7. Income Redistribution

Outline

1. Definitions of Poverty
2. Measurement of Poverty and Inequality
3. Income Distribution and the Life Cycle
4. Policy Issues: Means Testing

1. Inequality and Poverty

Inequality

= The existence of differences in incomes, or other measures of economic wellbeing.

Poverty

= An inability to maintain and "acceptable" standard of living.

1. Inequality and Poverty

Is inequality in itself and appropriate matter for public policy to address?

There is more agreement that public policies should address poverty.

Policies to address **poverty** will focus on the lower ends of the income distribution.

Policies to address **inequality** may re-distribute from richer to poorer.

1. Definitions of Poverty

Use the idea of a **poverty line** which is a threshold at which poverty starts/ends.

Poverty line can be relative or an absolute quantity.

1. Definitions of Poverty

Absolute Poverty

- This is defined in terms of an inability to subsist.

- A constant real amount that is unaffected by growth in living standards among the rest of the population.

- The money value of this may rise if the prices of subsistence commodities rise even if the general price level does not change. E.g. Prices of potatoes, flour, energy and housing etc. in the developed world.

1. Definitions of Poverty

Relative Poverty

Defined in terms of exclusion from "normal" activities of the society.

The poverty line may reflect social norms - cable tv housing a/c etc.

Defining the poverty line *is controversial.*

Many published statistics of poverty define the poverty line as some % of average household incomes.

(e.g. UK "HBAI" – Households below average incomes.)

This has the effect that the number of "poor" can rise simply because other people can become richer.

1. Definitions of Poverty

What should we measure?

Household or individual?

Ex Post Concepts

- Current Income
- Current Spending
- Current Wealth
- Life-time Income

Ex ante inequality

- Inequality of opportunity.

2. Measuring Inequality

The first step is usually to calculate a histogram or frequency distribution of people's incomes.

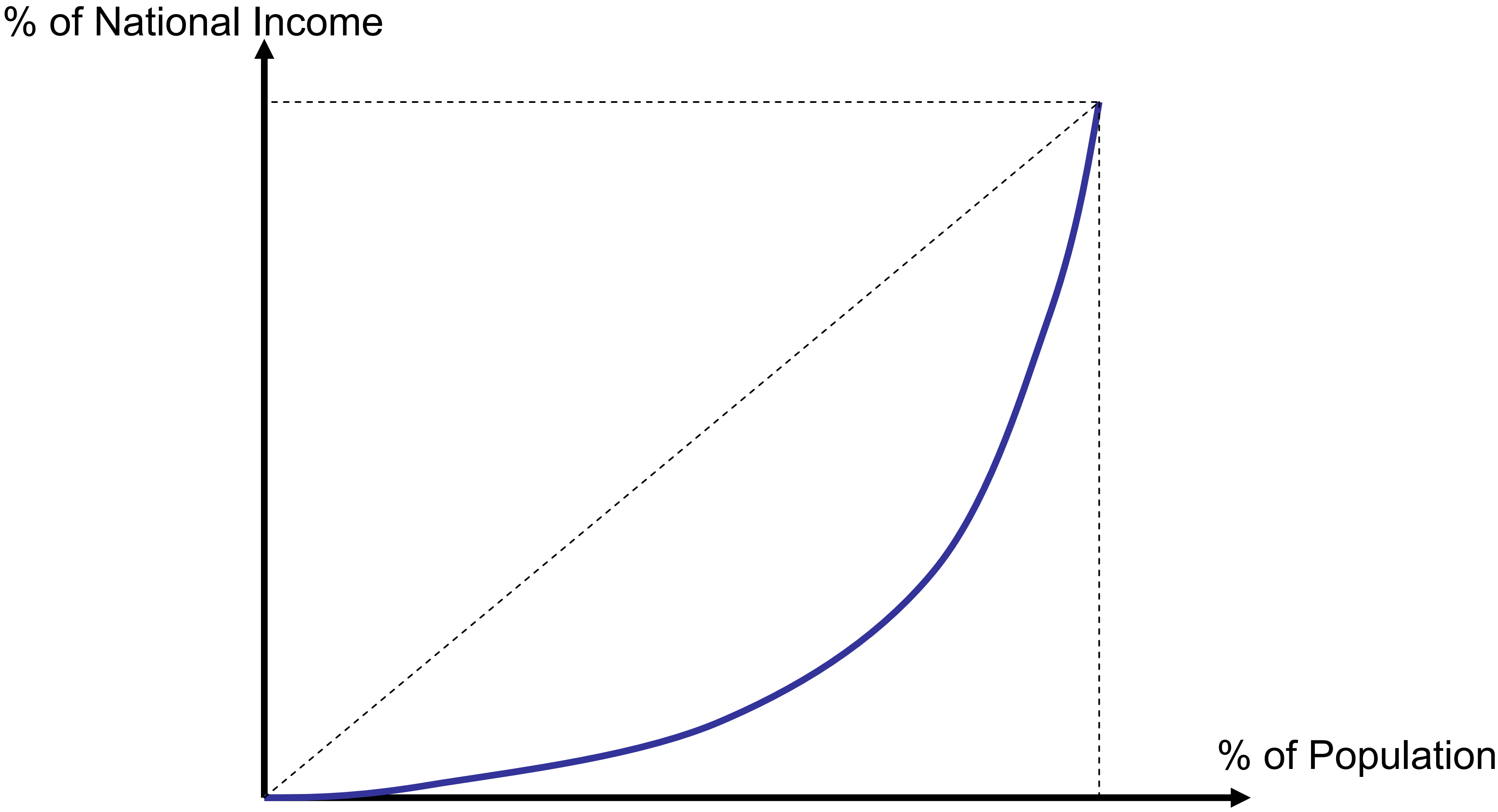
But these are difficult to compare across time and across countries.

Instead it is good idea to plot the following graph.

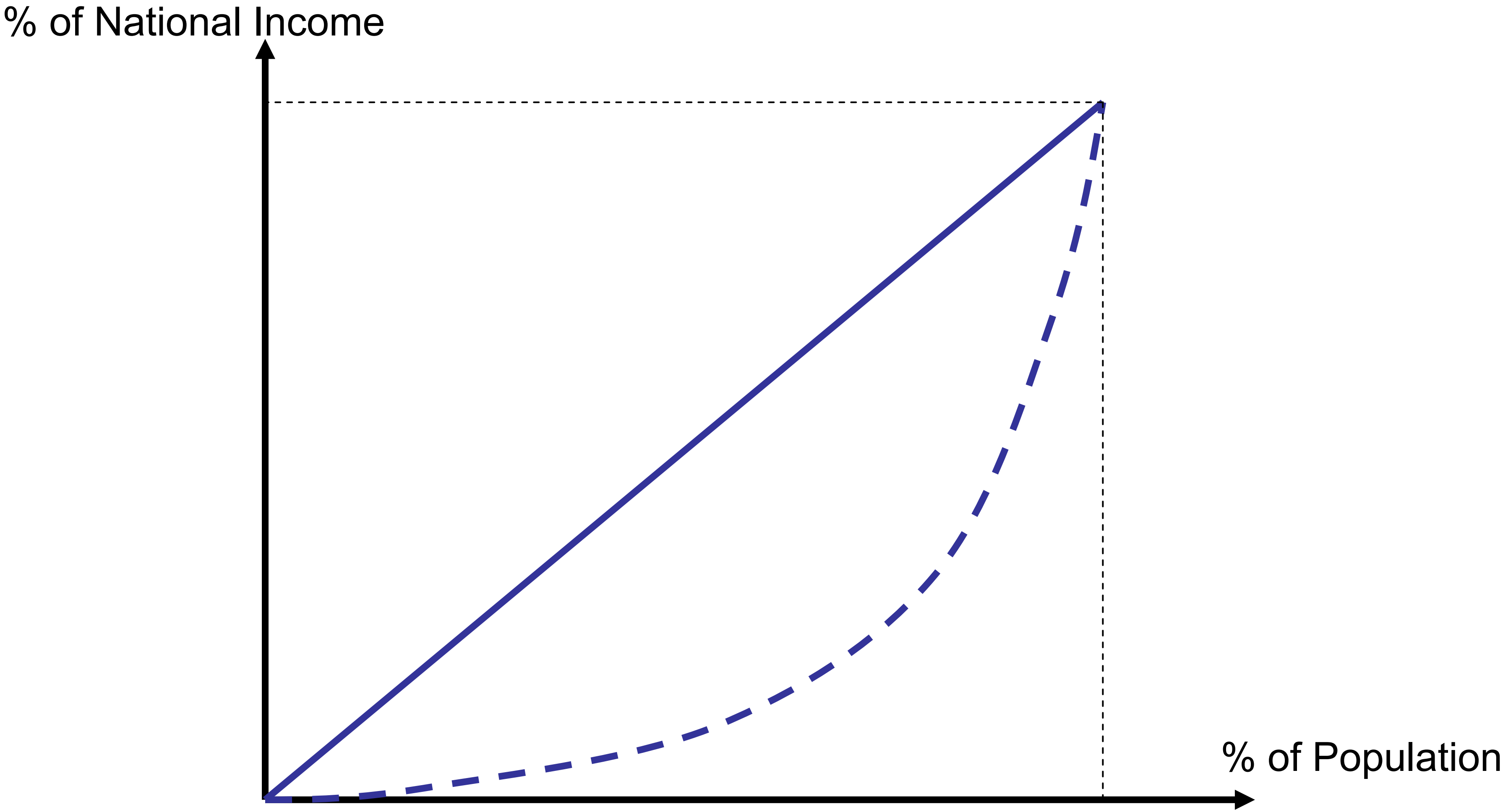
To do this you first order the population by income (poorest first).

Then you count what % of national income the poorest 10% 20%....etc receive.

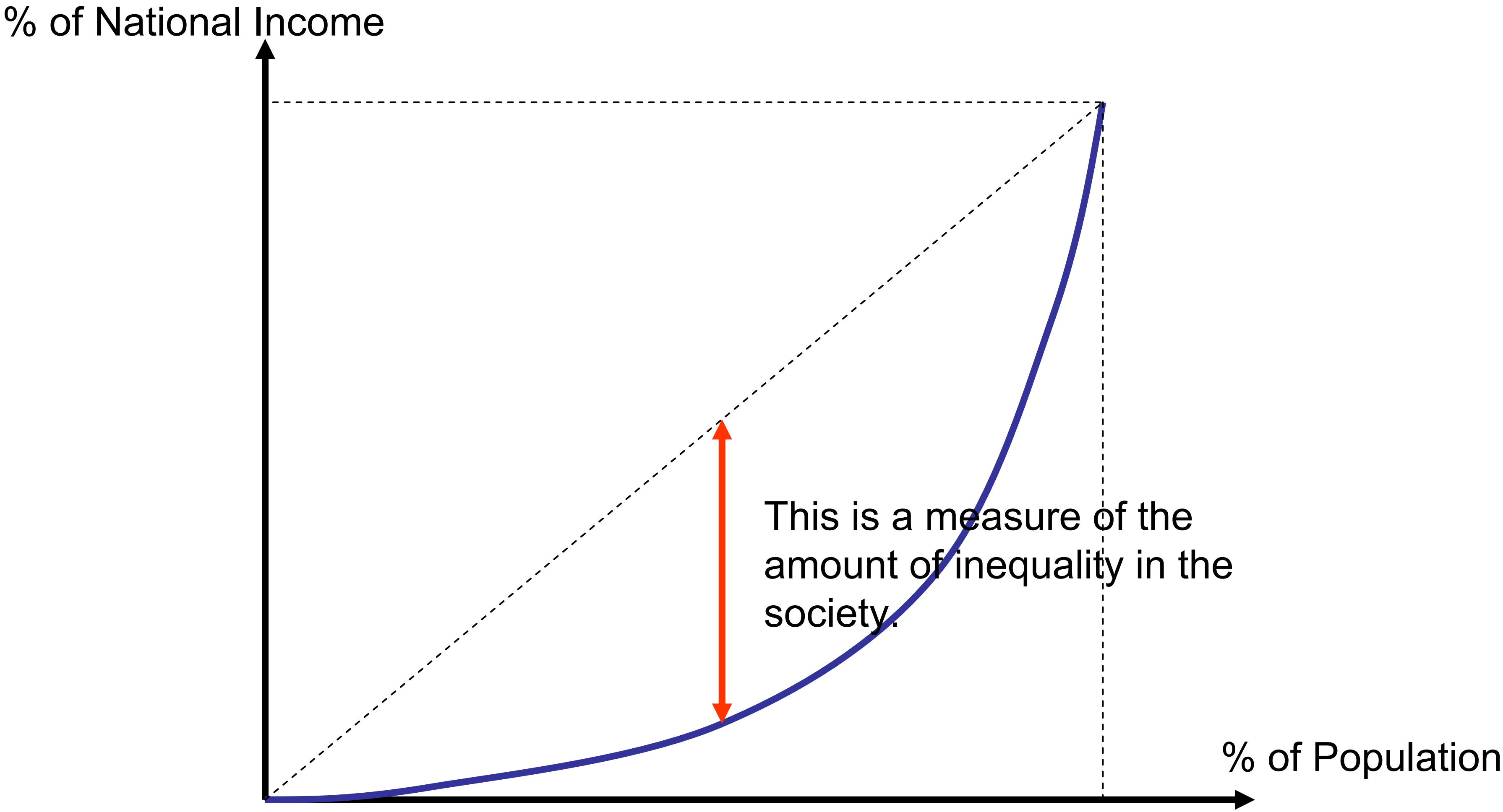
2. Lorenz Curves



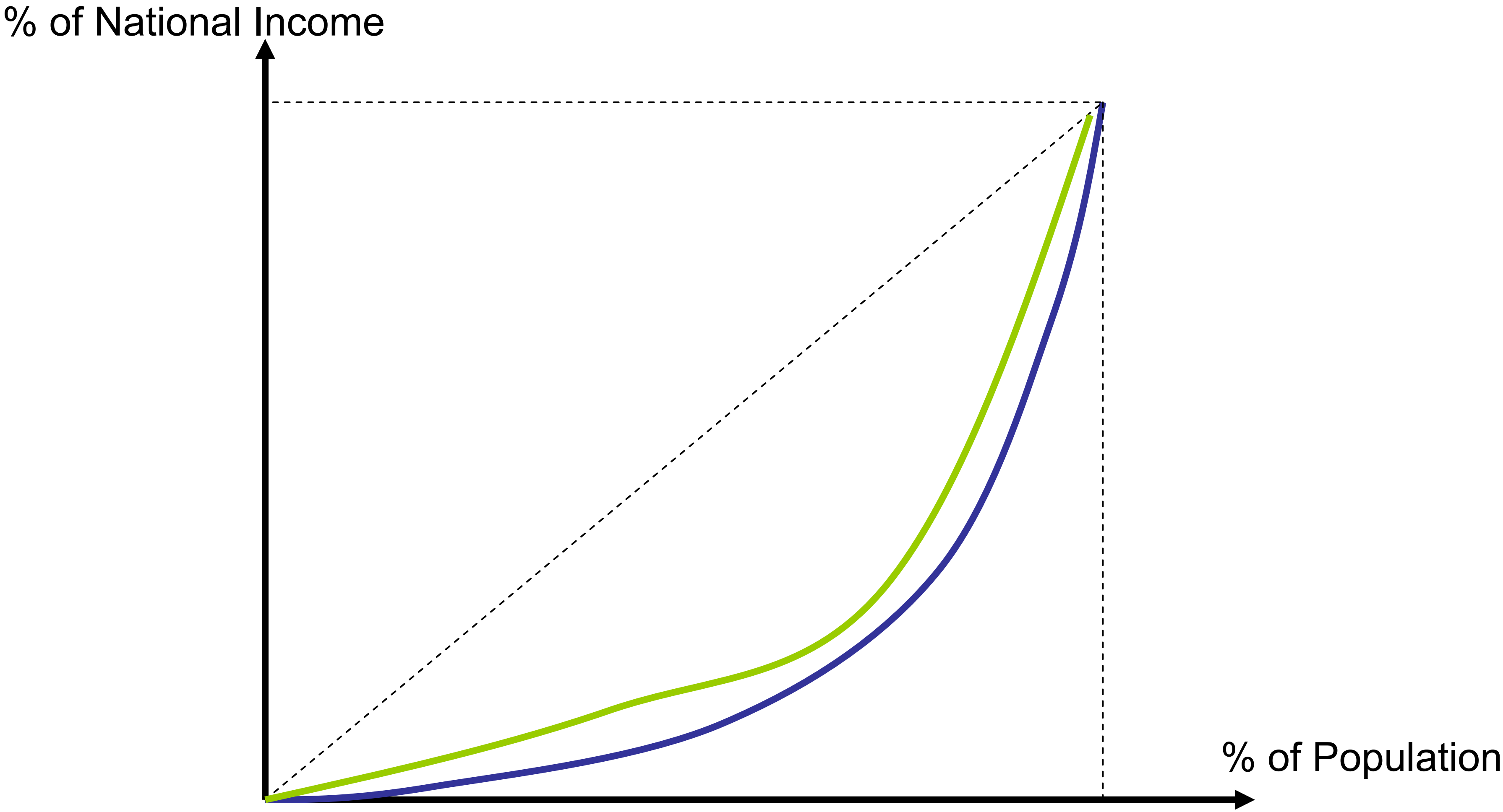
2. Perfect Equality = everyone earns equal share



2. How much inequality?



2. Which is less equal?



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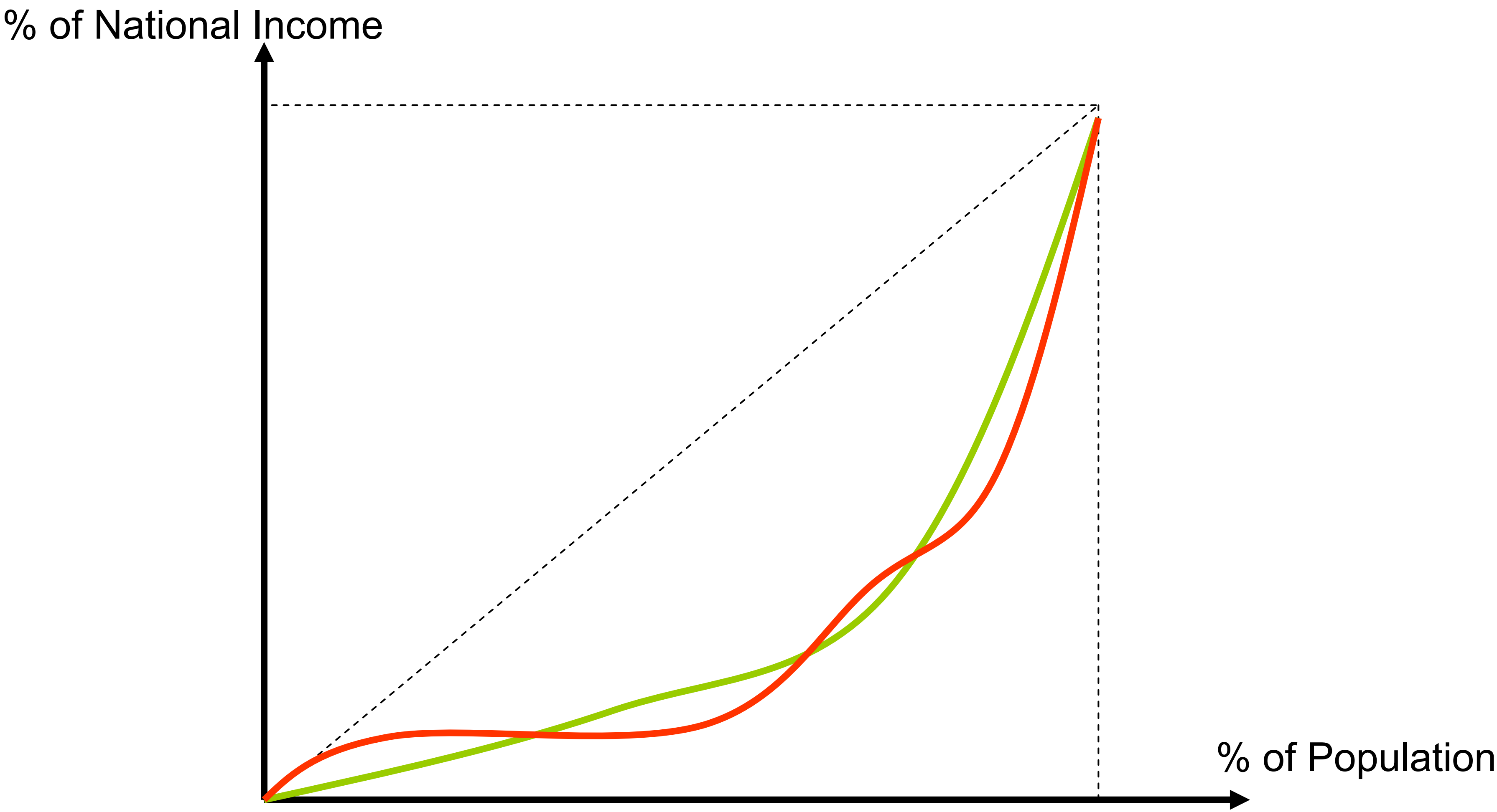
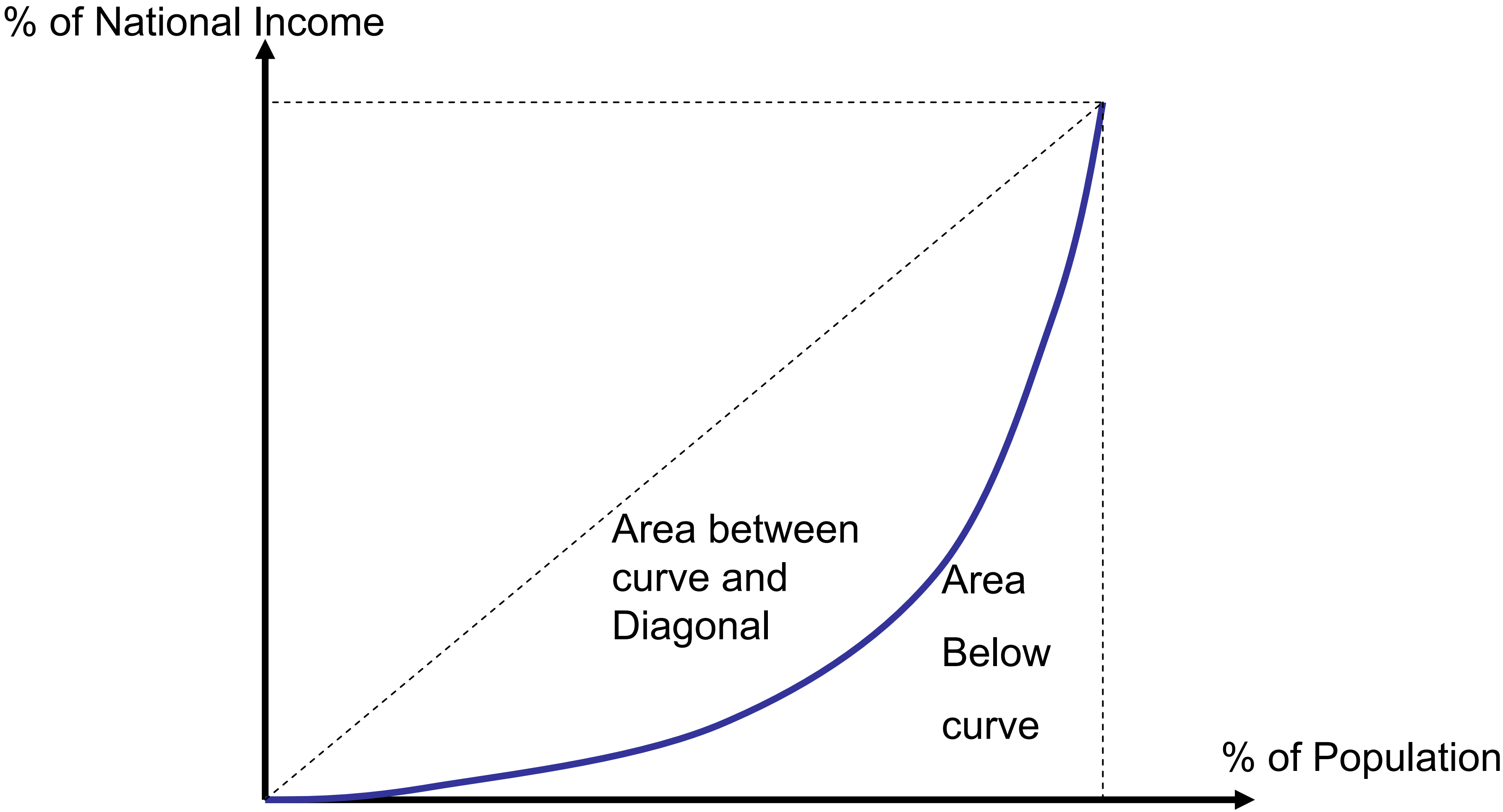


2. Gini Coefficient



2. Gini Coefficient

Gini Coefficient = 2 x Area above the curve below 45^{o} line.

Gini = 1 when there is complete Inequality
= 0 when there is complete equality.

There is an implicit assumption about society's attitude to inequality:

- All deviations from equality matter equally
- The losses of the poorest and the losses of the middle class are just as important
- (Taxing the rich and giving to the not so rich reduces inequality.)

2. Dalton-Atkinson Measure

How much would a country be prepared to give up to move to complete equality of income?

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Suppose people have different incomes:

$$Y_1, Y_2, \ldots, Y_N$$

So the average income is

$$Y^* := (Y_1 + Y_2 + \ldots + Y_N)/N$$

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Average income: $Y^* := (Y_1 + Y_2 + \ldots + Y_N)/N$

If a society prefers equality, then it should think that the distribution $(Y^*, Y^*, \ldots, Y^*)$ is better than $(Y_1, Y_2, \ldots, Y_N)$.

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Society prefers distribution $(Y^*, Y^*, \ldots., Y^*)$ to $(Y_1, Y_2, \ldots, Y_N)$.

So it ought to prefer…

$(99\%Y^*, 99\%Y^*, \ldots., 99\%Y^*)$ to $(Y_1, Y_2, \ldots, Y_N)$.

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It ought to prefer : $(99\%Y^*, 99\%Y^*, \ldots., 99\%Y^*)$ to $(Y_1, Y_2, \ldots, Y_N)$.

Question: What fraction F makes society indifferent between

$$(FY^*, FY^*, \ldots., FY^*) \text{ and } (Y_1, Y_2, \ldots, Y_N)?$$

2. It's a bit like Income Risk Aversion

Suppose you told people (before they were born) they were entering into a society with income distribution

$$(Y_1, Y_2, \ldots, Y_N)$$

And they would be given one of these incomes at random.

Hence, they face a gamble over their position in the world.

Or, they can get

$$FY^*$$

For sure

2. Dalton-Atkinson Measure

This makes a relative choice – how much extra wealth is it worth to forgo to enhance equality.

The F is the % of national income it is prepared to forgo to achieve inequality.

None of the previous measures address this important policy issue!

Question: Why do we think equality will reduce national income???

3. Taxes and the Income Distribution

“Progressive Tax” = A household’s taxes increase as a % of income as they earn more.

“Regressive Tax” = A household’s taxes decrease as a % of income as they earn less.

3. The Effects of Income Taxes

Income taxes generally have two conflicting effects:

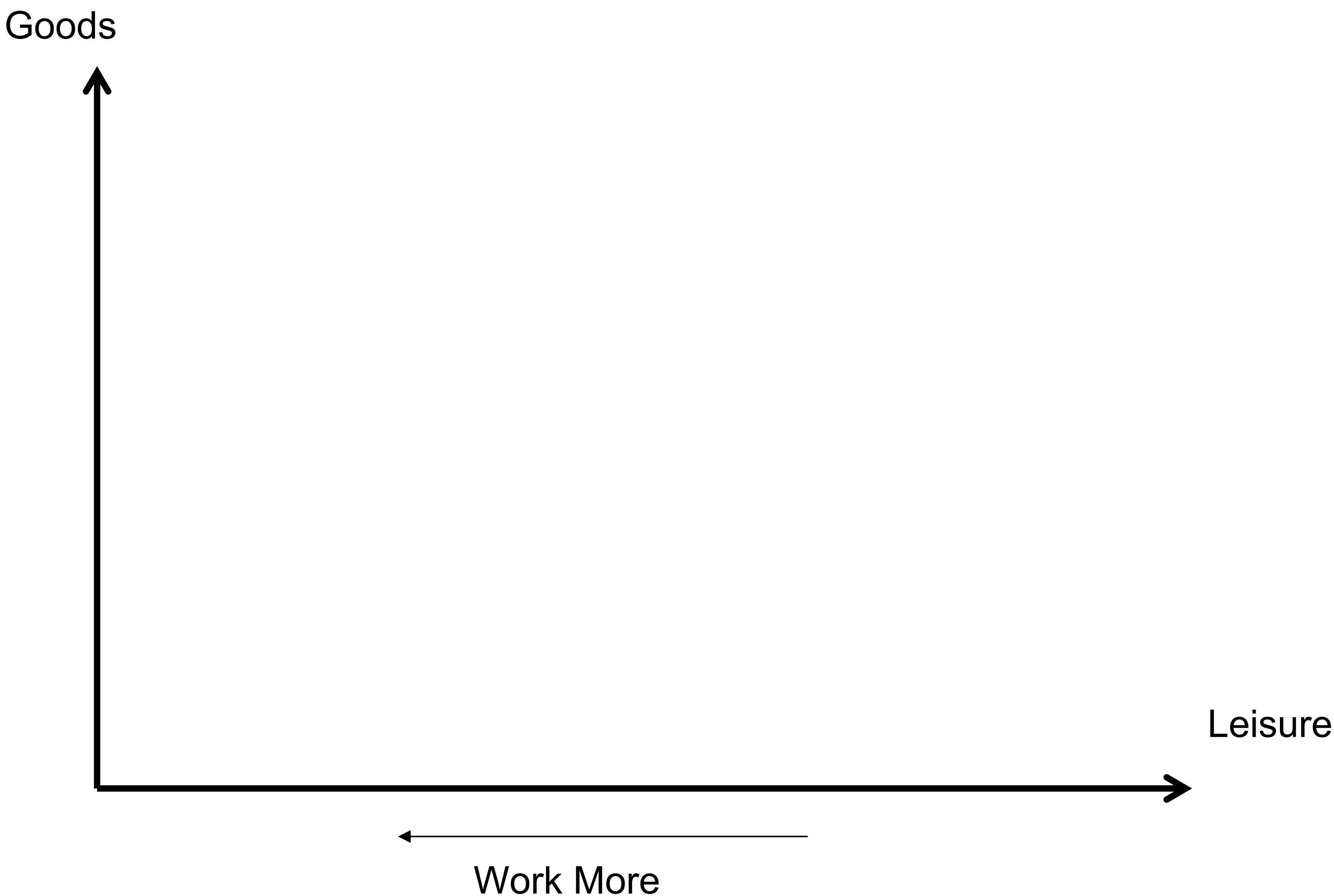
1. (Substitution Effect) They reduce the income people earn form working – so work becomes less rewarding and people work less.
2. (Income Effect) People are poorer so they work longer hours to achieve an equivalent standard of living.

These effects work in different directions

Effect 1 means that increasing the tax => People work less

Effect 2 means that increasing the tax => People work more

3. Effects of Income Taxes – A Graph



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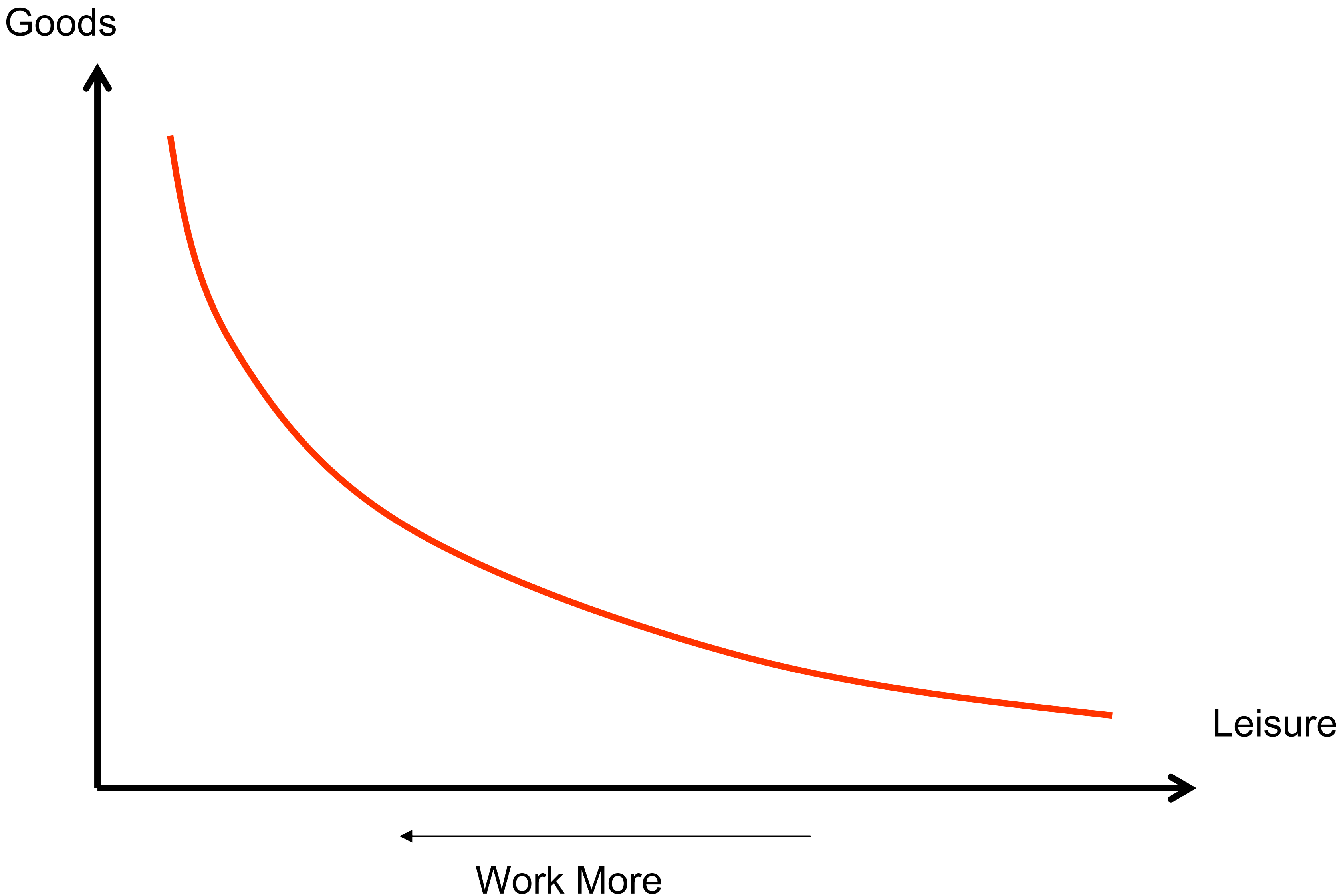

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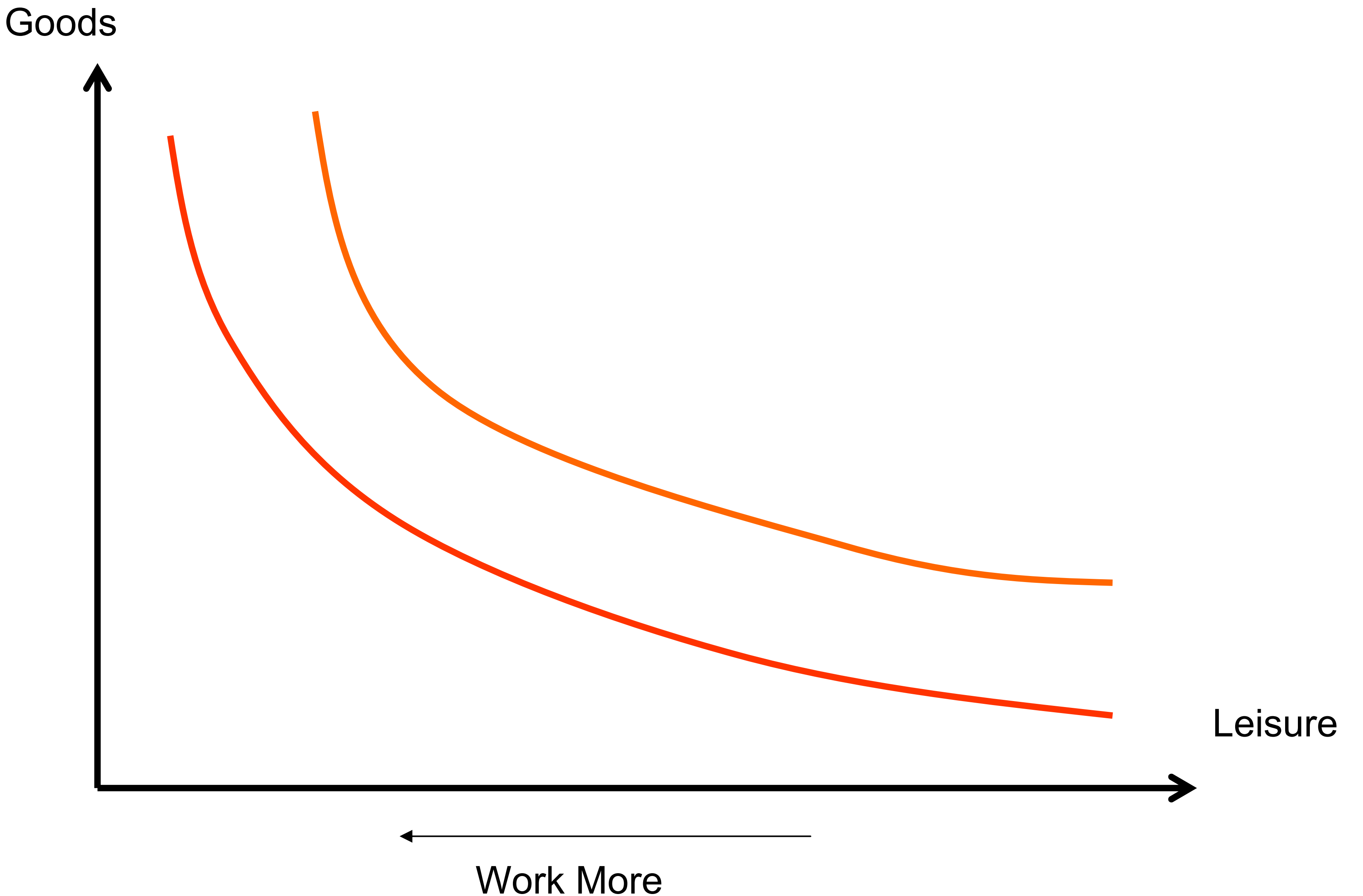

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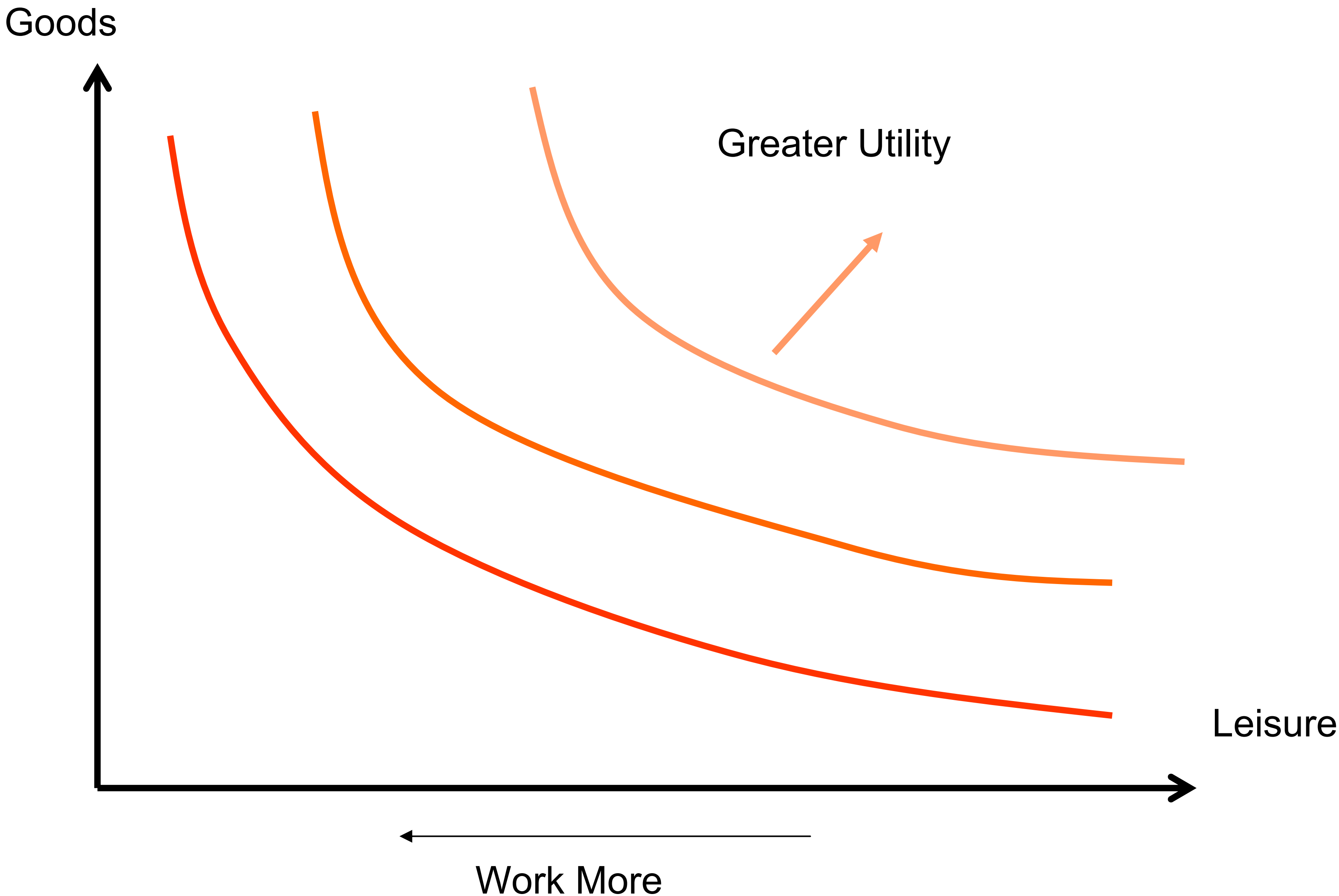

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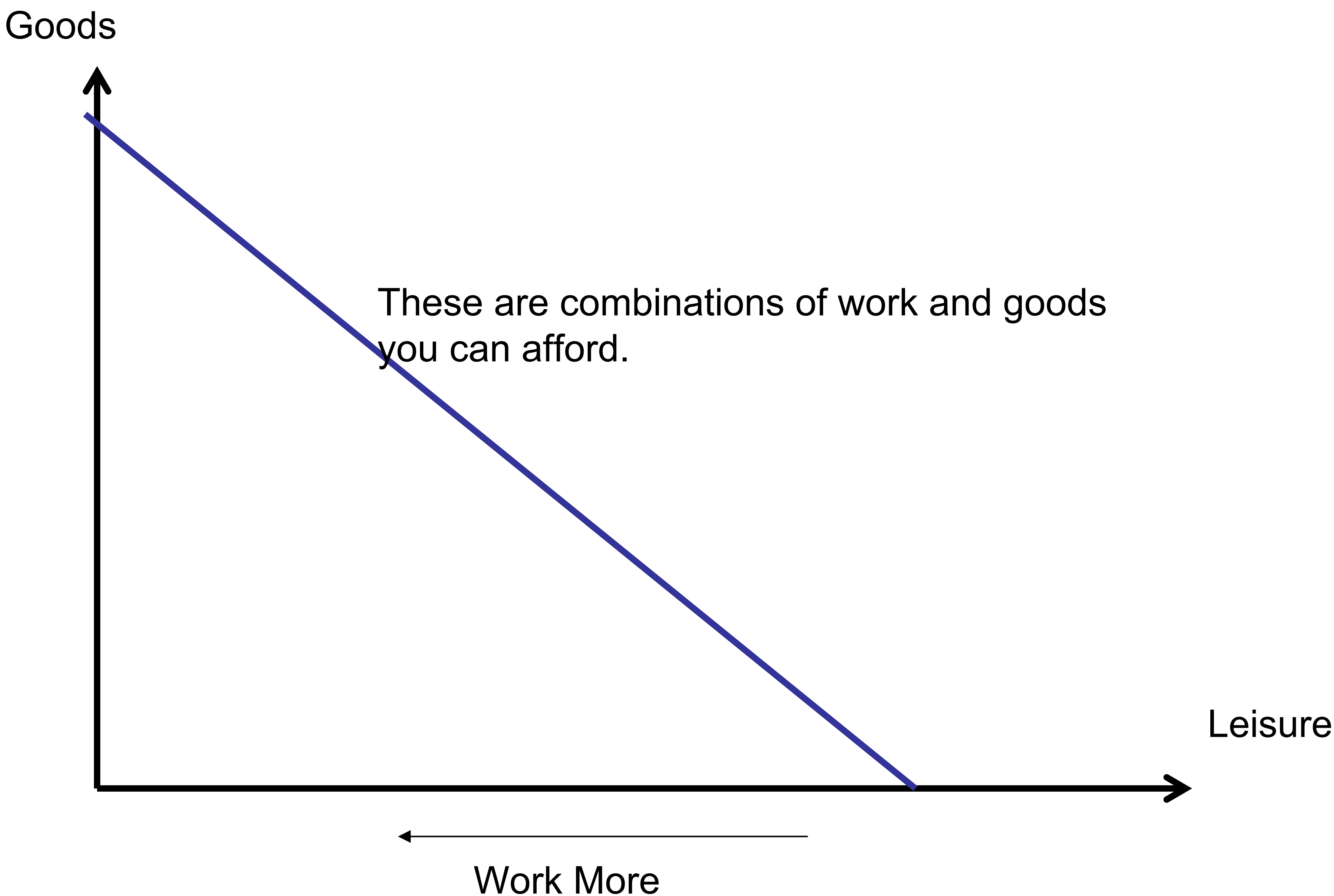

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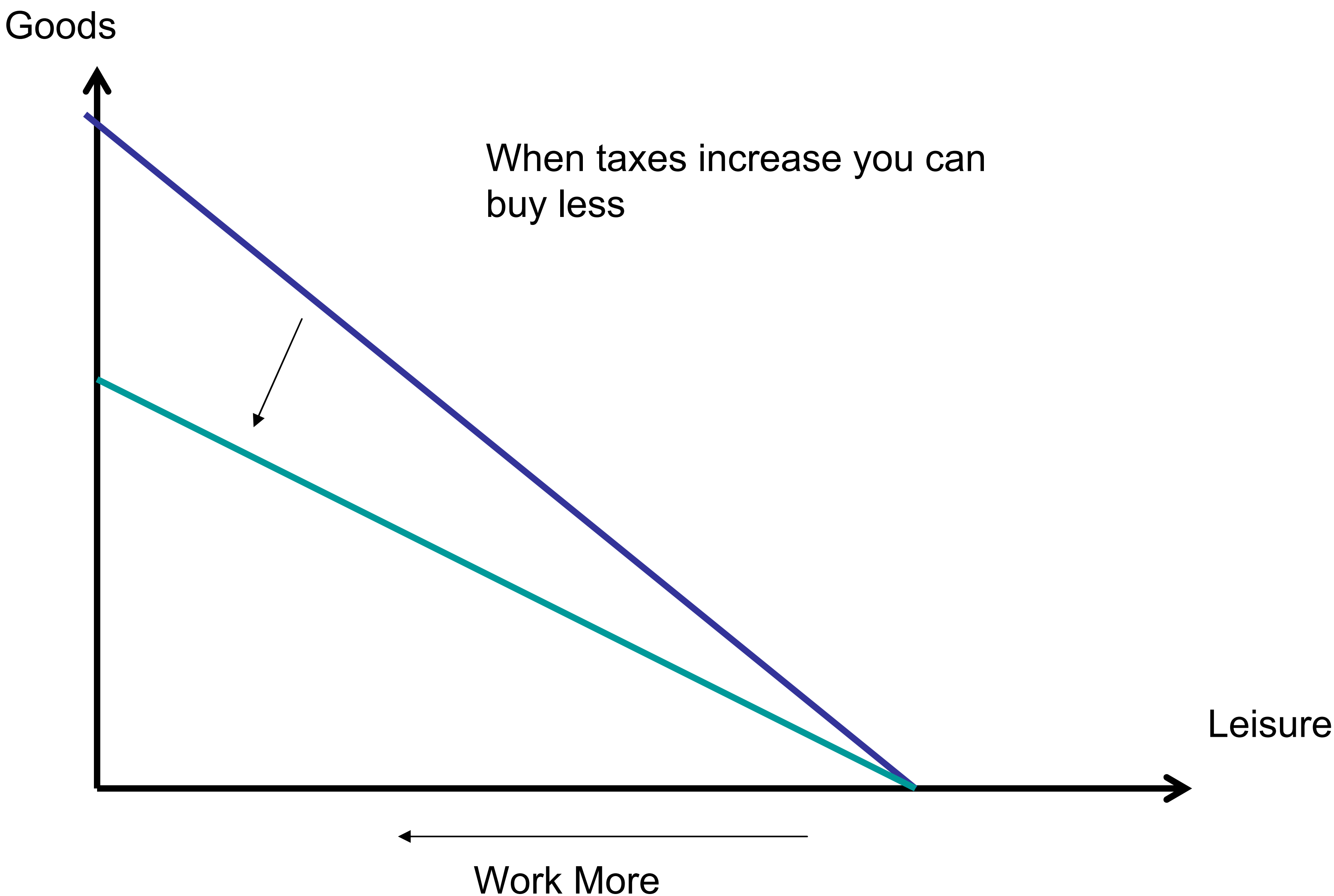

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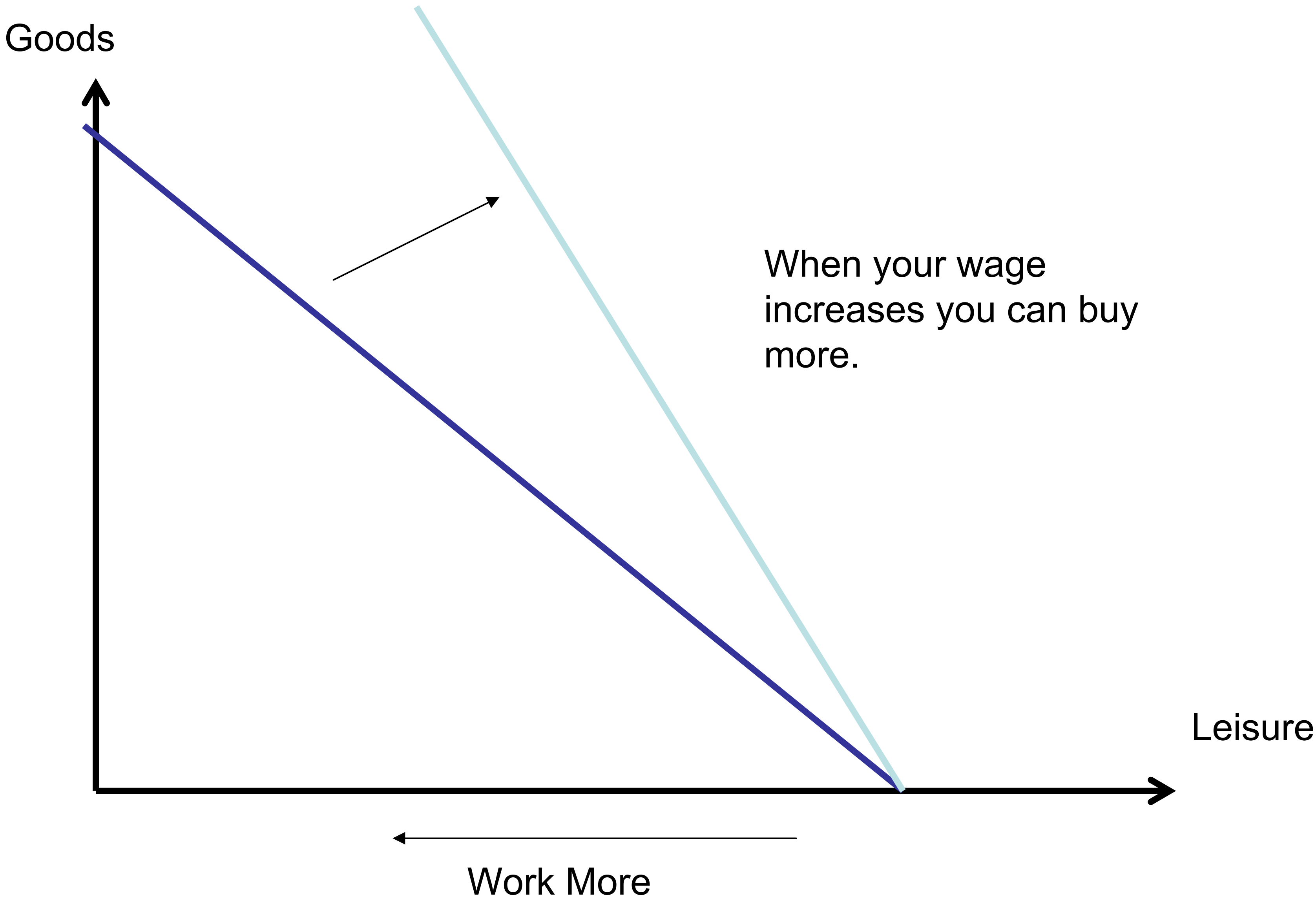

When your wage increases you can buy more.

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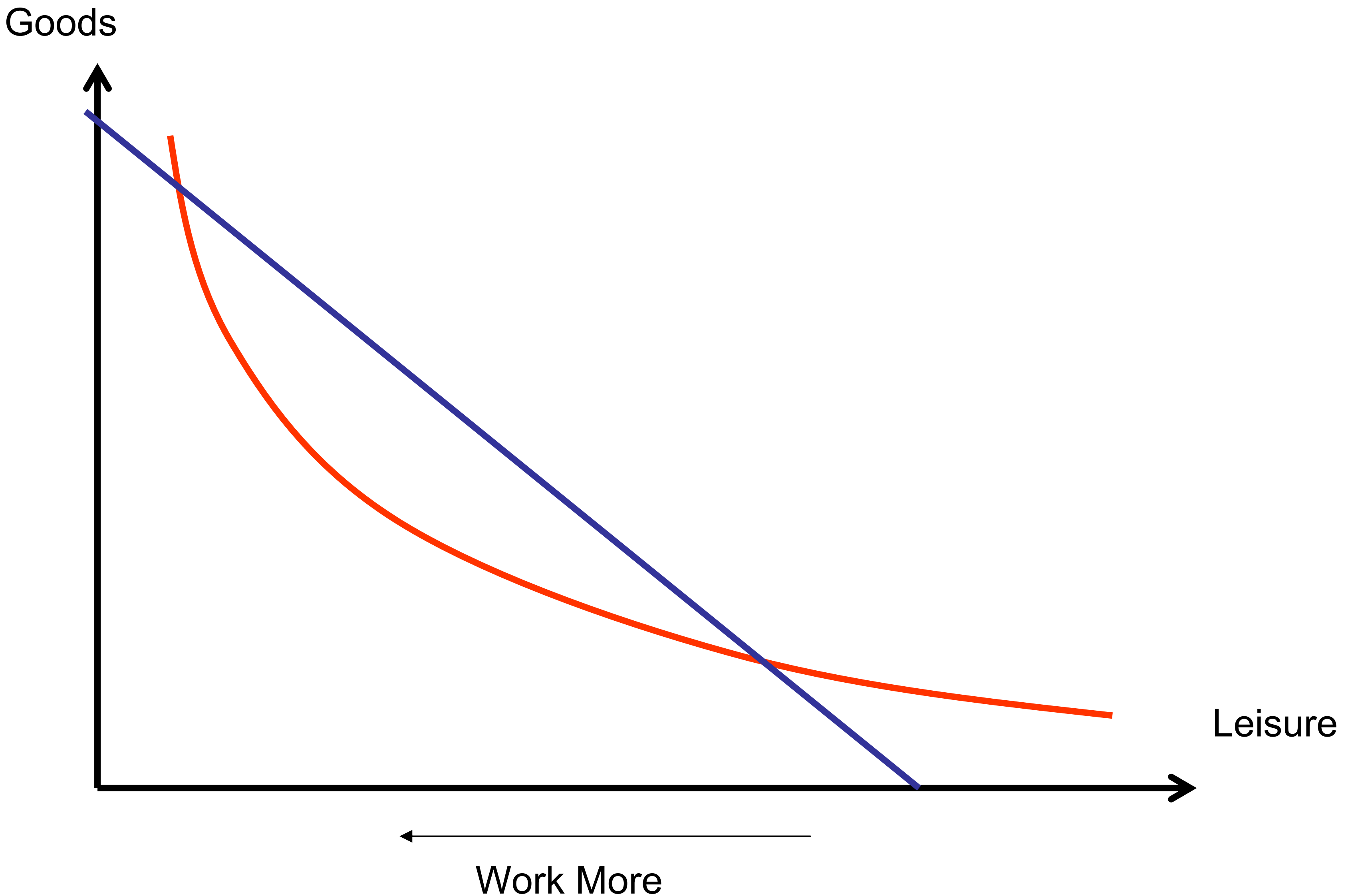

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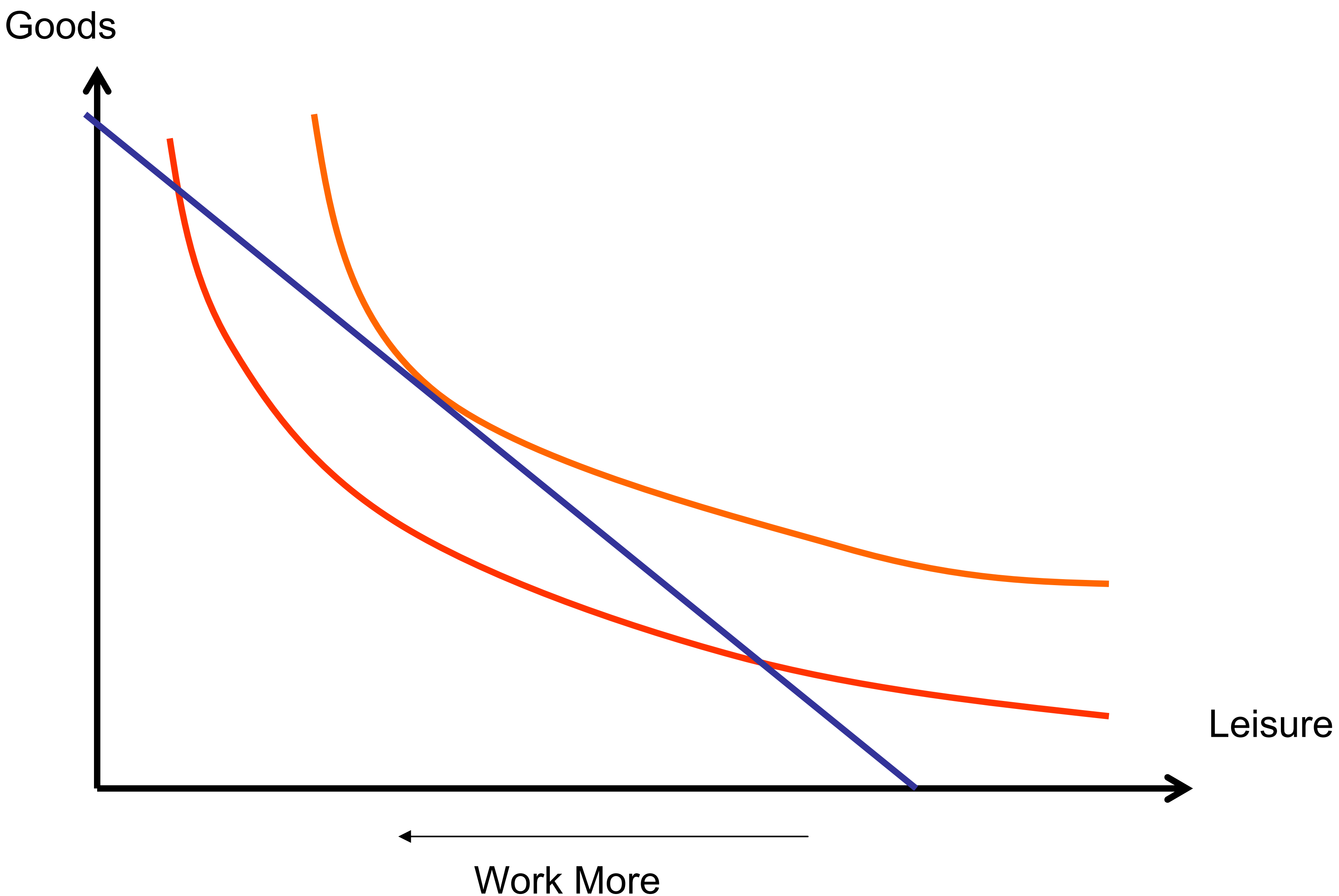

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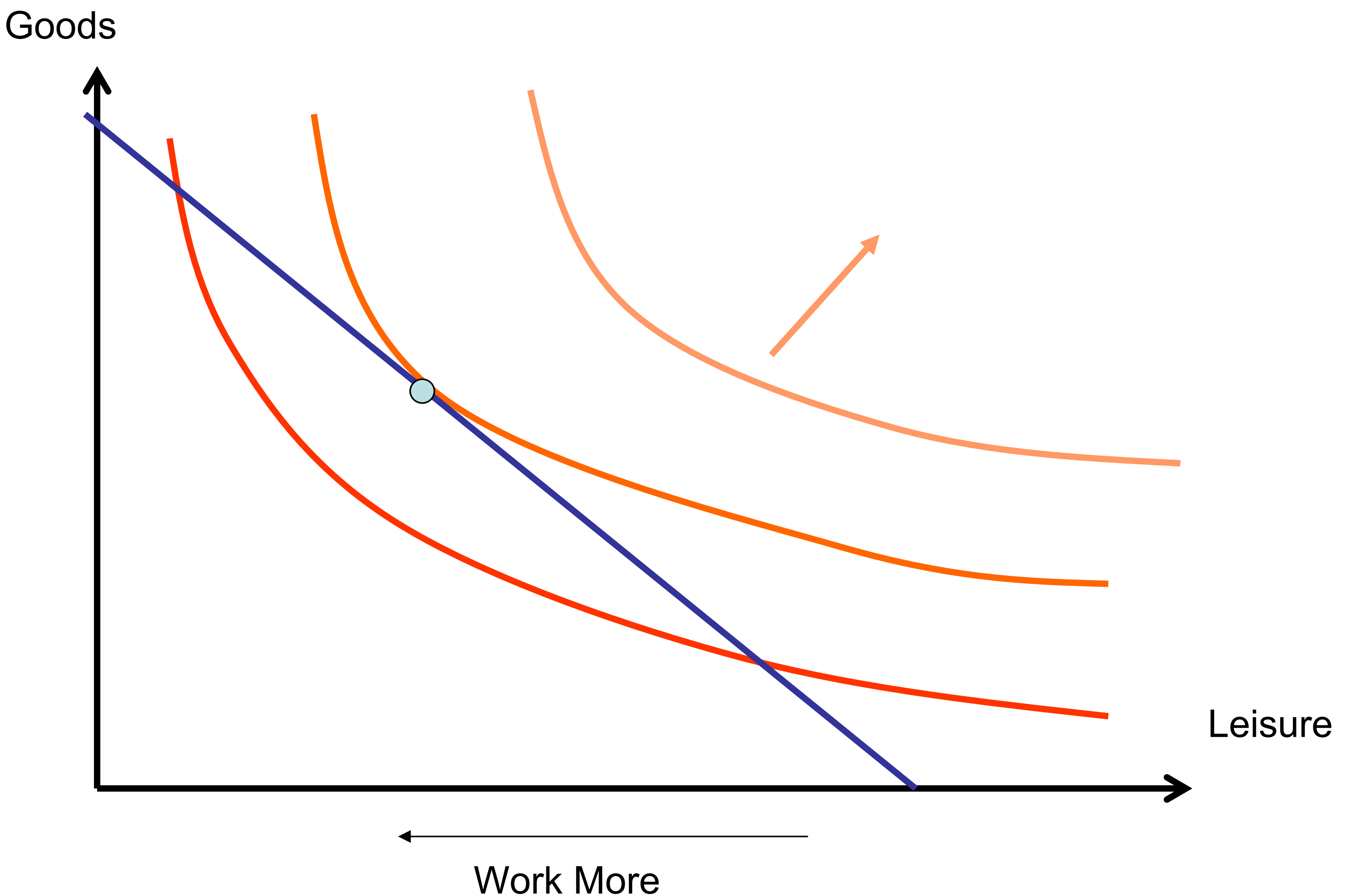

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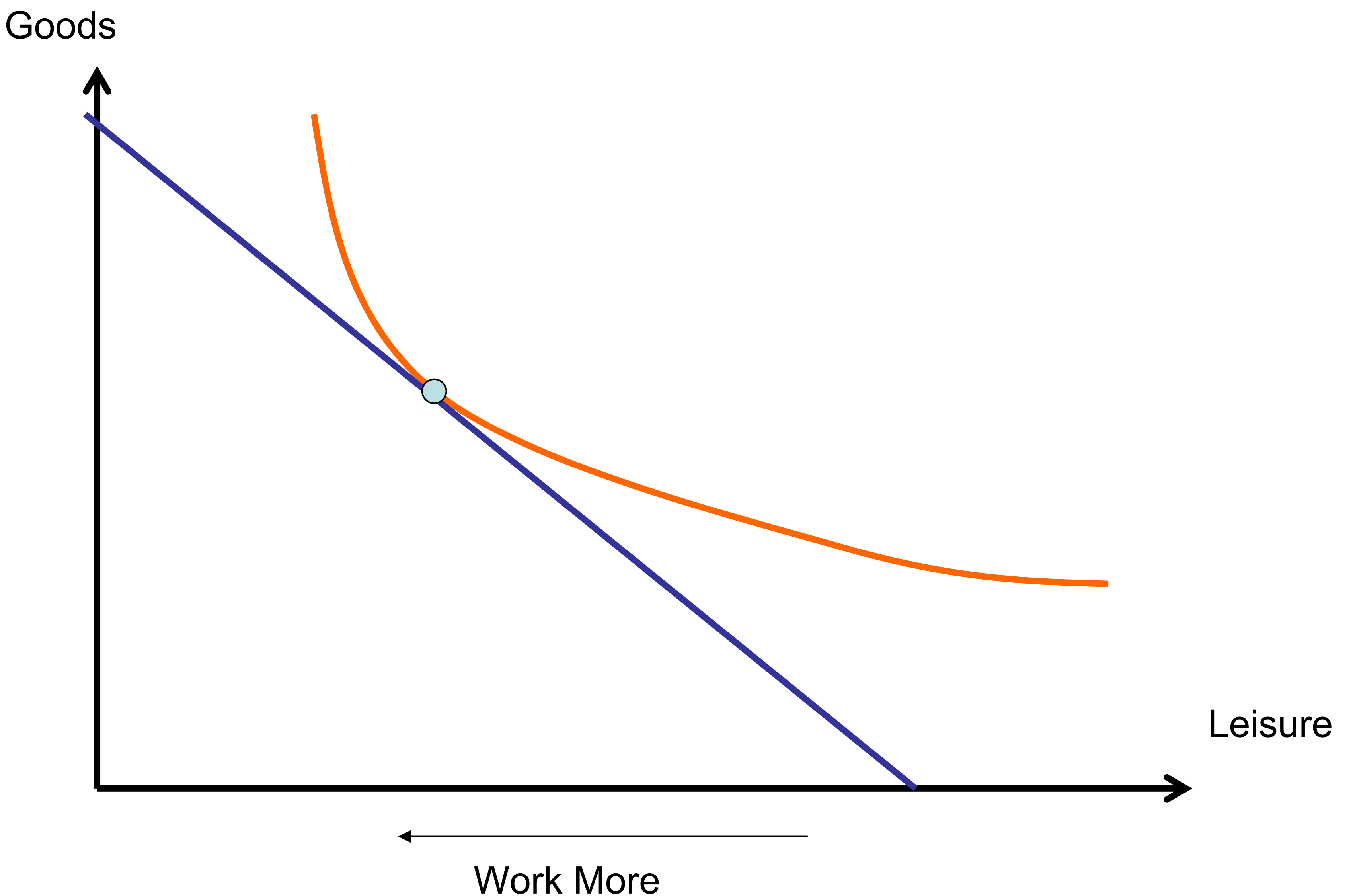

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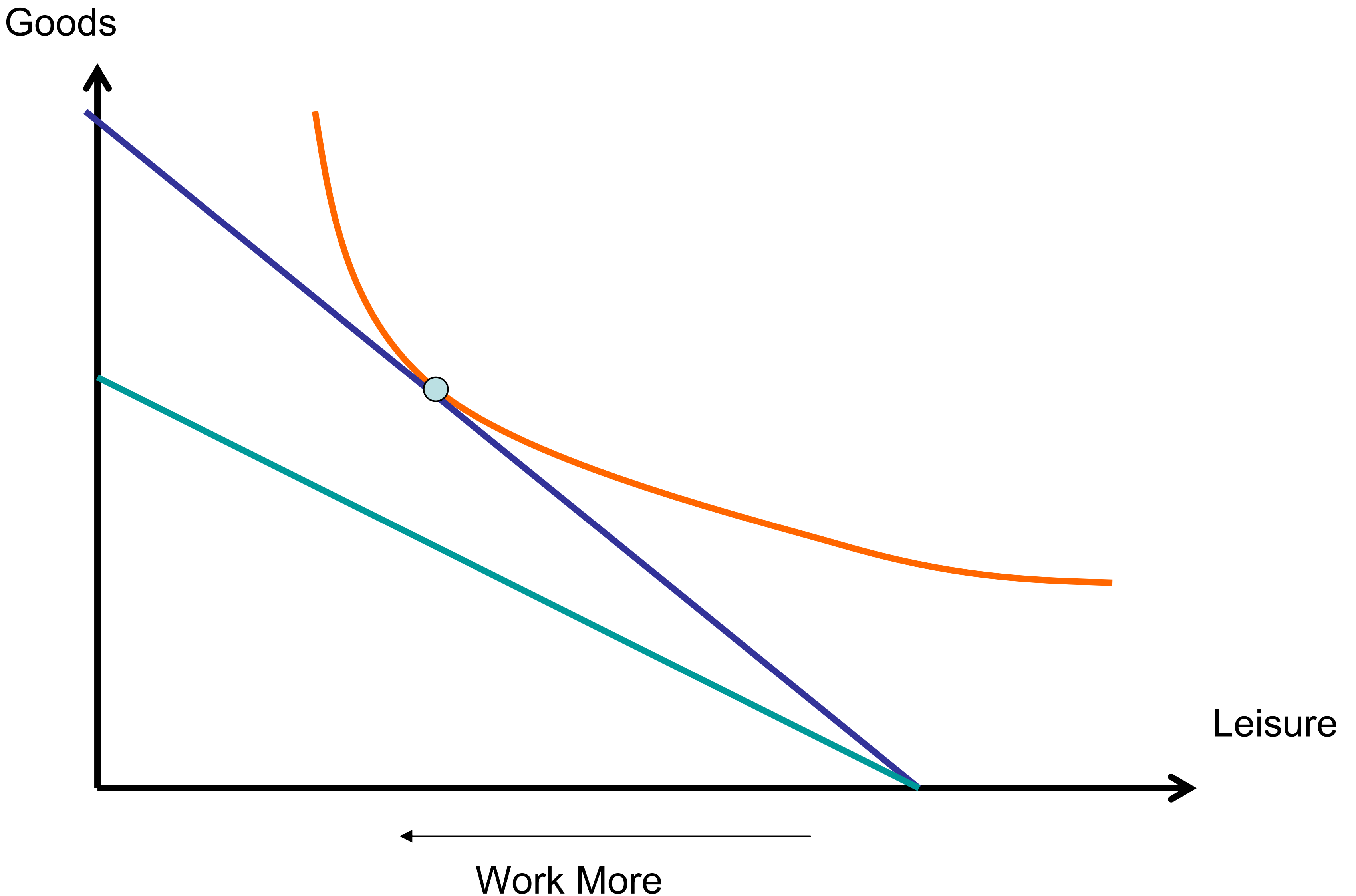

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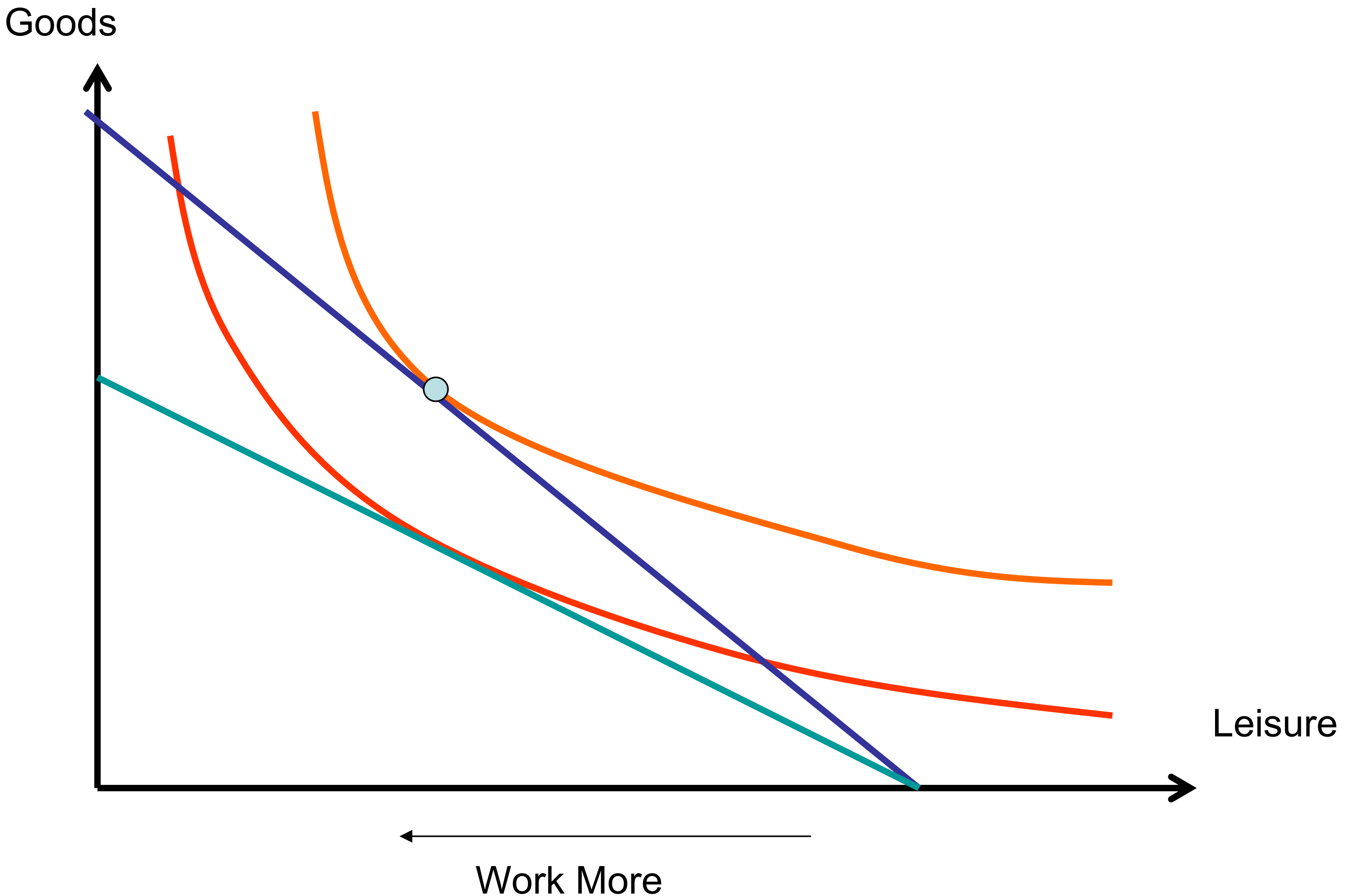

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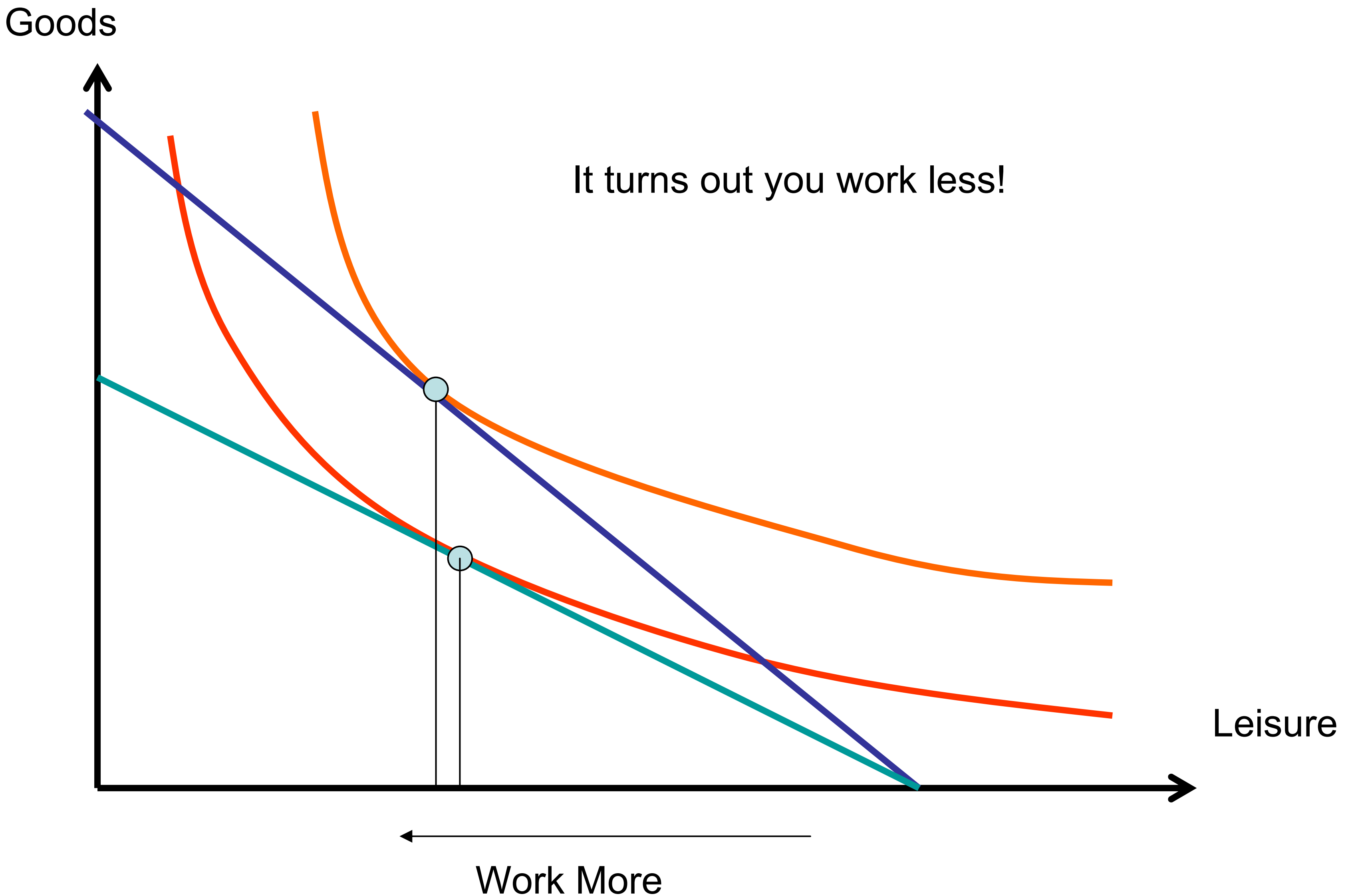

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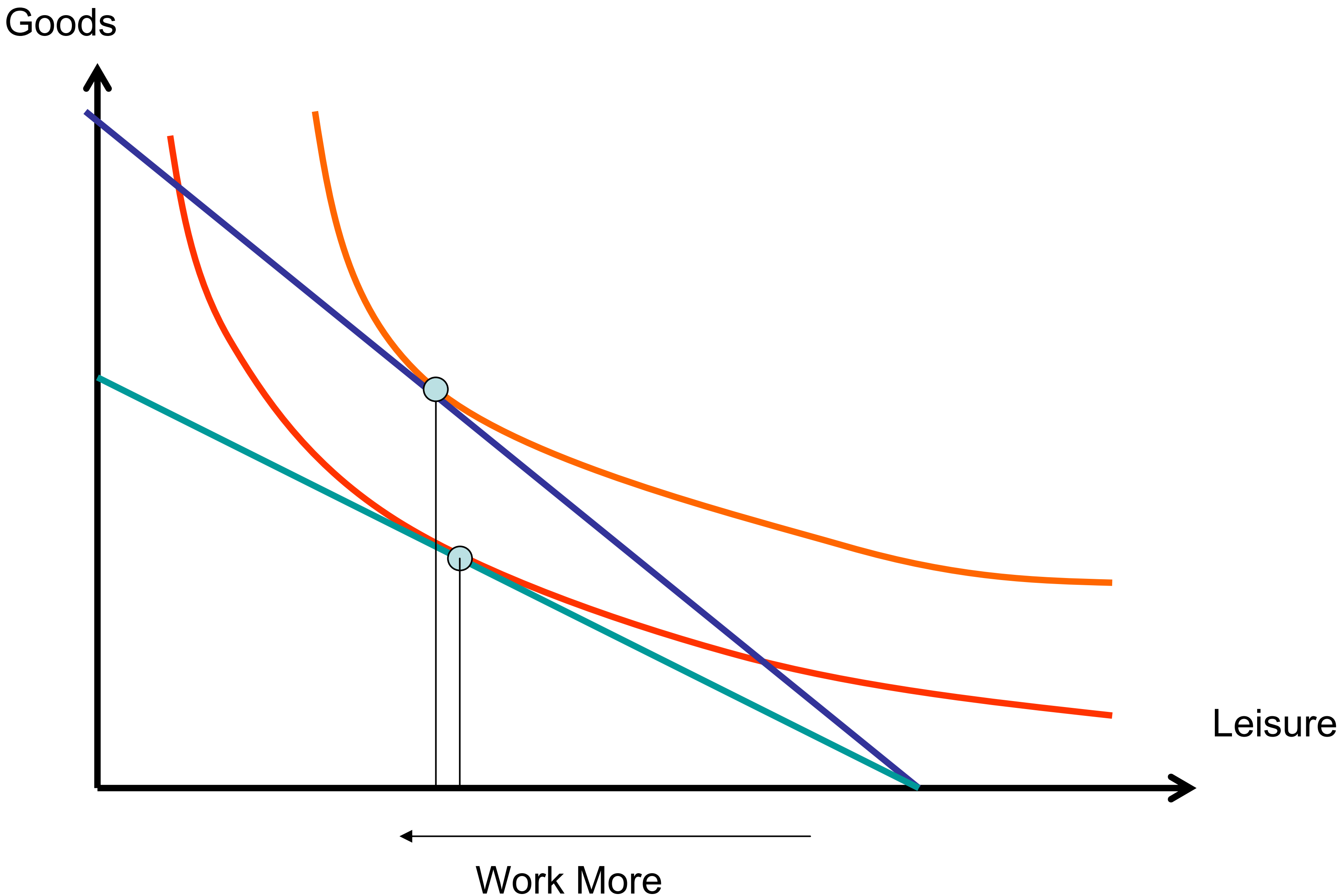

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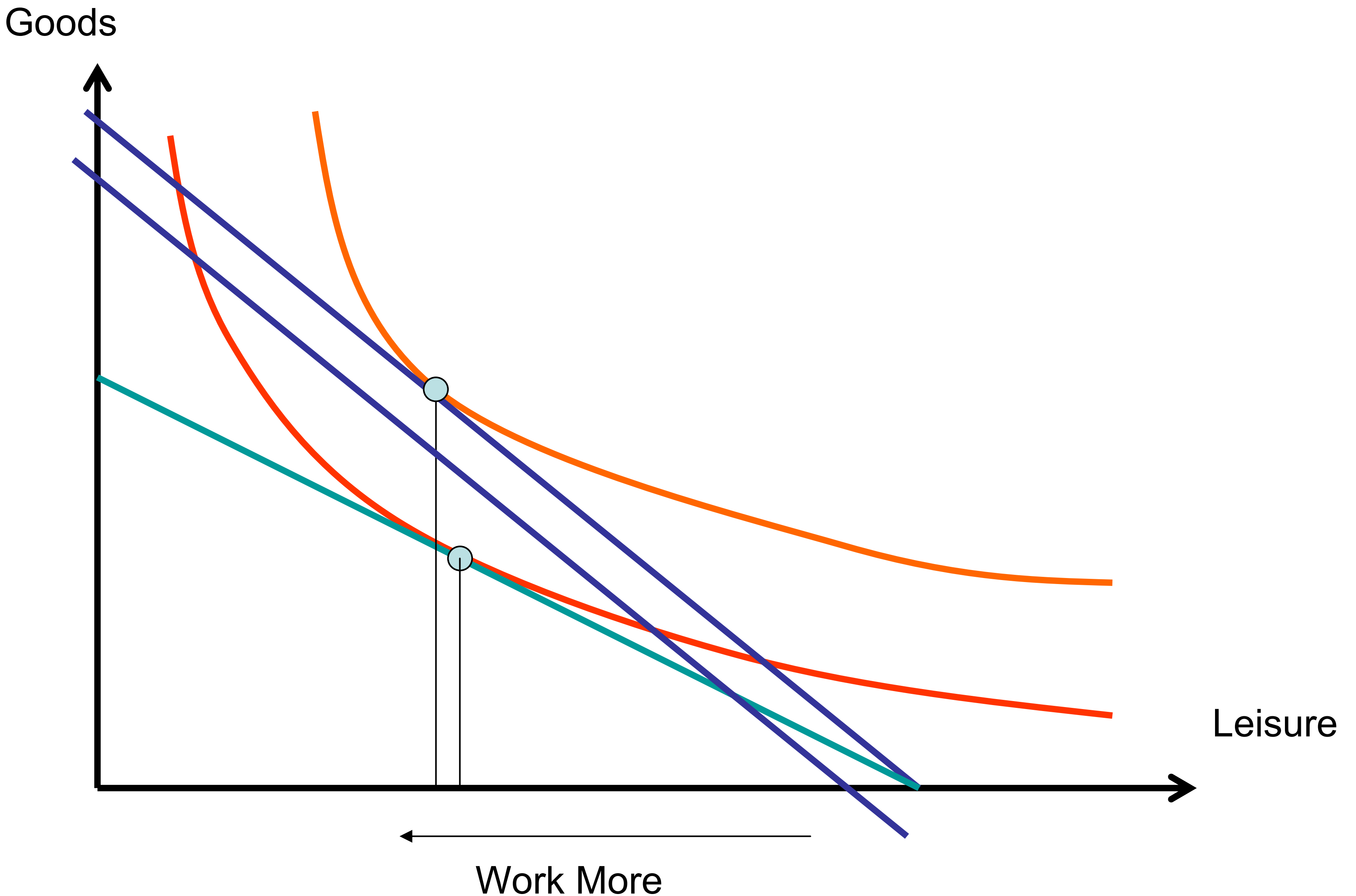

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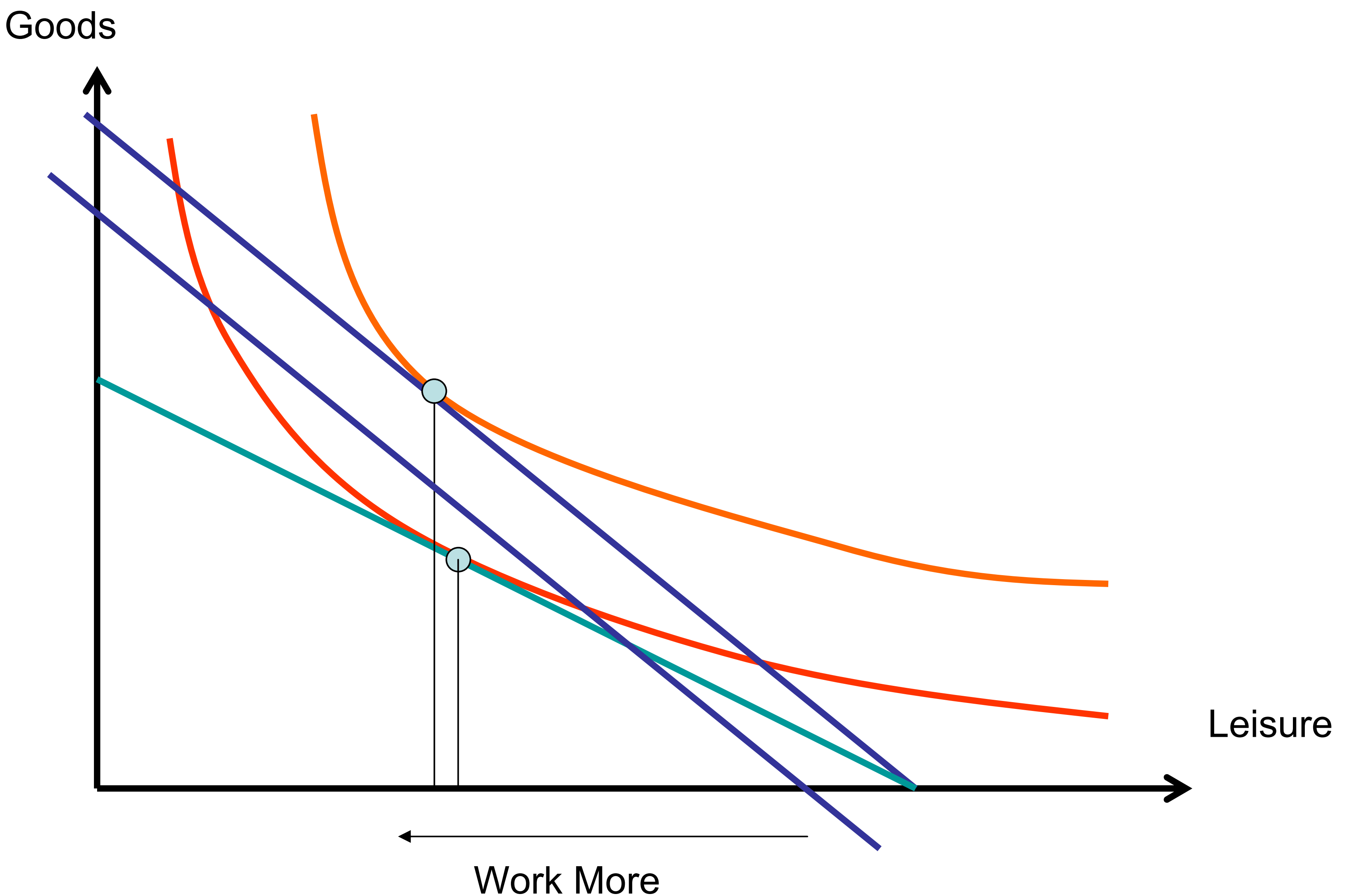

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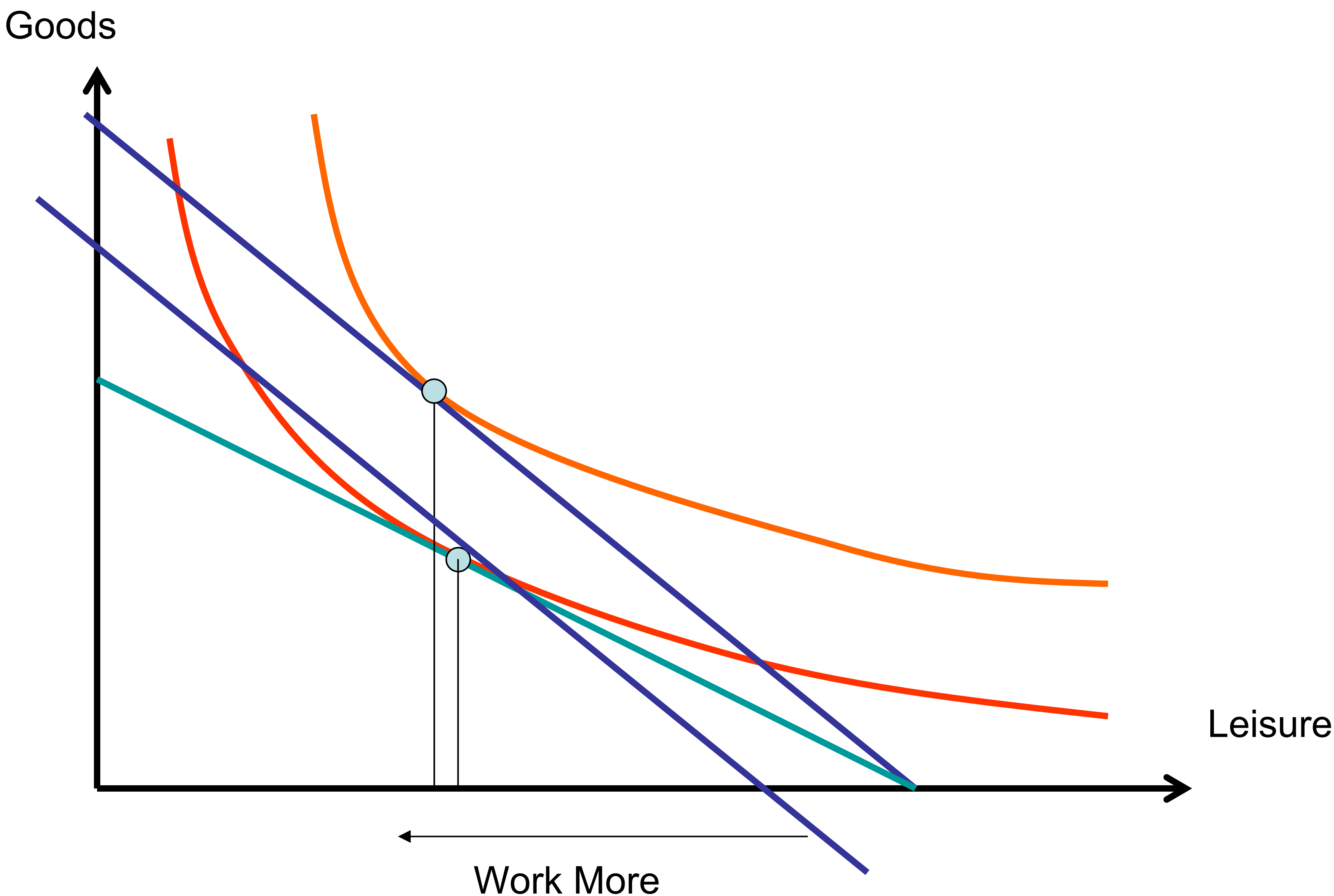

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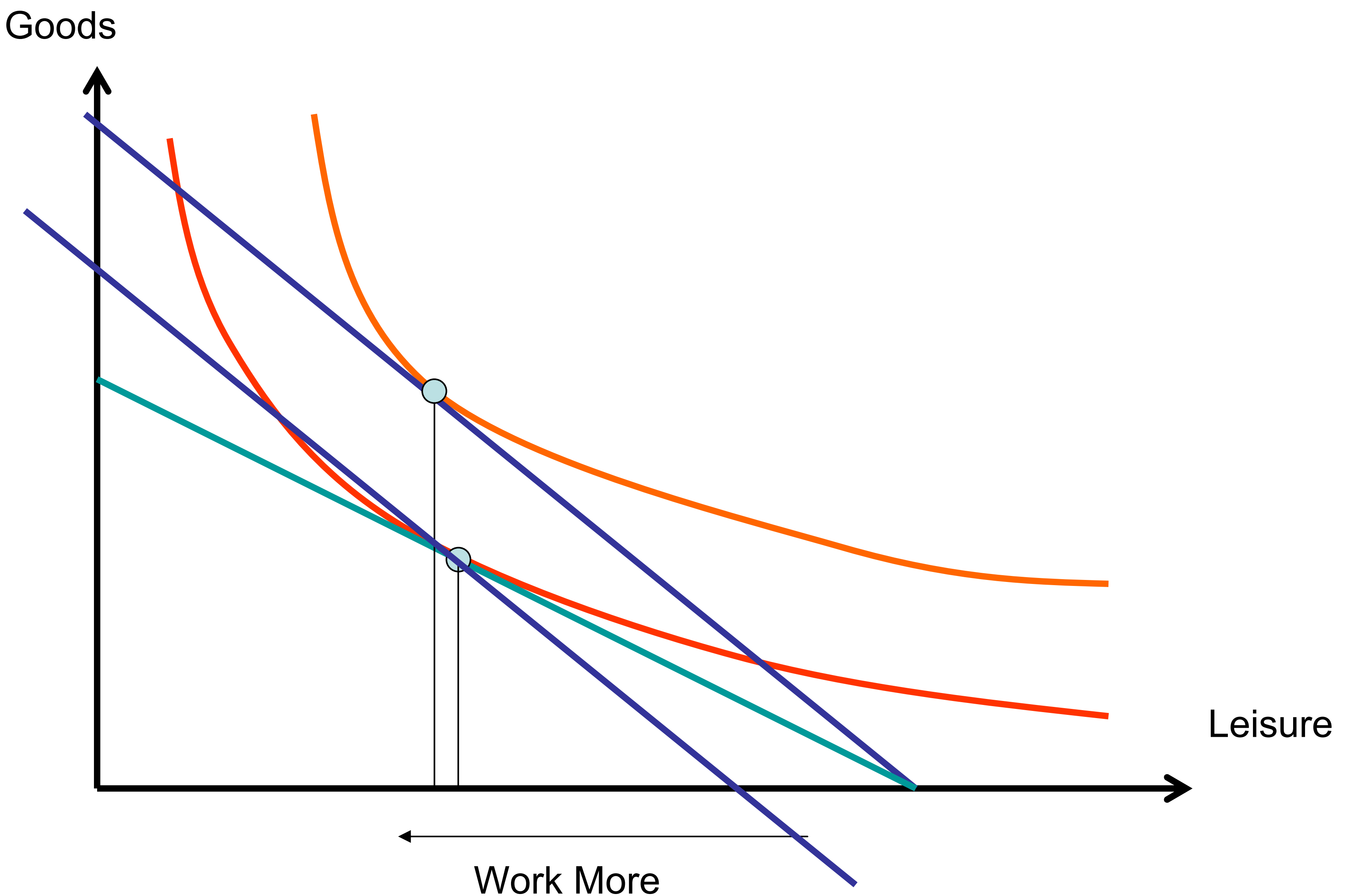

3. Income Effect

3. Substitution Effect

3. Disincentives and Optimal Taxes.

Suppose we want to raise a given amount of tax revenue – to alleviate poverty – what is the most efficient way of doing this?

Could use a poll tax

Regressive but does not give disincentive to work.

If we have an income tax the there is a disincentive to work – who should we tax most?

3. Disincentives and Optimal Taxes.

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Definition

Marginal Tax Rate at Income level Y =

Amount of next £1 earned that is paid in tax.

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=> Taxing the poor results in the rich paying more taxes!

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2. The more concern there is for inequality the more likely a tax increase is to increase welfare.
3. The proportion of the population affected by the tax determines the amount of gain the poorest will receive.

The person at the highest income level should have a zero marginal tax.!!!!!

3. Distributional Incidence of Taxation

Policy makers use simulation methods to estimate the distributional effects of tax and benefit reforms. (IFS)

Distributional changes in the tax burden:

- Taxes affect households at different income levels differently.
- They also affect regions, family sizes, occupations differently.

This matter because:

- Policy makers generally care about equity.
- Pork barrel politics.

3. Taxes and the Income Distribution

- Using a sample of different households is more accurate than using a "typical household". Only 12% of households are 2 adults and 2 kids.
- Important to look at the overall incidence not individual taxes.
- Important to factor the household size and spending need in.
- There is a distribution within the household issue too.

3. Adjustments for Household size

1. None: Large households count as rich households.
2. Per capita income (average):
   - Ignores shared, or public, goods and economies of scale.
   - People have different needs.
3. Equivalence Scales:
   - Reflects different needs.
   - Problem in choosing scale.
   - McClemens scale is widely used.

3. Adjustments for Household Size

Should households or individuals be the objects of policy?

Pro-Household:

1. Can you be poor in a rich household?
2. The state needs to know how household resources are shared.
3. Very difficult to see this accurately.

Anti-Household:

1. UK Child Benefit paid directly to the mother.
2. Grameen Bank & Microfinance.

3. Current vs. Lifetime income.

Redistribution may occur…

- Between different individuals with a family or other social group.
- Across one individual's lifetime.

3. Current vs. Lifetime

1. Volatile Incomes

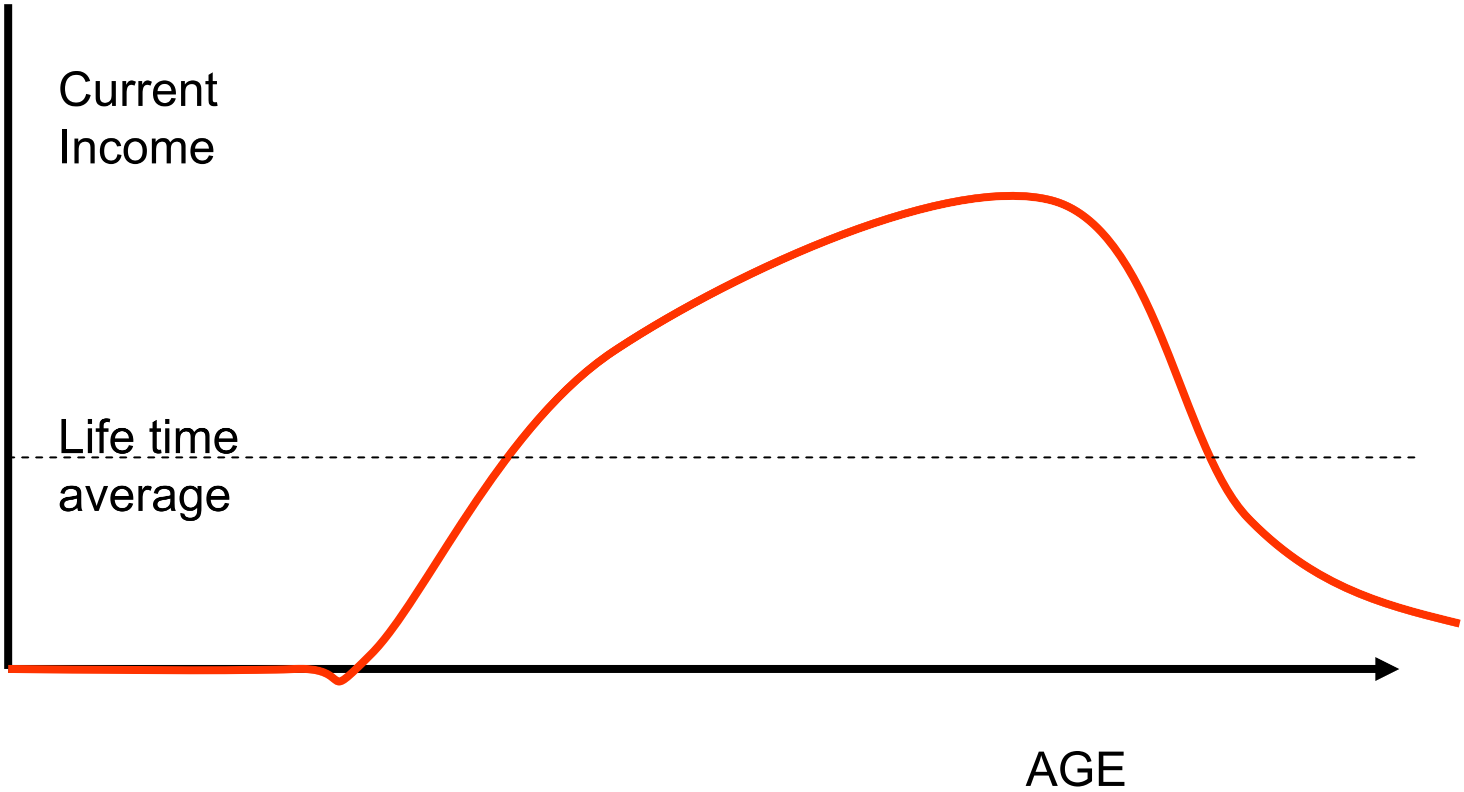
Farmers may have good or bad years

They may plan ahead – saving & assets available to smooth out income.

Is public assistance needed in such cases? (Moral hazard & incentives?)

3. Current vs. Lifetime

2. The Life- Cycle



3. Looks like you need to redistribute from middle aged to young and old?

Maybe this is unnecessary if the whole lifetime is take into account?

Why might this not work?

1. Credit constraints – young cannot borrow.
2. Myopia – individuals don’t save enough
3. Moral hazard
4. Absence of private markets.

3. Current Spending could be used as a proxy for lifetime income

Assuming:

Desired spending is more stable than incomes.

Spending is not influenced by short term shocks

Spending may also reflect real credit constraints.

4. Policy: Means Testing.

US social security is assistance for poor households.

- Usually it is a cash transfer.
- Sometimes it is benefits in kind. (Food stamps).
- It can be means tested or not (universal).

Means Testing

- Only get benefits if income falls below a threshold.
- Possibility of a poverty trap.
- Tapered withdrawal of benefits.
- Taper Rate: expensive but need to consider numbers affected.

Universal

- To qualify do not relate to means (Health, age or something else).
- Costs government more.
- Lower admin costs but more recipients.
- No stigma.
- Avoid benefit fraud.