LECTURE 1.1

THE ECONOMIC APPROACH

THE STORY OF MERRILL LYNCH

In 2002 Merrill Lynch settled charges that its analysts had recommended stocks to its clients that they thought were poor investments. They agreed to pay $100 million in the settlement:

- Internet services company Infospace was recommended to clients yet called a “powder keg” or “piece of junk” in internal emails.
- Excite@Home was rated accumulate or buy, yet internally called a “piece of crap”.

The Merrill Lynch triggered a broader investigation, ultimately resulting in a $1.2 billion settlement by 10 investment banks to protect investors from brokerages.

THE STORY OF MERRILL LYNCH

What would Merrill Lynch's management need to do to fix this problem?

As a start, Merrill Lynch would need to understand what motivated Merrill Lynch analysts to mislead its investment clients.

- Was it simply a few dishonest employees?
- Or had Merrill Lynch created incentives through its compensation plan?

Different diagnoses lead to different responses. And what should that response look like? What form would an effective compensation plan take?

To make an effective remedy, we need to understand what motivates behaviour.

THE ECONOMIC APPROACH

Economics studies how individuals make choices under constraints

- What do consumers buy with limited income?
- How do managers and employees make production and pricing decisions with limited resources?

Economics emphasises the role of incentives

- What are the incentives of firms to compete?
- What are the incentives of employees to work hard and make good decisions?

Economics can help us understand why analysts at Merrill Lynch rated a “piece of crap” highly for clients

CORE ECONOMIC PRINCIPLES

Two principles are critical to understand the relationships of the firm:

1) **Incentives matter:** Economists generally see agents acting in their own interest (although that interest can be defined very broadly)
2) **Asymmetric information:** Your employee knows some things that you don't. The CEO knows things that shareholders don't. Teams members know some things that others don't.

So what will be important? If you recall the Enron example from the introductory lecture, it was:

a) Assignment of decision rights

b) The system of incentive compensation

c) Performance evaluation

THE ECONOMIC MODEL OF BEHAVIOUR

The economic model of human behaviour is one of constrained optimisation.

- Consumers maximise utility subject to a budget constraint
- Firms maximize profit subject to a production constraint
- Managers maximize their ‘payoff’ subject to the constraints imposed by the firm.

In each case individuals compare costs and benefits at the margin. They go ahead with decision as long as the marginal benefit is greater than the marginal cost (MB > MC).

THE ECONOMIC MODEL OF BEHAVIOUR

We can apply this to a whole range of decision-making scenarios for the firm. Consider these decisions.

- How much to produce?
- How much to advertise? In which media?
- How much to research/innovate?

Consider these decisions for employees of a firm

- How hard to work?
- Which tasks to perform?
- How much to pay workers?
- How much risk to take?

Aside: are people always so calculating and rational? Perhaps not.

THE ECONOMIC MODEL OF BEHAVIOUR

Some of the implications of the economic model of behaviour.

- Sunk costs are irrelevant, only avoidable costs matter. Suppose you get utility from both income from work and playing tennis. The fact you paid $5000 last month for the tennis membership should not affect today's decision about whether to work or play tennis.
- Opportunity costs are what matter from an economic and indeed strategic point of view. For example, time is money.

But calculations can be time consuming. Perhaps individuals adopt a more heuristic approach.

INDIVIDUAL CHOICE

Dom values two goods: food and clothing.

We represent an individual's preferences by a utility function:

$$\text{Utility} = U(\text{food}^{+}, \text{clothing}^{+})$$

Dom would like more of both, but faces a budget constraint. He has an income of I, yet each unit of food and clothing costs P_f and P_c respectively:

$$I \geq P_f F + P_c C$$

$$Or\ F \leq I/P_f - (P_c/P_f)C$$

P_c/P_f is the price ratio.

INDIVIDUAL CHOICE

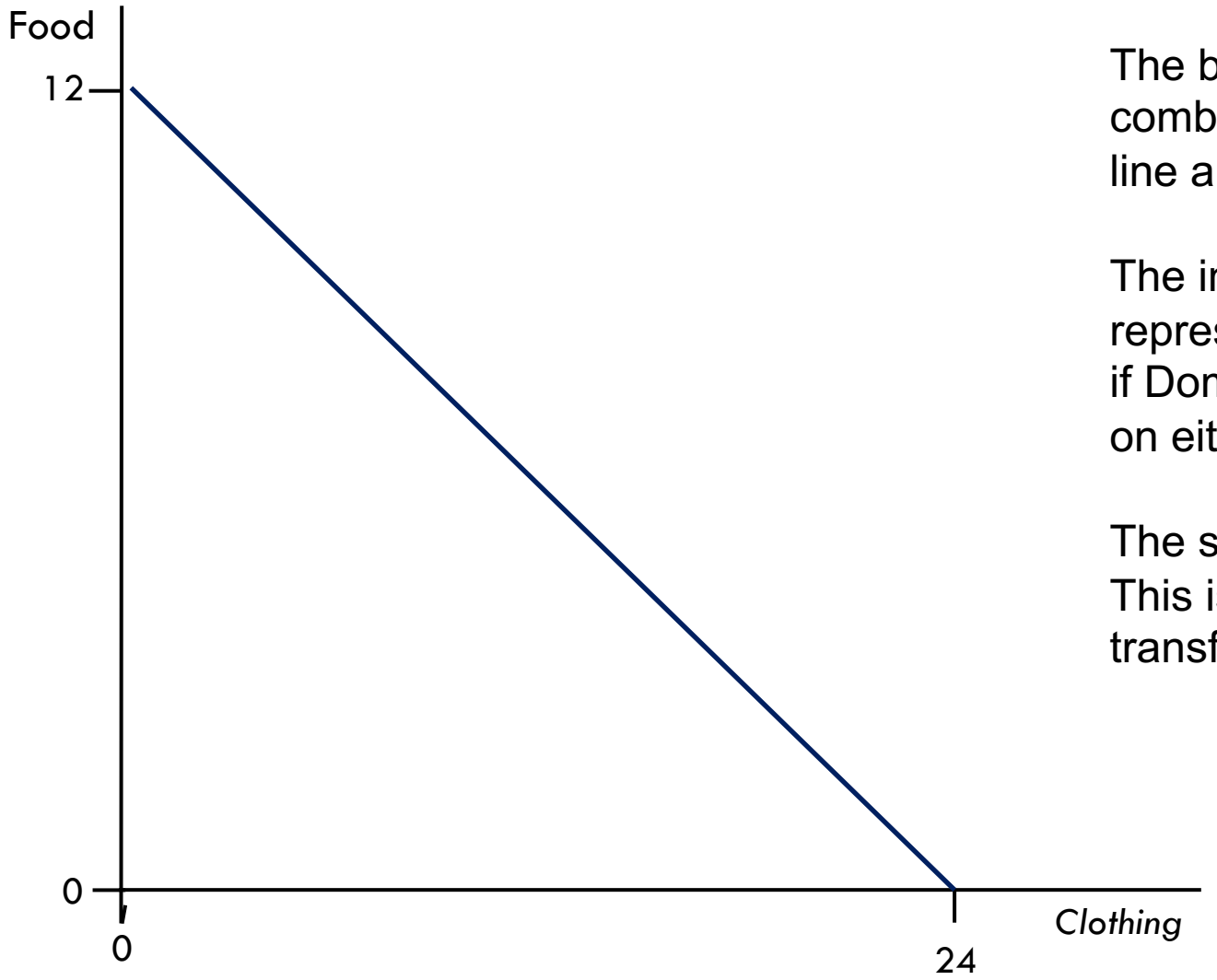
Individuals maximize utility subject to a budget constraint. The utility function is represented graphically using indifference curves.

At the optimum, agents choose the highest possible indifference curve subject to the budget constraint. With well behaved preferences this means that the slope of the indifference curve is equal to the slope of the budget constraint at the optimum.

MRS = MRT or price ratio

$$\frac{\partial U_f}{\partial U_c} = -\frac{p_c}{p_f}$$

Let:
$I = 72$
$P_f = 6$
$P_c = 3$

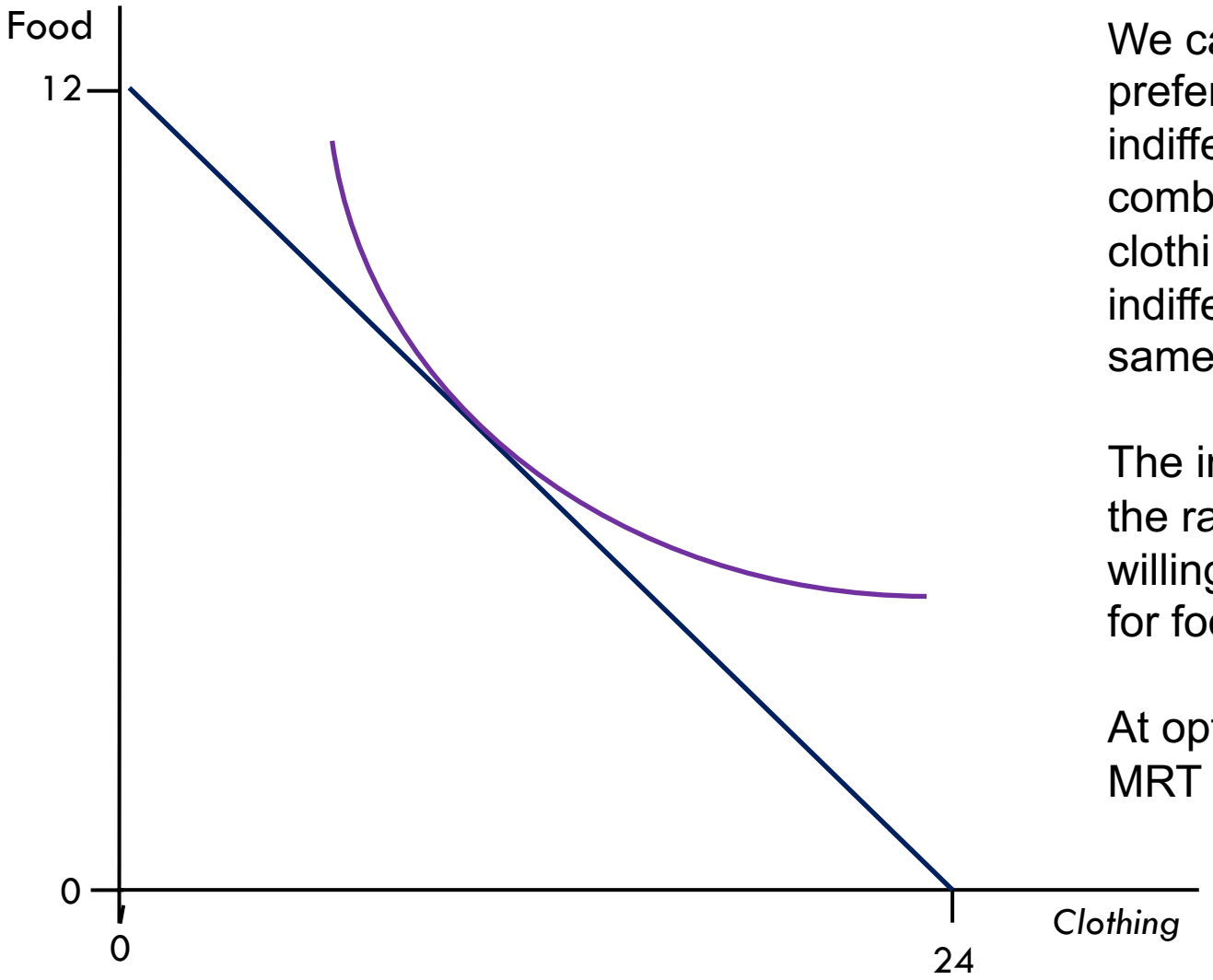


The budget line: All combinations on or below the line are attainable.

The intercepts at each axis represent what would happen if Dom spent all of his income on either food or clothing.

The slope of the line is $-P_c/P_f$ This is the marginal rate of transformation

Let:
$I = 72$
$P_f = 6$
$P_c = 3$

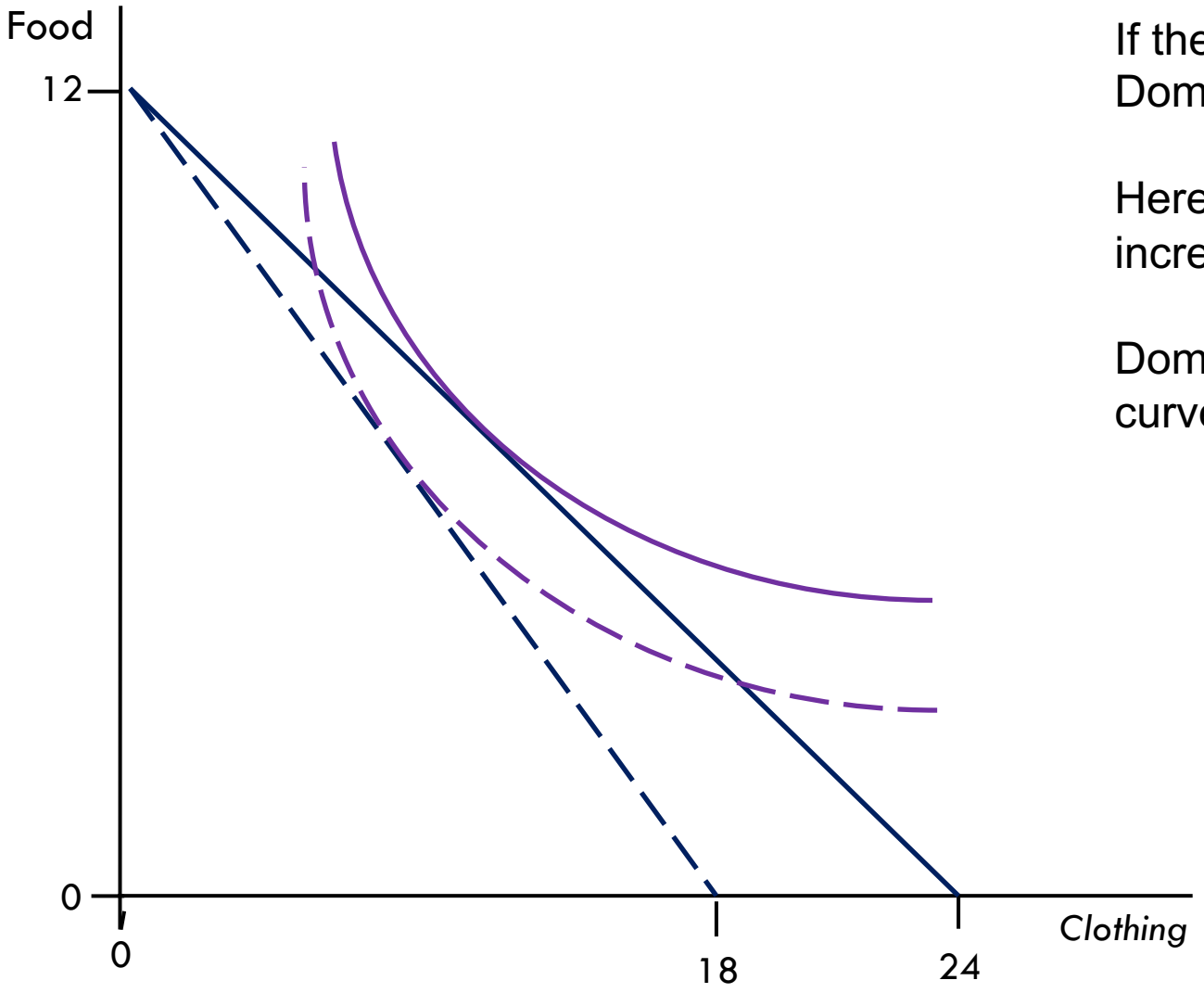


We can represent Dom's preferences through indifference curves. All combinations of food and clothing along the indifference curve give the same utility.

The indifference curve gives the rate at which Dom is willing to substitute clothing for food.

At optimum, MRS equals the MRT or price ratio

Let:
$I = 72$
$P_f = 6$
$P_c = 4$



If the price changes, so does Dom's decision.

Here the price of clothing has increased.

Dom is now on a lower utility curve.

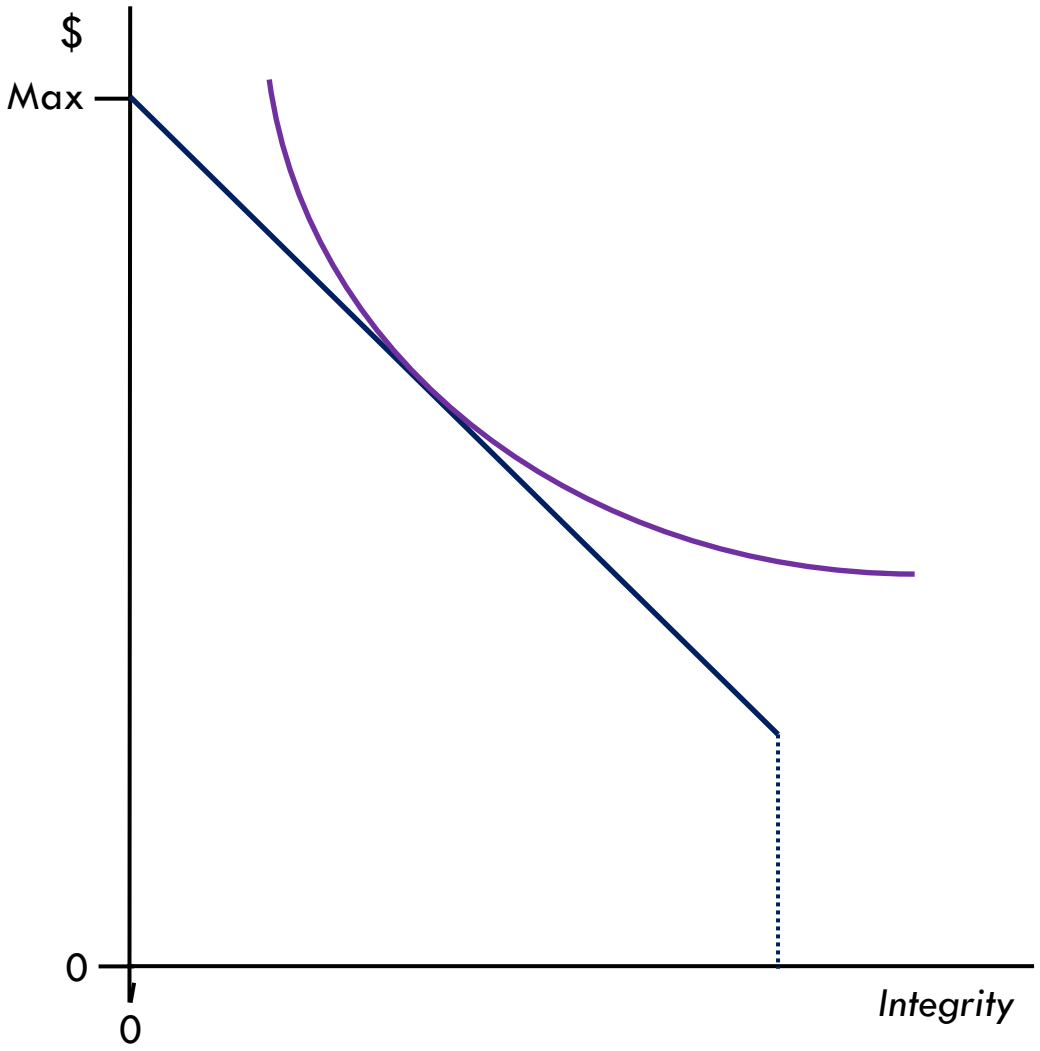
HOW TO USE THIS APPROACH

We can use the same approach to understand the behaviour of analysts at Merrill Lynch. They have preferences over money (M) and integrity (I):

$$U(M,I) = U(\text{money}, \text{integrity}) \quad (+, +)$$

Suppose that poor investment advice presents a tradeoff. It likely gives greater monetary reward, but has a negative impact on one's integrity. (In the case of Merrill Lynch, analyst bonuses were determined in part by the success of the investment banking side of the business.)

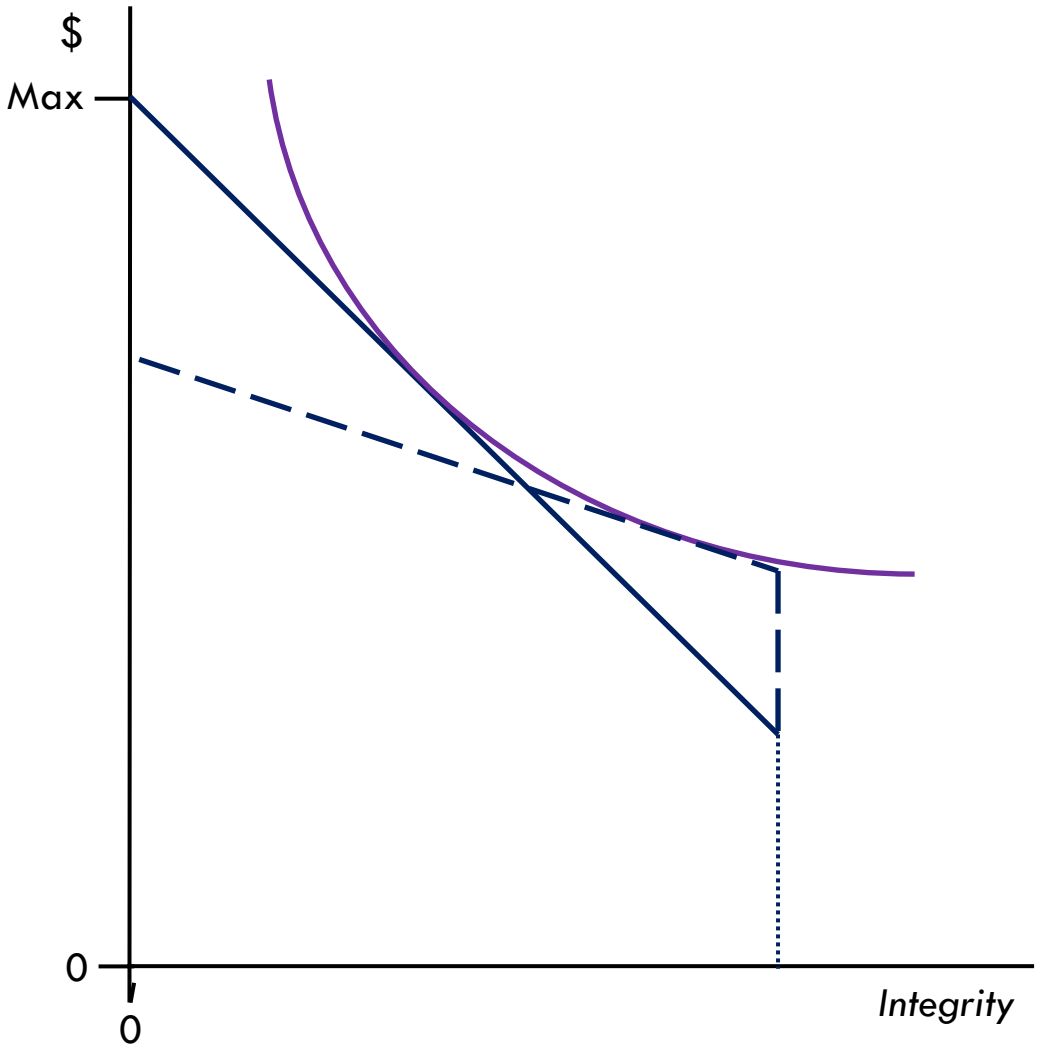
How should the analyst give investment advice*?*



The diagram here looks like the previous one where the choice was over food and clothes.

The constraint looks different as a base salary provides a floor.

The analyst chooses the combination of money and integrity that maximises their utility.



What happens if Merrill Lynch changes the compensation scheme, say by reducing the degree the bonus is tied to the investment banking business?

HOW TO USE THIS APPROACH

It may be the case, of course, that in trying to influence outcomes what is important is the preferences (or indifference curves) of the individuals.

This is likely to present different and arguably more challenging problems.

HOW TO USE THIS APPROACH

We also need to ask what else might motivate behaviour. What are some potential models?

- **Money matters:** But what of volunteering? Retirement?
- **Happy-is-productive model:** Happy employees exert effort. So, how do you make them happy?
- **Good citizen model:** People inherently want to do a good job for the organisation. But surely incentives matter?
- **Product of the environment:** Treat people poorly and they behave poorly. Certain environments might have a culture of cheating that affects the behaviour of new people who join them.

Takeaway: Incentives matter, but single explanation models are likely to be inadequate.