Optimum Auditing Standards under Different Legal Regimes: *Implications for International Auditing Standards*

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Questions

- How (if at all) can **optimal** auditing standards for a country be expected to differ with differences in the underlying legal liability regime auditors face for a failure to detect material misstatements?
- If optimal standards differ across legal regimes, what are the implications for the adoption of International Standards on Auditing (ISAs) by a country?

Background

- Interesting and quite complex questions

- That legal regimes facing auditors vary across countries is not controversial. Typical ordering:
  - U.S.A. → globally most onerous legal regime
  - British Commonwealth countries
  - European continental countries
  - Other countries (including China, India, Taiwan (?), etc.) → least onerous regimes

Background

My talk is based on three papers:

•"The Economics of Setting Auditing Standards", Ye & Simunic, *CAR, September 2013*

•"The Economics of Setting Auditing Standards Under Different Legal Regimes: Implications for ISAs", Simunic, Ye & Zhang (working paper, UBC and U of Toronto)

•"What Happens After Auditing Standards Converge? An Analysis of Standards Interpretation and Institutional Changes", Simunic, Ye & Zhang (working paper)

Background

- These papers are analytical and not easy reading!

- My goal is to highlight the *essential* logic and arguments with a minimum of notation to get you to think about the problem and some possible real-world implications.

Background

My interest in this topic goes back to the years (1988-1997) I spent as a Canadian technical advisor on the IAPC (now IAASB). Some observations:

- dominated by senior technical partners from the then Big 6 firms from (mostly) English speaking countries (U.S., U.K., Canada, Australia)
- Non-Big 4 partners often argued for vaguer (weaker) standards
- Mandatory requirements were judiciously imposed using "*should*" – more frequently used "*may*", "*can*"; never used "*must*"

Background

Some observations (cont'd):

- Great difficulty dealing with uncertainty (e.g. audits of forecasts; sampling; future losses) and the language of statistics was **never** used (e.g. "assurance" not "probability"
- Very sensitive to possible liability if too much was promised (e.g. fraud detection, illegal acts)
- Users (analysts, investors, etc.) were absent and largely viewed as being uninterested in auditing standards (they now have some presence at IAASB)

Background

Some observations (cont'd):

- Continuous tension since U.S. representatives wanted more "should's" and more detailed rules, while most other countries wanted more "principle based" (vaguer) standards

Conclusion:

Considerable disagreement among standard setters. Understanding the trade-offs in the standard setting process is both interesting and complex, and requires formal modeling - not just verbal story telling.

Role of auditing standards

- Auditing standards may simply serve as a guide for audit service production ("how to do it"). *Useful if auditors face strict liability for audit failure.* (Where is this the case?)

- Standards may guide production but also serve as a basis for assessing auditor negligence by courts. *Essential if auditors face a negligence based legal regime for audit failure.*

Basic setting of our analyses

- Managers offer investment project to investors and claim it is "good". Auditor's role is to detect a "bad" investment project, and audit failure occurs if auditor fails to detect a "bad" project. Stylized **voluntary audit** model (based on Dye, *JPE*, 1993)

- Auditing standards relevant if there is an audit failure; compliance eliminates legal liability to investors (**negligence regime**). *But how can anyone know if there is (is not) compliance?*

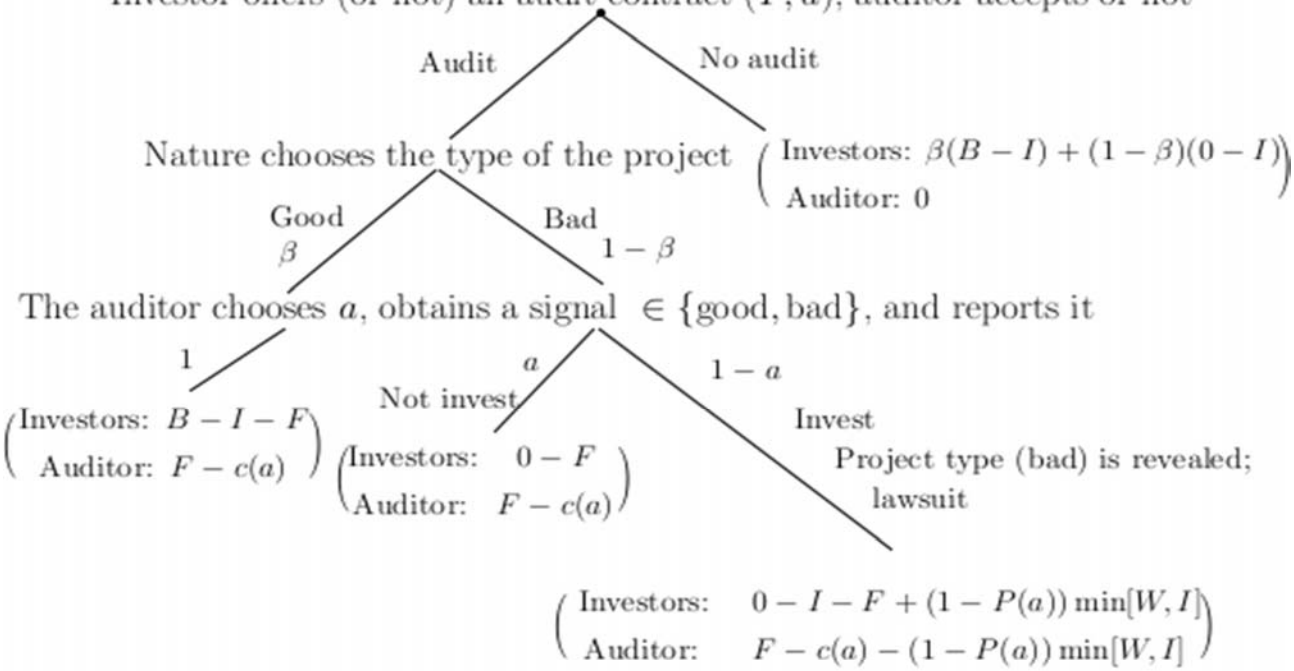
Setting of the analysis

- If standards are **perfectly precise**, (non) compliance can be know; if standards are **imprecise**, (non) compliance is uncertain.
- In general, standards characterized by "**toughness**" and "**vagueness**".
- **Toughness** describes typical level of audit effort that would be deemed adequate for compliance; **vagueness** refers to variation in compliance effort around toughness reflecting imprecise wording, choices in procedures, intensity of testing, etc.

Setting of the analysis

- Standards can be described by mean and variance of uniform probability distribution.
- Verbal characterization of vague vs. precise standards:
  - "**Possible audit procedures in a given situation** P1, P2, P3, P4, P5, P6" — *Vague standard – can perform any one or combination of procedures*
  - "**Should** perform P1 & P2 **May** also perform P3, P4, P5, P6" — *More precise standard; is it also tougher*?
  - "**Should** perform P1 and P2 at a level n*; **Can ignore** P3 P4 P5 P6" — *Most precise standard* (*'clear' GAAS*); *is it also tougher?*

Game Tree Summary



Objectives

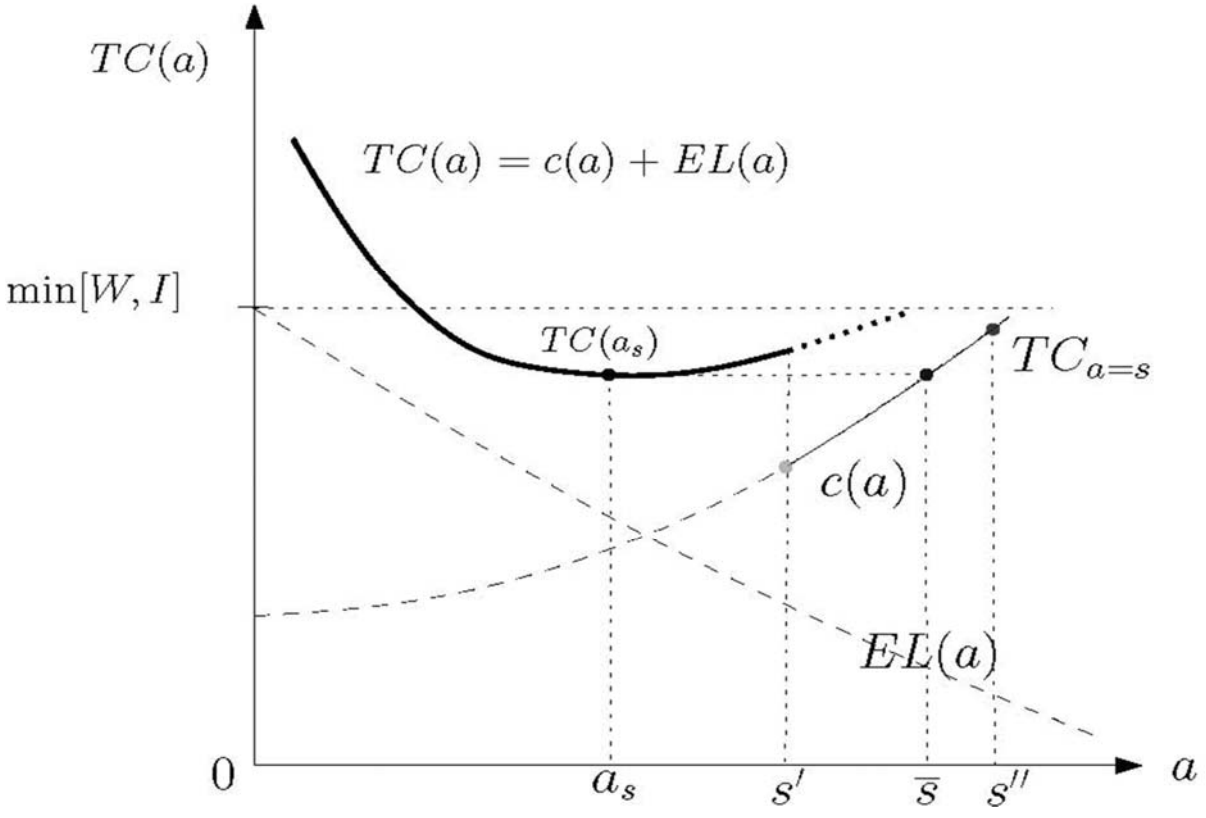
Investors: $(1-\beta)aI - F + (1-\beta)(1-a)(1-P(a))\min[W,I]$

Auditor: $F - c(a) - (1-\beta)(1-a)(1-P(a))\min[W,I]$

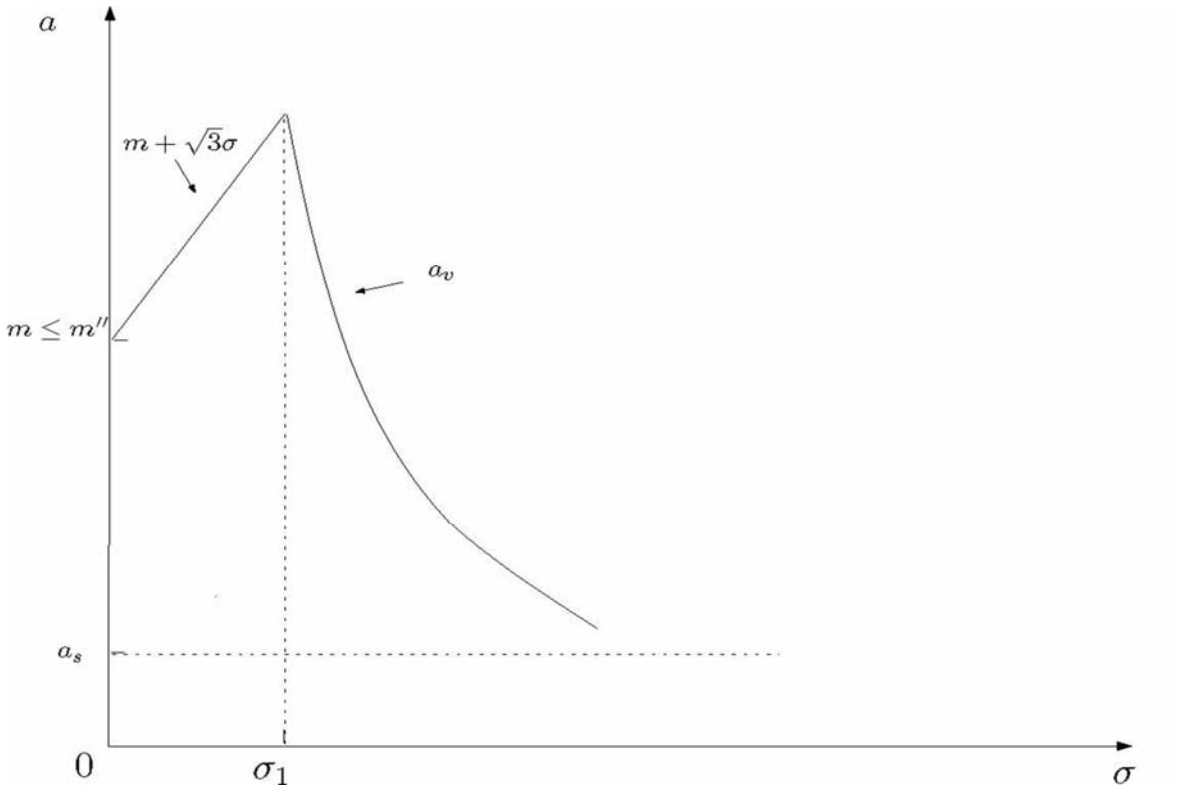
Problems to be solved

1. How will audit effort change as standards vary in toughness and vagueness?
2. What level of toughness and vagueness would be set within a country (legal regime) by investor "standard setters"? …..by auditor standard setters?
3. How would optimal toughness and vagueness change with changes in the underlying legal regime?
4. What problems would arise if ISAs ≠ optimal auditing standards in a country, and how can these problems be resolved?

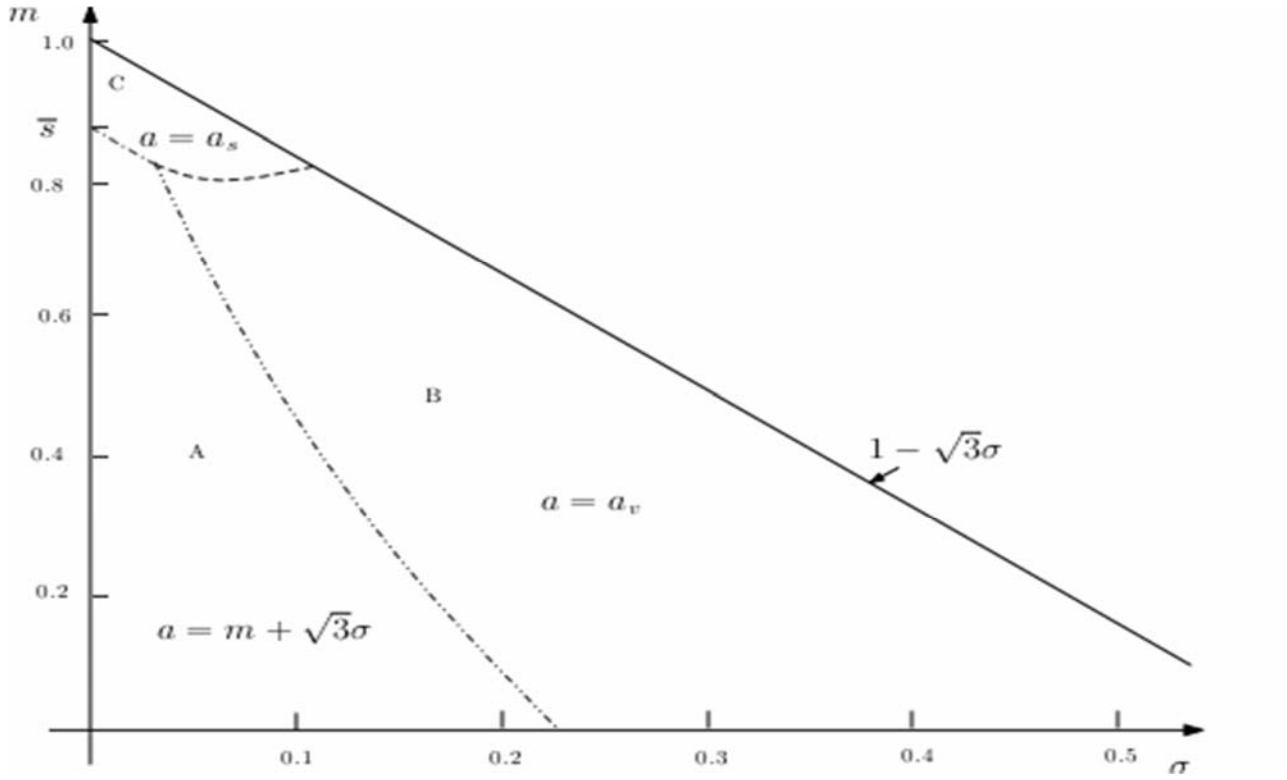
Auditor effort choice



Auditor effort choice



Auditor effort choice



Setting auditing standards

Objective function: Investors want to induce auditor to exert effort level to maximize the value of an audit

- V(a) = (1 –β)aI + EL(a) – F

Where:

- (1-β) = probability project is “bad”
- a = auditor effort and the conditional probability auditor detects a bad project (power of test)
- EL(a) = expected liability payment by auditor
- F = audit fee paid to auditor

And:

- EL (a) = (1-β)(1-a)(1-P(a)) min(W,I)

Where: P(a) = probability auditor complies with standards

Setting auditing standards

Objective function (cont'd): Auditor's objective is to choose an effort level to maximize profits

- Max F – c(a) – EL(a)

  a

where:

- c(a) = total cost of audit resources = 1/2 ca^2 which is convex and increasing in a.

and recall that:

- EL (a) = (1-β)(1-a)(1-P(a)) min(W,I)

Setting auditing standards

First-best solution

- If investors can contract with auditors to undertake **effort** (which is **observable**) so as to maximize the value of an audit, they would simply
- Max V(a) = (1-β)aI – 1/2ca^2

  a

So,

- dV/da = (1-β)I – ca = 0

and,

- a* = (1-β)I / c

Setting auditing standards

Note:

- Optimum effort increases with the probability of "bad" project
- Optimum effort increases with the size of the required investment
- Optimum effort decreases with the marginal cost of audit resources

All very reasonable!

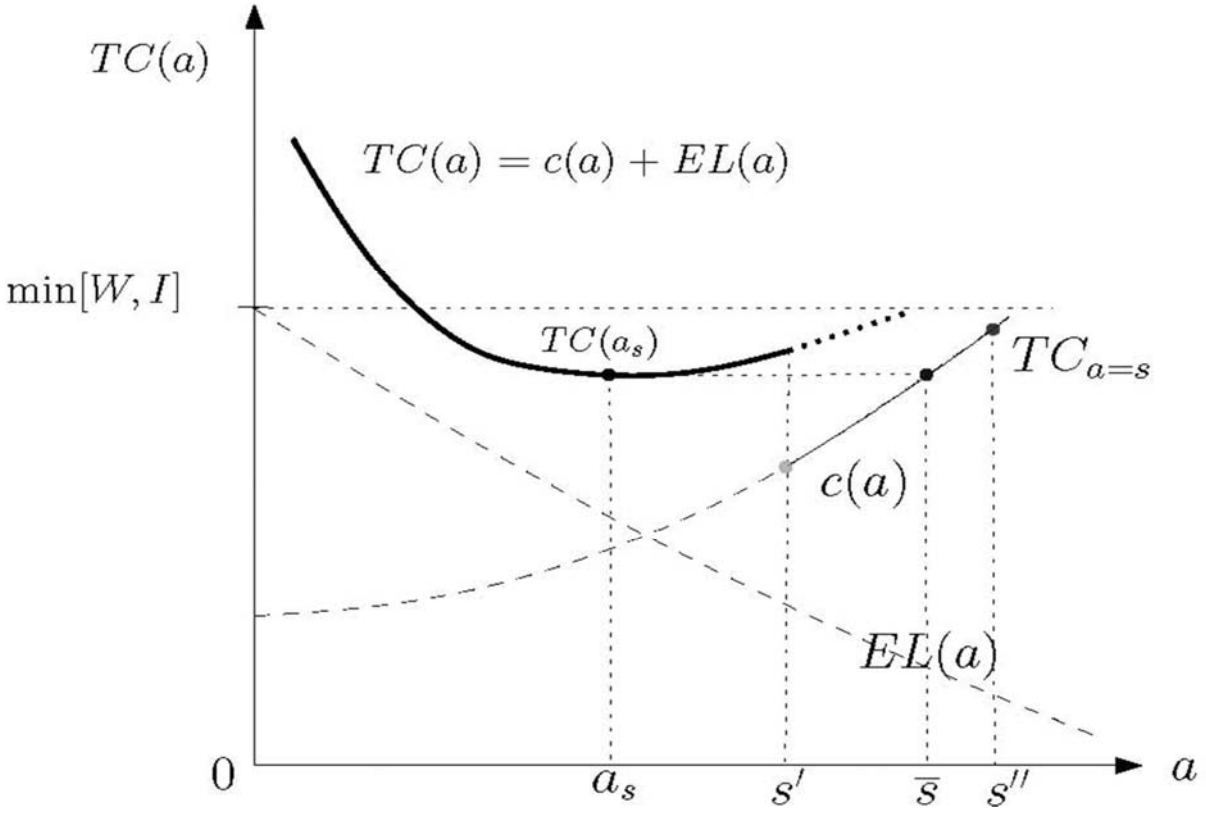
Setting auditing standards

If audit effort is unobservable, standards are set at the beginning of the game, and standards can be **perfectly precise**:

•**Investor standard setters** would set **standard (s')** at the **first-best solution (a*),** if there exists an auditor with (observable) wealth, $W \geq W^*$, where $W^* < I$. Note that it is in the auditor's self-interest to comply with that standard, so long as s' is less than the maximum attainable standard.

•If $W < W^*$, then s' would be set as close to a* as is attainable, given the low auditor wealth.

Auditor effort choice



Setting auditing standards

Perfectly precise standards (cont'd):

•Perhaps surprisingly, **wealthy auditors (W>W*) as standard setters** are also motivated to set s' = a*, so long as the auditor has bargaining power to retain some of the surplus audit value, since that value is maximized at a*.

•Again, less wealthy auditors would set s' as close to a* as possible consistent with their limited W (the maximum effort level to which they can credibly commit).

Setting auditing standards

Conclusions regarding **perfectly precise standards**:

•Investors and wealthy auditors have the same preference for the toughness of perfectly precise standards; less wealthy auditors would prefer weaker standards.

•If standards can be set precisely, there is no reason for either investors or wealthy auditors to prefer imprecise (principle based) standards.

Setting auditing standards

Factors that may **motivate imprecise** standards:

- If standards are set by a group of auditors who vary in wealth, wealthy auditors will argue for tougher standards than less wealthy auditors, and imprecise standards may be the outcome.
- If, as is likely, written standards are subject to *minimum attainable vagueness*, then the auditor (investor) will reduce toughness and set the vagueness at the minimum attainable level. As minimum attainable vagueness increases, toughness can be reduced to compensate.

Setting auditing standards

- If toughness cannot be changed and is (somehow) set at a non-optimum level, then the auditor (investor) prefers vaguer standards either to allow auditor to reduce effort (if toughness is too high) or to credibly increase effort to protect auditor wealth (if toughness is too low).
- In the model, a* depends on I. If there are multiple projects that vary in size, either size contingent precise standards are written, or imprecise standards may be written.

Setting auditing standards

Concluding comments:

- Auditing standards set by wealthy auditors (Big 4) are likely to be quite similar in toughness and vagueness to the standards preferred by investors in large projects.
- Vague standards are generally not preferable to precise standards, except in certain circumstances.
- Small audit firms lack sufficient wealth-at-risk to be able to credibly commit to audit in accordance with the tough standards imposed by Big 4 auditors & investors, and are more likely to gamble and be held, *ex post* liable.
- Variations in client firm size are probably an important factor motivating the writing of relatively vague (principle based) auditing standards.

Legal liability regimes and standards

Next question: How would differences in auditor legal liability regimes affect the properties of optimal auditing standards? Legal regimes are described by:

- Size of damage awards paid by a negligent auditor to investors (D)
- Degree of overall vagueness in legal system ($v > 0$), which depends on wording vagueness in standards, ($\sigma \geq 0$), and unpredictability (variance) of court interpretation of standards, ($\delta > 0$). Thus $v = f(\sigma,\delta)$ and $\partial v/\partial\sigma > 0$, $\partial v/\partial\delta > 0$ and $\partial^2 v/\partial\sigma\partial\delta > 0$.

Legal liability regimes and standards

- Note that in Y&S investors are assumed able to recover min(W,I) when there is an audit failure and the auditor is deemed negligent.
- In SY&Z, D can take any value (e.g. include punitive damages), but note that D is always the amount paid by the auditor to compensate investors (e.g. in the U.S., D is likely to be quite high, while in China, D is likely to be quite low).

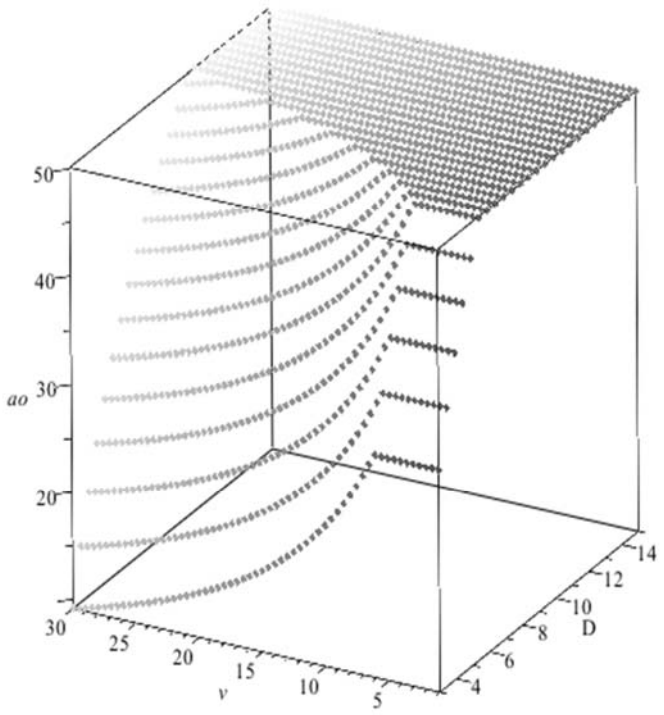
Legal liability regimes and standards

- We assume auditing standards are set by investors with a goal of inducing auditors to produce audit quality a*, or as close to a* as possible.
- Recall that a* is a function of the value of I, while auditor effort choice is a function of D, v, and s.
- In SY&Z we solve for optimal toughness of standards given v, the vagueness of the legal system and wording vagueness

Legal liability regimes and standards

- The following figure shows how **auditor effort**, a, will vary with v and D, if the toughness of auditing standards is optimally set. That is, how will auditors behave given a set of optimal auditing standards.

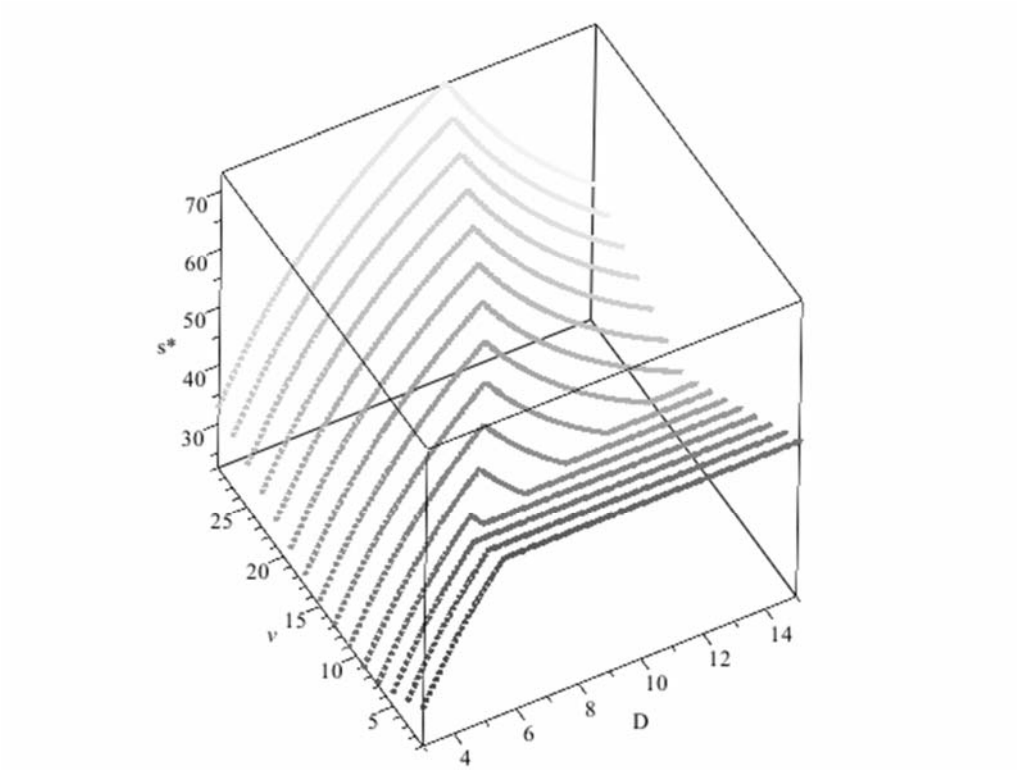
Legal liability regimes and standards



Legal liability regimes and standards

- The next figure shows how the **optimal toughness** of auditing standards varies with v and D.

Legal liability regimes and standards



Legal liability regimes and standards

- For low values of v, s increases as D increases until the first-best is attained.
- For low values of v, as v increases s can decrease since auditors will choose to comply with standards at the upper bound (lower toughness can compensate for increased vagueness).
- For high values of v, s increases with D until, at very high D, s is decreased so that audit effort doesn't exceed the first-best.
- For high vales of v, s increases as v increases when D is small but can decrease when D is large.

Implications for international auditing standards

- For countries where both v and D are very low (e.g. China), optimal standards (s) will have low toughness and the first-best audit effort (a*) will likely not be attained.

- For countries where both v and D are very high (e.g. U.S.A.), toughness, s, needs to be high and the first-best audit effort can be attained. Also, optimal standards should be precise since s is an increasing function of v. If σ is high, then optimal s is even higher.

Implications for international auditing standards

- Imposing uniform standards (ISAs) which likely have moderate levels of toughness and wording vagueness can be expected to cause problems in both settings:
  - e.g. for China, standards will be too tough and auditor non-compliance can be expected.
  - e.g. for the U.S., ISA's will decrease toughness and increase vagueness, relative to PCAOB standards. The result may be a failure to achieve first-best audit quality.

Concluding comments

- Optimal auditing standards for a country are a (complex) function of the legal system (here D and v) in that country.
- Audit quality (auditor effort) depends on the legal system and the auditing standards under which the auditor operates.
- Globally uniform auditing standards cannot be optimal in all countries unless national legal systems are also sufficiently uniform.

Concluding comments

- Imposing an **initially non-optimal** set of auditing standards on a country will **require concurrent changes in the legal environment** if those standards are expected to be effective (e.g. elicit auditor compliance with the rules)
- Legal environment can be changed by changing average damages (D), or average interpretation vagueness by courts (δ), or some combination of the two.