

Introduction

Price and Basic  
Welfare Impact

Distributional  
Effects and  
Rationales of  
the Trade War

Productivity  
Effects from  
Tariffs

Effects of the  
US-China  
Trade War on  
Taiwan

# The Impact of Tariffs on Price and Welfare: Literature Reviews and Future Research Plans

Ming-Chieh, Chang

National Taiwan University

December 28, 2022

# Outline

Introduction

Price and Basic  
Welfare Impact

Distributional  
Effects and  
Rationales of  
the Trade War

Productivity  
Effects from  
Tariffs

Effects of the  
US-China  
Trade War on  
Taiwan

- 1 Introduction
- 2 Price and Basic Welfare Impact
- 3 Distributional Effects and Rationales of the Trade War
- 4 Productivity Effects from Tariffs
- 5 Effects of the US-China Trade War on Taiwan

# Introduction

## Introduction

Price and Basic  
Welfare Impact

Distributional  
Effects and  
Rationales of  
the Trade War

Productivity  
Effects from  
Tariffs

Effects of the  
US-China  
Trade War on  
Taiwan

## Effects of Tariffs

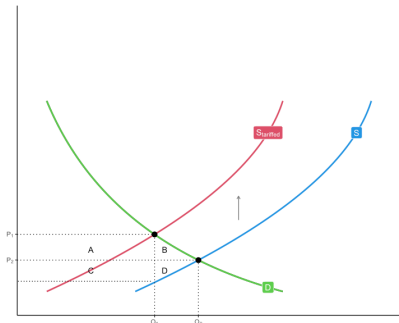
- Price effects
- Welfare effects
- Distributional effects
- Productivity effects

## US-China Trade War

- Started 2018
- Literatures: econometric methods and quantitative models
- Affected **Taiwan** since we are highly **export-oriented**

# Price and Basic Welfare Impact

## When Export Supply Is **Not** Perfectly Elastic



- Consumer price **raises**, producer price received **falls**
- Consumer's tariff burden is rectangle A
- **Producer also bear tariff burden C**

Introduction

Price and Basic  
Welfare Impact

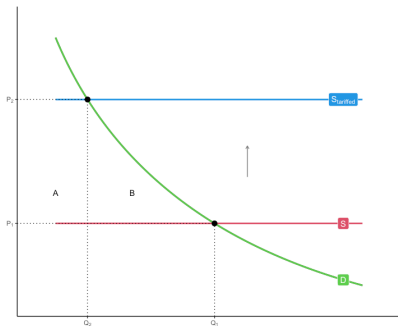
Distributional  
Effects and  
Rationales of  
the Trade War

Productivity  
Effects from  
Tariffs

Effects of the  
US-China  
Trade War on  
Taiwan

# Price and Basic Welfare Impact

## When Export Supply Is Perfectly Elastic



- Consumer price **raises more**, producer price received **unchanged**
- Consumer's tariff burden is a **bigger** rectangle A
- **Producer bears no tariff burden**

Introduction

Price and Basic  
Welfare Impact

Distributional  
Effects and  
Rationales of  
the Trade War

Productivity  
Effects from  
Tariffs

Effects of the  
US-China  
Trade War on  
Taiwan

# Price and Basic Welfare Impact

Introduction

Price and Basic  
Welfare Impact

Distributional  
Effects and  
Rationales of  
the Trade War

Productivity  
Effects from  
Tariffs

Effects of the  
US-China  
Trade War on  
Taiwan

## Empirics in the US-China Trade War

- Amiti et al. (2019), Fajgelbaum et al. (2020), and many other papers: almost **perfectly elastic** export supply
- Improving consumers bear all burdens
- **"complete pass-through"** of import tariffs to consumers

# Distributional Effects and Rationales of the Trade War

Introduction

Price and Basic  
Welfare Impact

Distributional  
Effects and  
Rationales of  
the Trade War

Productivity  
Effects from  
Tariffs

Effects of the  
US-China  
Trade War on  
Taiwan

## Distributional Effects

- Winners: producers
  - Exporters did **not** pay tariff since tariffs were paid by importing consumers
  - **Domestic price rose** since imported goods were tariffed
- Losers: consumers: paid tariffs
  - Counties in the Midwestern Plains in the US were hit hardest by retaliatory tariffs

# Distributional Effects and Rationales of the Trade War

Introduction

Price and Basic  
Welfare Impact

Distributional  
Effects and  
Rationales of  
the Trade War

Productivity  
Effects from  
Tariffs

Effects of the  
US-China  
Trade War on  
Taiwan

## Rationales of the Trade War: Political perspectives

- 2016 presidential election data combined
- Fajgelbaum et al. (2020): **Politically competitive** counties were protected the most by US tariffs
- Consistent to the logic of **majority voting**
- Relatively suggestive



# Productivity Effects from Tariffs

Introduction

Price and Basic  
Welfare Impact

Distributional  
Effects and  
Rationales of  
the Trade War

Productivity  
Effects from  
Tariffs

Effects of the  
US-China  
Trade War on  
Taiwan

## "Within" An Industry

- Melitz (2003): in a heterogeneous firm trade model, firms with **higher productivity**
  - expand to larger scale
  - gain more market share
  - increase market efficiency
- Tariffs may **block** productivity growth

# Productivity Effects from Tariffs

Introduction

Price and Basic  
Welfare Impact

Distributional  
Effects and  
Rationales of  
the Trade War

Productivity  
Effects from  
Tariffs

Effects of the  
US-China  
Trade War on  
Taiwan

## "Between" industries

- Krugman (1987): **learning-by-doing** model
  - Firms **cumulate** experience and **improve productivity** by time
  - Temporary government protections keep infant industries from stringent foreign competitions
- Tariffs **help** productivity accumulation

# Productivity Effects from Tariffs

Introduction

Price and Basic  
Welfare Impact

Distributional  
Effects and  
Rationales of  
the Trade War

Productivity  
Effects from  
Tariffs

Effects of the  
US-China  
Trade War on  
Taiwan

## Discussions

- No contradiction in the above two model
- "Within" or "between" industries matters
- Productivity is hard to measure
- Literatures on the US-China trade war in this remain small

# Effects of the US-China Trade War on Taiwan

Introduction

Price and Basic  
Welfare Impact

Distributional  
Effects and  
Rationales of  
the Trade War

Productivity  
Effects from  
Tariffs

Effects of the  
US-China  
Trade War on  
Taiwan

## Why does the US-China Trade War matter to Taiwan?

- Taiwanese firms are largely **export-oriented**, especially toward the US and China
- US high tariffs to Chinese goods may be **good for Taiwanese exportes in the short run**
- **Loss of purchasing power globally** may hurt them in the long run
- We do not know which channels are the most influential, so **econometric estimations** are needed

# Effects of the US-China Trade War on Taiwan

Introduction

Price and Basic  
Welfare Impact

Distributional  
Effects and  
Rationales of  
the Trade War

Productivity  
Effects from  
Tariffs

Effects of the  
US-China  
Trade War on  
Taiwan

## Future Research Plan

- Estimate the gain of exporters in the short run
- Connect trade policy making with **political** considerations
- Evaluate trade policy, give suggestions based on empirical evidence
- Productivity estimations are extensions