



The benefits of free trade: an introduction

Dr Alexey Kravchenko

Trade, Investment and Innovation Division

United Nations ESCAP

kravchenkoa@un.org

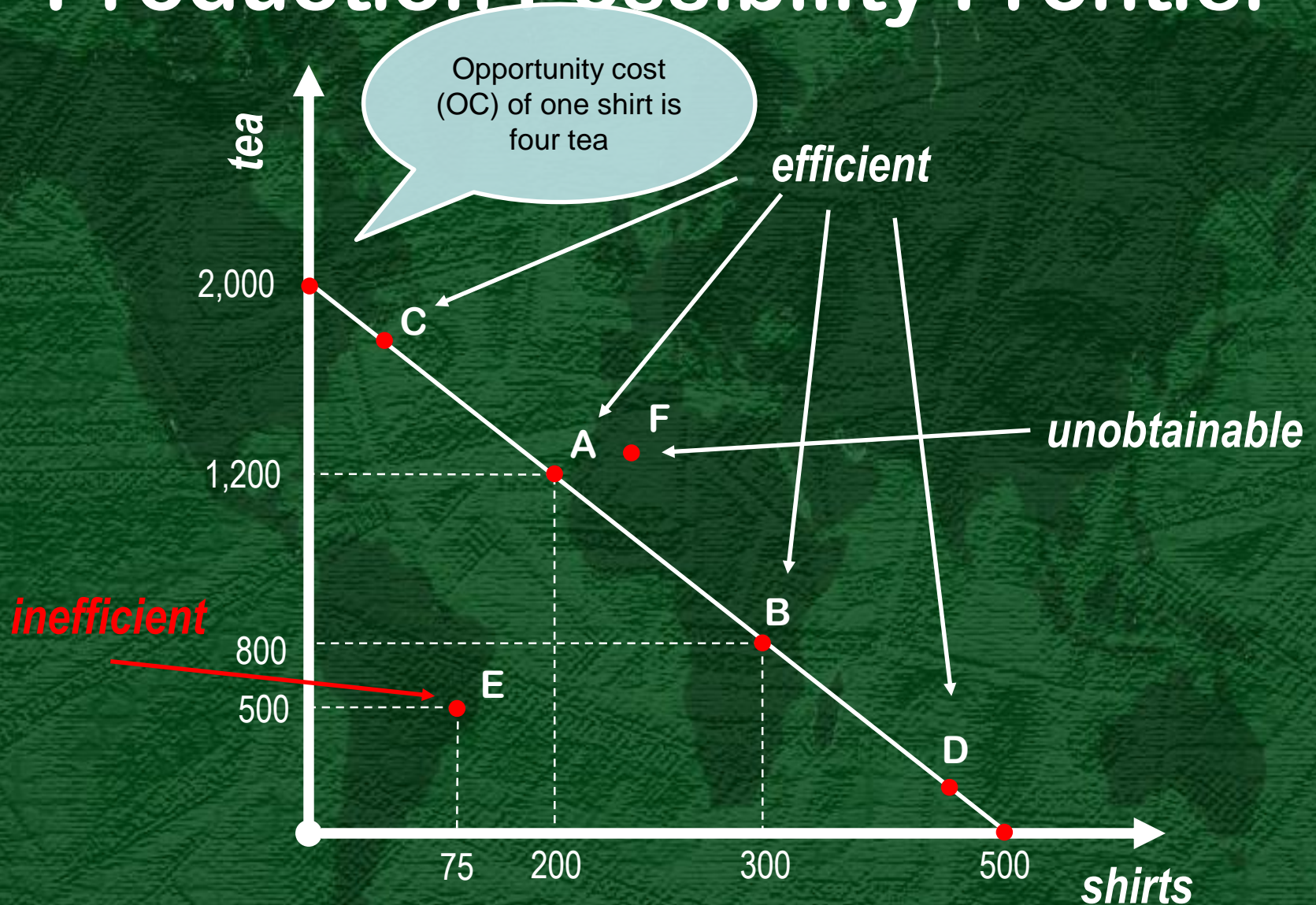
A Simple Economic Model: Production Possibility Frontier (PPF)

A graph that shows the combination of output that the economy can possibly produce given the available factors of production and the available production technology. Points inside the curve show unemployment or productive inefficiencies

Suppose...

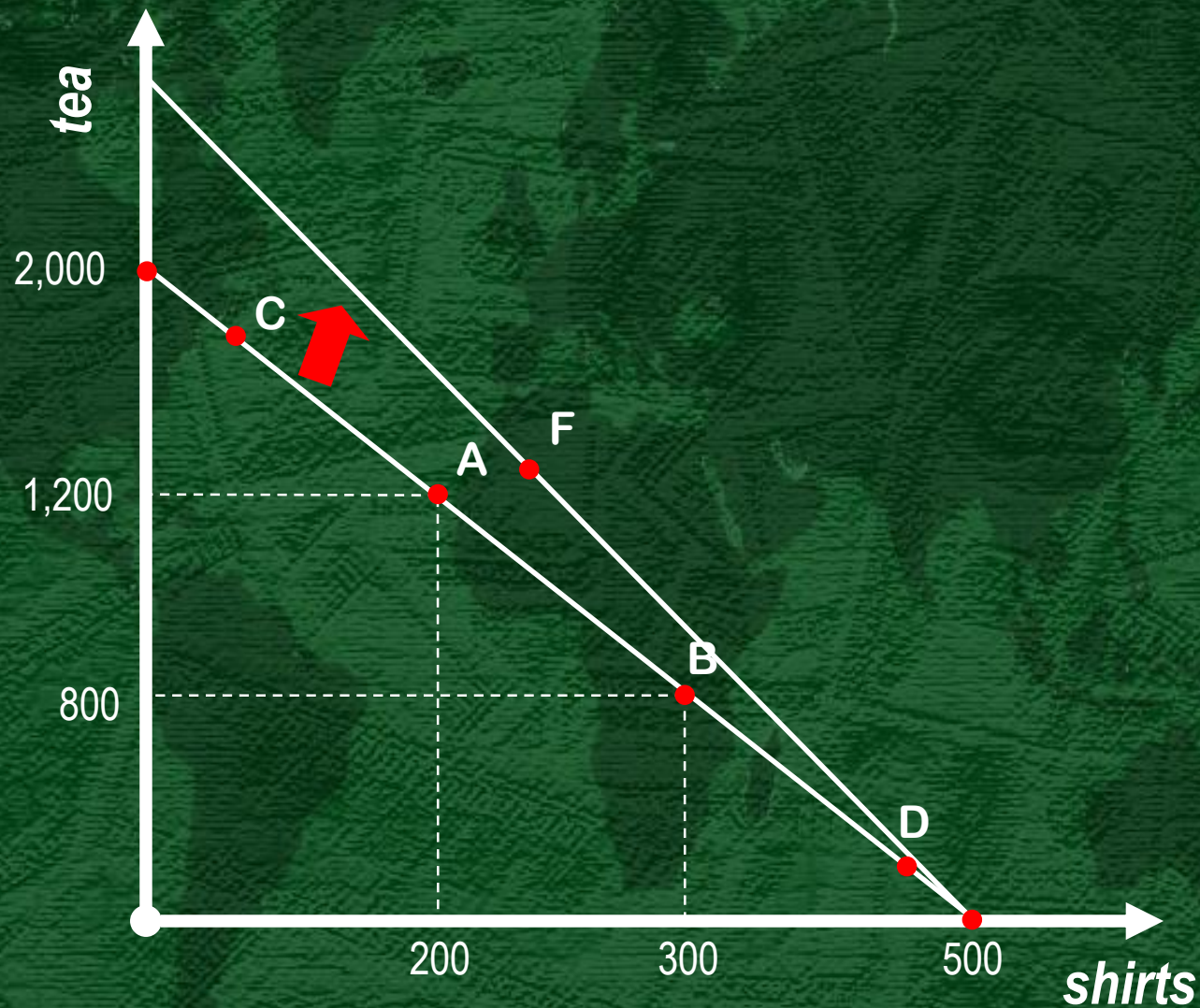
- An economy produces two products:
 - Tea
 - Shirts
- Using all available resources, the maximum the economy can produce is either 500 shirts or 2,000 boxes of tea
- Or a combination in between...

Production Possibility Frontier



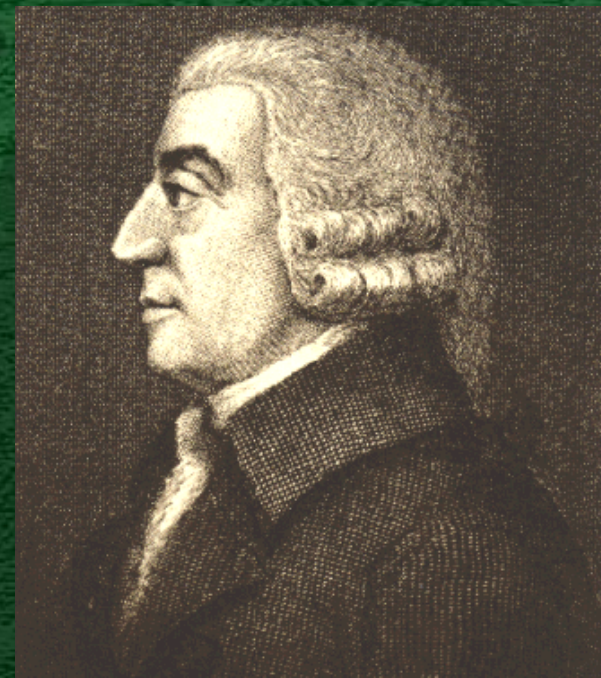
**Suppose there is new
equipment that makes tea
production more efficient**

Production Possibility Frontier



Trade is good

- Absolute Advantage
- Example
 - Joe makes 4 shirts an hour or 20 kg of cheese
 - Mark makes 8 shirts an hour or 12 kg of cheese
 - Each works 8 hours a day



Adam Smith

1723-1790

Absolute Advantage

	Shirts	Cheese
Joe	4/hr	20/hr
Mark	8/hr	12/hr

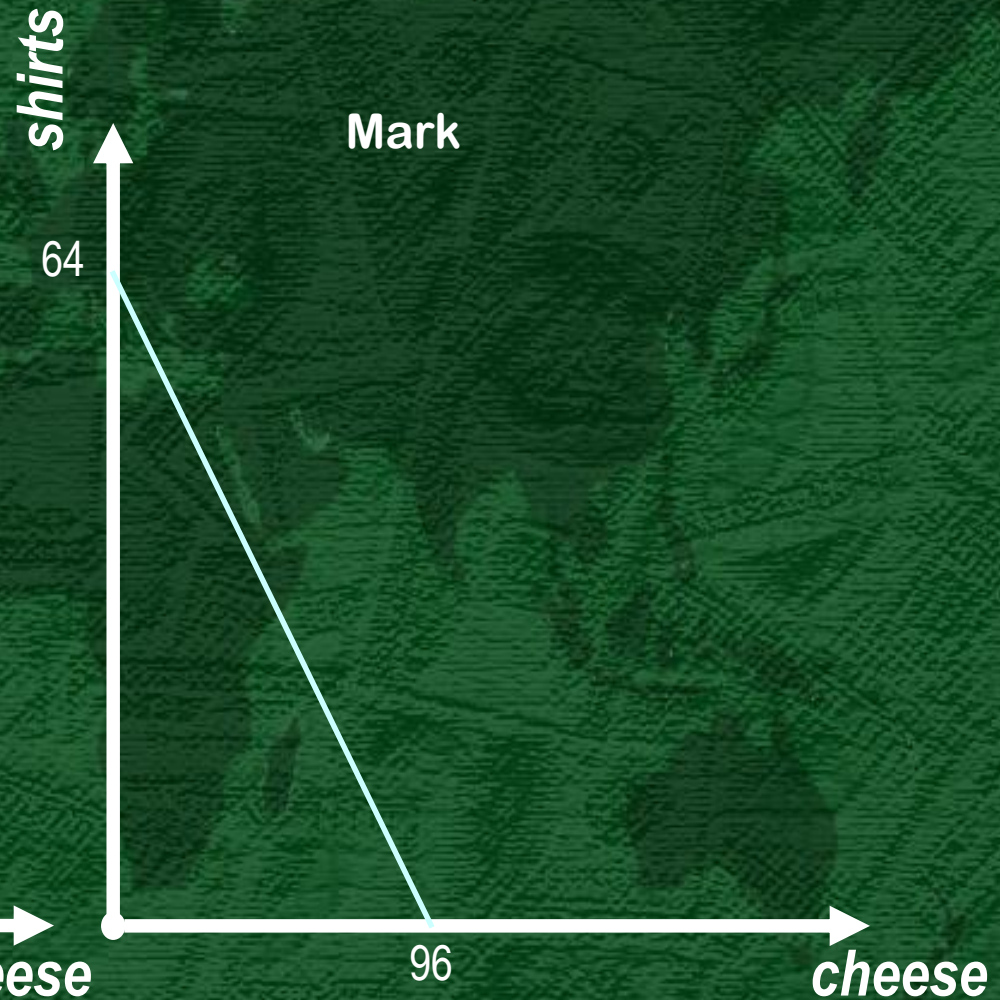
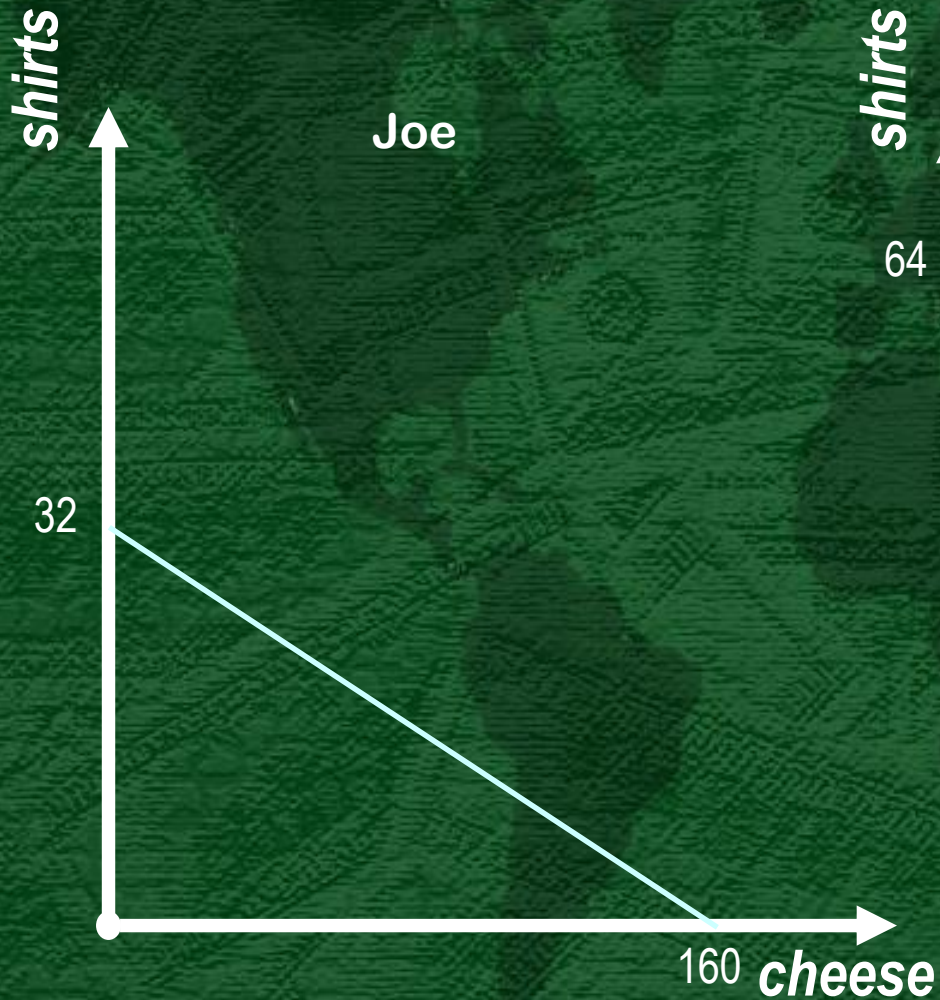
Each works 8 hours.

What's the maximum that both can produce?

Who is better at making what?

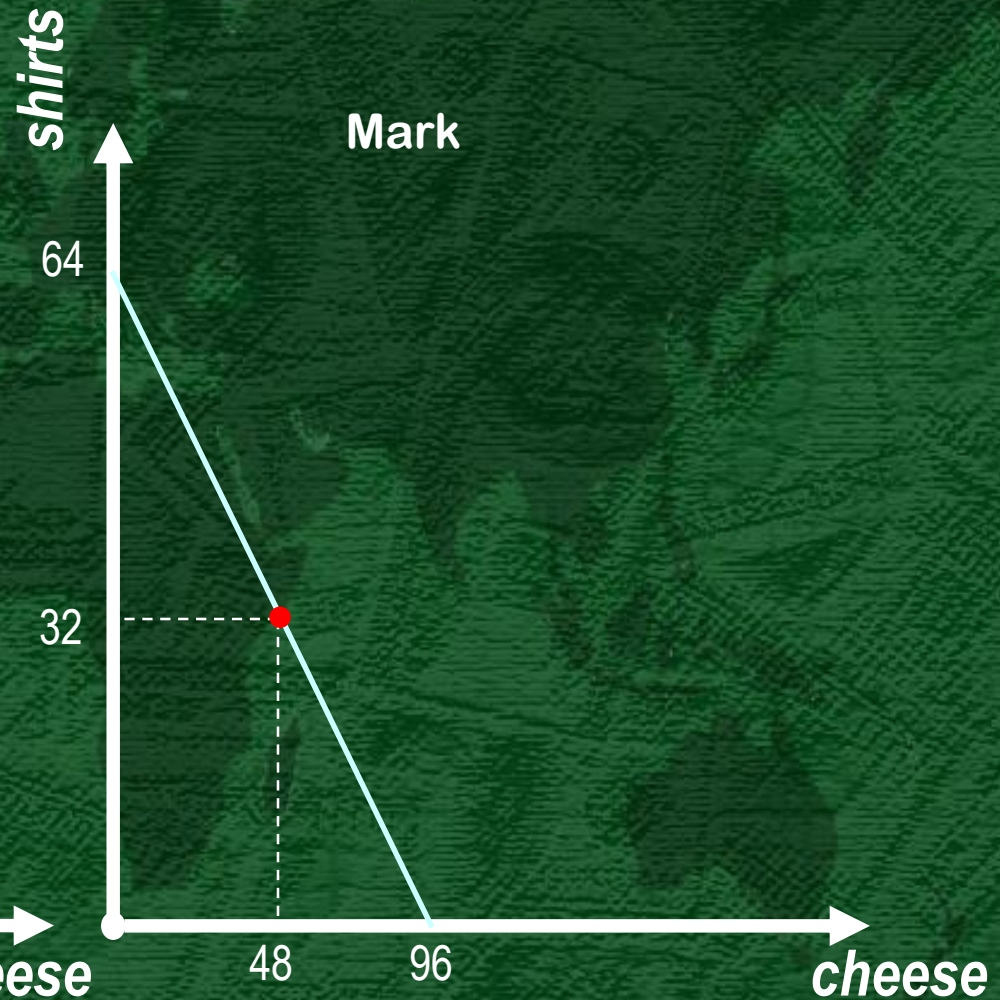
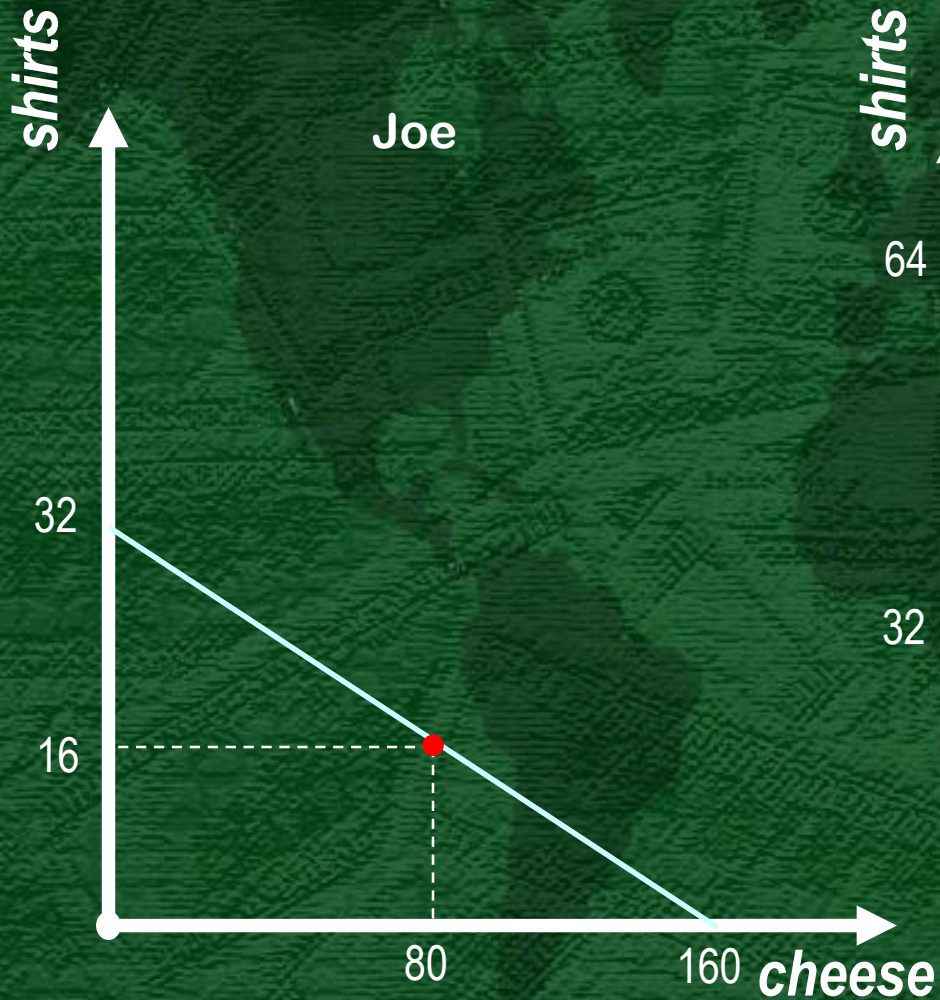
Should they trade? Yes!

Absolute Advantage



Lets assume they spend
half their time on cheese
and half their time on shirts

Absolute Advantage



Absolute Advantage

	Joe		Mark	
	Shirts	Cheese	Shirts	Cheese
Production & Consumption	16 (4 x 4hrs)	80 (20 x 4hrs)	32 (8 x 4hrs)	48 (12 x 4 hrs)

Absolute Advantage

Joe is better at making cheese, so he will take more time making cheese

Mark is better at making shirts, so he will take more time making shirts

	Joe		Mark	
	Shirts	Cheese	Shirts	Cheese
Production & Consumption	16 (4 x 4hrs)	80 (20 x 4hrs)	32 (8 x 4hrs)	48 (12 x 4 hrs)

Absolute Advantage

		Mark	
		Shirts	Cheese
Production & Consumption	16 (4 x 4hrs)	32 (8 x 4hrs)	48 (12 x 4 hrs)

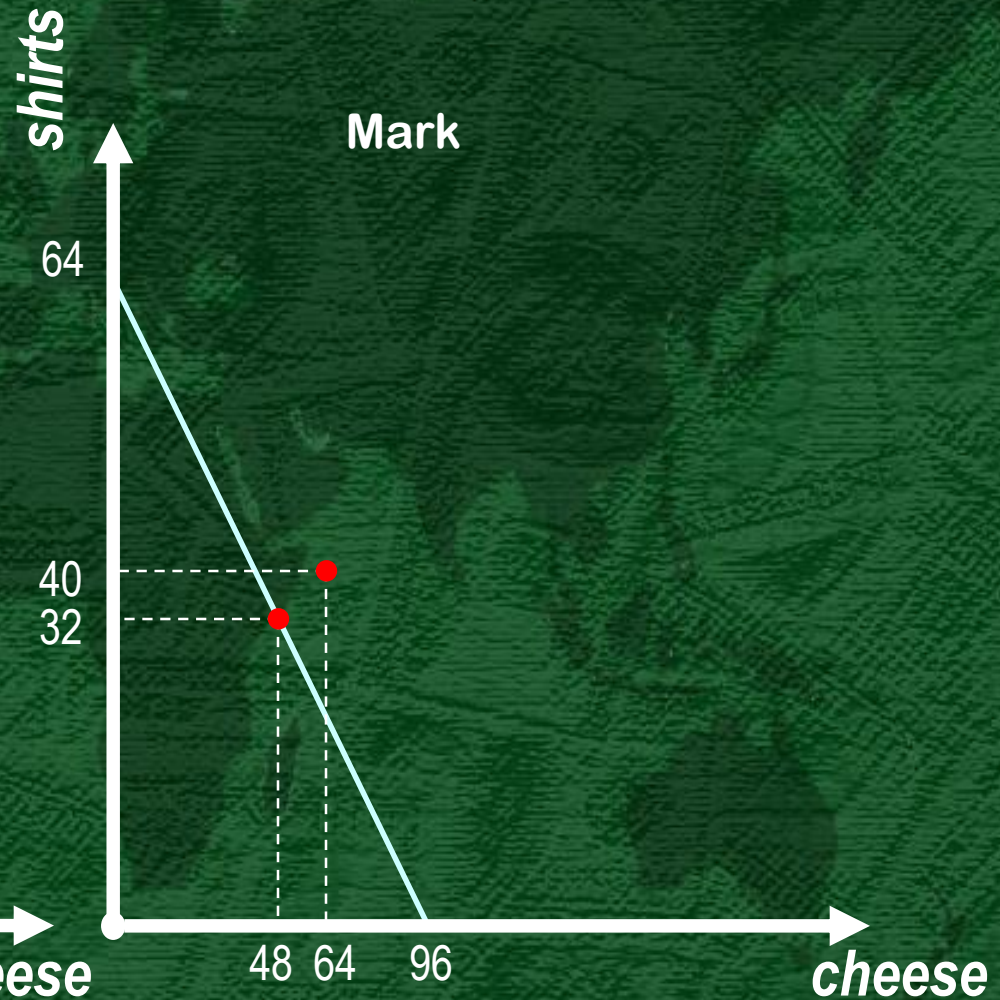
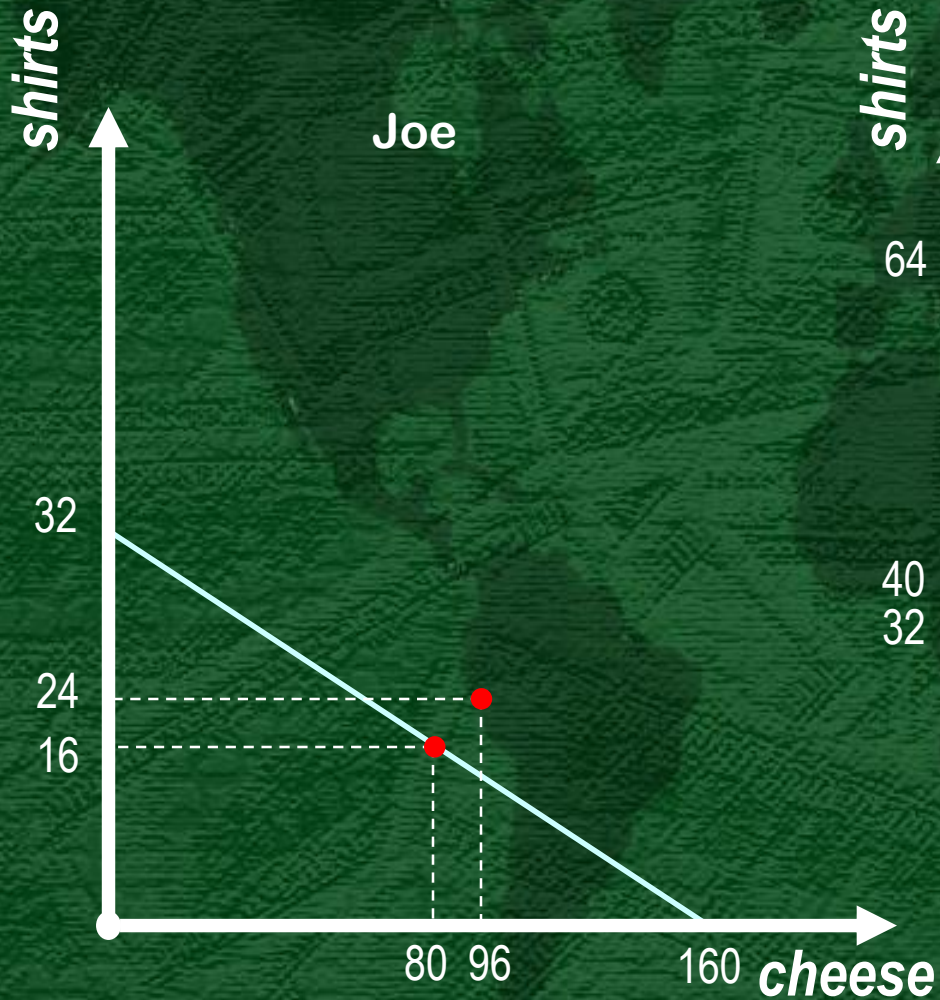
They exchange 24 shirts for
64 cheese



Absolute Advantage

	Joe		Mark	
	Shirts	Cheese	Shirts	Cheese
Production & Consumption	16 (4 x 4hrs)	80 (20 x 4hrs)	32 (8 x 4hrs)	48 (12 x 4 hrs)

Absolute Advantage



Comparative Advantage



David Ricardo

1772-1823

- What happens if someone has an absolute advantage in making both goods?
- Example:
 - Joe makes 4 shirts an hour or 20 kg of cheese
 - Mark makes 8 shirts an hour or 28 kg of cheese
 - Each works 8 hours a day

Comparative Advantage

	Shirts	Cheese
Joe	4/hr	20/hr
Mark	8/hr	28/hr

Should they trade? Yes!

Comparative Advantage

	Absolute		Comparative	
	Shirts	Cheese	Shirts	Cheese
Joe	4/hr	20/hr	5 cheese (20ch/4sh)	0.2 shirts (4sh/20ch)
Mark	8/hr	28/hr	3.5 cheese (28ch/8sh)	0.29 shirts (8sh/28ch)

Mark has lower
opportunity cost to
make shirts

Joe has lower
opportunity cost to
make cheese

Comparative Advantage

	Joe		Mark	
	Shirts	Cheese	Shirts	Cheese
Production & Consumption	16 (4 x 4hrs)	80 (20 x 4hrs)	32 (8 x 4hrs)	112 (28 x 4 hrs)

Market Equilibrium



Total Surplus



Imagine there are 2 countries in the world



Comparative Advantage

NZ's Comparative Advantage is Cheese

China's Comparative Advantage is Shirts

	Absolute		Comparative	
	Shirts	Cheese	Shirts	Cheese
NZ	4/hr	20/hr	5 cheese (20ch/4sh)	0.2 shirts (4sh/20ch)
China	8/hr	28/hr	3.5 cheese (28ch/8sh)	0.29 shirts (8sh/28ch)

Price of cheese would be between the original NZ Price and China's price

Comparative Advantage

The exchange price
is 14 shirts for 58
cheese

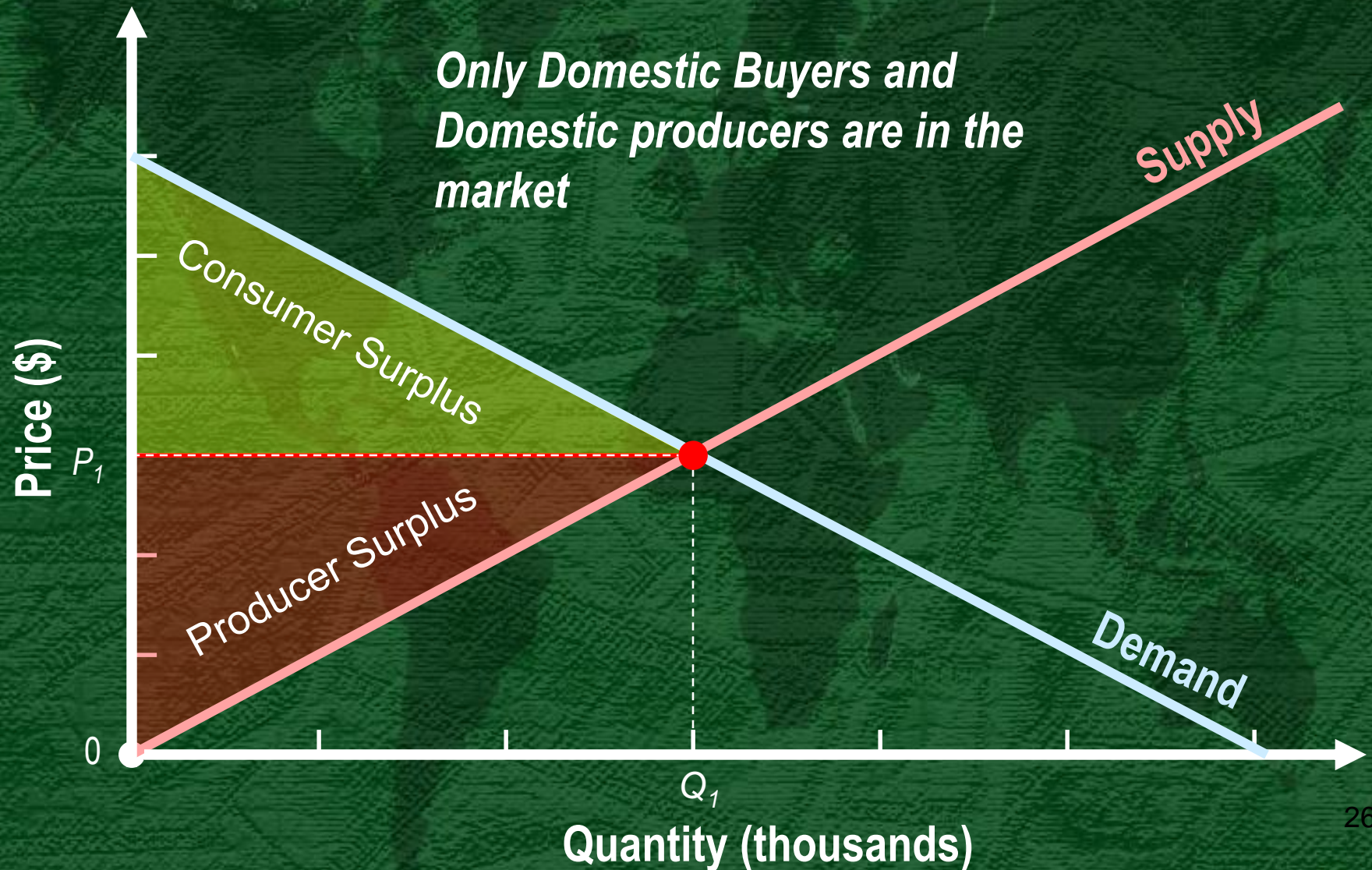
	NZ		China	
	Shirts	Cheese	Shirts	Cheese
Production & Consumption	16 (4 x 4hrs)	80 (20 x 4hrs)	32 (8 x 4hrs)	112 (28 x 4 hrs)

Production	4 (4 x 1hrs)	140 (20 x 7hrs)	48 (8 x 6hrs)	56 (28 x 2hrs)
Trade	+ 14	- 58	- 14	+ 58
Consumption	18	82	34	114
Gains	+ 2	+2	+2	+ 2

Or about 0.24 shirts
for one cheese

*Price of cheese would be between the
original NZ Price and China's price*

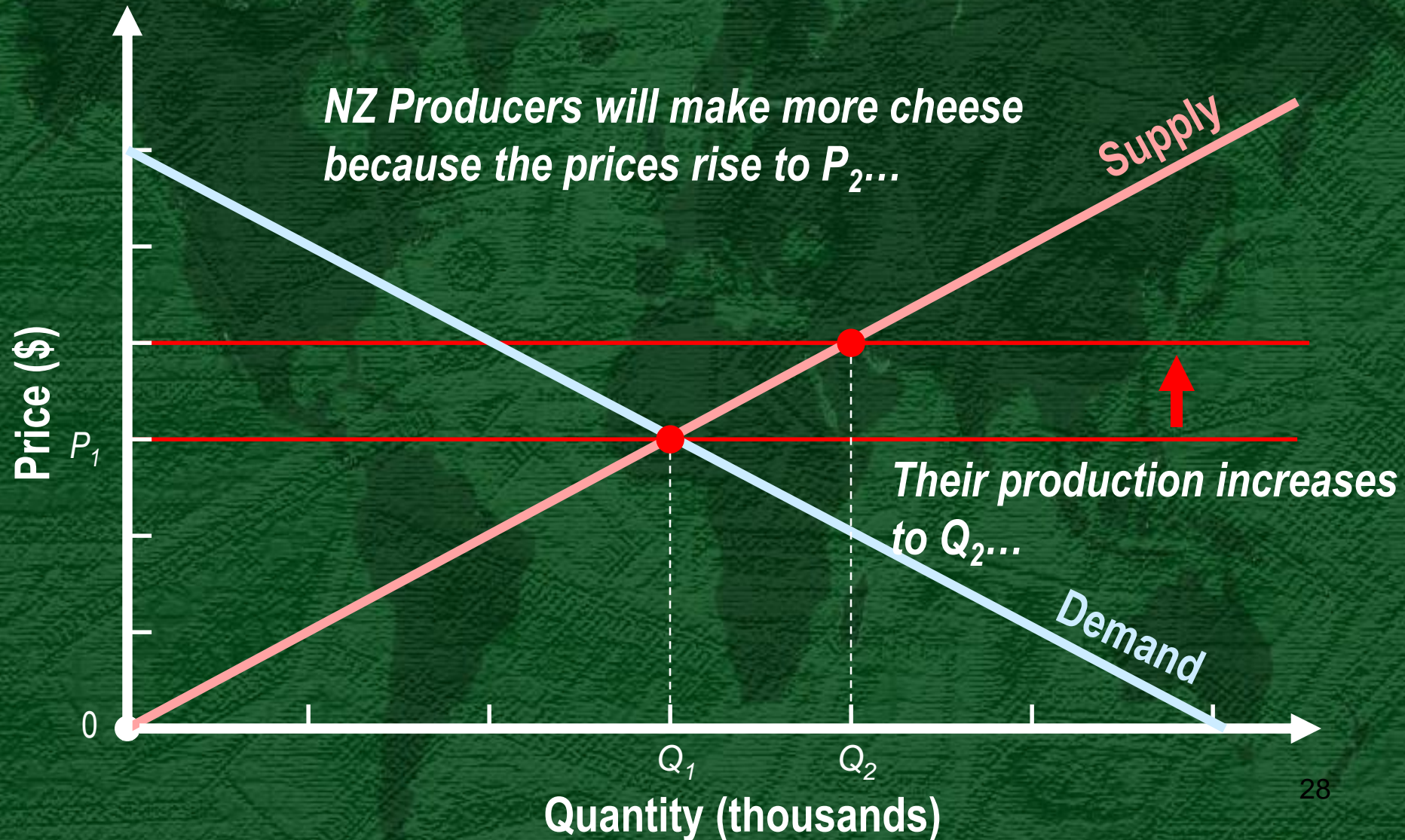
NZ Cheese Market with no Trade



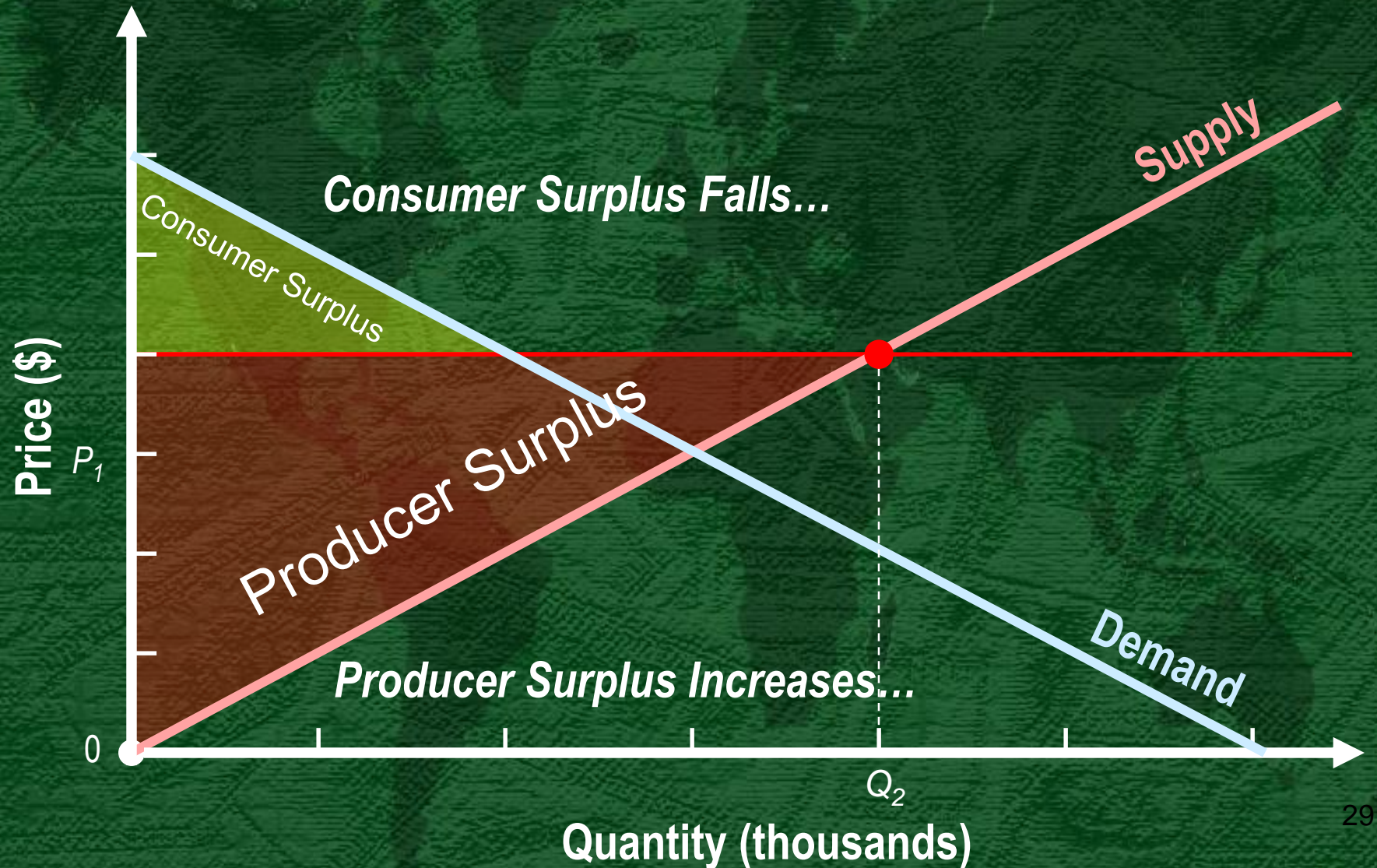
NZ Cheese Market with Trade



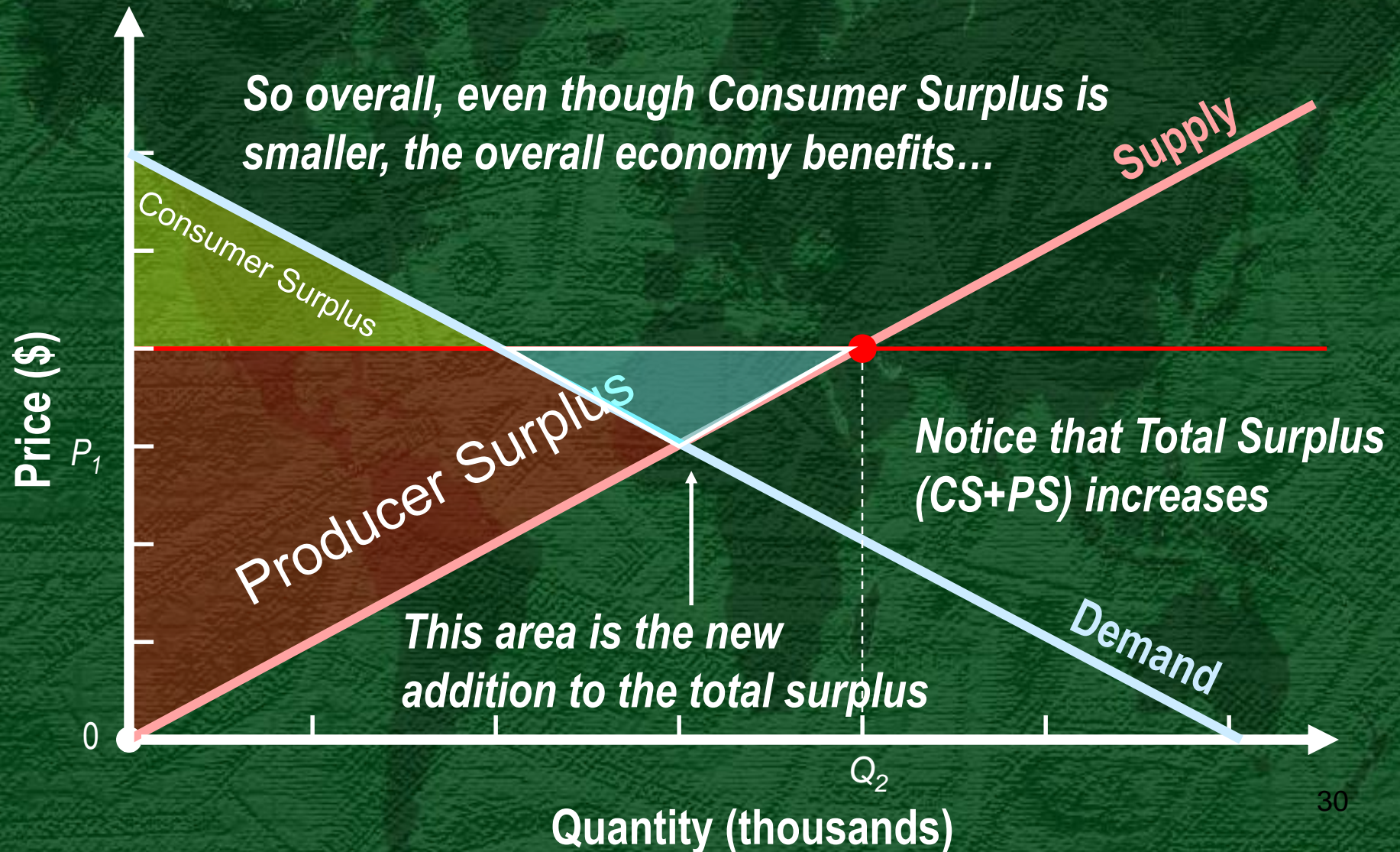
NZ Cheese Market with Trade



NZ Cheese Market with Trade

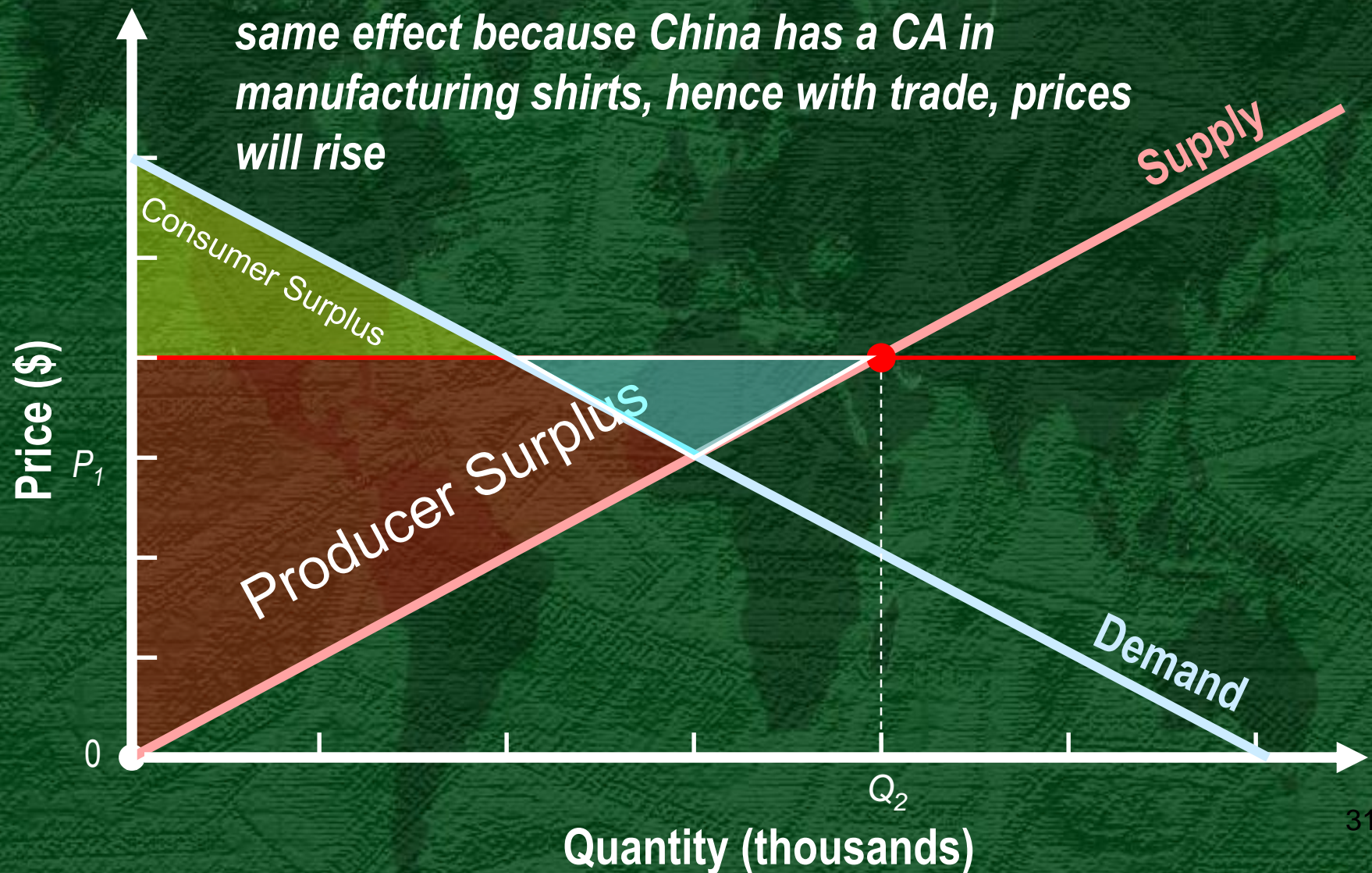


NZ Cheese Market with Trade

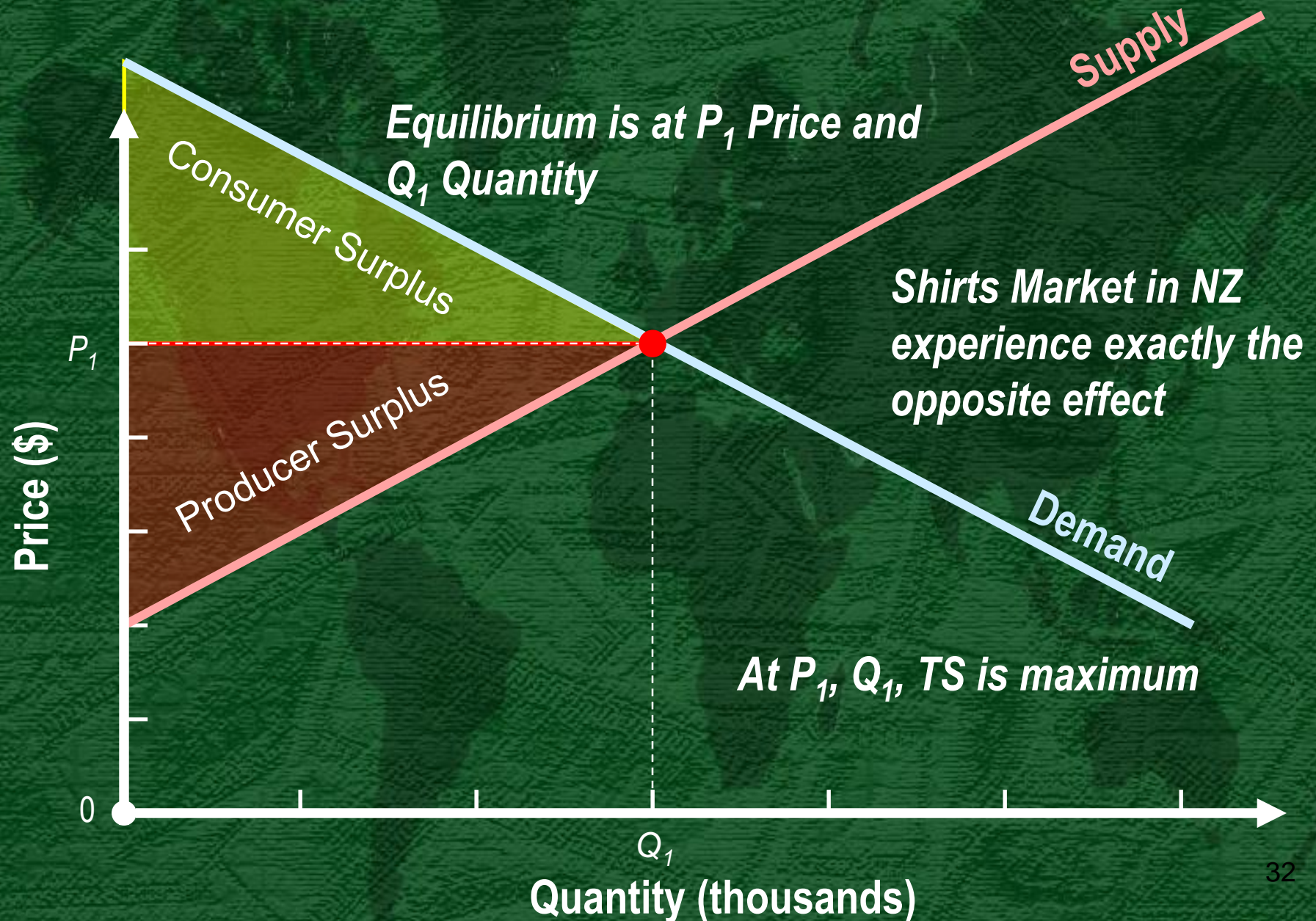


Chinese Shirts Market with Trade

Chinese Shirts Market experiences exactly the same effect because China has a CA in manufacturing shirts, hence with trade, prices will rise



NZ Shirts Market without Trade



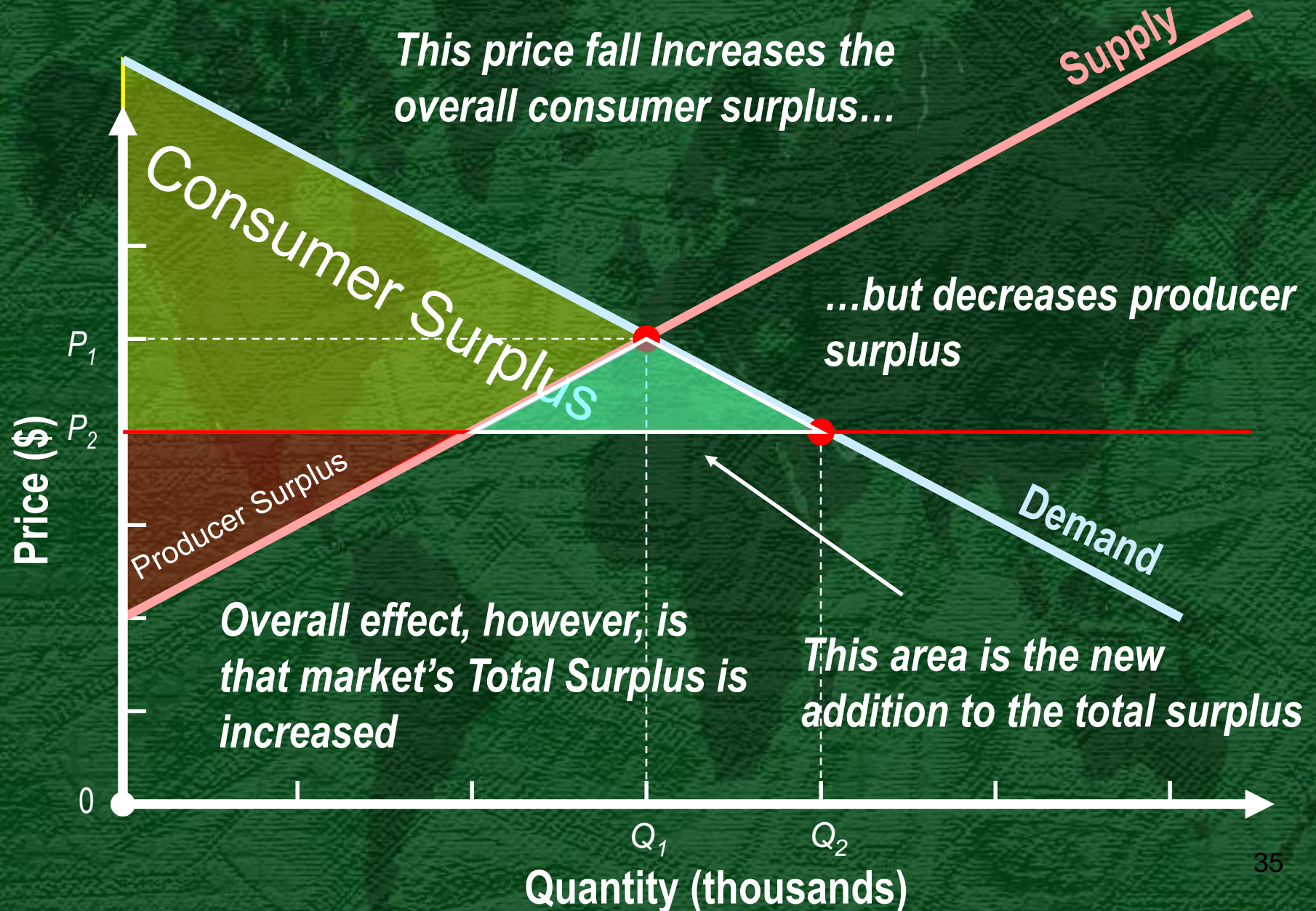
NZ Shirts Market with Trade



NZ Shirts Market with Trade



NZ Shirts Market with Trade



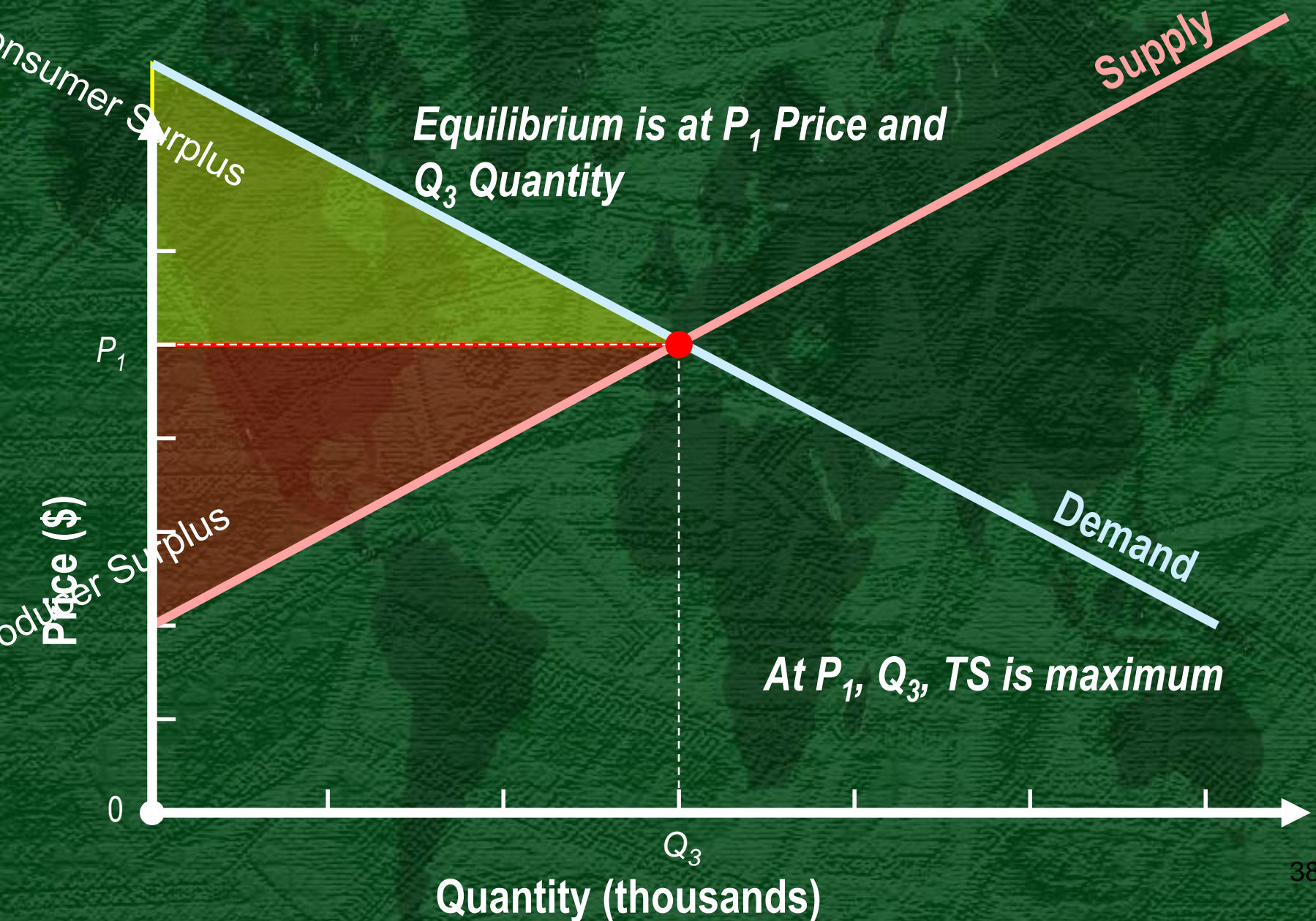
Chinese Cheese Market with Trade



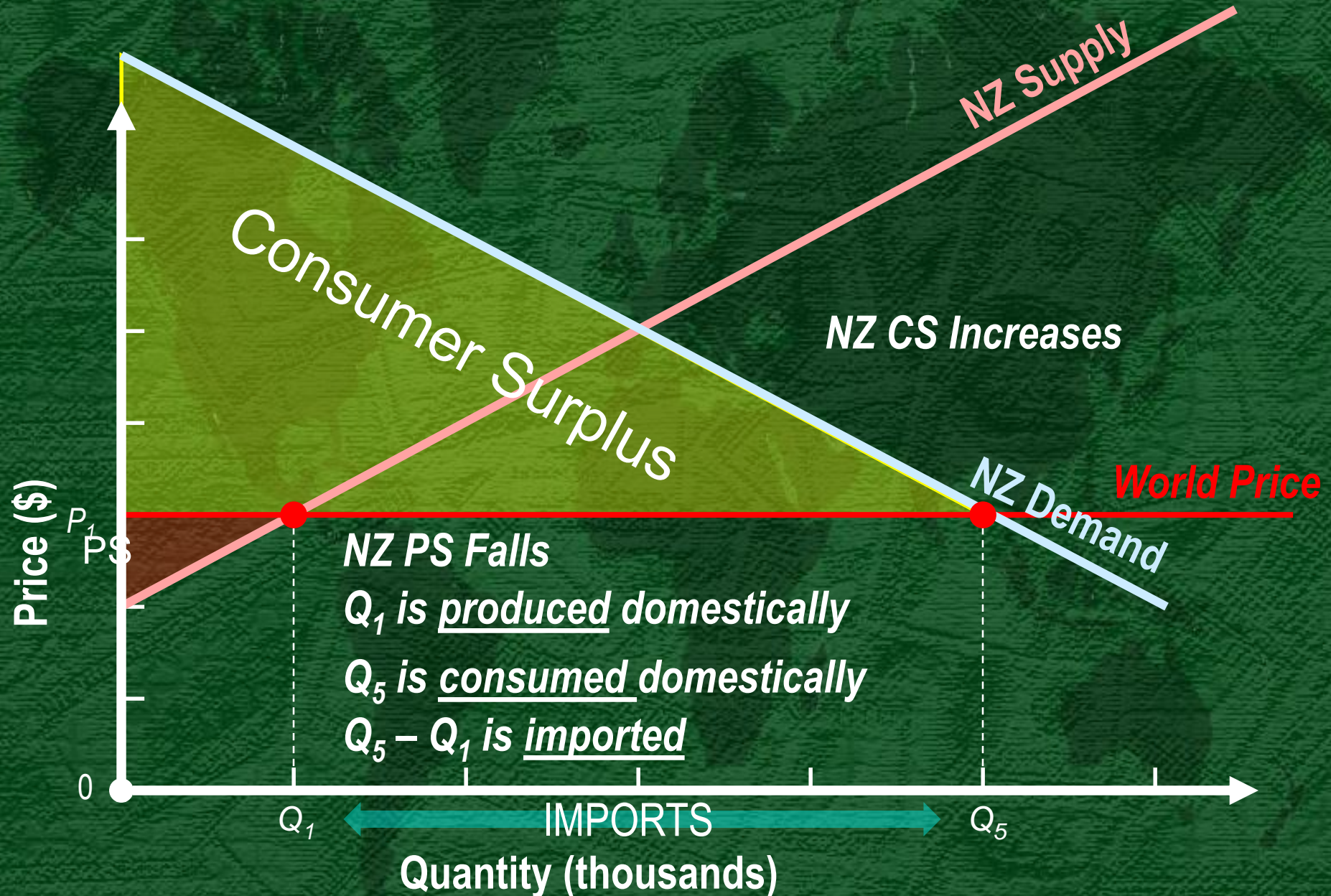
Overall Effect

	NZ		China	
	Shirts	Cheese	Shirts	Cheese
Producers	- ve	+ ve	+ ve	- ve
Consumers	+ ve	- ve	- ve	+ ve
Whole Market (Total Surplus)	+ ve	+ ve	+ ve	+ ve

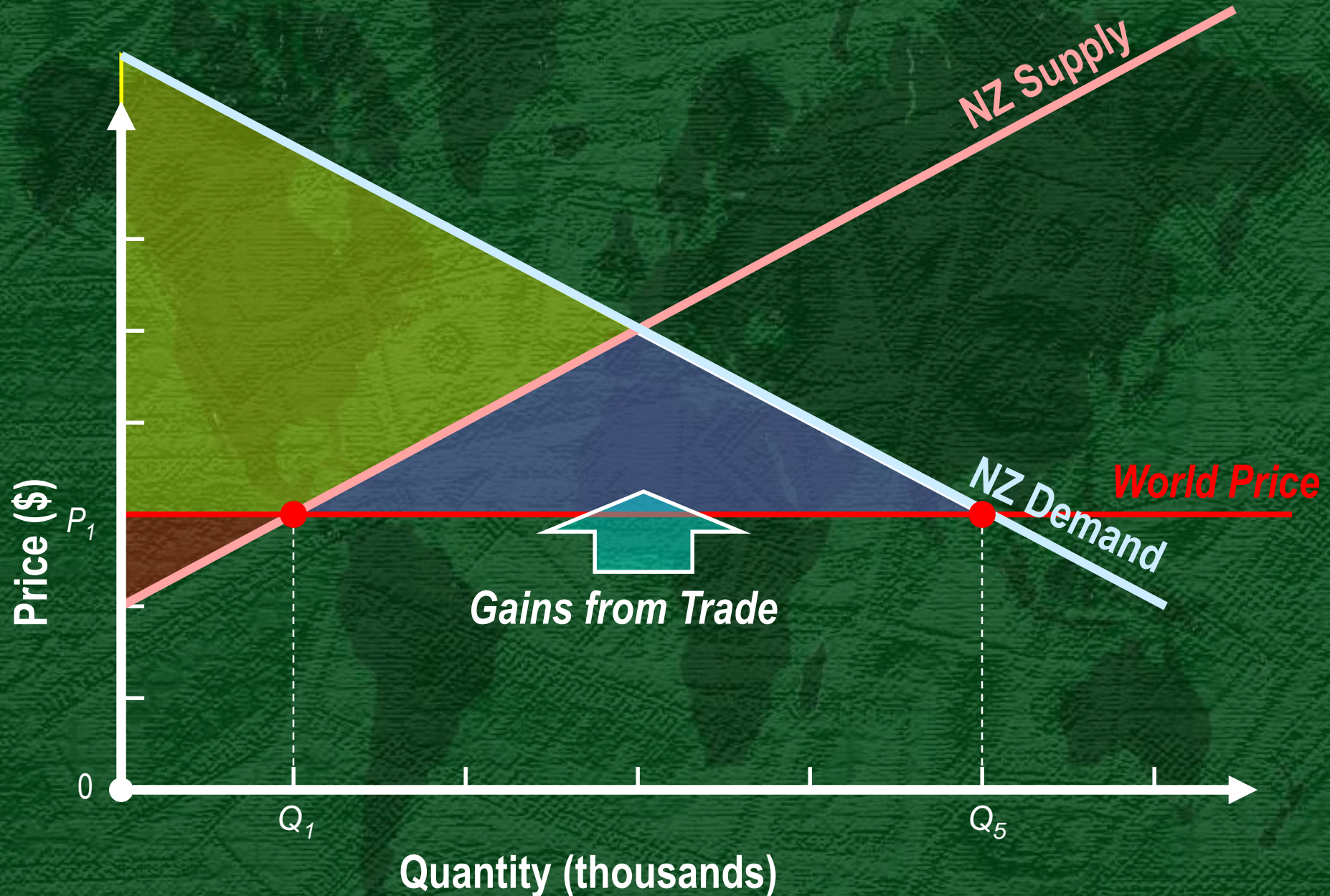
NZ Market without Trade



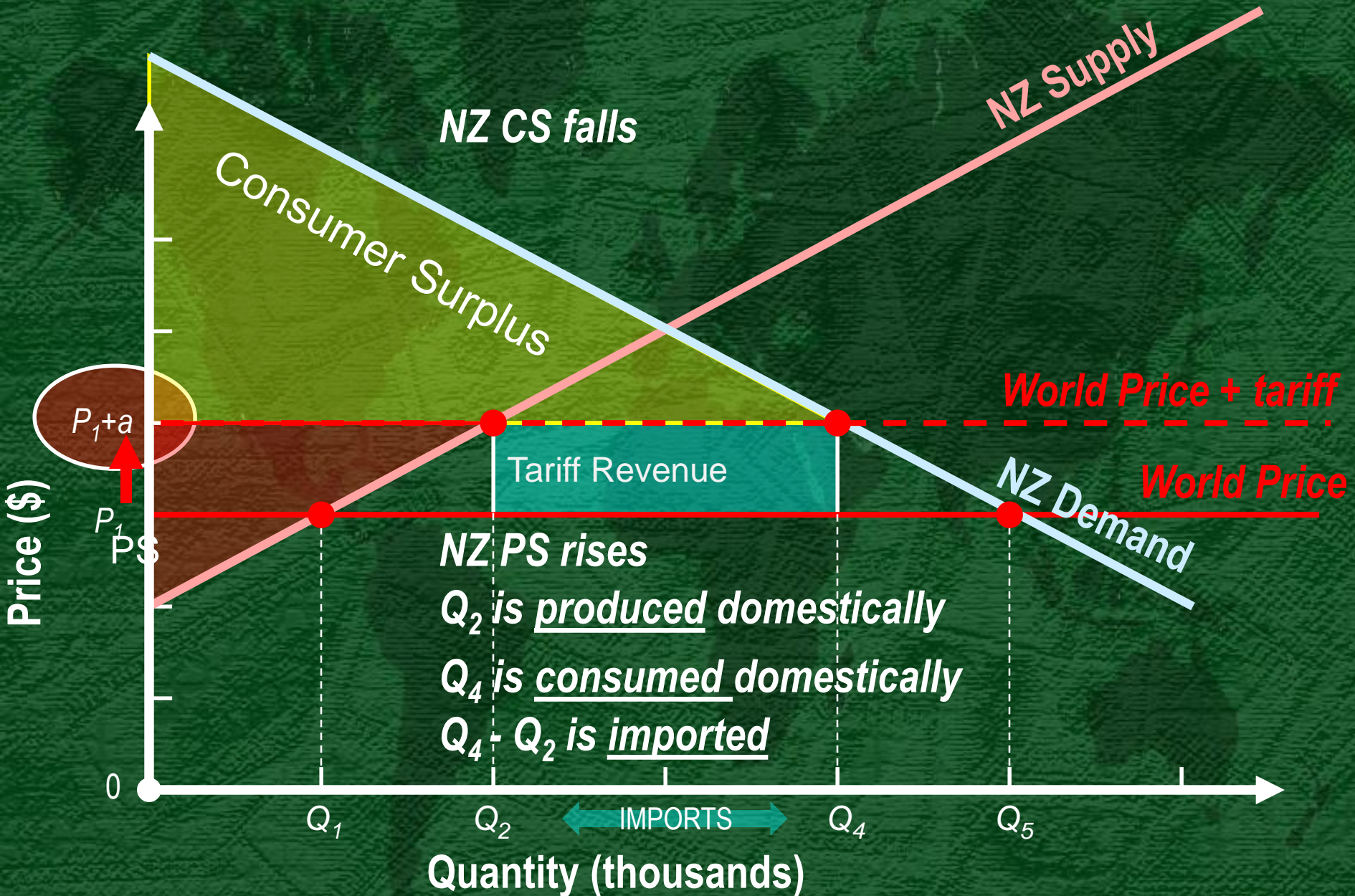
The Effects of Trade



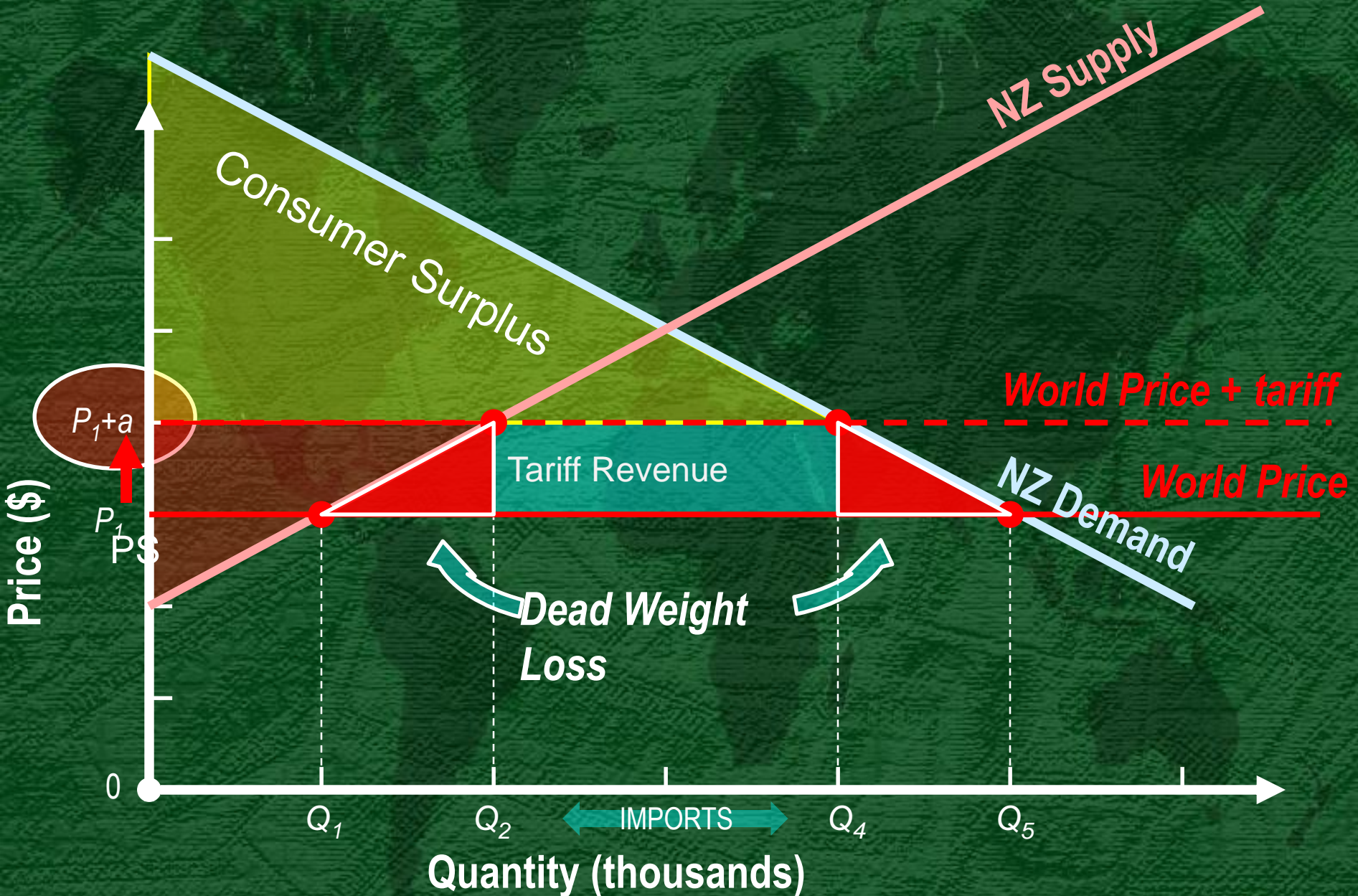
The Effects of Trade



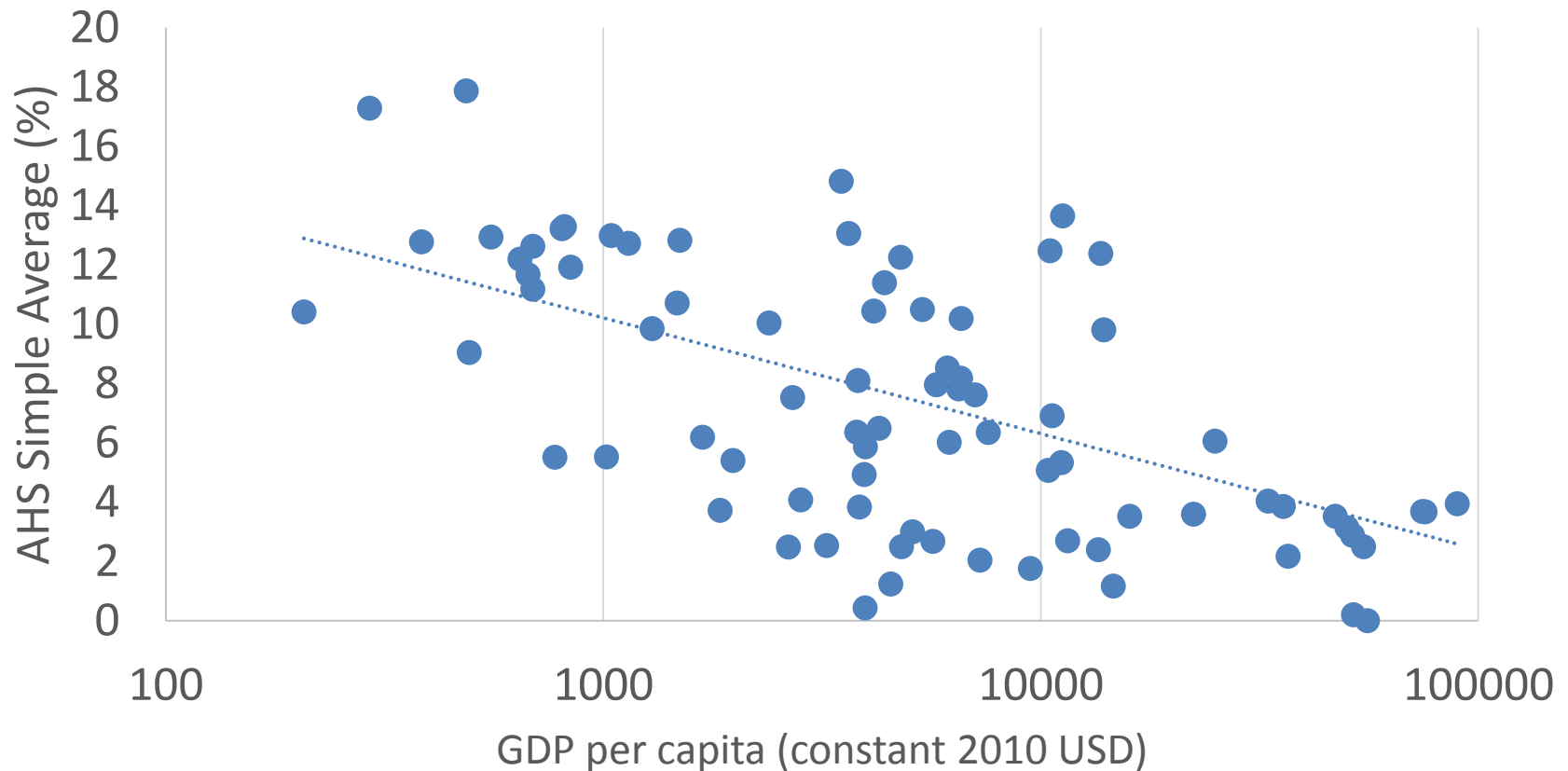
The Effects of a Tariff



The Effects of a Tariff



GDP per capita vs AHS Simple Average, 2015





Why we still have tariffs?

International Trade: A prisoner's dilemma

NZ Decision

Low Tariffs

High Tariffs

Low Tariffs

High Tariffs

China Decision

\$5 billion

\$6 billion

\$5 billion

\$3 billion

\$3 billion

\$4 billion

\$6 billion

\$4 billion