Incentive Compatible Penalty Scheme in Financial Market and Principle-based versus Rule-based Legal Strategies

Jabonn Kim
Korea Institute of Finance

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Motivation

Serious distrust on regulation: too "ex ante close-woven" rules. Sounds that ex ante regulation is the biggest obstacle for the development of financial industry.

2015.3.11. KIF Financial Trust Index

	No(%)	Yes(%)
Fairness, rationality of financial system	42.4	8.5
Efficiency of financial supervision	62.6	7.9
Consumer protection by supervisory organization	55.2	16.3
Appropriateness of financial policy	57.1	10.7

➔ Then, a question: how to improve or transform ex ante mechanism to ex post one?

Motivation

Imbalance between ex ante and ex post regulation: one-size-fits-all type rule-based penalty scheme reinforces further "closely-woven" prescriptive rules.

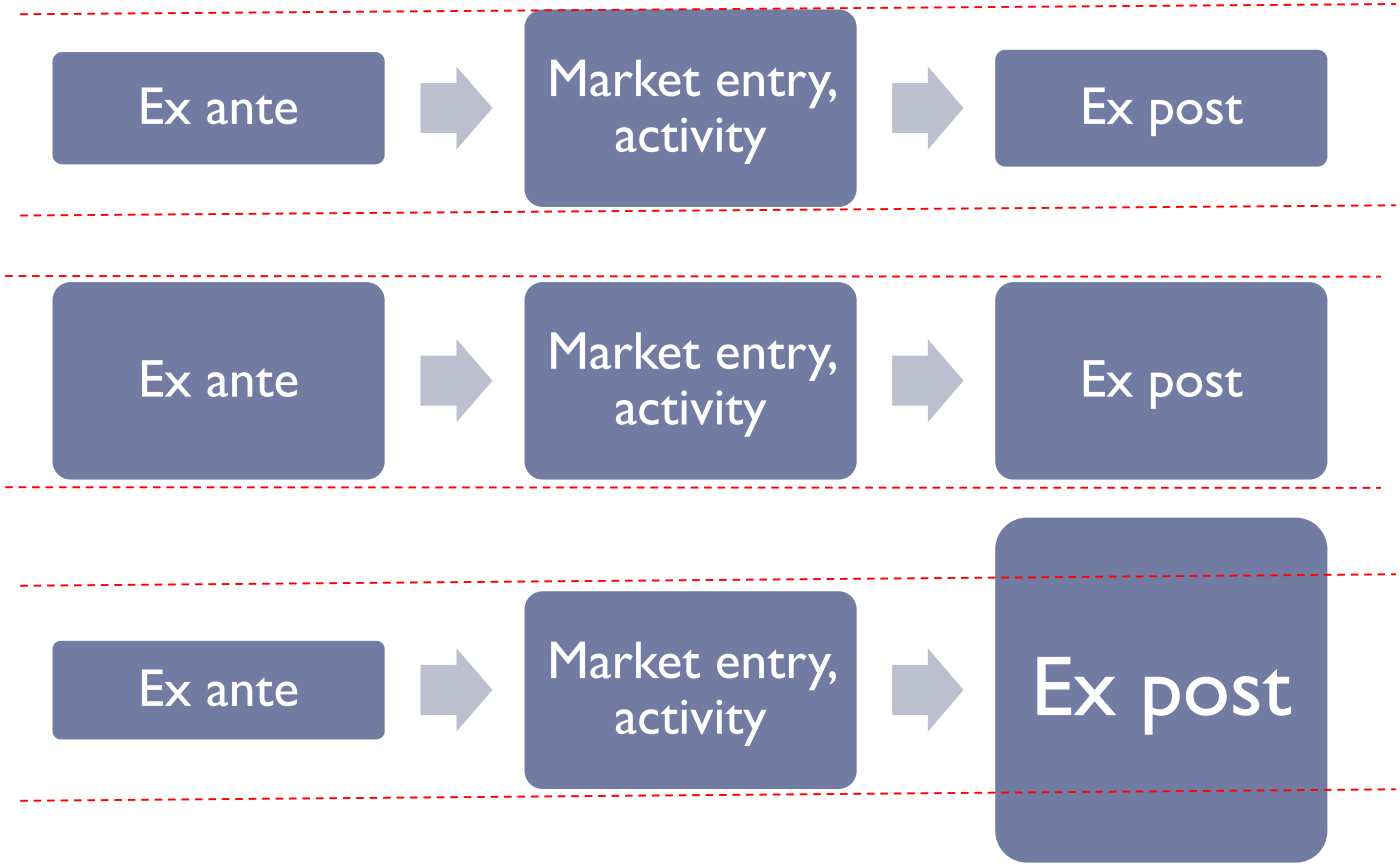
Motivation

Why is incentive compatible penalty scheme important?

(1) targets ex post regulatory results so that relaxes ex ante rules targeting entry conditions (2) effective enforcement of a regulation (3) fairness, rationality and efficiency of financial policy (4) integrity of financial market

Motivation

Alternative mechanisms:



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Incentive compatible penalty scheme

Incentive-compatibility: strategyproof mechanism. Certain degree of illegality will get proportionate degree of penalty.

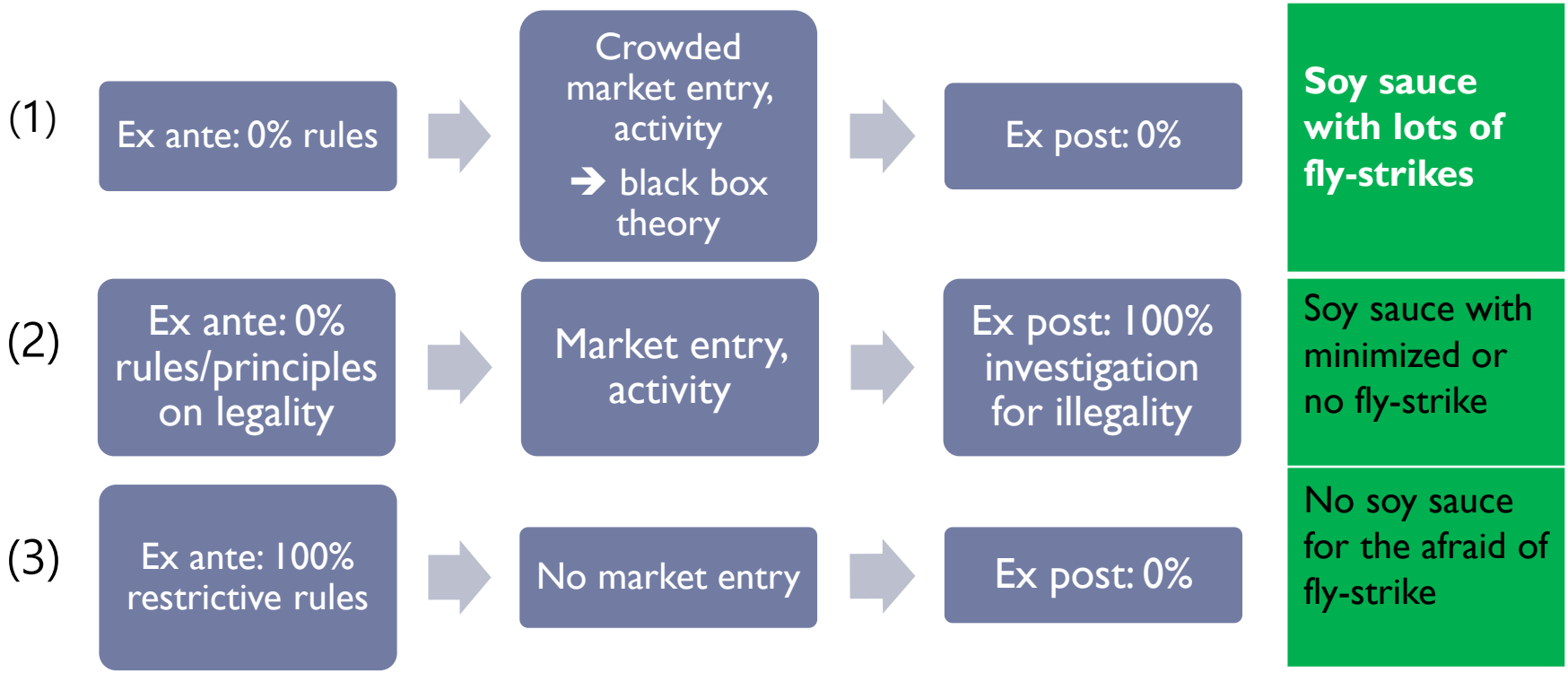
Two ways of understanding penalty scheme:

(1) Ex ante "prescriptive" rules for ethical selection to minimize illegality

(2) Ex post sanction/penalty on realized illegality

Rule-based vs. principle-based

Three options: (1) no regulation (2) principle-based (3) rule-based



Identically optimal

Optimal results of A (rule-based) and B (principle-based) will be the same in terms of illegality under theoretical perfection in both ex ante screening and ex post sanction

(A) Ex ante: optimal rules on legality → Market entry, activity → Ex post: 0% liability

(B) Ex ante: 0% rules but principles on legality → Market entry, activity → Ex post: optimal liability for illegality

Information asymmetry

In reality, a possibility of information asymmetry on illegality a priori.

If the asymmetry is serious, then ex ante screening is useless.

If no asymmetry problem, then ex ante scheme is better.

If asymmetry problem, then ex post scheme is better. All are allowed to step into market, and ex post Illegal activity will be penalized "proportionately" to the degree of illegality.

Legal strategies

Assigns best regulatory approaches (rule-based, principle-based) to each activity to minimize social regulatory cost. Hart (1961) and Kaplow (1992).

However, possibility that principle-based approach better suits financial regulation:

(1) Financial market has more serious information asymmetry than any other sectors.

(2) In history, rule-based regulatory scheme come first, and next it evolves into principle-based scheme. For example, FCA, SEC, CFTC.

(3) For financial development, principle-based approach (common law) is better than rule-based (civil law). Rafael La Porta, Florencio Lopez-de-Silanes, Andrei Shleifer and Robert W. Vishny (2003)

Professor Kaplow (1992). “Rules versus Standards (principles): An Economic Analysis"

The choice between rules and principles depends on causation structure and costs (promulgation, enforcement, advice, compliance costs)

Examples

Traffic regulation: simple causation. No information asymmetry. Camera on highway enough. ➔ rule-based: “prohibit driving in excesses of 55 miles per hour on expressways” vs. Principle-based: “prohibit driving at an excessive speed on expressways”

Rules vs. Principles

Simple causation with obvious factors in limited range➔ rule is better. For example, tax law. unilateral activity, numberless homogenous activity(=high frequency), no or weak need of proof.

bilateral activity, myriad unique accident(=low frequency), need of proof (forward or reverse burden of proof) ➔ principle

		Rule	Principle
Causation structure	Simple	O	
	Complex		O

Cost comparison

	Rule	Standards
Advice cost	Less	
Enforcement cost	Less	
Promulgation cost		Less
Compliance cost		Less

Rule-based: costly in both promulgation and compliance, so that lots of complaints. Consistent with the findings of KIF Financial Trust Index 2015.

Over- and under-inclusiveness

	Rules	Principles
Permissible range	limited	Contingently interpretable
Simplicity	Complex rule is undesirable	Simple standard is undesirable
Sanctions or penalty	Strictly liable for damages equal to the average harm. Charge of wrongdoing regardless of actual harm	"appropriately" responsible. Strictly liable for damages equal to the level of harm they cause and those who discharge harmless activity will not be held liable.
	Sanction level=Average harm. Over-inclusive for small harm, under- for large harm	Sanction level: proportional to the harm level

Changing over time

As available information, condition, and perceived values change over time, principles are easier to keep up to date.

	Rule	Principle
Adaptability	Inefficient. Hard to keep up to date	

Math Analysis

r: rule-based

p: principle-based

n: number of risk-neutral individuals

h: Harm. density $f(\cdot)$ on $[0,\infty)$

x: cost of care

q: Probability. $q'(x)<0$, $q''>0$

b: Promulgation cost

c: Advice cost

e: Enforcement cost

Social objective function

$$\boldsymbol{SC = b + c + e + \int_0^{\infty} q\big(x(h)\big)hf(h)dh + \int_0^{\infty} x(h)f(h)dh}$$

minimize the sum of legal costs (b, c, e), cost of care x, and expected harm

b: Promulgation cost

c: Advice cost

e: Enforcement cost

h: Harm. density f(·) on [0,∞)

x: cost of care

q: Probability. $q'(x)<0$, $q''>0$

Penalty strategies

mg=h or mg<h (additional externality): monetary gain from harmful activity

mp: monetary penalty against the harm

rule-based – fixed level of care and penalty as an average value of harm.

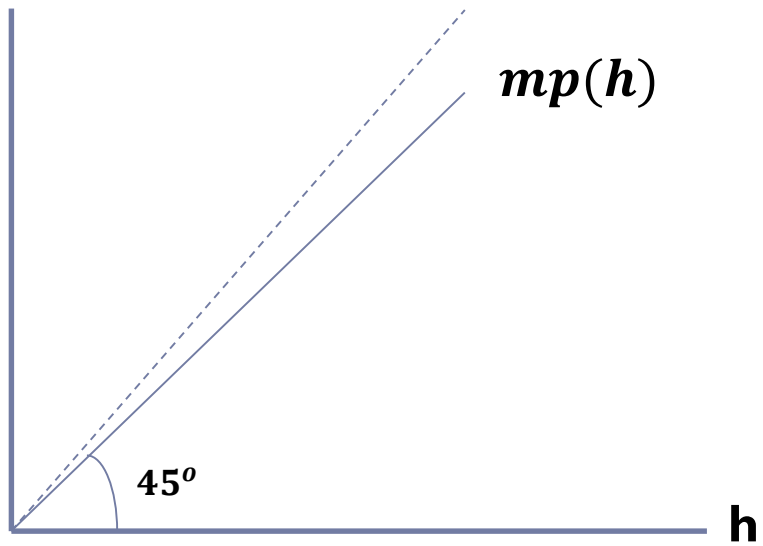
<u>x and mp are fixed. If fixed x satisfied, no penalty.</u>

principle-based – proportionate value for each harm.

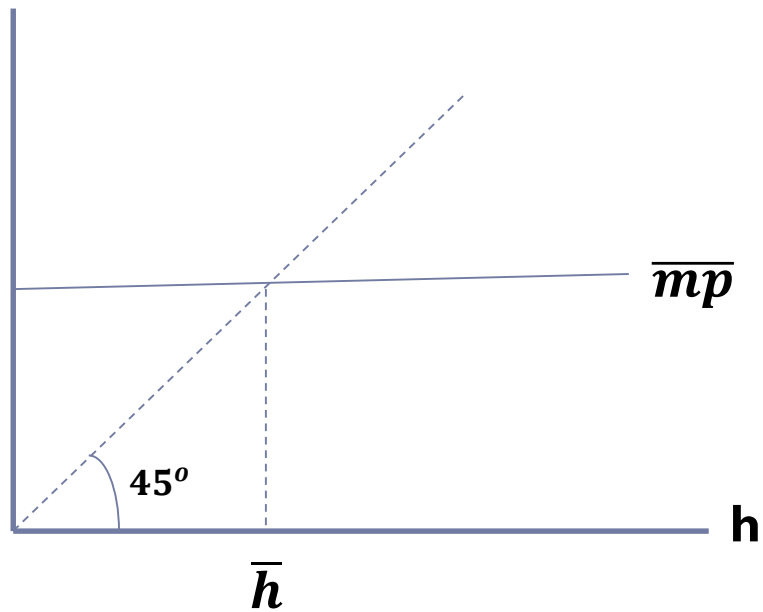
<u>mp is proportional to mg or h when h is larger than mg</u>

Penalty strategies

Principle-based



Rule-based



Social Cost Function

Under the legal strategies,

$$\boldsymbol{SC_{rule} = b_r + c_r + e_r + \int_0^{\infty} q(x(h)_r)(h - \overline{mp})f(h)dh + \overline{x_r}}$$

$$\boldsymbol{SC_{principle} = b_p + c_p + e_p + \int_0^{\infty} q\big(x(h)_p\big)(h - mp(h))f(h)dh + \int_0^{\infty} x(h)_p f(h)dh}$$

Social Cost Function

Traffic accident

$$SC_{rule} < SC_{principle}$$

$$c_r = 0 = e_r, \int q_r = 0, \qquad SC_{rule} = \overline{x_r} + b_r$$

$$b_{\mathrm{p}} = 0, \int q_p = 0 = \int x_p, \qquad SC_{principle} = \overline{x_r} + \mathrm{n}(\mathrm{c}_p + \mathrm{e}_{\mathrm{p}})$$

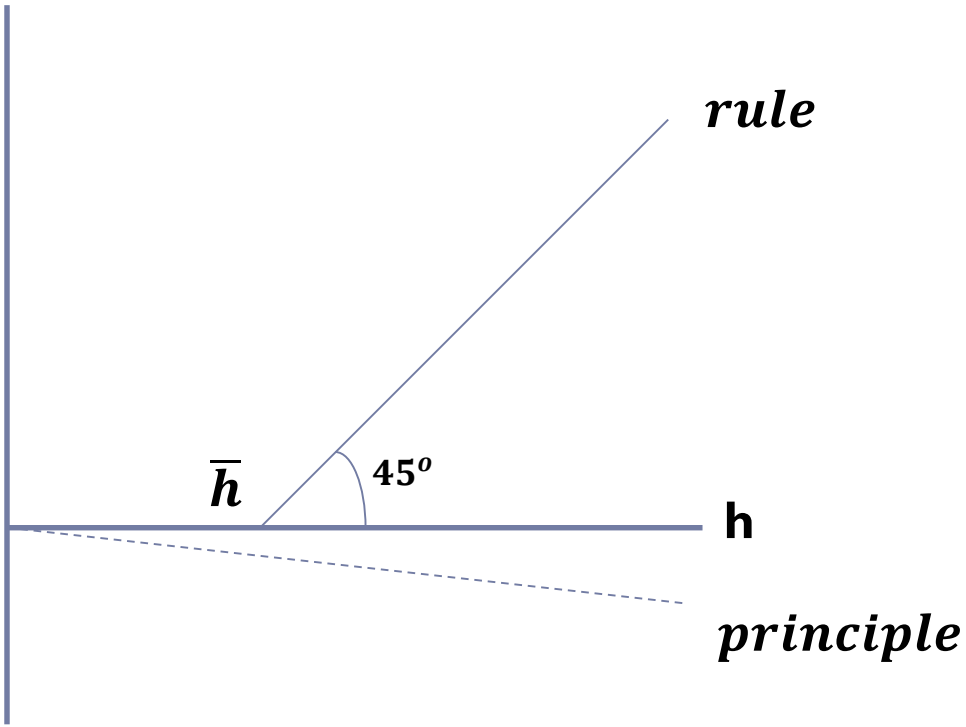
Financial Illegality

$$SC_{rule} > SC_{principle}$$

$$c_r = 0 = e_r, \int q_r \gg 0, \overline{x_r} + b_r > 0, SC_{rule} = \int q_r + \overline{x_r} + b_r \gg 0$$

$$b_{\mathrm{s}} = 0, \mathrm{c}_{\mathrm{s}} + \mathrm{e}_{\mathrm{s}} > 0, \int q_p = 0, \int x_p > 0, SC_{principle} = \int x_p > 0$$

Illegal benefit: upper incentive



For the harm beyond $\bar{h}$, no incentive of care. Care only when benefit is smaller than penalty for the stipulated in the article. Aggressive abuse when illegal profit is larger.

Comparative Effect of penalty scheme of rule vs. principle

$$SC_{rule}: \int_0^{\infty} p(x(h)_r)(h - \overline{mp})f(h)dh \implies Googol\ if\ h^* > \overline{h}.0, otherwise$$

$$SC_{principle}: \int_0^{\infty} p(x(h)_s)(h - mp)f(h)dh \implies zero.$$

4 Elements for principle-based mechanism

(1) Principle of principles: FSA case (2) legal framework: SEC, CFTC case (3) infra for ex post sanction/penalty: SEC, CFTC administrative judge. (4) monetary civil penalty: SEC, CFTC, FCA

FSA: principle of principles

FSA (2007). "Principles-based regulation focusing on the outcomes that matter"

Principle of principles	11 principles areas
Integrity	Business conduct
Due care (skill, diligence, regard)	Business conduct, interest of customer, information and communication
Adequacy	Risk management, financial resource management, market conduct, client's asset protection
Fairness	Interest of consumer, conflict of interest between firm and customer
Openness	Disclosure to regulator

CFTC: A New Regulatory Framework (2000)

CFTC establishment 1975.

1) Section 4(c) of the Commodity Exchange Act
2) New flexible structure replaces the current one-size-fits all style of regulation…the framework also replaces our prescriptive rules with flexible "core principles." (Letter of then Chairman William J. Rainer to the Senate Committee, February 22, 2000)

Administrative Law Judge (ALJ)

SEC, CFTC and federal agencies:

1) ALJ: Administrative Procedure Act. 1946.
2) Oaths and affirmations, subpoenas, conduct prehearing conference, issue defaults, rule on motions and the admissibility of evidence
3) ALJ orders sanctions (suspension/revocation), disgorgement, civil penalties, censures, cease-and-desist orders etc.

Monetary civil penalty

Securities Act of 1933, Securities Exchange Act of 1934, Financial Institutions Reform Recovery and Enforcement Act of 1989, Sarbanes-Oxley Act of 2002, CFTC Modernization Act of 2000.

Monetary civil penalty is a fine issued in civil court which penalizes a violator who profited from an illegal or unethical action. The penalty is typically equal to the gains made from the activity.

The End