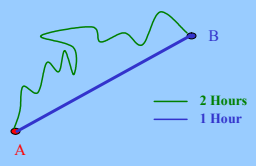
Gains and Losses from Inflation



The Old Saying

- Inflation robs us all.

The Old Saying

- Inflation robs us all.

Not Exactly

Initial Conditions

John Smith	
Asset	***Value***
House	$100,000
Mortgage	(80,000)
Net Worth	$20,000
Helen Jones	
Asset	***Value***
Mortgage	$80,000
Net Worth	$80,000

Initial Conditions

John Smith	
Asset	***Value***
Mortgage	$80,000
Net Worth	$80,000

Now lets give a healthy dose of inflation: Double Prices.

After the Doubling

John Smith		
Asset	***(Nominal)***	***(Real)***
House	$200,000	$100,000
Mortgage	(80,000)	(40,000)
Net Worth	$120,000	$60,000
Net Gain	$100,000	$40,000
Helen Jones		
Asset	***(Nominal)***	***(Real)***
Mortgage	$80,000	$40,000
Net Gain	0	$(40,000)

After the Doubling

John Smith		
	(Nominal)	*(Real)*
	200,000 0,000) 120,000 100,000	$100,000 (40,000) $60,000 $40,000
Helen Jones		
	(Nominal)	*(Real)*
	80,000 0	$40,000 $(40,000)

Helen has lost big and will complain loudly about it. Her losses are ***exactly*** balanced by John's gains; John will keep quiet.

Gains and Losses from Public Debt

Assets, John Smith		
Asset	*Value (Nominal)*	*Value (Real)*
Gain	$0	$0
Assets, Helen Jones		
Asset	*(Nominal)*	*(Real)*
Govt. Bond Net Gain	$80,000 0	$40,000 $(40,000)

Gains and Losses from Public Debt

s, John Smith		
	Value (Nominal)	*Value (Real)*
	$0	$0
s, Helen Jones		
	(Nominal)	*(Real)*
	80,000 0	$40,000 $(40,000)

Helen has lost big and will complain loudly about it. John (or someone else) will pay less taxes, ***exactly*** $40,000 less.

Gains and Losses, Inflation Anticipated

John Smith		
Asset	*Value (Nominal)*	*Value (Real)*
House	$200,000	$100,000
Mortgage Including Interest Due	(160,000)	(80,000)
Net Worth	$40,000	$20,000
Net Gain	$20,000	0
Helen Jones		
Asset	*Value (Nominal)*	*Value (Real)*
Mortgage Including Interest Paid	$160,000	$80,000
Net Gain	$80,000	0

Gains and Losses from Public Debt

s, John Smith		
	Value (Nominal)	*Value (Real)*
	$0	$0
Assets, Helen Jones		
Asset	*(Nominal)*	*(Real)*
Govt. Bond Net Gain	$80,000 0	$40,000 $(40,000)

Helen will get extra interest to compensate her for the inflation loss.

Gains and Losses from Public Debt

sets, John Smith		
	Value (Nominal)	*Value (Real)*
	$0	$0
sets, Helen Jones		
Asset	*Value (Nominal)*	*Value (Real)*
Govt. Bond Net Gain	$80,000 0	$40,000 $(40,000)

Helen will get extra interest to compensate her for the inflation loss.

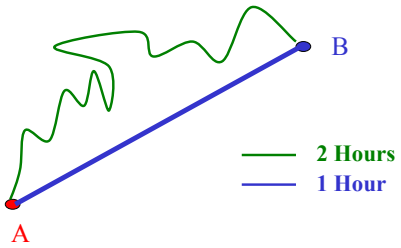
Key Effects

- When unanticipated inflation occurs
  - For every loser, there is a winner
- When anticipated inflation occurs,
  - Nominal interest rates offset inflationary gains and losses.

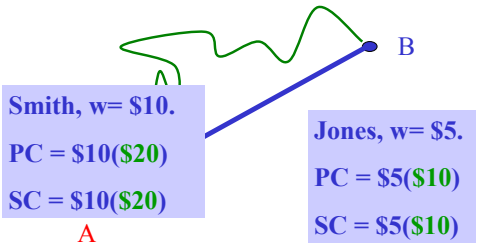
The True Costs of Inflation

- Shoe Leather Costs
- Uncertainty Costs

The Cost of Inflation



The Cost of Inflation



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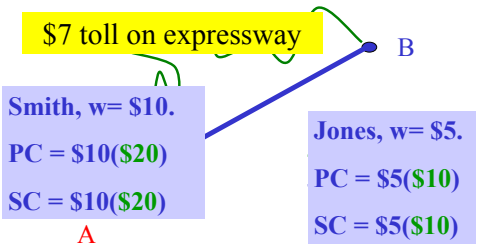

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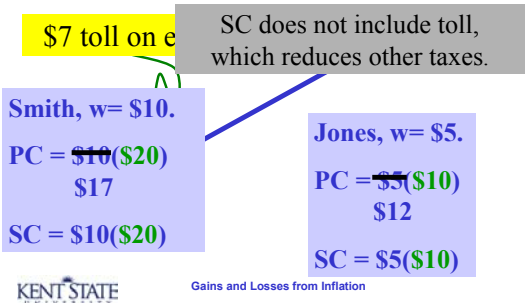
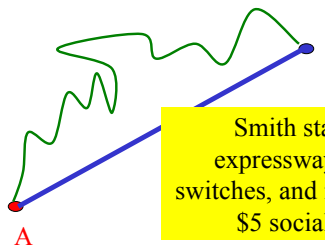
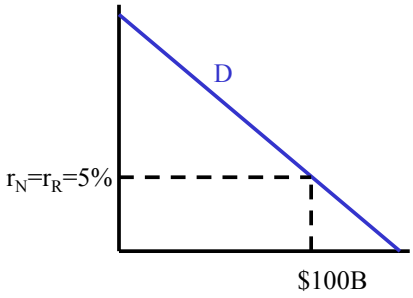


The Cost of Inflation



Smith stays on expressway. Jones switches, and incurs extra $5 social cost.

An Illustration with Money



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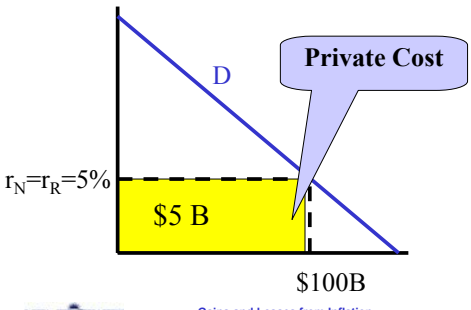

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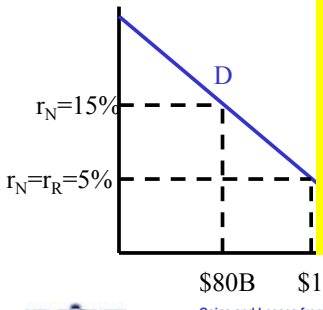
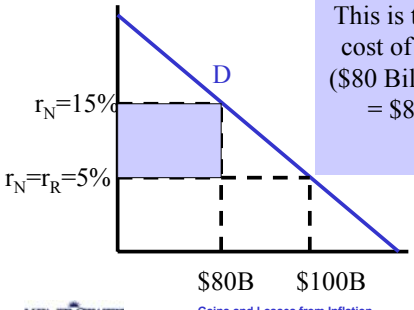


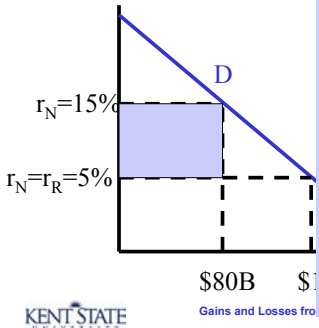
Inflation rate goes to 10%, and nominal rate rises. People reduce the amount of money they hold to $80 Billion

The Private Cost of Inflation



This is the private cost of inflation: ($80 Billion)x10% = $8Billion

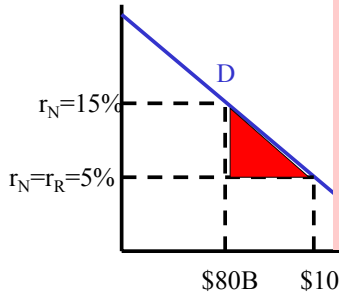
The Private Cost of Inflation



This is the private cost of inflation: ($80 Billion)x10% = $8Billion.

But the government is collecting the equivalent of $8 billion in taxes

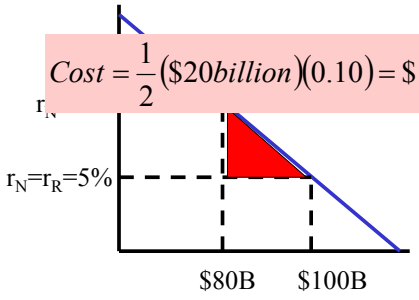
The Social Cost



The social cost is the extra shoe leather costs incurred to avoid the costs of holding money balances.

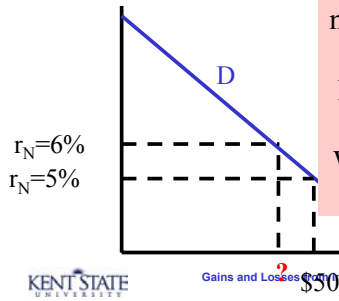
The Social Cost

$$Cost = \frac{1}{2}(\$20billion)(0.10) = \$1billion$$



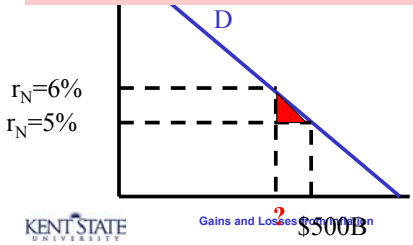
For the US?

Assume the nominal rate is ≅ 5% and we hike inflation rate by 1%. What happens to M_b?



For the US?

$$Cost = \frac{1}{2}(\$50billion)(0.01) = \$250million$$



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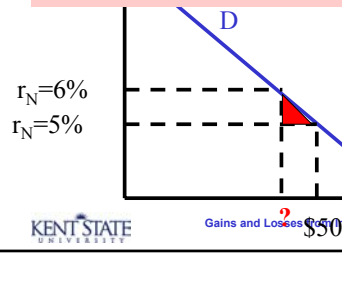

Peanuts!

End