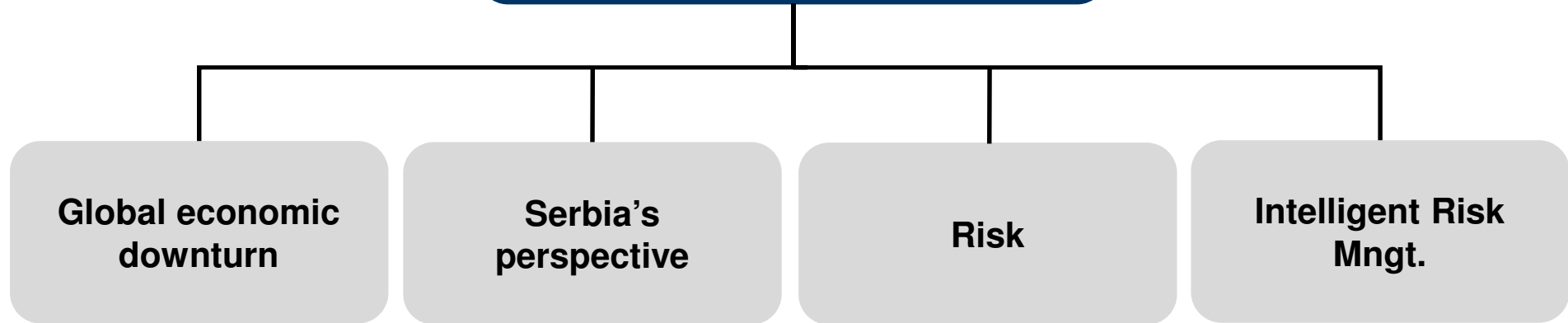


Modern Business Environment and Challenges before IT

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Hyatt Regency Belgrade**

**From the Moral Hazard Economy
to the Intelligent Risk
Management Economy: The Case
of Serbia**

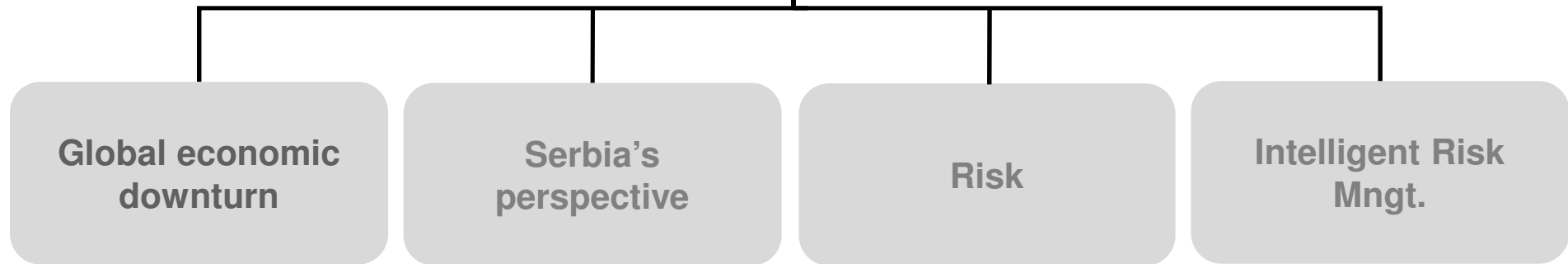


Rationale

□ A way forward:

- Dramatically different operating environment after 8 years of uninterrupted growth in global economy
- First liquidity, then asset quality, then solvency, then productivity, then production, then competitiveness crises, . . . then, possibly, institutional and political crises, social unrest, and maybe breakdown
- Global character of crisis (nobody escapes the “big turbulence”)
 - Threatening systemic and international economic order collapse inspired overproportional involvement of politicians

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Chronology of the current downturn

□ 7 events in the space of just 19 days signaled the end of the epoch:

1. Nationalization of *Fannie Mae* and *Freddie Mac* (9/7)
2. *Bank of America* bought *Merrill Lynch* (9/14)
3. *Lehman Brothers Holdings* went bankrupt (9/15)
4. *Reserve Primary* net asset value dropped below \$ 1 per share (9/16)
5. *Federal Reserve* agreed to give *AIG* \$85 billion for debt to equity swap (9/16)
6. *Morgan Stanley* and *Goldman Sachs* converted themselves into bank holding companies (9/22)
7. *Washington Mutual Bank* placed into receivership of *Federal Deposit Insurance Corporation* (9/25)

□ By the end of the year 2008 several trillion dollars of market value in the real economy simply evaporated

Sources of downturn

□ **Two main sources:**

1. Hyper-production:
 - Companies built up too much inventory
2. Wrong regulation in financial sector
 - Trigger for systems risk growth

□ **Two fatal mistakes in regulation of financial sector:**

- Deregulation of capital markets
- Exclusive focus of Central bank on inflation

What will be the long-term impact on the economy?

❑ **The current recession turns out in:**

- A. Great depression (like the great depression 1929-33, lasted 43 months)
- B. Long deflation (like in the financial panic 1873-1879, lasted 65 months but it was less painful)
- C. Deep recession (like in 1973-75 and 1981-83, lasted 20 months and 22 months, respectively)

❑ **Adverse developments are possible**

- Deteriorating macro-economic outlook
- Sharpe decrease in assets prices and large market losses

Interlocking fragility

- ❑ **Securitization of mortgage-backed securities**
 - Subprime mortgages and credit derivatives
- ❑ **Credit crunch**
 - When banks realize that they have deadbeat assets due to securitization, they hesitate to make more loans
- ❑ **Demand squeeze**
 - Consumers switch behavior from credit-based spending to savings
- ❑ **Downsizing**
 - Layoffs due to less available consumer purchasing power
 - Divestments
 - Reduction of development and marketing budgets

New cultural model

- ❑ **Permitting macro background and global growth prospects encouraged search for yield (including individual investors):**
 - New cultural model (“investment mania”) provoked consumption boom fueled by housing bubble

- ❑ **Over last 8 years the U.S. economic growth was based on consumption (actually housing) boom:**
 - Housing prices went up
 - People saved less for retirement through financial instruments counting on growing equity in real estate
 - Savings rate actually dropped to zero, but investment in real estate went up
 - Financial innovation allowed people to obtain financing for owner occupied dwelling (almost \$ 1 trillion in the Yr. 2007)

Moral hazard economy

- ❑ **Domination of economic agents who foresaw nothing but boom:**
 - Human beings are motivated with cognitive biasness
 - FIRE (Finance – Insurance – Real Estate) economy

- ❑ **Consequences of financial system regulatory misstep:**
 - Extraordinary risk appetite
 - Under-pricing of risk
 - Risk transfer (or risk hedge)
 - NINA (no income, no assets) loans
 - Mortgage securitization (sub-prime mortgages)
 - Imbalance between value release and value creation
 - Sub-prime mortgages and credit derivatives

Space rocketing financial leverage

□ **Assets to bank capital (financial leverage)**

- 100 years ago typical European bank had leverage ratio 4:1
- by the 1970s 10:1
- in September 2008 Bank of America leverage ratio (without off-balance sheet commitments) was 73,7 : 1

□ **EU banks have about 75% as much exposure to toxic American assets as U.S. bank do:**

- In Britain 24:1
- In France 28:1
- In Germany 52:1

Game is over, housing bubble bursts

❑ **Negative stimulus:**

- Amount of outstanding mortgages exceeds the price of houses

❑ **Economy without savings is not sustainable:**

- What is not sustainable, can not be sustained
 - Capital market is in distress, banks stopped lending

❑ **Export of toxic mortgages and deregulation philosophy:**

- The crisis started in the U.S. as the center of new global economy but the periphery has also been strongly affected
 - Firstly, EU, then Russia and countries in transition, then China and India, . . . , Serbia as well

“Fear of fear” (extreme flight to safety)

- ❑ **The root cause of the problem goes back to securitization:**
 - Capital markets are important but not self-regulated nor self-adjusting
 - Financial innovation (sub-prime mortgage, for example) is not “innovation” per se, but rather a “public good” that must be regulated
- ❑ **When negative stimuli exceed proportional risk, problem spreads to expectation side (fears of insolvency and counterparty risk):**
 - Investments, both domestic and international, slowed down
 - Credit crunch ensued
- ❑ **Two consequences of “fear of fear”:**
 1. Credibility crisis in the financial sector
 2. Deep recession (perhaps great depression) in the real sector

State role in crises or “more moral hazard, please”

A. Central bank

- Capital injections and guarantees
 - What could have been guaranteed has been guaranteed
 - What trash Central bank could have absorbed has been absorbed
- Monetary easing
 - Lending rate cuts

B. Treasury

- Marketization of mortgage backed securities
 - Equity investment (Treasury invests 1\$ per 1\$ private money investment)
 - Lending (Treasury lends 12\$ per 1\$ private money investment)
- Borrowing the money
 - Treasury papers
- Fiscal stimuli

Irreversibility as a real threat

- ❑ **The state wants to reflate housing and credit derivatives bubbles**
 - Solution to a crisis caused by excessive private leverage is creation of more public debt
- ❑ **Monetary policy and fiscal measures are in conflict**
 - Monetary easing and fiscal stimuli
- ❑ **Huge increase of budget deficits**
 - Double digit of GDP
- ❑ **Money printing**
 - For example, Central bank absorbed substantial proportion of Treasury bonds
- ❑ **Pressure for change of international economic order**
 - Russo-Chinese initiative to replace \$ with SDR

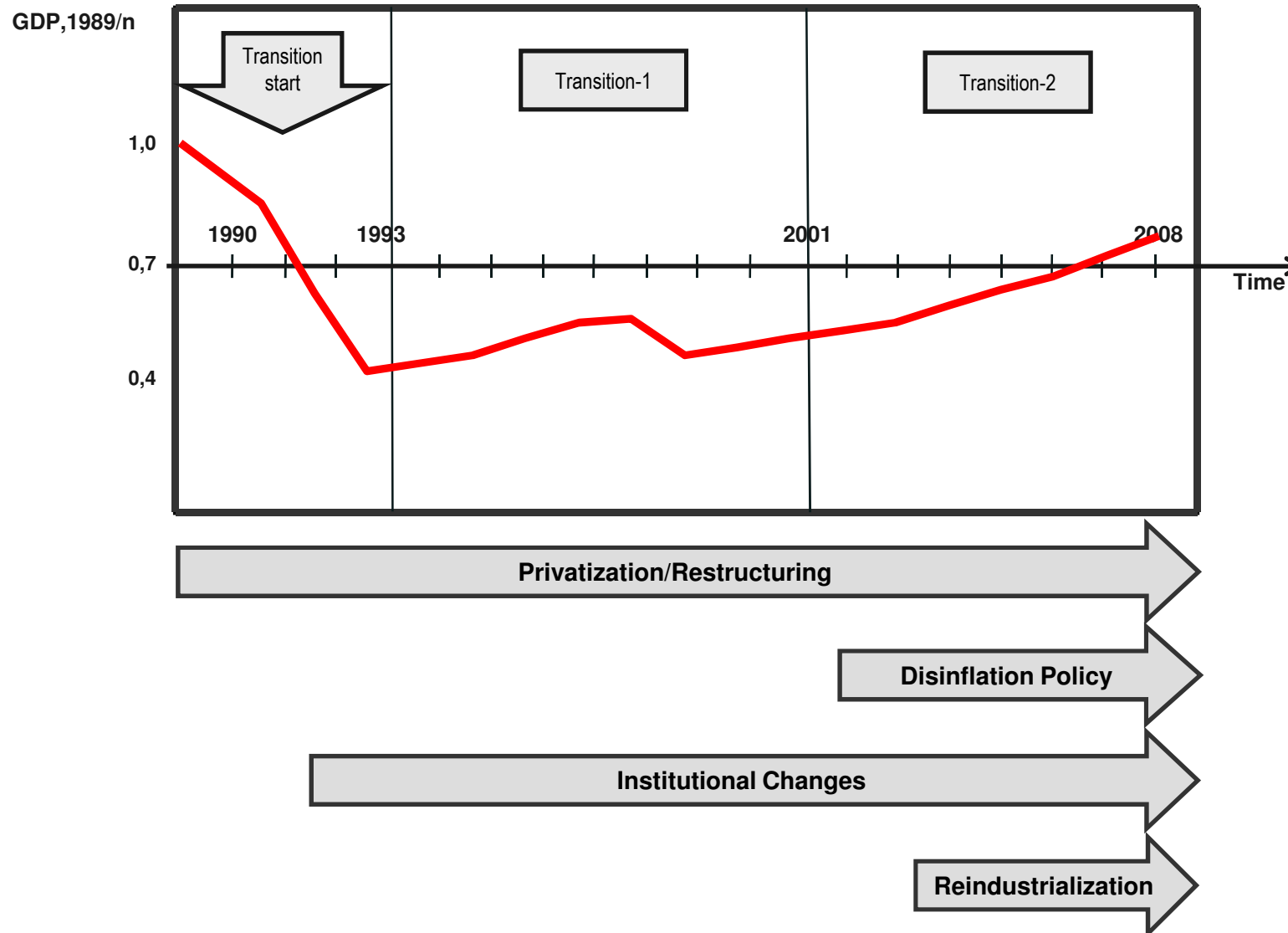
Dominant trends during downturn

- 1. A bigger role for government**
- 2. Irreversible character of macro-economic stability**
- 3. Shifting consumption patterns**
- 4. Resources feeling the strain**
- 5. Innovation marching on**
- 6. Triple bottom line criteria for goals definition**
- 7. Adaptive leadership**
- 8. Globalization under fire**

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Transitionism: repetitive J-curve cycles



Serbia is also a moral hazard economy

- ❑ **Transitionism as a complex multidimensional phenomenon including:**
 1. Economic aspect
 2. Geopolitical aspect
 3. Other aspects (historical, anthropological, cultural, etc.)

- ❑ **Economic aspect seems reasonable:**
 - Based on complex interactions among four processes (privatization, disinflation, institutional change, and reindustrialization)

- ❑ **Typical manifestation:**
 - Hyper inflation, appreciation of local currency, political parties ownership, etc.

Two sectors, two stories

A. Relatively small impact of downturn on financial sector:

- Bankcentric financial system
 - Capital market (shallow and in retreat) is in distress
 - In case of banks, fears of insolvency and counterparty risk are manageable

B. Story just begins in real economy

- Exchange rate volatility
- Slowdown of greenfield investments (foreign and domestic)
- Significant demand squeeze for tradable goods sector
- Demand squeeze for cyclically sensible goods and services

Export reached only 20% of GDP, 2008

- Low export is key source of foreign trade deficit and external liquidity problem:**
 - In prosperous countries of similar size, usual share of export in GDP is 50-80%
 - For sustainable growth export share in GDP is 50%

Indebtedness

	High indebtedness	Average indebtedness	Low indebtedness
Debt/GDP (x)	$x > 80\%$	$48\% < x < 80\%$	$x \leq 48\%$
Debt/Export (y)	$y > 220\%$	$132\% < y < 220\%$	$y \leq 132\%$

	Serbia				
	2004	2005	2006	2007	2008
Debt/GDP	54.1 %	64.0 %	63.0 %	61.1%	64.0 %
Debt/Exports	365.7 %	362.1 %	291.7 %	276.6 %	316.4 %

Strong currency in weak economy model is not sustainable

□ From the logical point of view:

- The exchange rate is based on the strengths of the economy and credibility of the government (policies), rather than on the surfing abilities of the Central bank

□ Supported by the factual point of view:

- Privatization proceeds used as important source to support an overvalued exchange rate become increasingly limited and fade out
- We can not use funds flow as cash flow

□ Supplemented by conditions of global crisis:

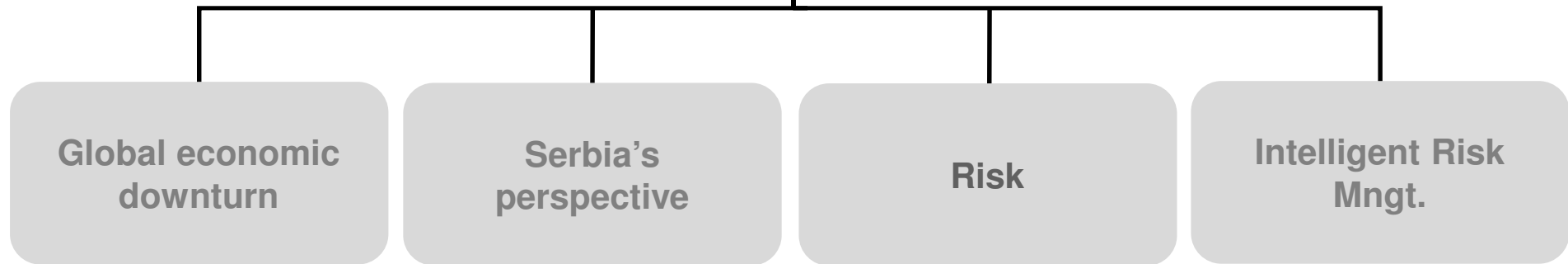
- Investment slowdown
- Market squeeze for tradable goods
- Credit crunch from international sources

But

“If the problem becomes global, it is no more a problem”

Anonymous

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Risk: two perspectives and two categories

□ **Two perspectives:**

1. Threat
2. Risk taking for reward

□ **Two categories:**

1. Systemic (or market) risk
2. Unsystemic risk

Risk management under global downturn

- **In Chinese language, the verb “downturn” has two meanings: threat and opportunity**

- “When the wind is blowing, somebody makes walls, others make windmills.”

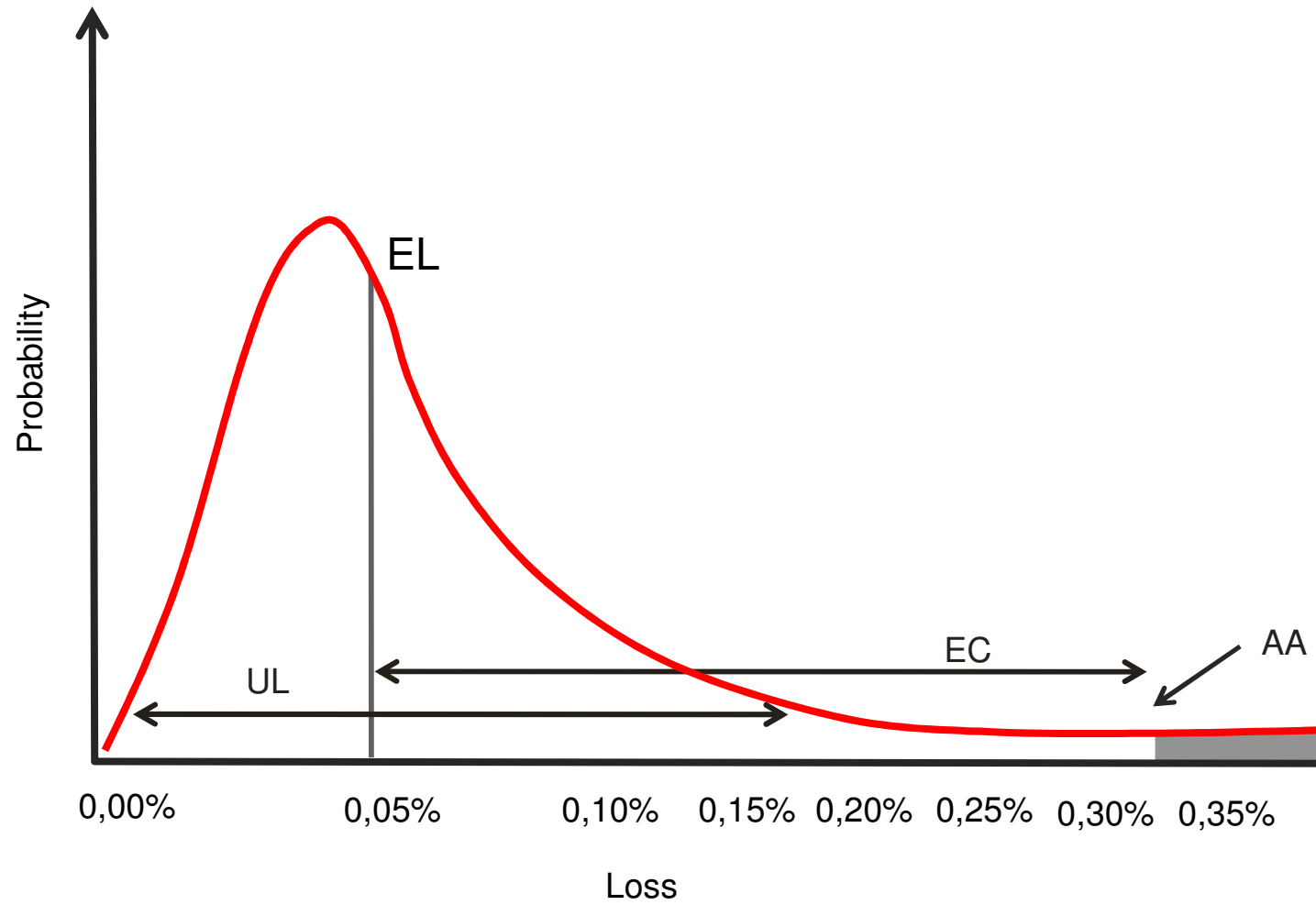
- **Reasons for risk intelligence**

1. Heightened systemic risk awareness during the period of global downturn
2. Worldwide dramatic reduction of shareholder value
3. Personal liability of board members
4. Emergence of better tools and techniques for risk management

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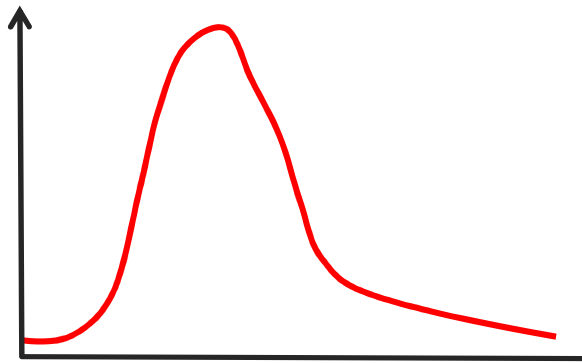


Economic capital

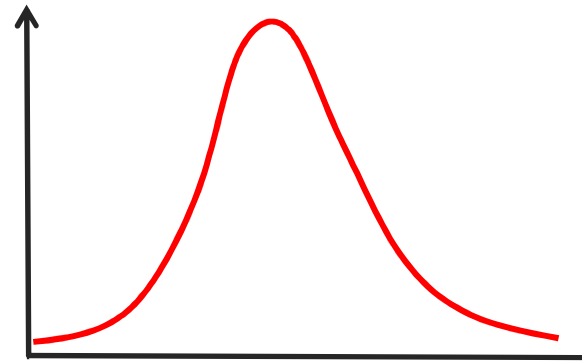


Shapes of loss distributions

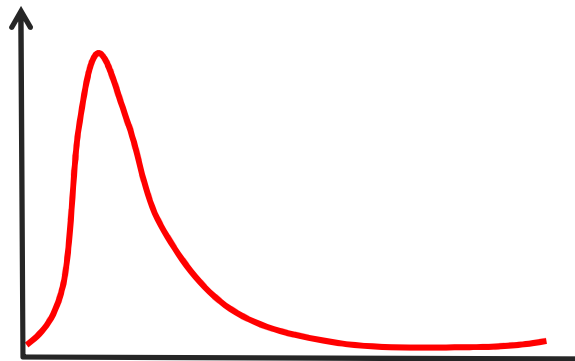
a. Credit risk



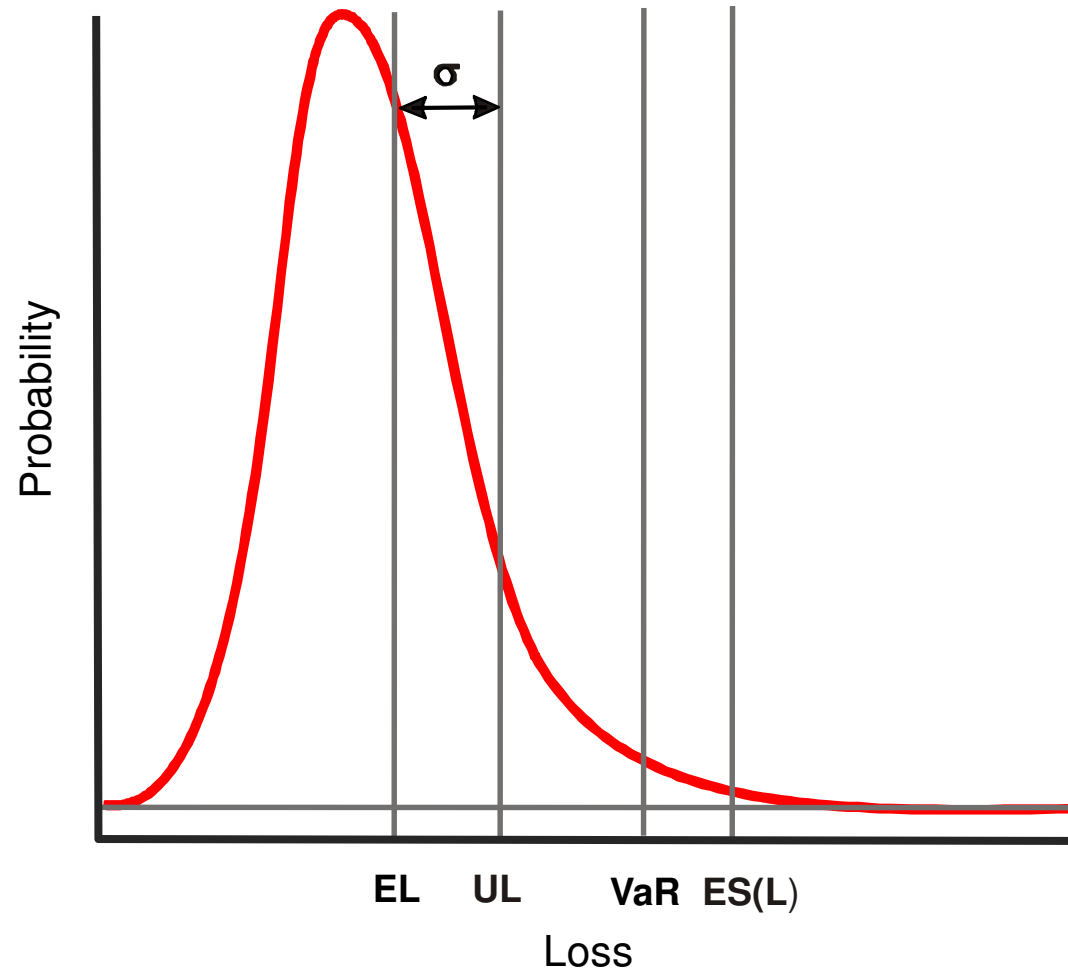
b. Market risk



c. Operational risk



Loss distribution-based risk measures



Deloitte's approach towards risk management

□ Risk management:

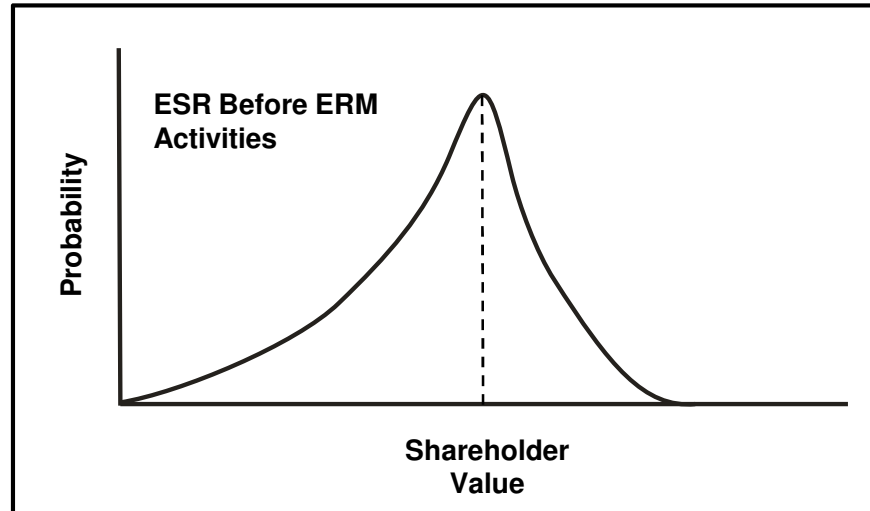
- Process by which companies assess, control, exploit, finance, and monitor risks from all sources for the purpose of increasing shareholder value

□ Key elements:

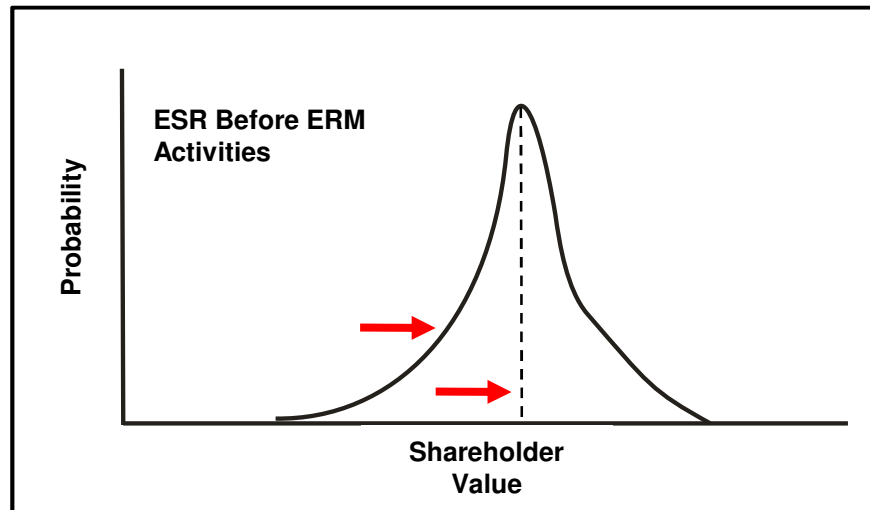
1. Includes down-side risk mitigation and up-side risk exploitation
 - Anything influencing strategy is in a scope
2. Addresses all sources of risks:
 - Including operational risk
3. Reflects integrated enterprise wide impact of risks
 - Much more than traditional risk management within silos
4. Encourages using of value-based metrics
 - Rather than quarterly earnings

Enterprise shock resistance

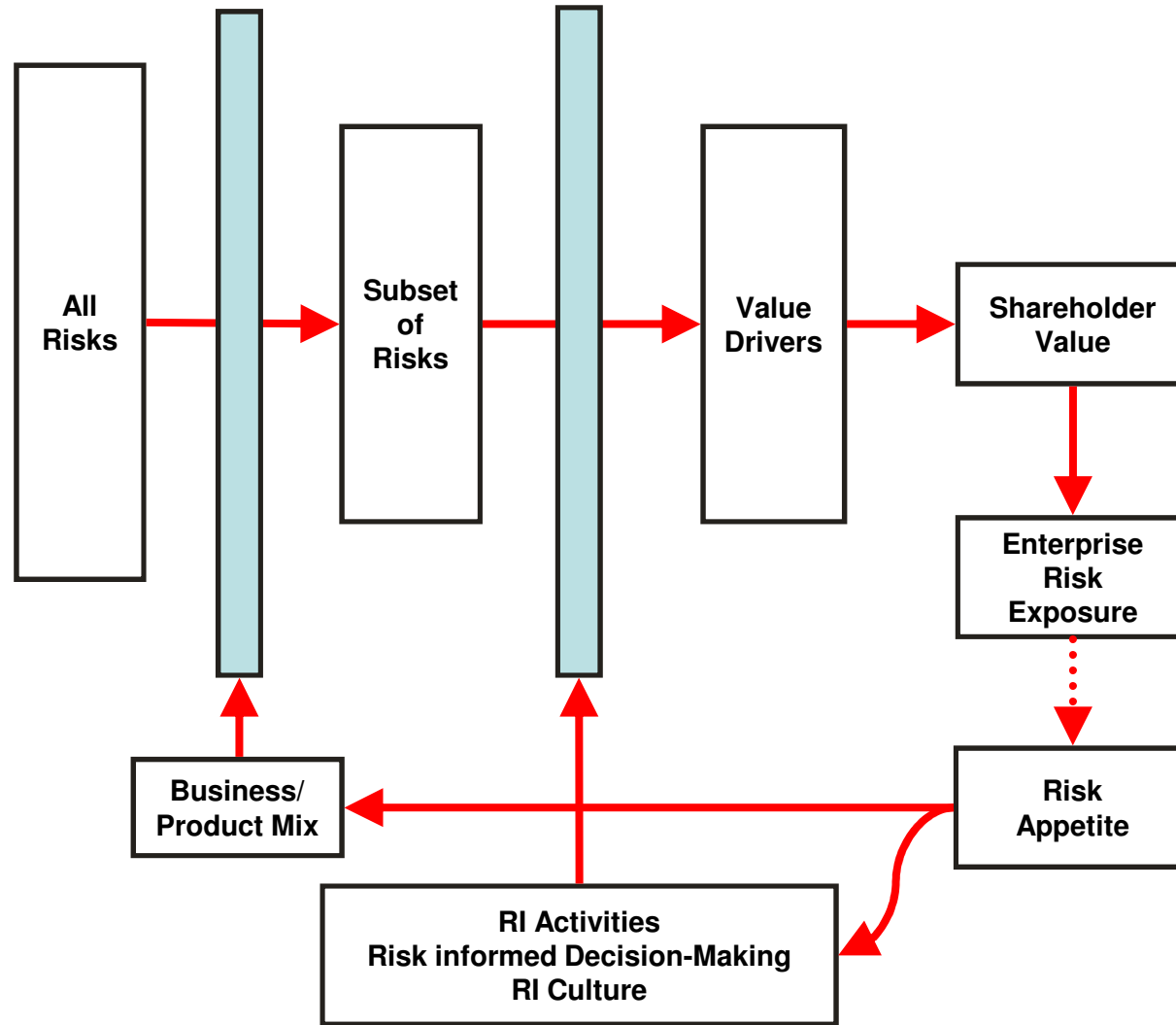
The width of the ESR graph shows how volatile the company's shareholder value is to risk – the narrower the more shock resistant.



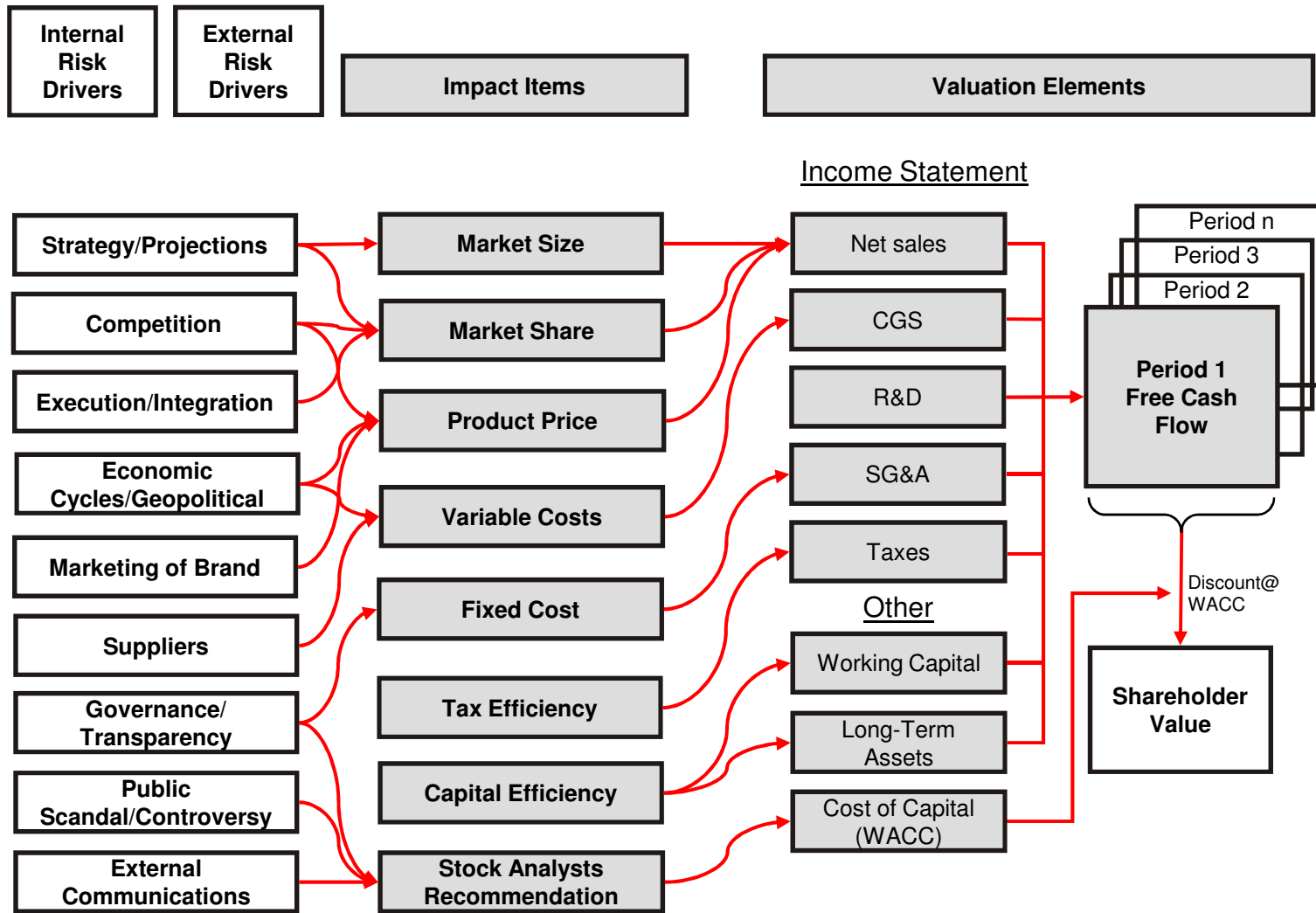
ESR graphs can also be used to illustrate the impact of ERM activities. In the lower graph, ERM activities have enhanced shock resistance, and as a result, shareholder value has also increased.



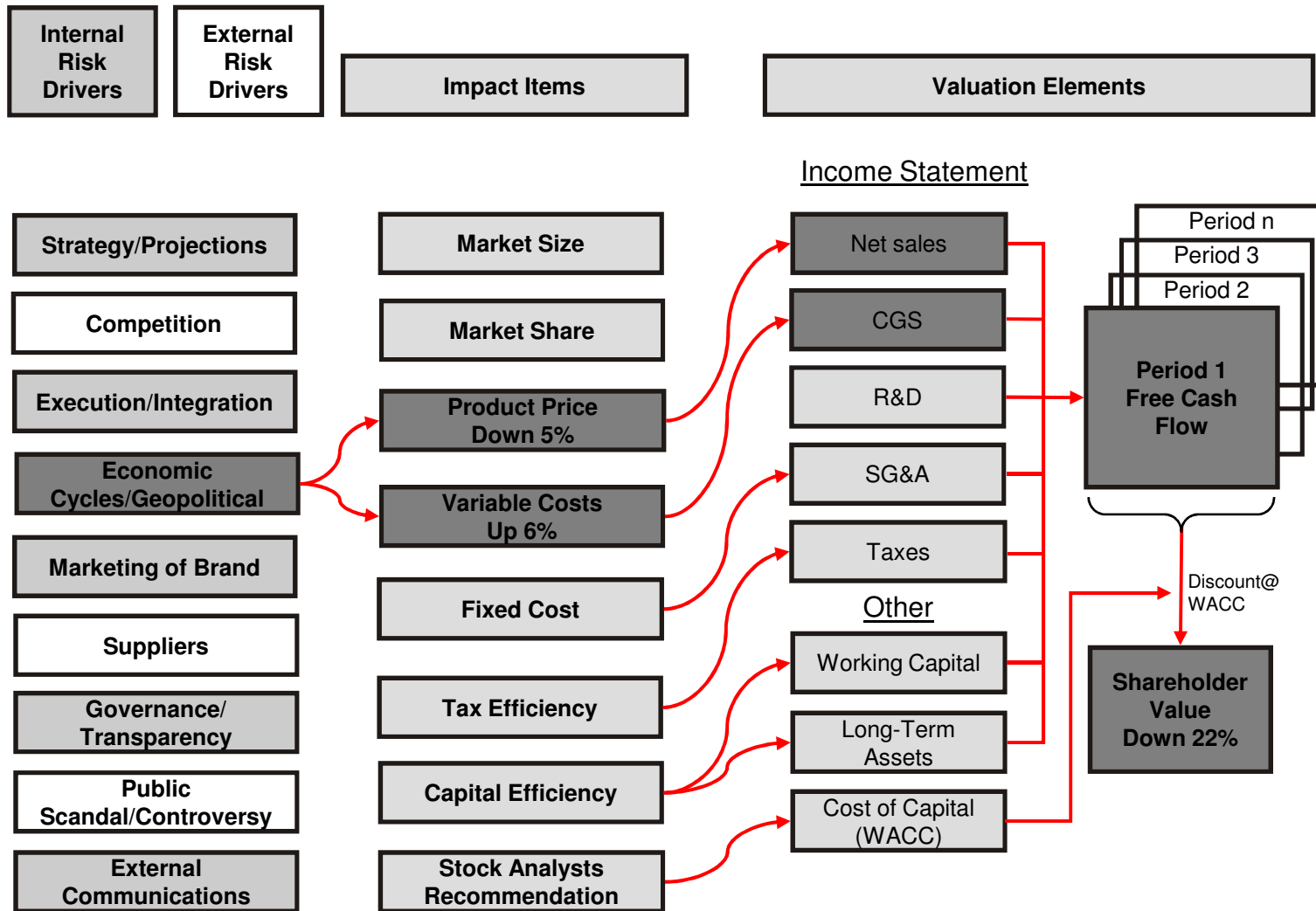
A framework for intelligent risk mngt.



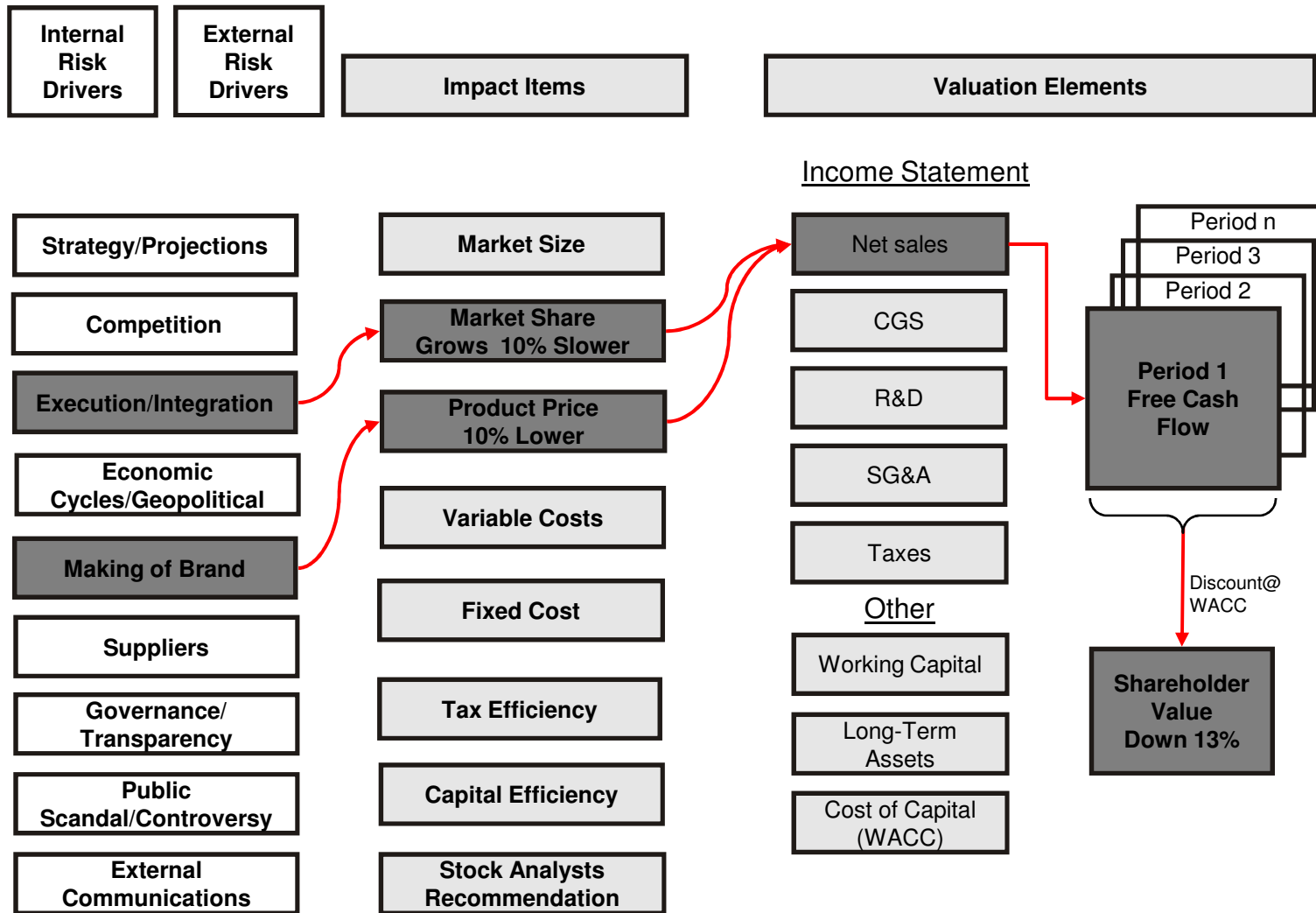
Value-based IRM model



Quantifying risk of currency moving



Quantifying the risk of demand slowdown



The big shift (global perspective)

□ Policy level:

- Stability + structural adjustments
- Regulation of financial markets
 - Minimization of moral hazard

□ Micro-economic level

- Intelligent risk management

The big shift (Serbia perspective)

1. Country's vulnerability:

- High (actually tremendous) due to effect of combined crises

2. Government's willingness to act:

- Moderate to high

3. Government's ability to act

- Low due to coalition government

Thank you

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