



# **Capital Allocation for Operational Risk - Securities Firms**

**Operational Risk Conference**

**Craig Broderick  
November 15, 2001  
Boston**

## Agenda

- ❖ **Operational Risk Management**
  - ❖ Guiding Principles
  - ❖ Operational Risk Health Profile
  - ❖ Health Profile Development Approach
  
- ❖ **Operational Risk Capital Allocation**

# Operational Risk Management

## Guiding Principles

### *Guiding Principles*

*Operational risk management at Goldman Sachs is based on three guiding principles*

**Strong firm wide control culture**



**Senior management commitment and active participation**



**Operational risk management should incorporate qualitative and quantitative indicators, with operational loss experience**



### *Key Initiatives*

- Independent Operational Risk department
- Comprehensive operational risk management process

- Operational Risk Steering Committee comprised of the firm's senior leaders
- Integrated operational risk reporting to senior management

- Identification and assessment of qualitative indicators
- Quantitative indicators defined through metrics initiatives
- Consolidated operational loss data gathering process

# Operational Risk Management

## Operational Risk Health Profile

We are developing a management oversight tool that integrates elements necessary to profile operational risks identified for each business line.

### - Sales and Trading Business Line (Illustrative) -

#### Risk Theme 1: Inaccurate cash / securities movements

##### - Quantitative Indicators -

Metric	Current Month	Prior Month	Outlook	3 Month Average	Outlook
Avg. daily # of aged fails	20	10	U	50	U
Avg. daily \$ cost of aged fails	\$XX	\$YY	U	\$ZZ	U

##### - Qualitative Indicators -

Overall Assessment



Criteria	Current Practice	Best Practice	Impact
How frequently are failed transaction reports distributed to senior management?	Daily	Daily	Green circle
Is a history of causes relating to fails maintained?	Partially	Yes	Yellow circle

#### - Incidents & Losses -

##### Risk Theme Totals

Total	Current Month	Prior Month	Trend
Related Incidents	\$WWW	\$XXX	U
Related Loss Amount	\$YYY	\$ZZZ	U

##### Loss Details

Incident ID	Reference Area	Incident Cost	Occurred	Identified	Resolved
FFH42DJ	Treasury & Funding	\$XXX	8/1/01	8/1/01	8/5/01
4729DH644	Settlement Operations	\$YYY	8/1/01	8/1/01	8/3/01

# Operational Risk Management

## September 11<sup>th</sup> Event

- ❖ Operational Risk increased at New York financial services firms
- ❖ Goldman Sachs' Health Profile Report reflected the increased operational risk through negative outlooks for several quantitative indicators

### *Sales and Trading*

#### - Quantitative Indicators -

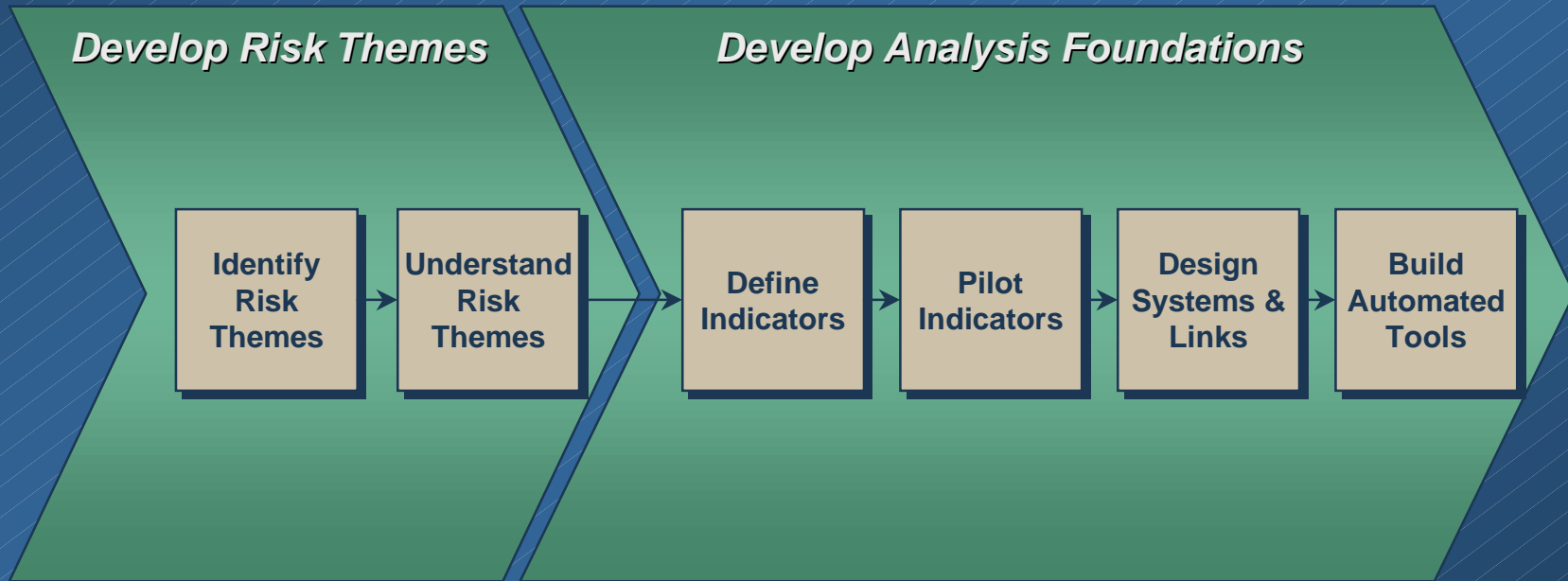
Metric	Outlook
Process: Avg. daily # of aged fails	U
Outstanding derivatives confirmations	U
People: Avg. daily attendance	U
Systems: No. of major system outages	U

- ❖ Approaches based on gross income, volume of transactions, dollar value of transactions or other exposure indicators could show conflicting results

# Operational Risk Management

## Health Profile Development Approach

*Our approach has been first to develop risk themes, then to develop their supporting analysis elements.*



**Defined in partnership with business line leaders through Risk Assessment Initiative**

**Implemented for each of the three analysis elements: Qualitative Indicators, Quantitative Indicators and Operational Loss Data**

# Operational Risk Management

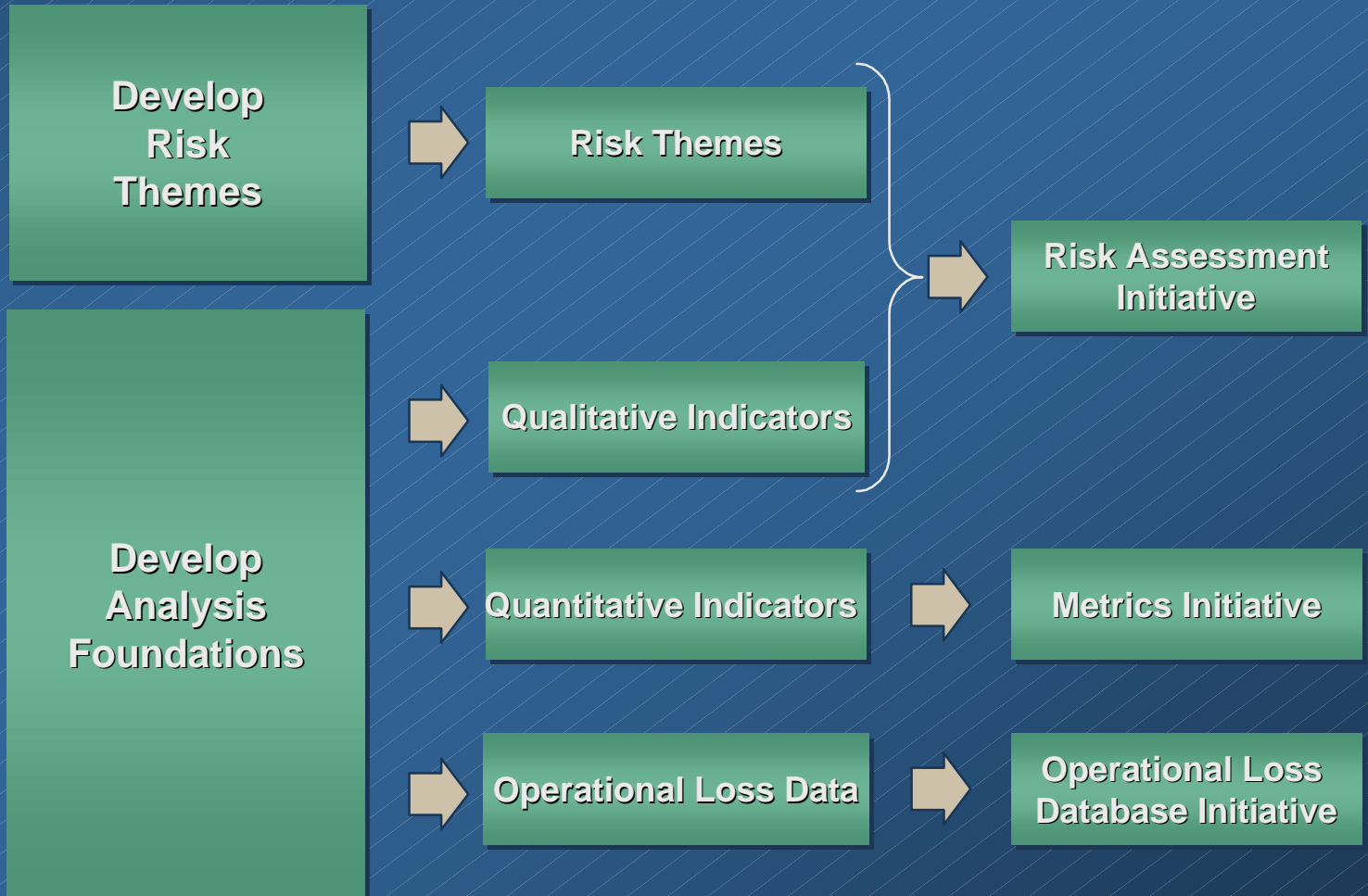
## Health Profile Development Approach

The identification and gathering of data required for the Health Profile is done through three main initiatives.

### Development Stage

### Analysis Element

### Goldman Sachs Initiatives





# Operational Risk Management

## Operational Risk Capital Allocation

- ❖ **Significant progress has been made on both regulatory and industry fronts**
  - ❖ Increased awareness
  - ❖ Dedicated resources
  - ❖ Communications toward a common goal
- ❖ **Regulatory Capital Charge for Operational Risk**
  - ❖ Operational risk is a pressing concern for both managers and supervisors of financial institutions
  - ❖ Explicit recognition of operational risk will help facilitate the development of a truly risk-based regulatory capital framework
  - ❖ The issue is not one of principle but rather of practicality - we are a long way from when sound methods can assign explicit capital charges for operational risk
  - ❖ Current proposals for operational risk capital charges are too high



# Operational Risk Management

## Operational Risk Capital Allocation

### ❖ GS internal loss experience

- ❖ GS analysis focused on loss experience in excess of a defined threshold for 1998, 1999 and 2000:

GS Operational Losses as % of gross income	BIS Basic Indicator Approach	BIS Standardized Approach
Less than 1%	Alpha to be in the range of 17% - 20%	Corporate Finance: 13-23% Trading & Sales: 17%-24% Asset Management: 13%-18%

# Operational Risk Management

## Where do we go from here?

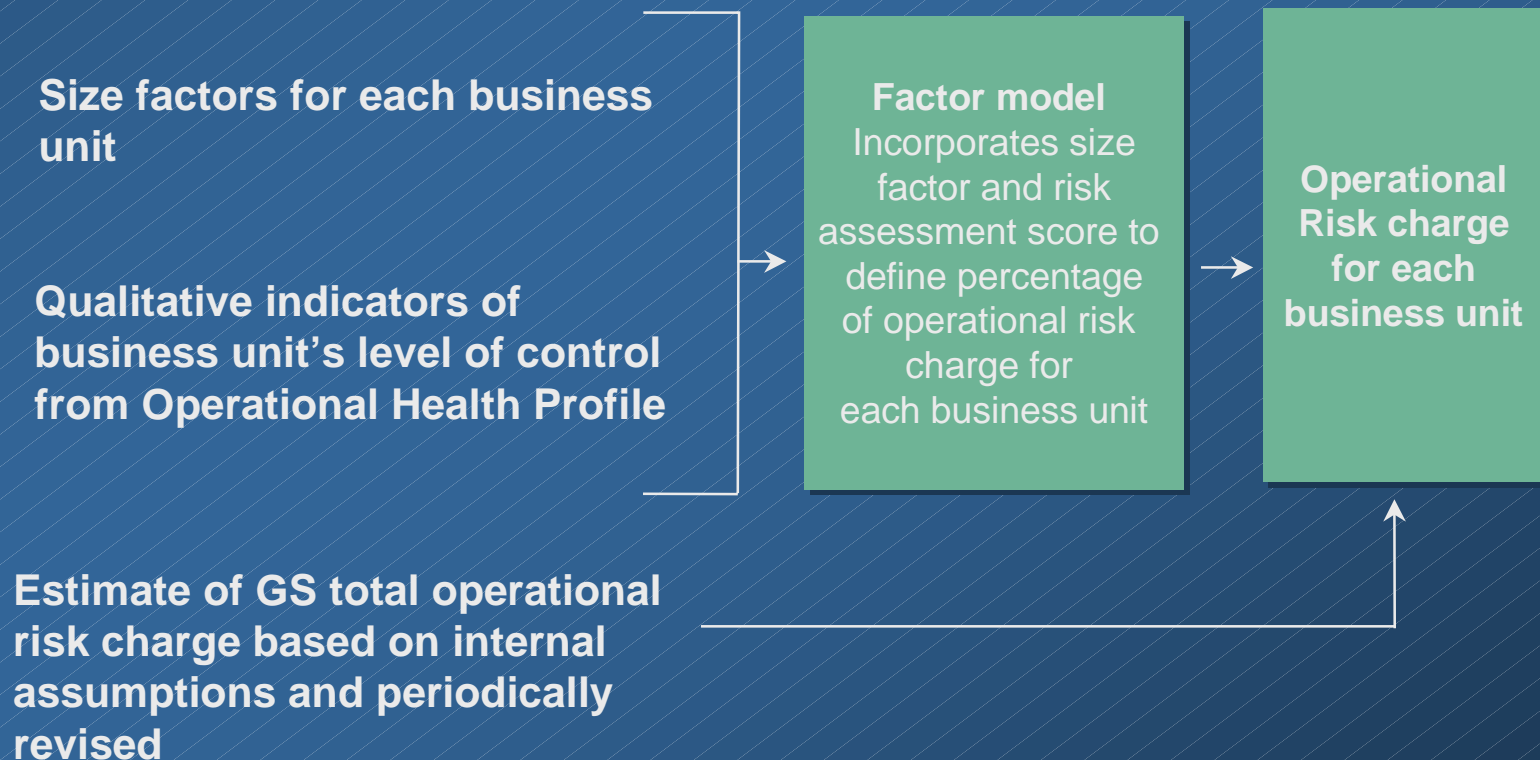
- ❖ **We should capitalize on this momentum to ensure that a regulatory capital framework:**
  - ❖ Has a proper balance of qualitative and quantitative measures reflecting quality of controls and management
  - ❖ Establishes minimum capital requirements consistent with loss experience
  - ❖ Contains flexibility for supervisors to impose capital requirements on firms above the minimum requirements based on their overall assessment of the control environment
  - ❖ Creates a positive incentive for the reduction of operational risk through improved processes, procedures, systems

# Operational Risk Management

## Charging Framework

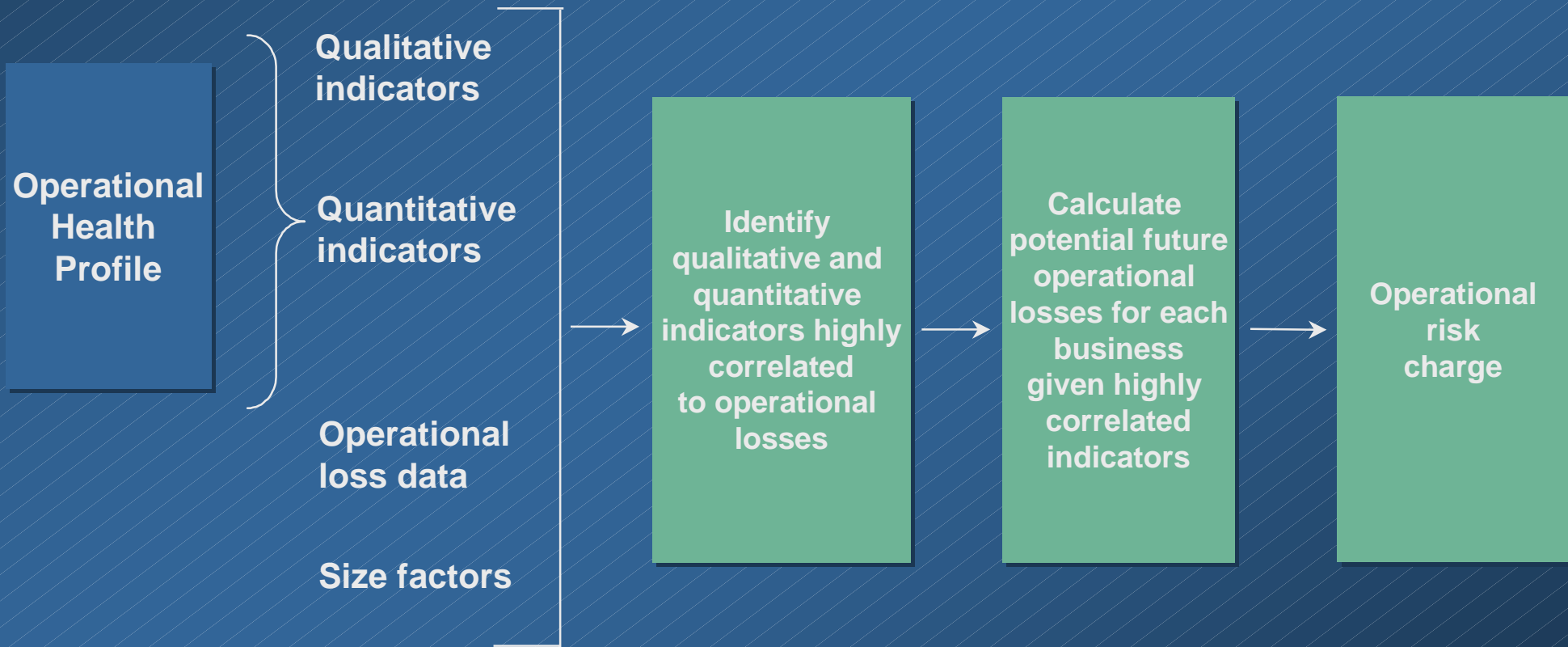
GS is evaluating operational risk charging frameworks, including both top-down and bottom-up approaches.

### ❖ Top-Down Approach



## Charging Framework

### ❖ Bottom-up Approach



## Conclusion

- ❖ **Goldman Sachs recognizes the importance of formalizing a process for the management of operational risk**
- ❖ **Substantial human and technology resources from business, support and risk management areas have been allocated to this effort**
- ❖ **Methodologies for the measurement of operational risk are being developed and increasingly used**
- ❖ **We are in the early stages of developing a charging framework which will incentivize our business units to consider and manage their operational risk**
- ❖ **A meaningful capital allocation framework is some ways off**



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