Thriving on Change

16th General Insurance Seminar

Institute of Actuaries of Australia

9-12th Nov 2008
Hyatt Regency Coolum

The Data Revolution: Ethical and Professional Challenges

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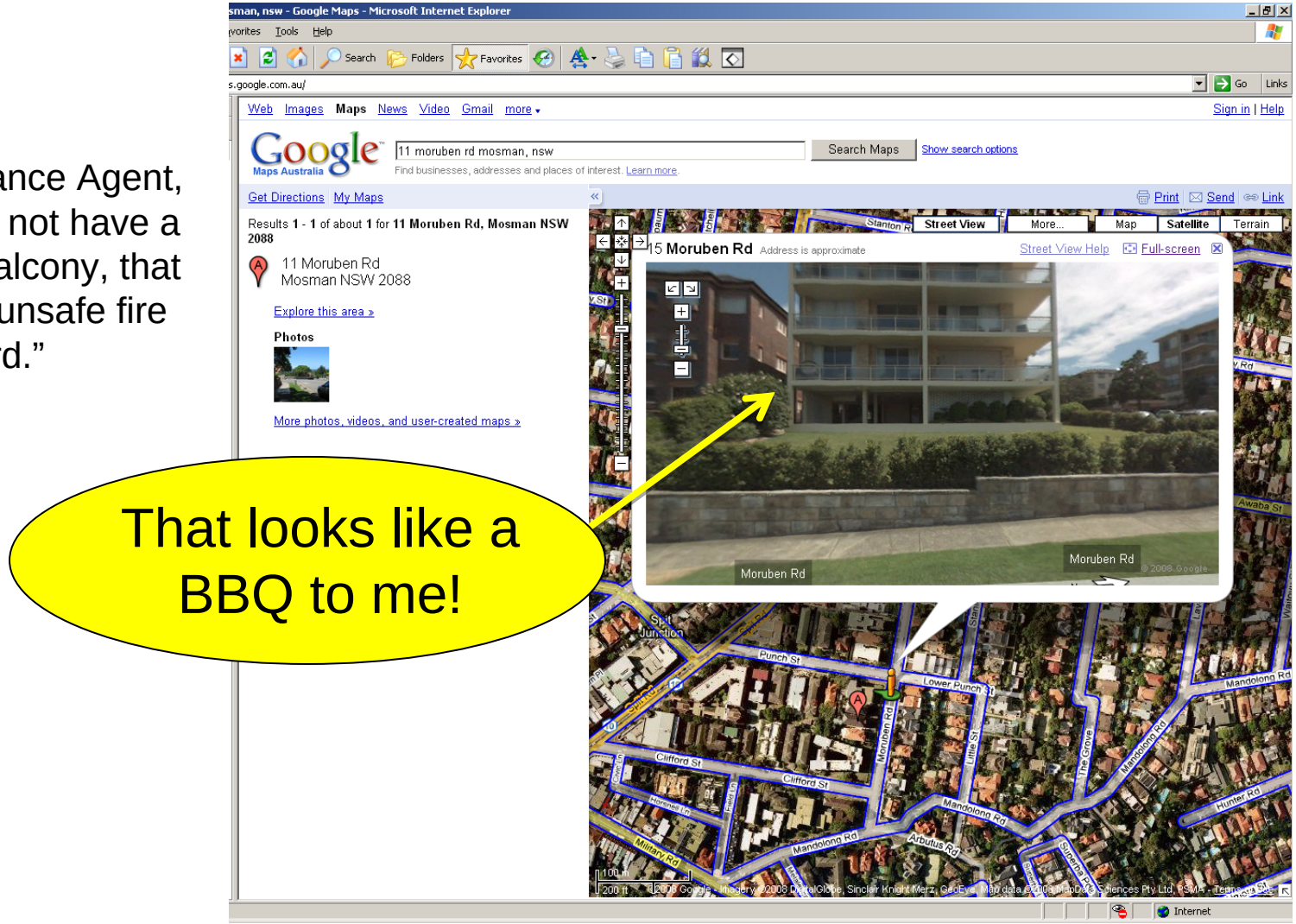
Agenda

Section 1	A Top 10 List: Ways technology provides forensic information on risks
Section 2	An Example: GIS technology and flood risks
Section 3	Professional Standards: Is there any guidance?
Section 4	Economics: Can we understand how markets may react to information?
Section 5	Challenges for actuaries

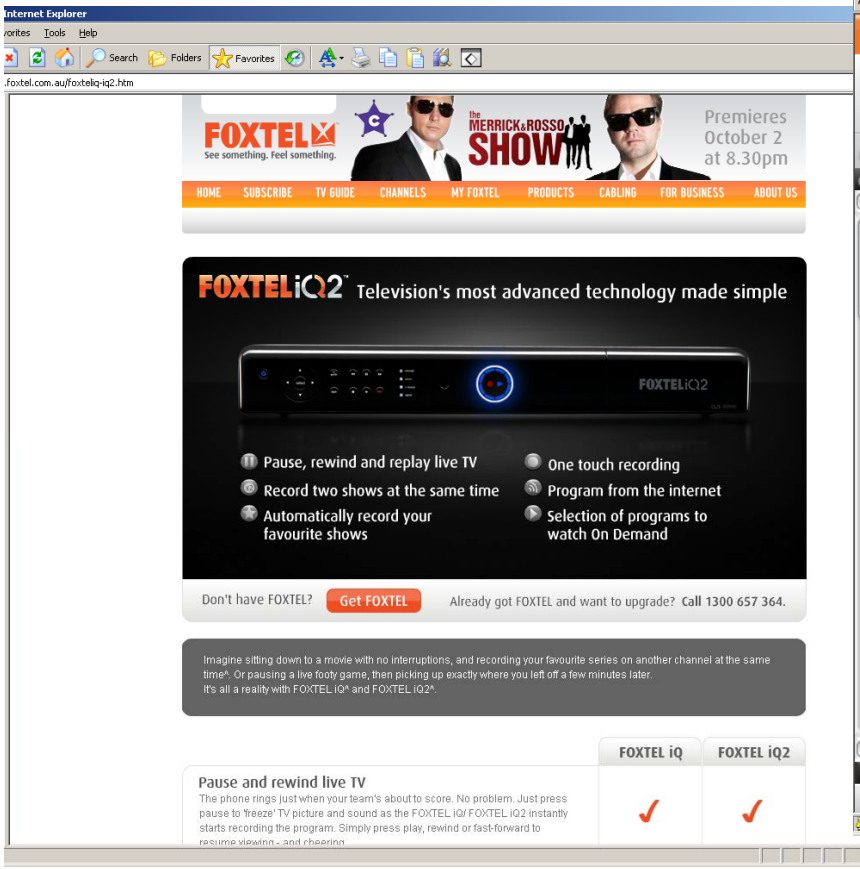
#10 - High Resolution Satellite Photos

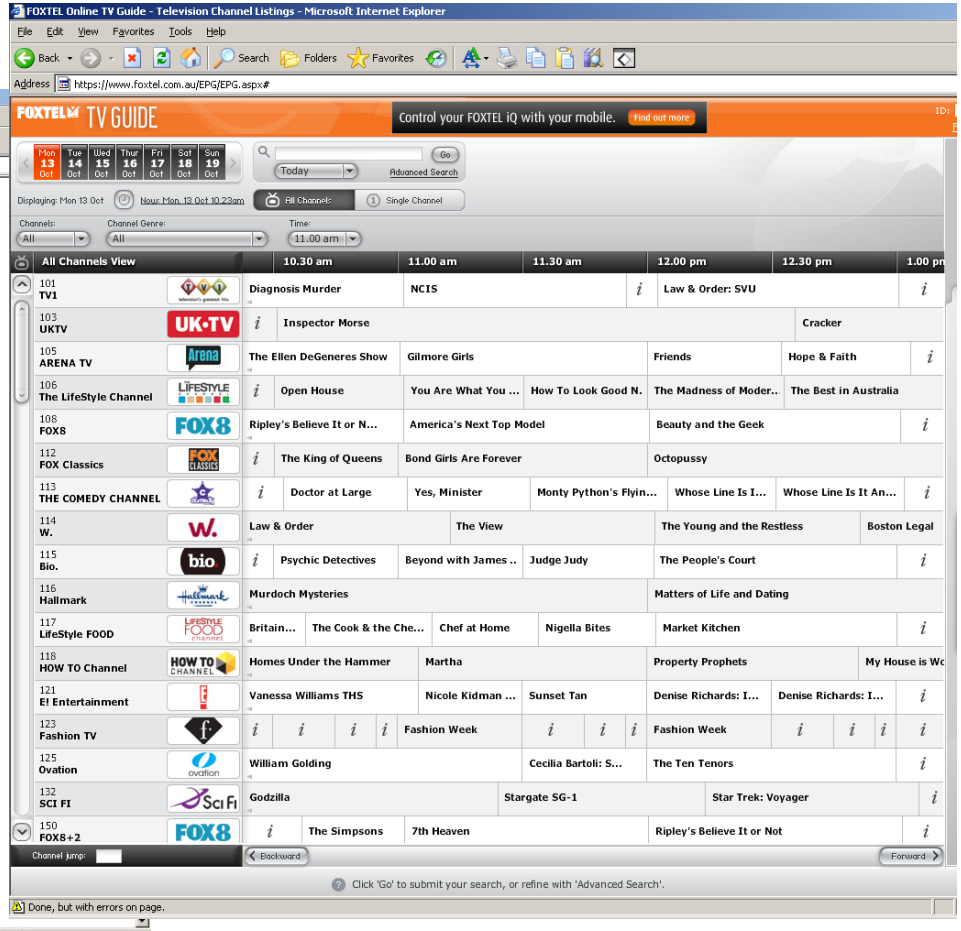
"No Mr. Insurance Agent, of course I do not have a BBQ on my balcony, that would be an unsafe fire hazard."



#9 - DVR History of Recorded TV programs

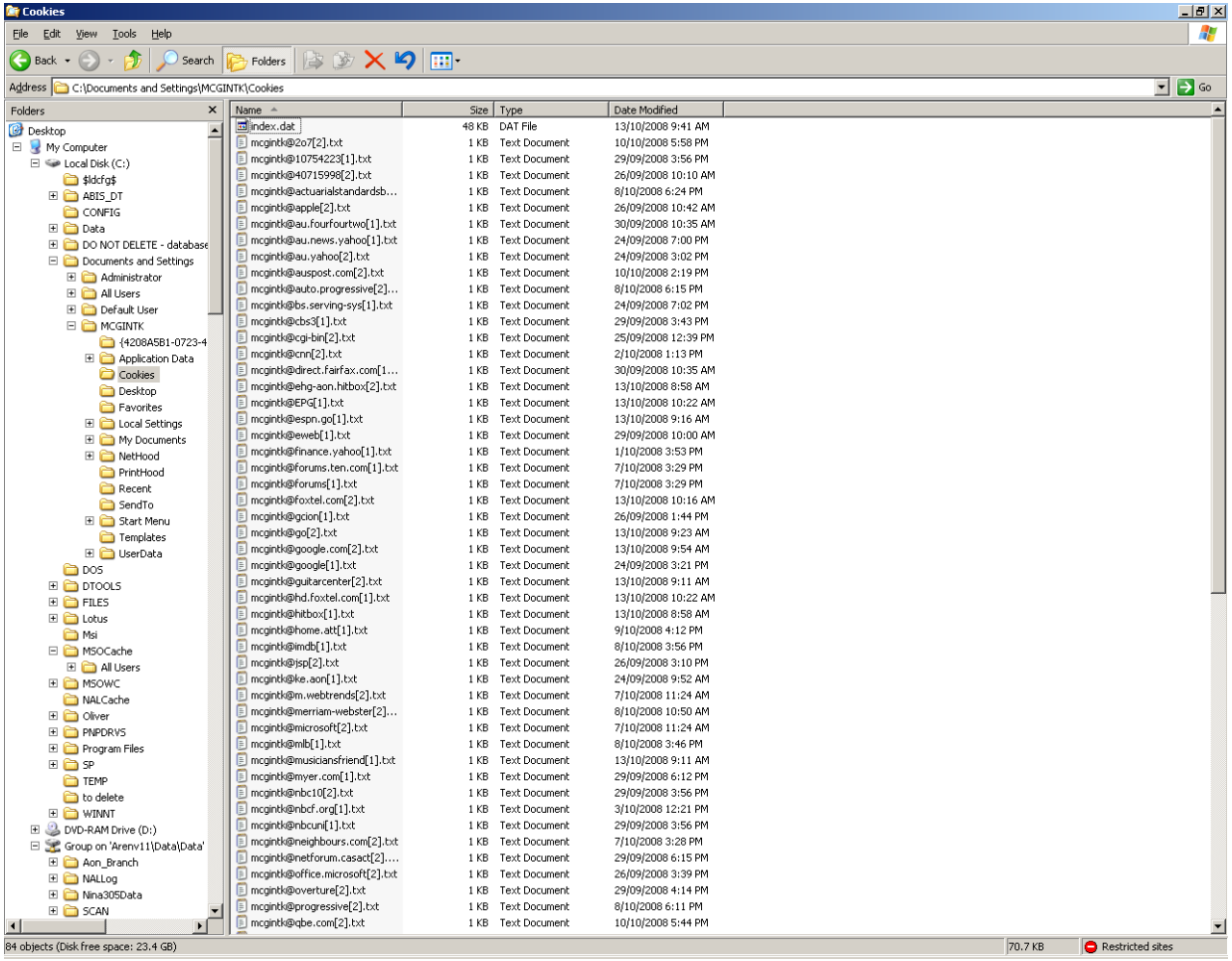
What does your viewing history say about you?





#8 - Web surfing, text message, and e-mail logs

What sites are you frequenting? Where, when and to whom are you sending messages and emails?



#7 - Credit Card Statement Analysis

Credit Card Statement

Purchase Date	Vendor	Amount
1-Oct-08	McDonald's	$15.95
2-Oct-08	McDonald's	$8.75
3-Oct-08	McDonald's	$6.80
4-Oct-08	McDonald's	$17.55
5-Oct-08	McDonald's	$12.65
6-Oct-08	McDonald's	$13.48
7-Oct-08	McDonald's	$8.95
8-Oct-08	McDonald's	$9.40
9-Oct-08	McDonald's	$11.90
10-Oct-08	McDonald's	$16.45
11-Oct-08	McDonald's	$18.40
12-Oct-08	McDonald's	$8.65
13-Oct-08	McDonald's	$9.45
Total Amount due by 31 October 2008		$158.38

Can your health insurance be surcharged because of your eating habits?

#6 - Genetic Testing Results

Can genetic test results be used to underwrite medical insurance?

Genetic Test Results

Probabilty of Developing Cancer	80%

Genetic Test Results

Probabilty of Developing Cancer	0%

If there is nothing to worry about, do you stop buying insurance?

#5 - Global Positioning Device (GPS)

Can your auto insurance be surcharged for GPS tracked speeding?

#4 - Black Box Insurance Discounts

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What is MyRate℠

MyRate is Progressive's new Pay As You Drive program: If you're a safe and/or occasional driver, you could pay less for car insurance — a lot less!

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1. **Plug in the MyRate device.**
   When you enroll a vehicle in the MyRate, we'll send you a MyRate device that easily plugs into your car. Watch Video
2. **Drive as you normally would.**
   The MyRate device wirelessly and securely sends information about when, how much and how you drive your car to help determine your rate at renewal.
3. **Log in and see how well you're driving.**
   Track your projected renewal rate based on your driving behavior by logging on at progressive.com.

Is MyRate℠ Right for You?

Find out by answering the questions below. You may already be a good candidate to save money on your car insurance!

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State

My state is...

» Your Driving Habits

MyRate Question

Is this a GPS unit?

No. It only collects data related to how, how much and when you drive. The device does not collect any data related to where you drive.

Read more FAQ's.

MyRate News

- *Good Morning America*

Not-So-Free Ride - *New York Times*

How Technology Can Help Trim Auto Insurance - *Wall Street Journal*

How to Save on Auto Insurance - *ABC News Now*

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*Depending on which state you live in, you may see an increased rate — up to 9 percent — based on your driving habits. If you don't think that you can change your driving to receive a lower rate, you have the option to cancel the program at any time.

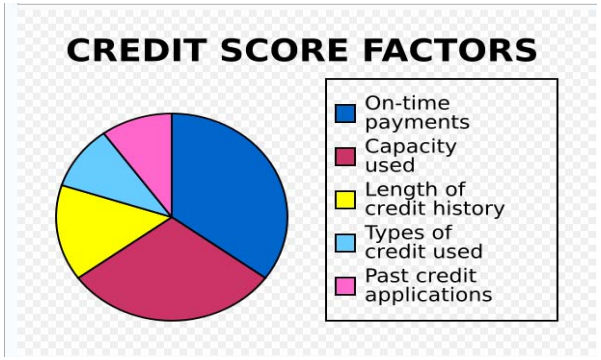
#3 - Credit Scoring

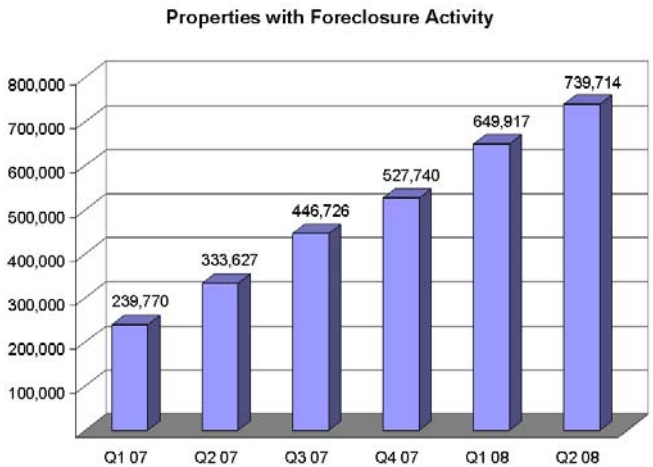
With the current US market crisis, will policies that rely heavily on credit scores be affected?

Consumer and Civil Rights Groups Reject Federal Report on Insurance Credit Scoring

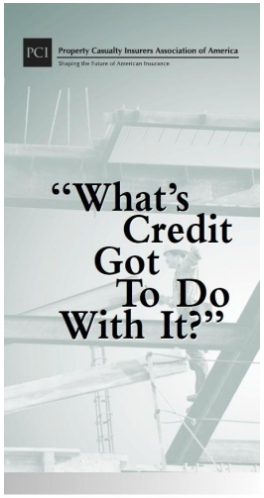
Fatally-Flawed Report Relies on Handpicked Data by Insurance Industry, Fails to Respond to Congressional Mandate

WASHINGTON, DC – July 24, 2007 – Representatives of consumer and civil rights organizations today condemned a congressionally-mandated report on insurance credit scoring by the Federal Trade Commission (FTC) as biased insurance industry propaganda. The groups called for Congress to reject the defective study and ban the use of credit scoring in insurance.





Source Data: RealtyTrac Press Releases of "U.S. Foreclosure Market Report"
Chart Created by Contributor



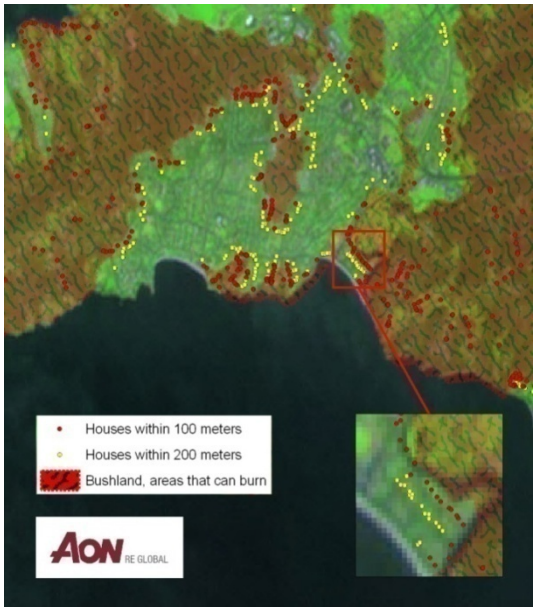
How Insurance Scoring Benefits Consumers

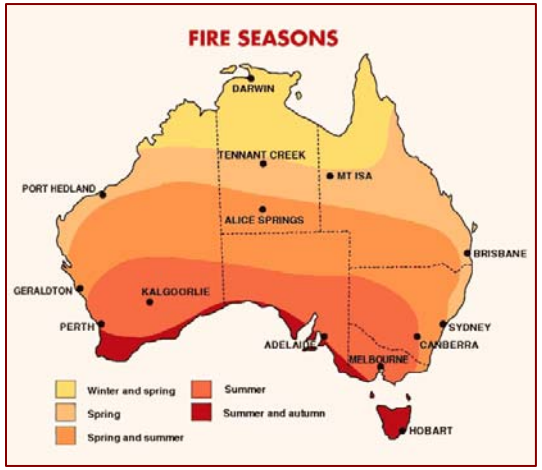
FICO® Score

FICO® scores help lenders make accurate, reliable and fast credit risk decisions across the customer lifecycle. The scores rank-order consumers by how likely they are to pay their credit obligations as agreed.

#2 - Geo-coding and proximity to fire hazards

Will your insurance be surcharged based on the location of your house to bush fire hazard?





#1 - Flood Plain Maps

Could this lead to extreme rate dislocations, availability problems for high-risk exposures, and calls for government regulation to preserve “sharing the risk” in a “fair” manner?

Historically the risk of flood might have been spread as a small charge across all residents in a post code, now it is possible to individually rate each property.

Eureka!!!!

With the latest release of flood plain information I can now *individually rate* each and every flood insurance policy based on house location. I'm going to revolutionize the insurance market!

But wait….Is this an acceptable risk classification?

- Is it “fair”?
- What do my professional standards say?
  - Do the IAA’s Professional Standards address this issue?
  - Does this satisfy the AAA’s risk classification statement of principles?
  - Does it follow Actuarial Standards Of Practice?
- What is the impact of not using this level of classification?

AAA's Risk Classification Statement of Principles

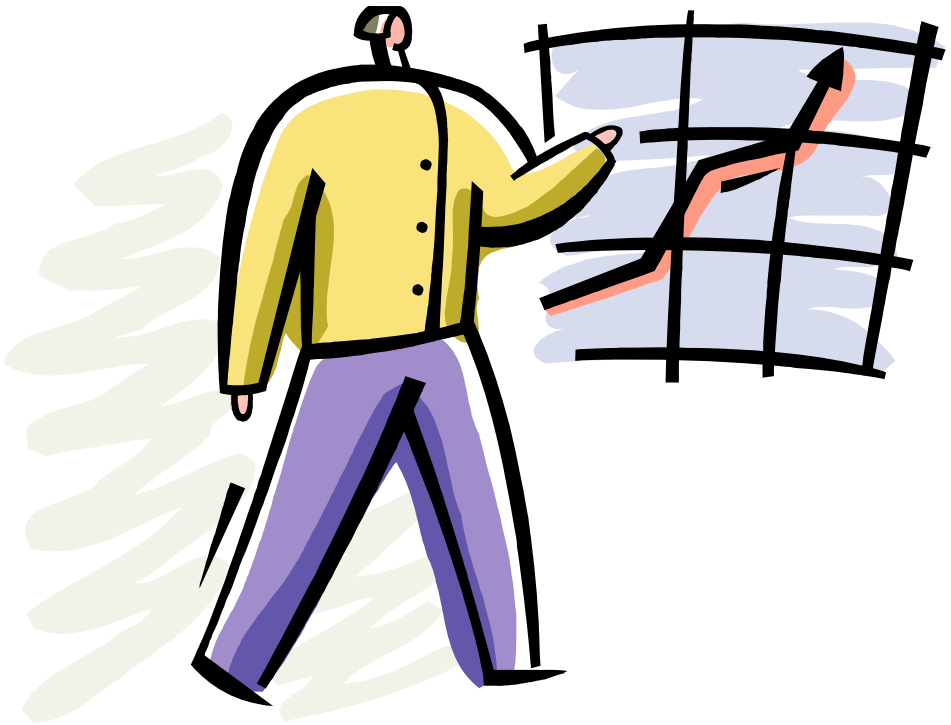
- The process of risk classification should serve three primary purposes:
  - Protect the insurance system's financial soundness;
  - Be fair; and
  - Permit economic incentives to operate and thus encourage widespread availability of coverage.
- In order to achieve the primary purposes basic principles should be present in any sound risk classification system:
  - The system should reflect cost differences.
  - The system should distinguish among risk on the basis of relevant cost-related factors.
  - The system should be applied objectively.
  - The system should be practical and cost-effective.
  - The system should be acceptable to the public.

ASOP No.12: Risk Classification

- Considerations in the Selection of Risk Characteristics
  - Relationship of Risk Characteristics and Expected Outcomes
  - Causality
  - Objectivity
  - Practicality
  - Applicable Law
  - Industry Practices
  - Business Practices
- Considerations in Establishing Risk Classes
  - Intended Use
  - Actuarial Considerations
    - Adverse Selection
    - Credibility
    - Practicality
  - Other Considerations
  - Reasonableness of Results

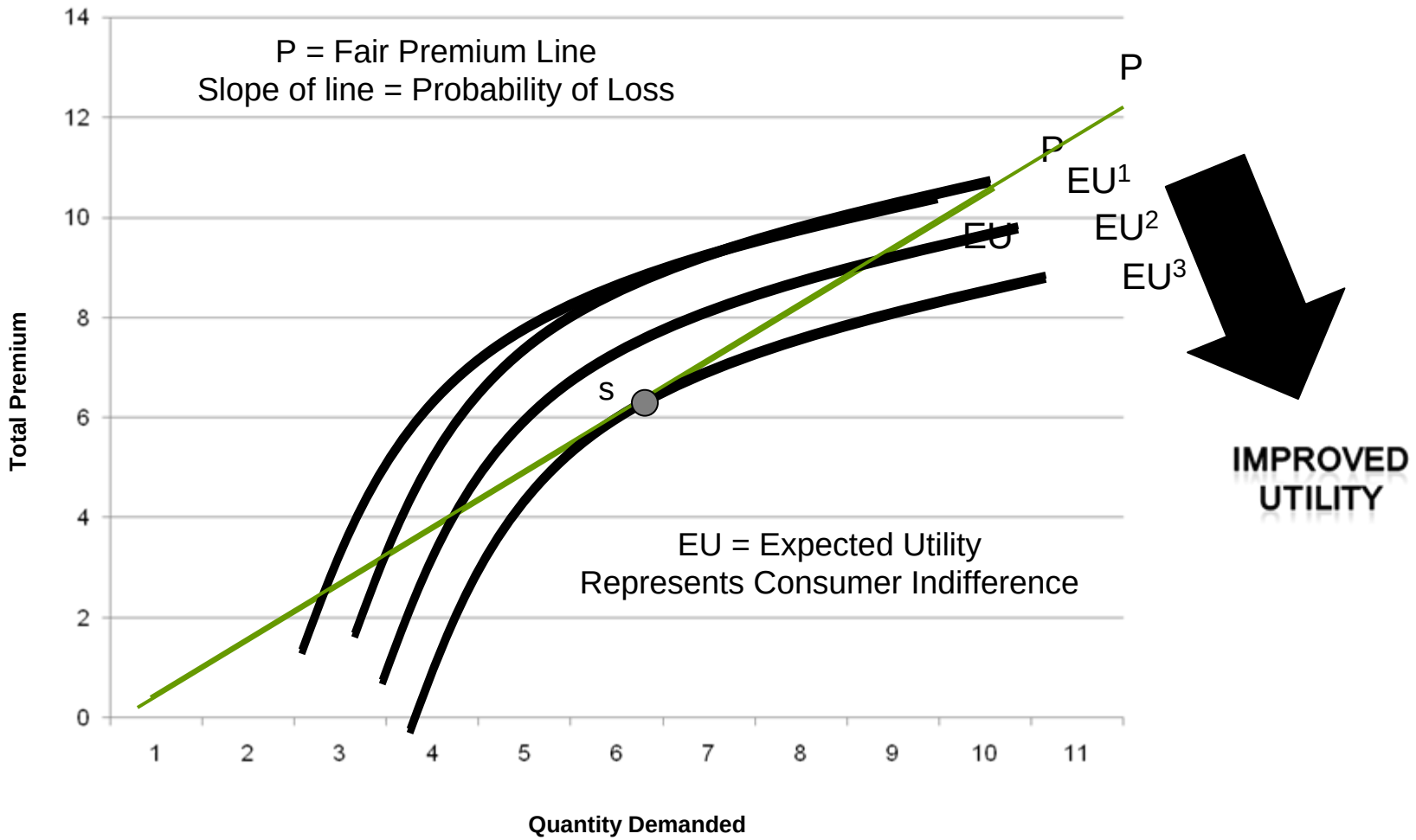
Impact of Risk Classification in the Market

An Economic View:
Using graphs from Cummins et al.,
“The Economic Role of Risk Classification”

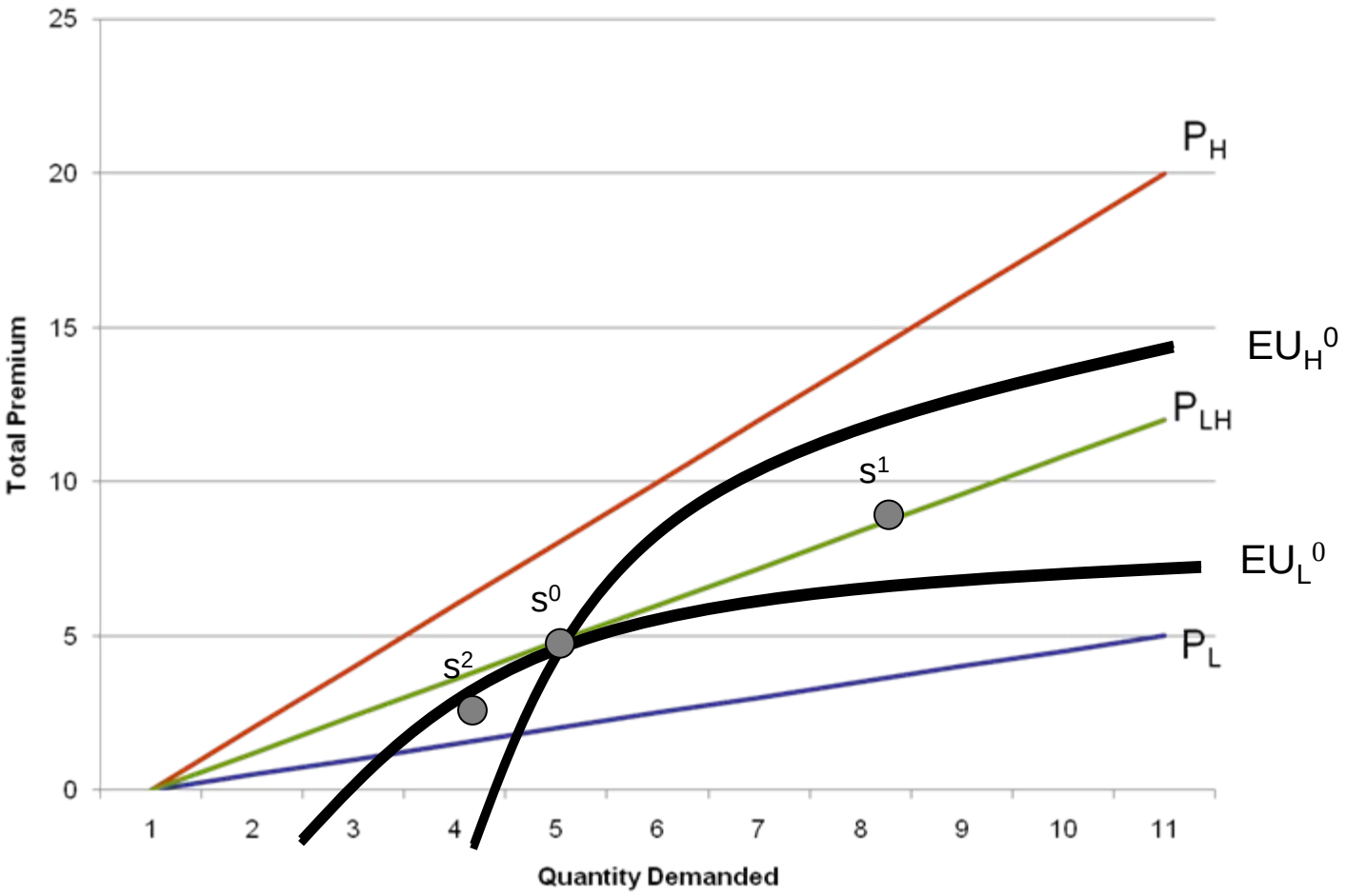


Let’s go to the graphs!

Cummins' Graphing Basics

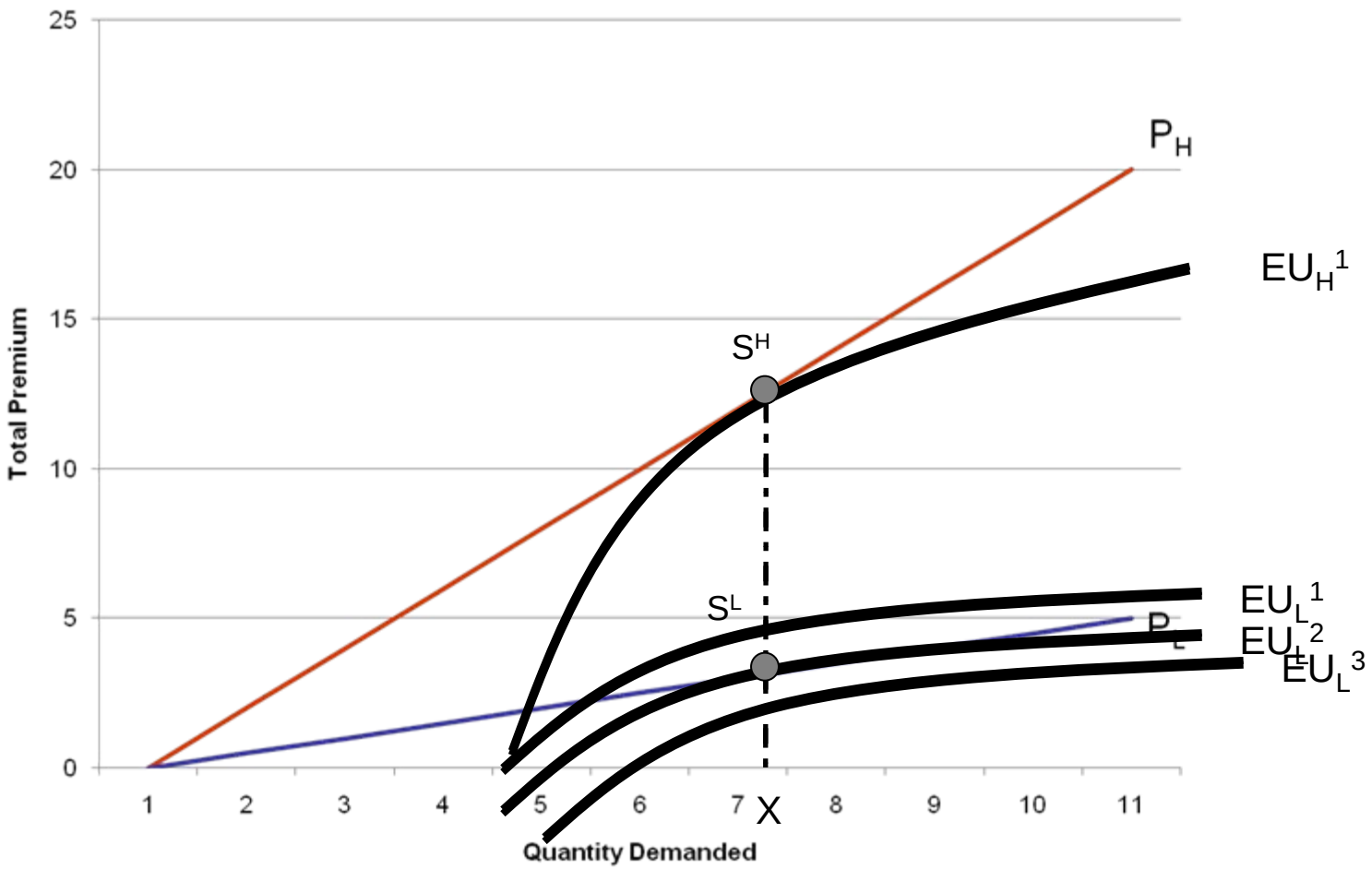


Market without Risk Classification



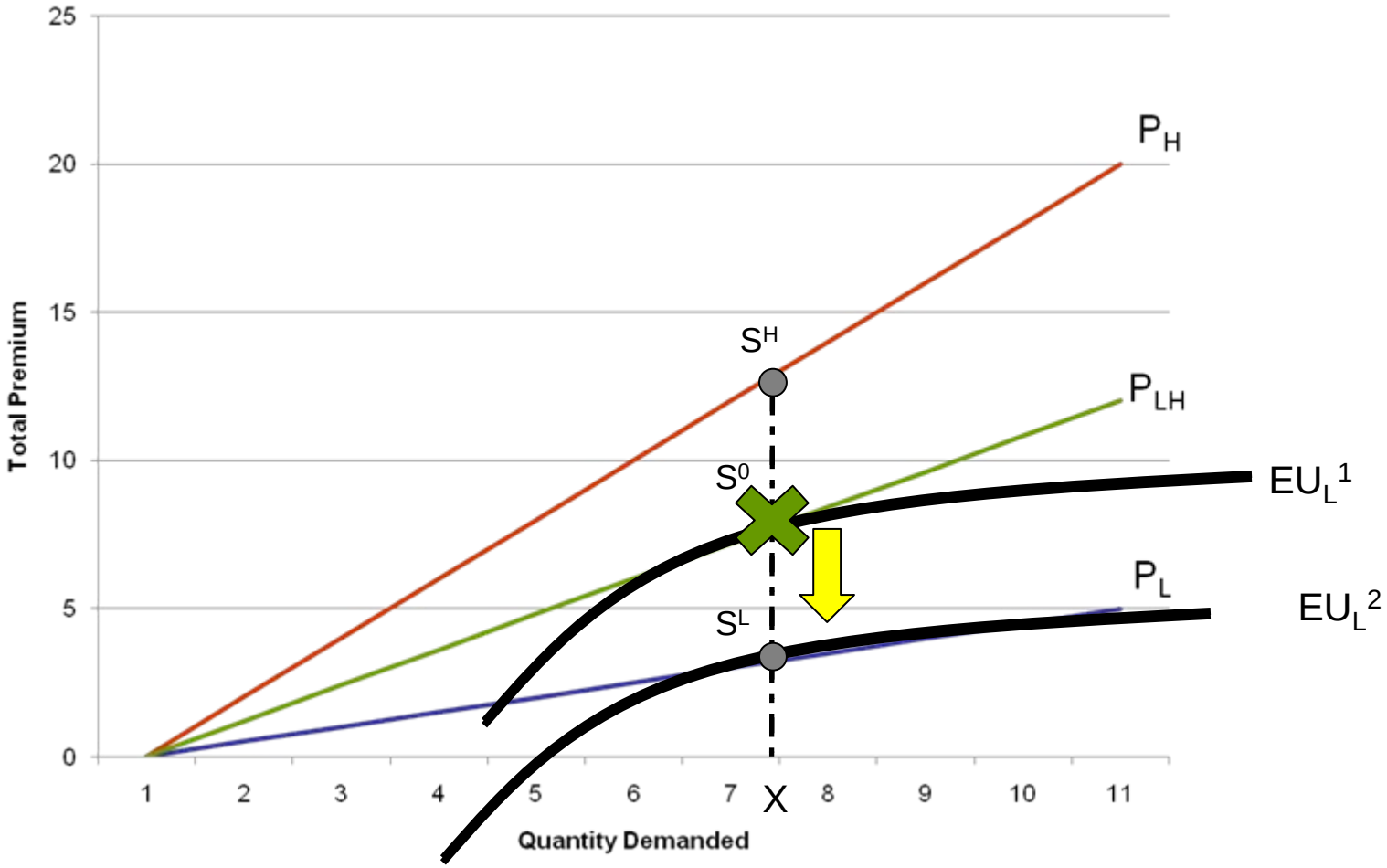
No one uses the new flood plain maps

Market with Perfect Information & Risk Classification



Everyone uses new flood plain maps

Risk Classification: To use or not to use



You don’t use the flood plain maps but everyone else does

The Ultimate Result

An Underwriting Loss……

With an unhappy boss!

What Happens When Technology Happens?

- Technology isn't going away
  - Information is becoming more and more available
  - Actuarial tools are becoming more and more advanced
- Pooled rates will no longer be sustainable
  - Availability Problems
  - Affordability Issues
- Will situation only be solvable with Government intervention?

Government Intervention - Regulation

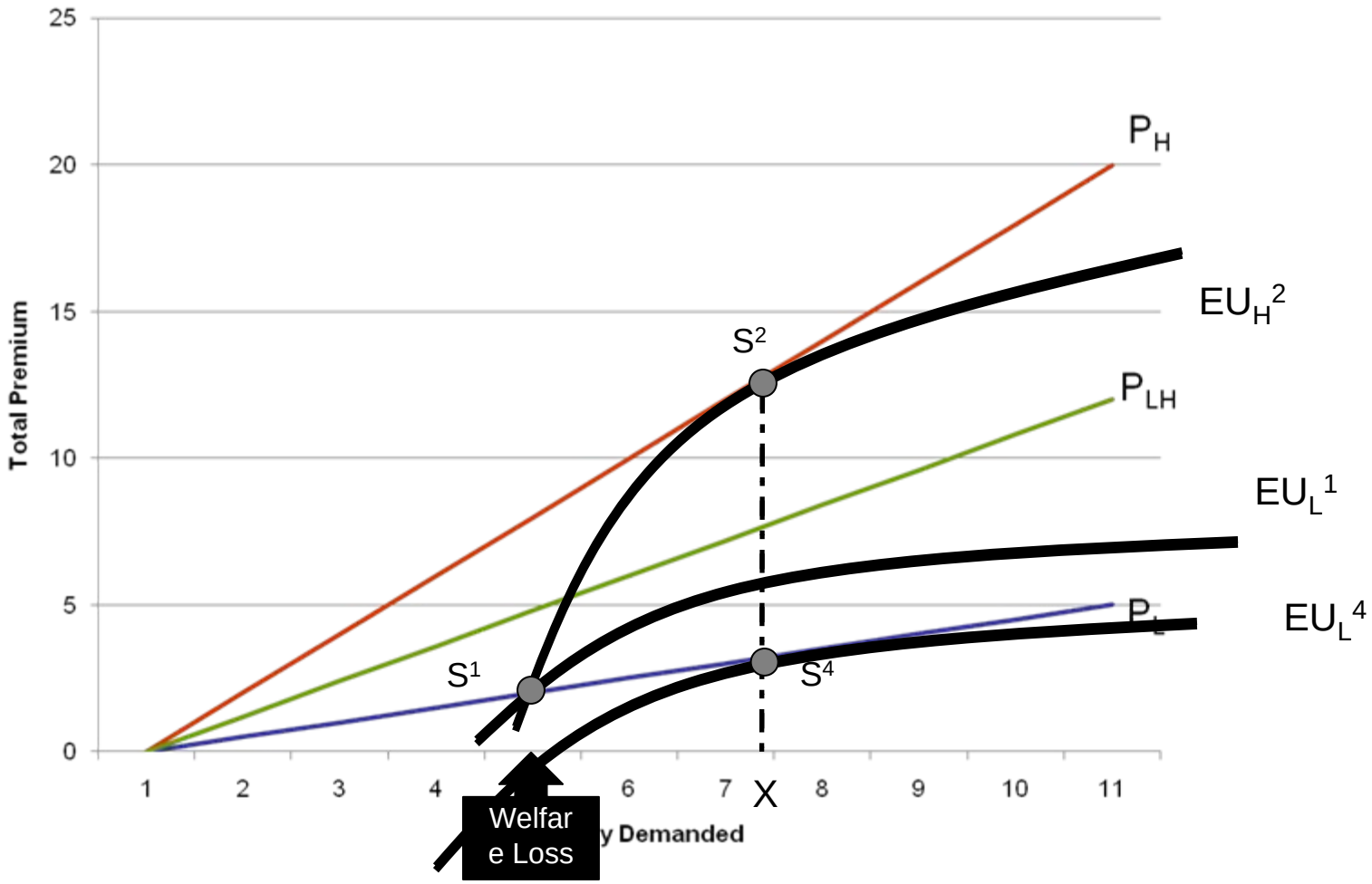
Used to preserve the “sharing the risk” in a “fair” manner

Example: Banning risk classification

Market Effects?

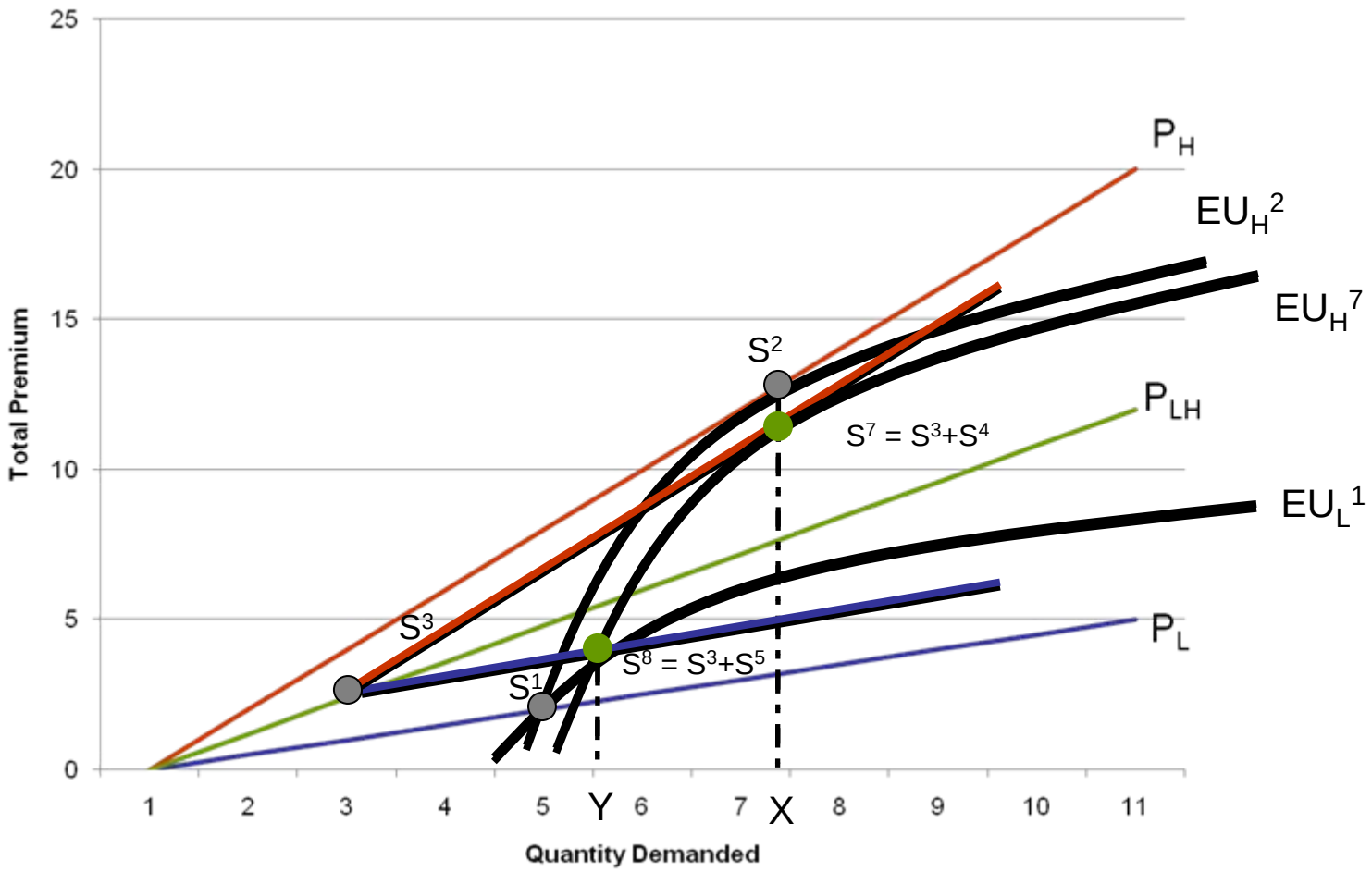
Back to the graphs!

Market Equilibrium – Self Selecting



Banning Risk Classification

Government Intervention - Subsidy



To Reduce the Welfare Loss

Questions

What can we learn from past examples of new technologies?

How will these issues affect our work?

Is a government takeover inevitable?

Are we doomed?

How can we use evolving technology to our advantage?

What do our professional standards say?

What is our role?

What are market implications?

Should we care?

Are we bystanders or participants?

What does this mean to actuaries?

- Technology/data is changing the nature of our work in powerful ways.
  - The pace of change can be lightning fast.
  - Should we be thinking about implications before the issues arise?
- Market forces will drive using information, even if this has troublesome consequences.
  - “Doing the right thing” may be commercially impossible.
  - Government intervention may follow.
- Actuaries will face a number of interesting ethical or professional dilemmas.
  - Do our standards adequately address the issues?
  - Should the Institute discuss the issue?
  - Should we care?

Speaker Contact Information

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