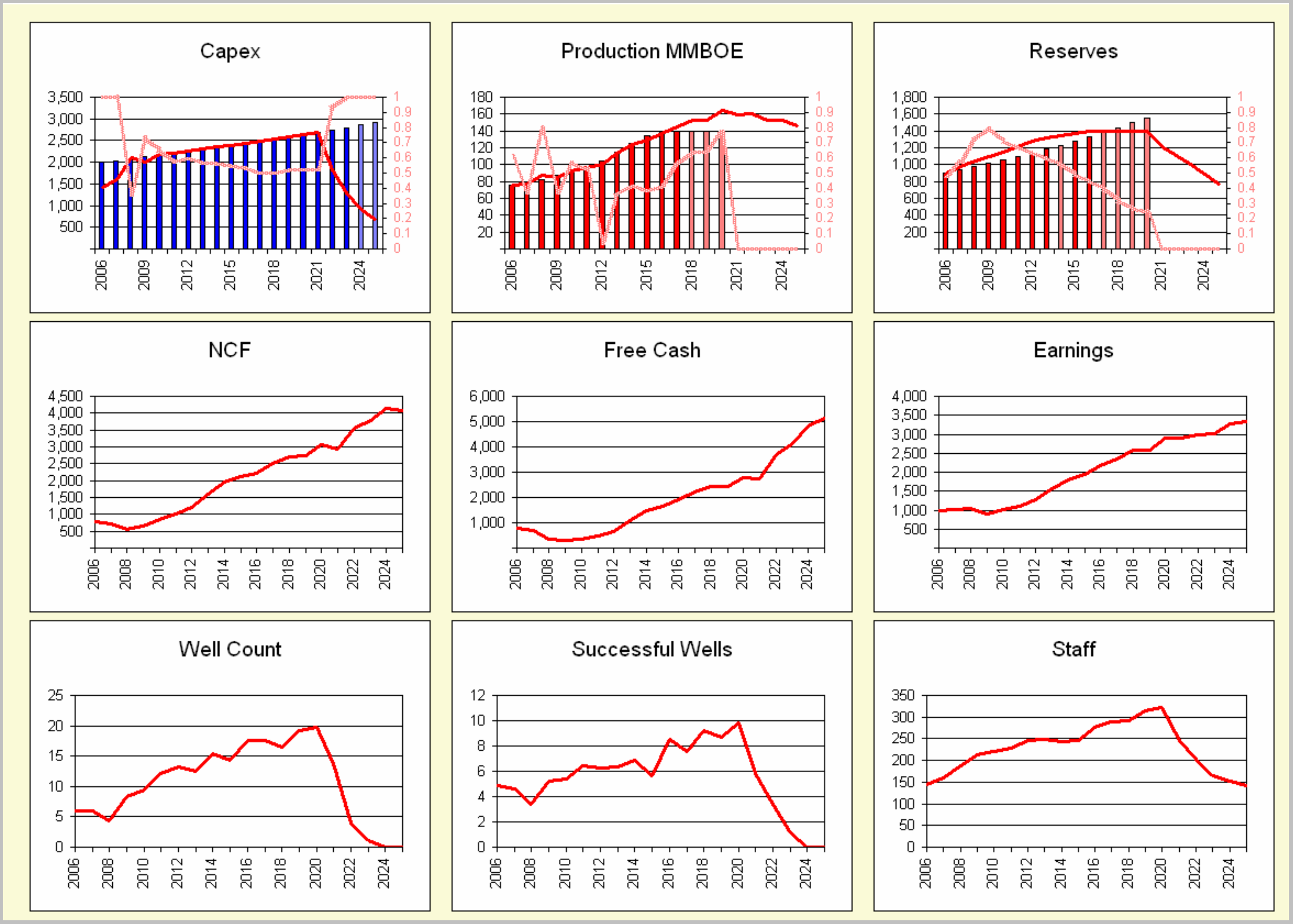
Starting Over
Ensure uncertainties are “acceptable”

- Talk with the executives about which uncertainties are of greatest concern
- Sources of uncertainty (and references)
  - Technical (technical and business teams)
  - Operational (technical and business teams)
  - Commercial (commercial experts)
  - Market (commercial, executives and external sources)
  - Political (commercial, executives and external sources)
- Characterize uncertainty using economic scenarios, probabilities and correlations
- Validate uncertainty descriptions with stakeholders

Starting Over
Example

- Performance goals are as previously defined
- Executives expect 80-85% confidence in delivering on production and reserves goals for next 10 years
- Executives expect the program to be self-funding
- Can the JV project fit into the investment portfolio?
  - What working interest level?

Starting Over:
The Plan with probability of meeting goals

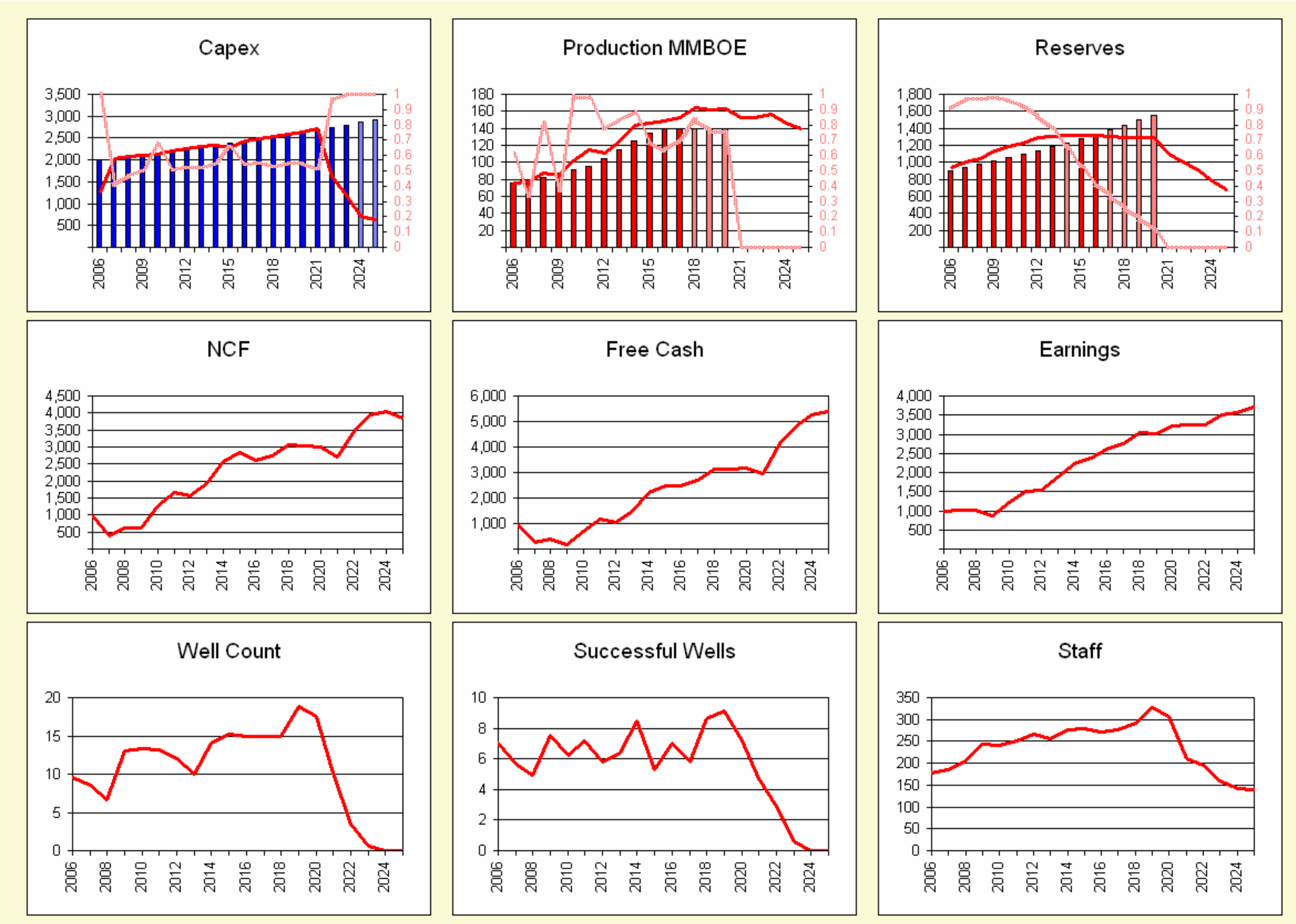


10 Yr investment Plan

Enpv = $15.90B

The Plan fails to meet executive expectations from the start

Starting Over
Provide high confidence results



10 Yr Investment Program

Maximize NPV

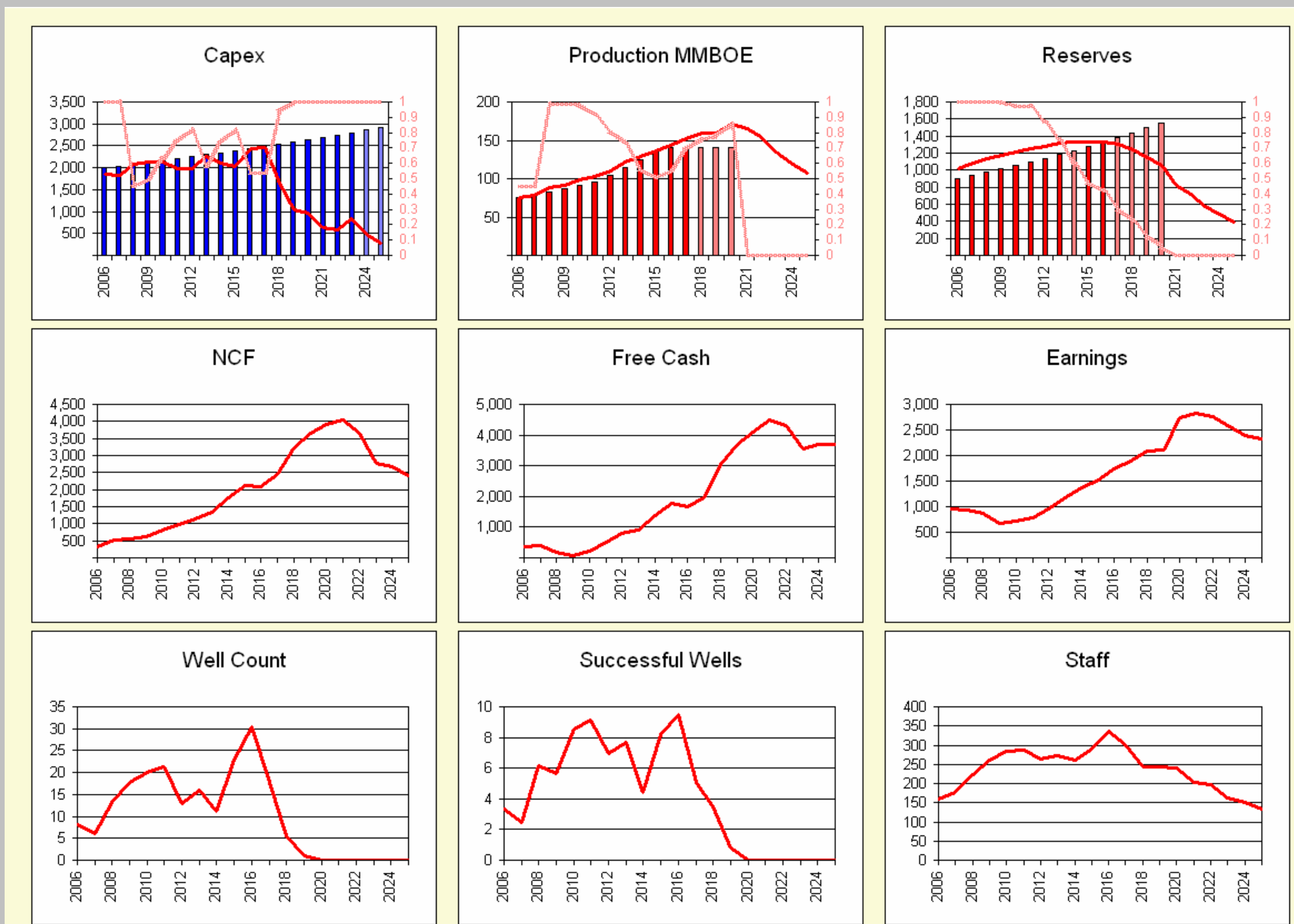
NPV = $16.76B

JV project is not selected

Selected projects diversify production and reserves uncertainties

Starting Over

Provide high confidence results



Maximize probability of meeting production goal in 2009

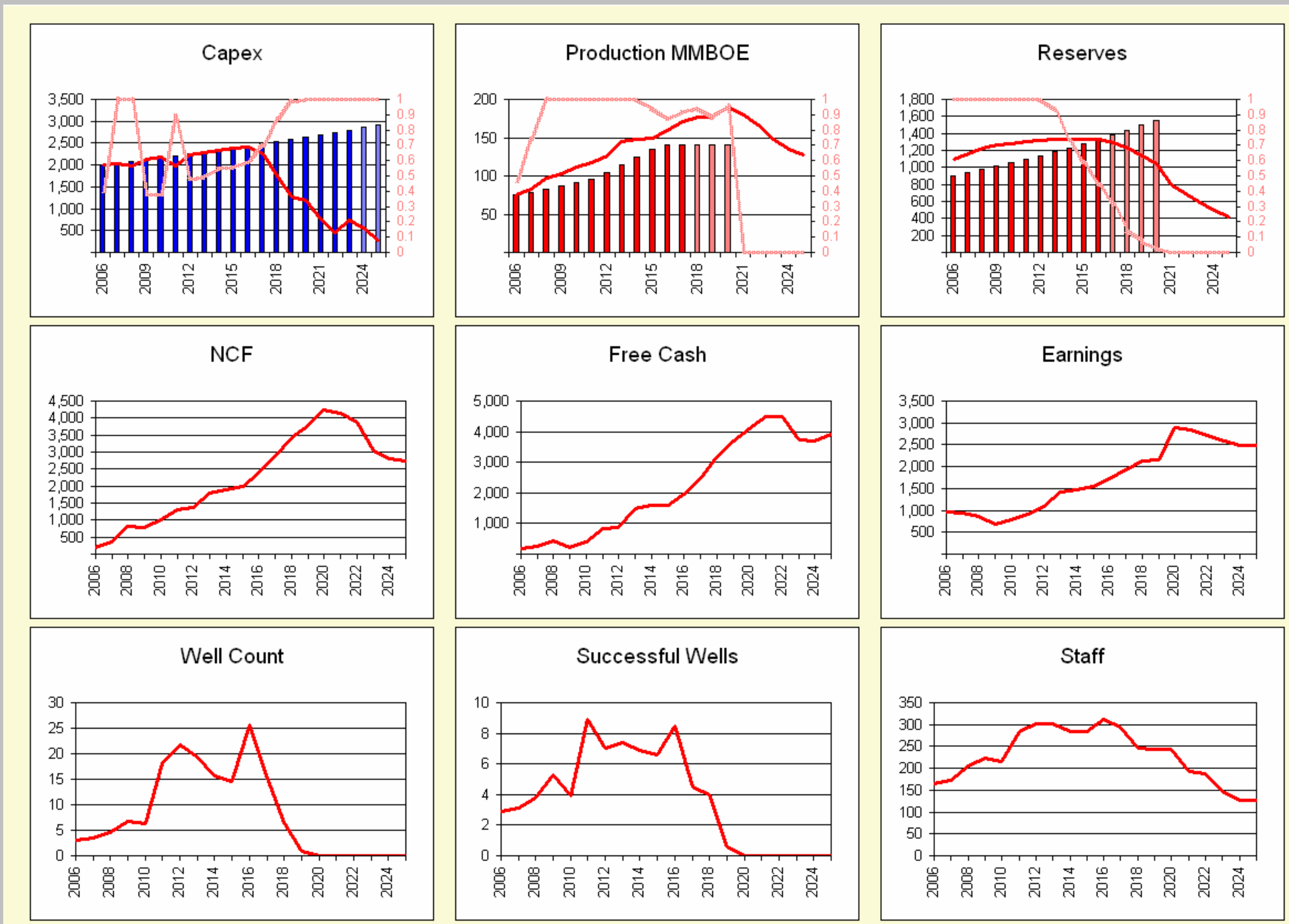
NPV = $13.94B

JV project is not selected

Selected projects diversify production and reserves uncertainties

Starting Over

Provide high confidence results



Maximize Production in 2013

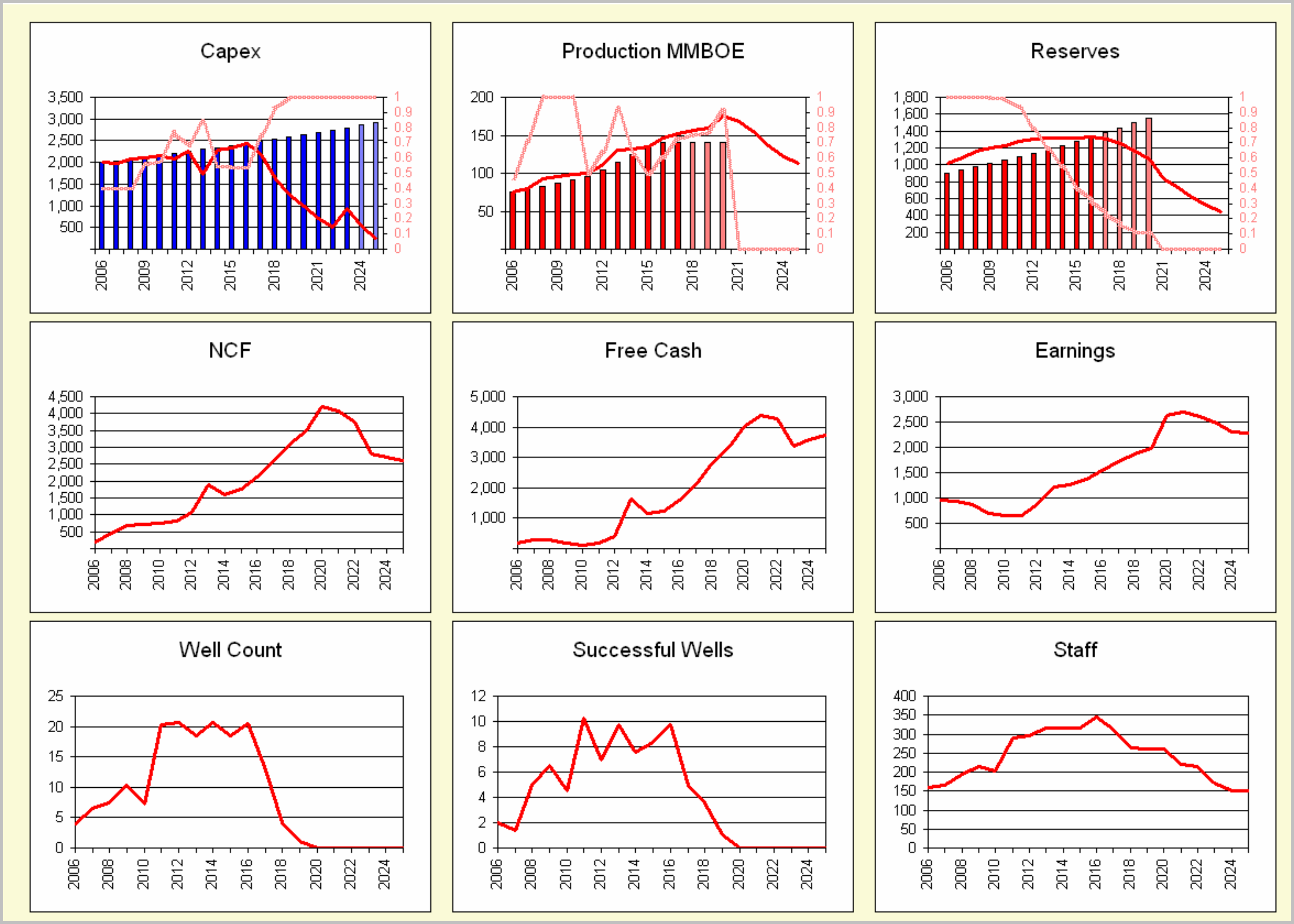
NPV = $14.78B

JV project is not selected

Selected projects diversify production and reserves uncertainties

This defines the investment standard

Starting Over
Explore impact of non-diversifiable project



Maximize Production in 2013 with 100% of Large high-risk project

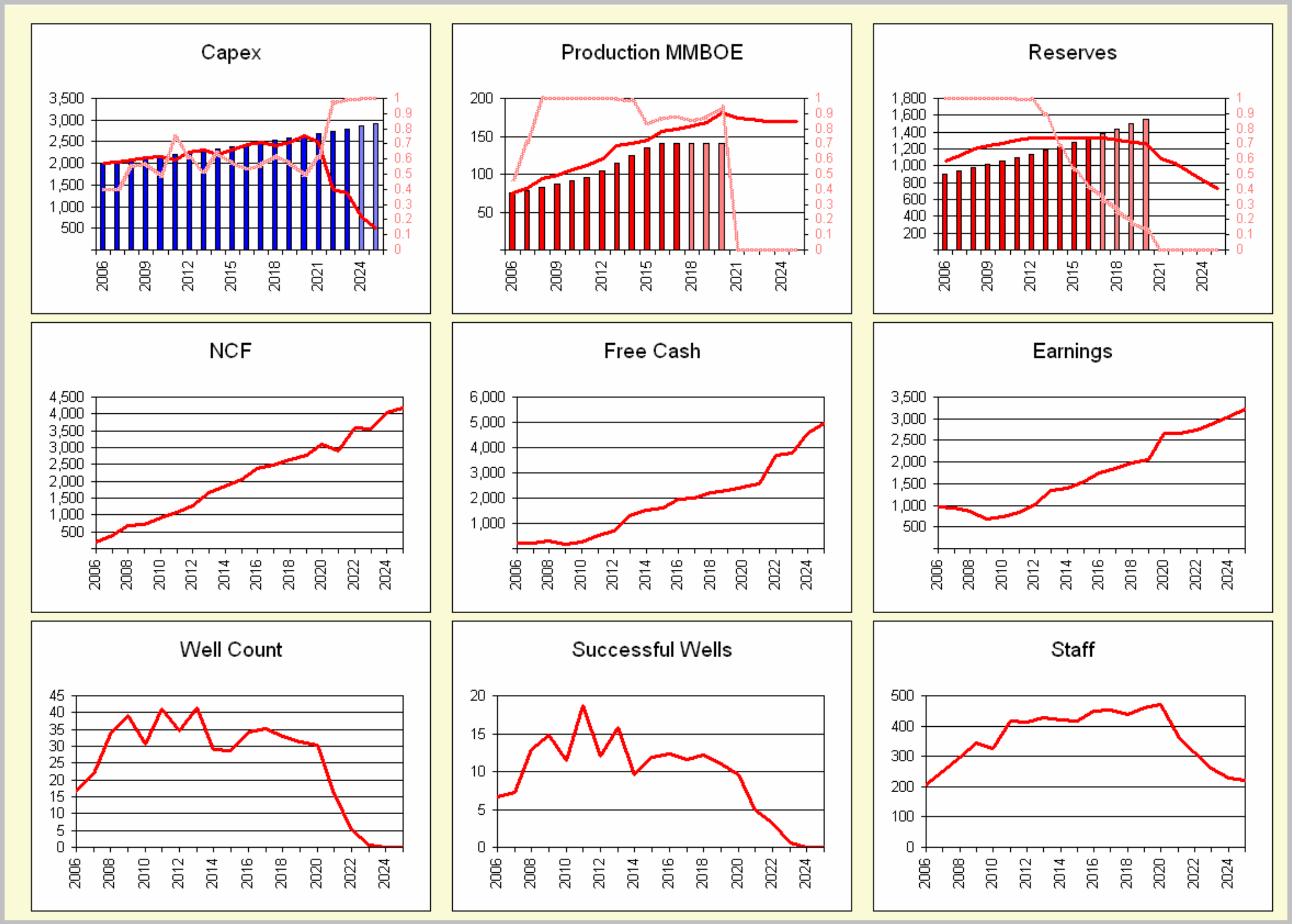
NPV = $13.96B

Selected projects partially diversify production and reserves uncertainties

This does not appear to be a good trade-off

Starting Over

Explore impact of non-diversifiable project



Maximize Production in 2013 with 50% of Large high-risk project

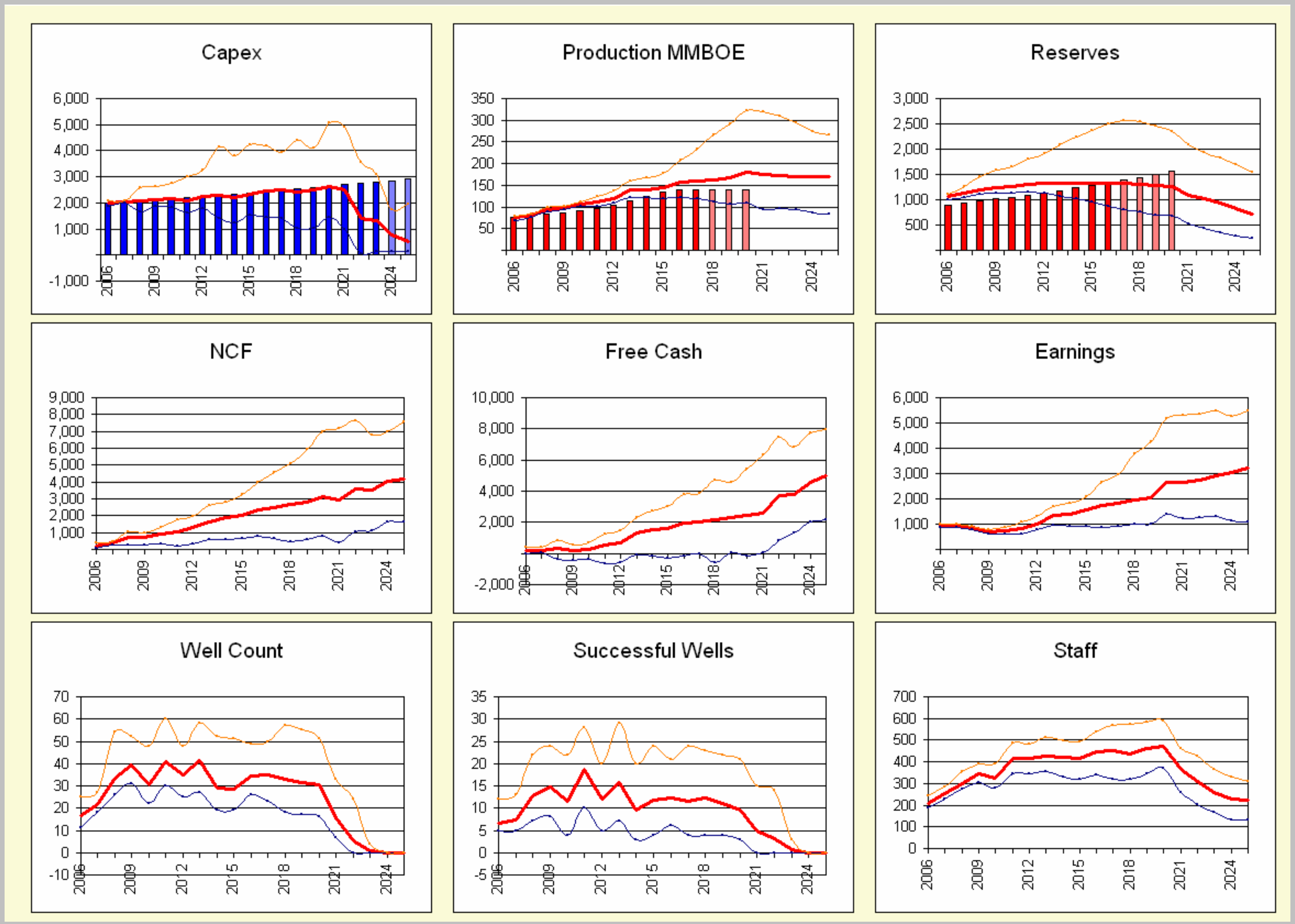
NPV = $15.01B

Selected projects diversify production and reserves uncertainties

Requires more wells at lower working interest (60% WI on average)

This does appear to be a good trade-off

Starting Over
Explore impact of non-diversifiable project



Maximize Production in 2013 with 50% of Large high-risk project

NPV = $15.01B

Minimal downside risk with production, self funding and earnings

Requires more wells at lower working interest (60% WI on average)

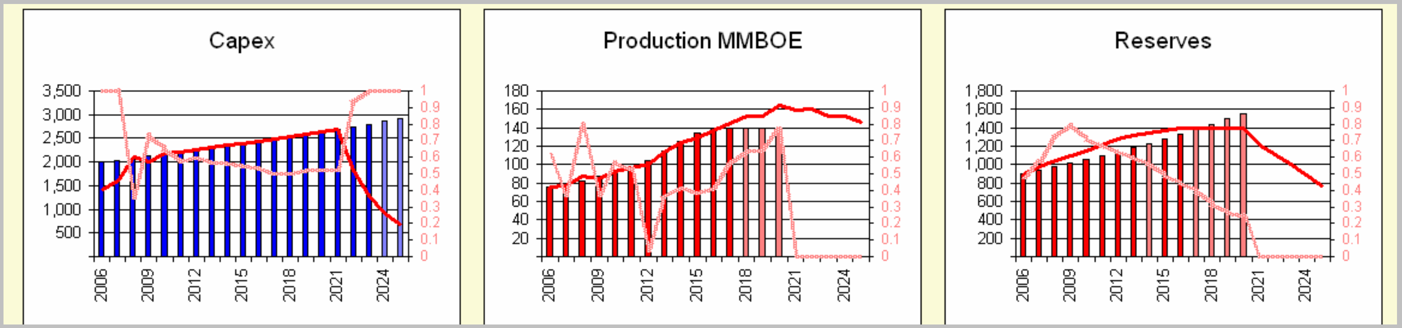
This does appear to be a good trade-off

Managing Uncertainty

Exposure to upside, Manage downside

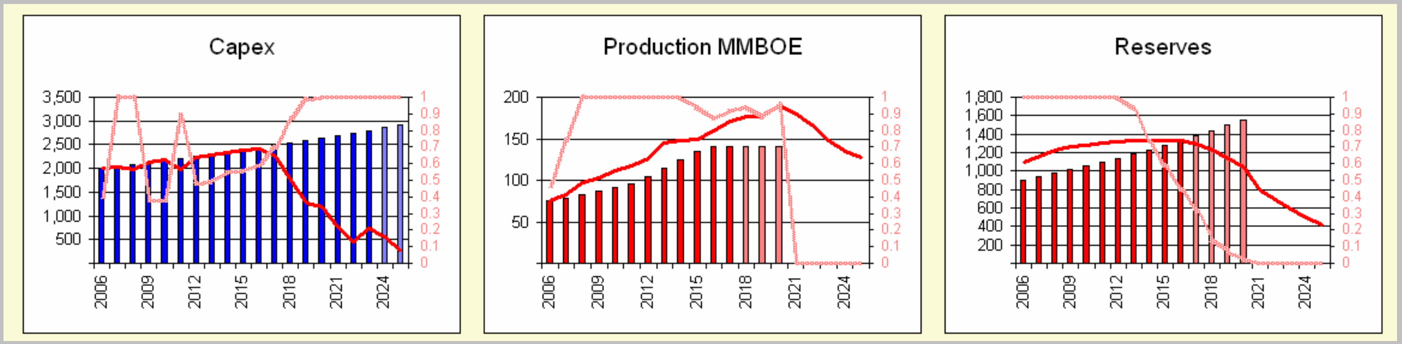
Initial solution

100% Lg Proj
NPV = $15.90B

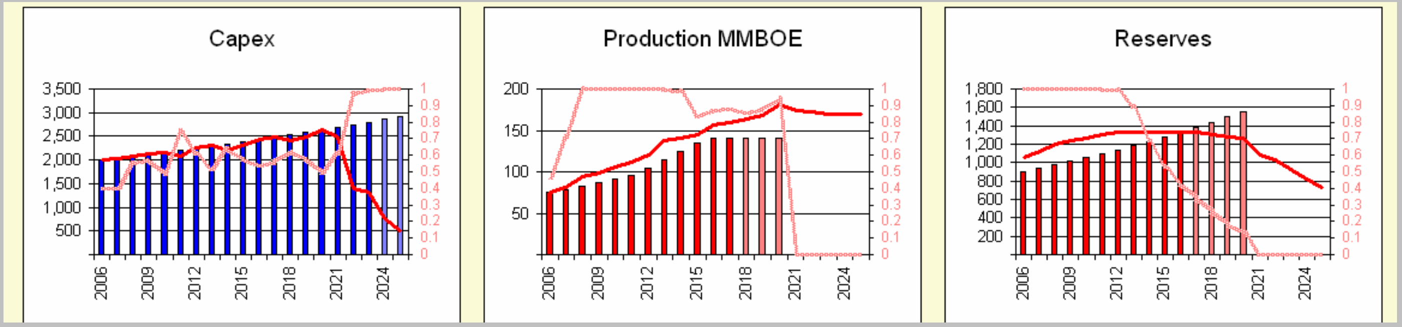


High confidence solution

NPV = $14.78B



Acceptable Trade-off
50% Lg Proj
NPV = $15.01B



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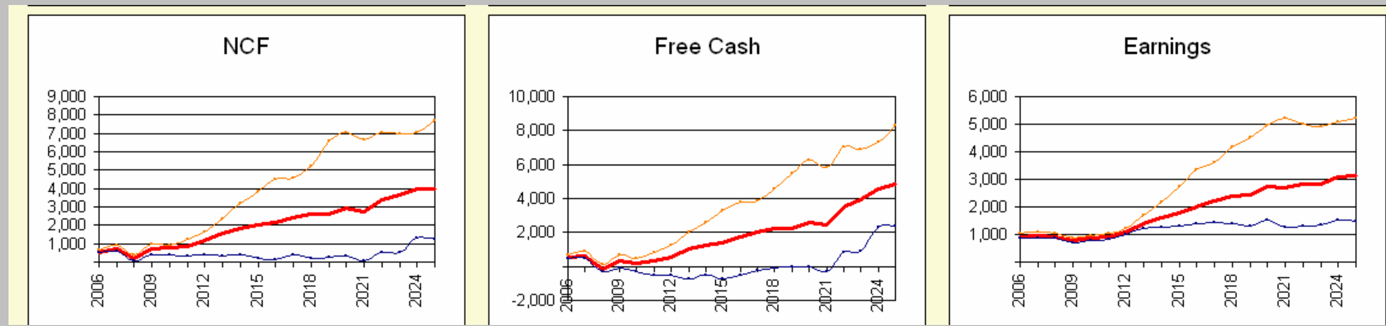
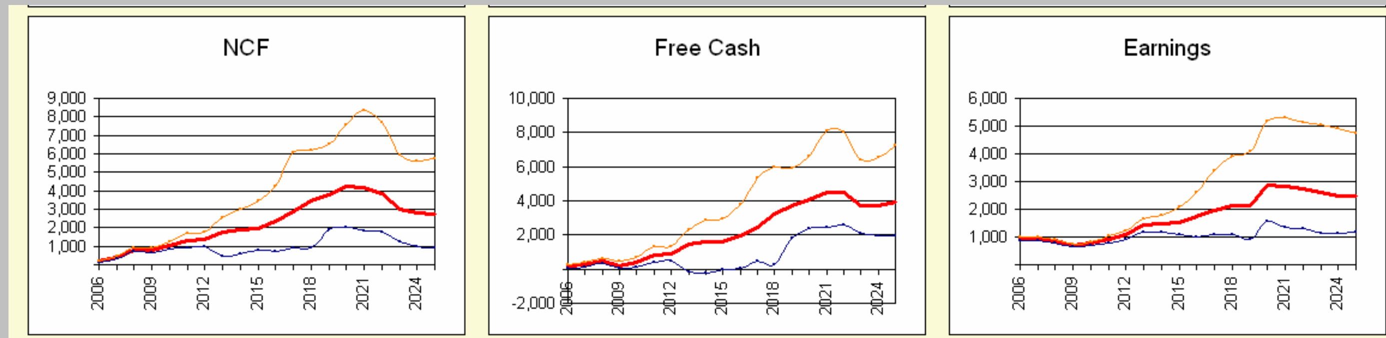


High confidence solution

NPV = $14.78B



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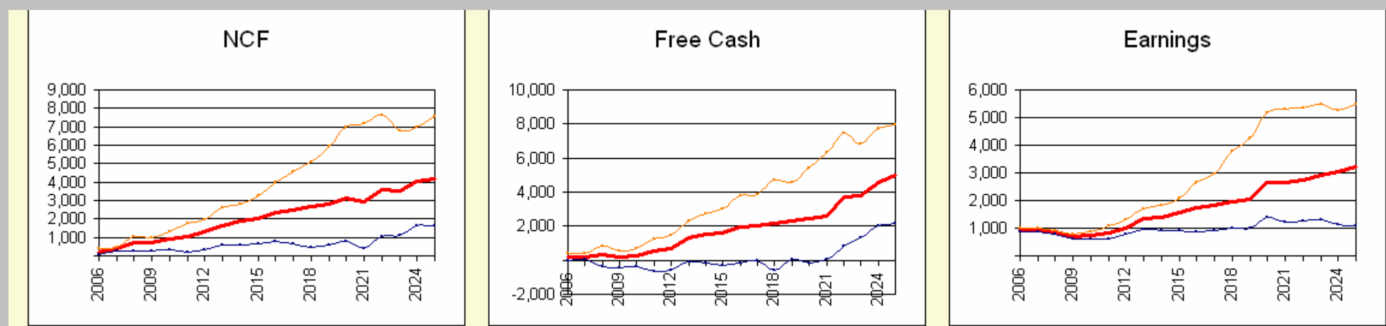

Delivering Predictable Results

Summary

- Ensure all parties have clear understanding of performance goals and requisite confidence levels
- Integrate uncertainties into analyses and executive discussions
- Manage uncertainties at the corporate level (or large business segments relative to the investments)
- Develop a “high confidence” portfolio that is acceptable to all stakeholders
- Integrate non-diversifiable project into the “high confidence” portfolio to the extent until the impact is too great.

Delivering Predictable Results
Conclusion

- Clarity of communication
  - Goals and confidence levels
  - “Acceptable” uncertainty descriptions
- Consistent analysis at the appropriate level in the organization
- Honest discussion between executives and business staff
  - “acceptable” performance
  - Share the “real truth” not “what they want to hear”
- Most companies struggle with the human issues described herein, and not with the data and analytic concerns
- Delivering predictable results is critical to most companies
- We all own a piece of this issue. . .this is not “their problem” it is “our problem”.

Is your organization prepared to meet the challenge of delivering predictable results in uncertain times?

What can you do to help meet this challenge?