Discussion of Tariffs, Manufacturing Employment, and Supply Chains

by Joe Steinberg

Pau S. Pujolas McMaster University

Bank of Canada, September 2025

- ▶ "Jobs and factories will come roaring back into our country, and you see it happening already"
- ▶ "We will supercharge our domestic industrial base"
- ▶ "We'll impose new tariffs so that the products on our stores will once again be stamped with those beautiful words, made in the USA."

- ▶ "Jobs and factories will come roaring back into our country, and you see it happening already"
- "We will supercharge our domestic industrial base"
- ▶ "We'll impose new tariffs so that the products on our stores will once again be stamped with those beautiful words, made in the USA."

The new era of protectionism in manufacturing is here

- ▶ "Jobs and factories will come roaring back into our country, and you see it happening already"
- ▶ "We will supercharge our domestic industrial base"
- ▶ "We'll impose new tariffs so that the products on our stores will once again be stamped with those beautiful words, made in the USA."

The new era of protectionism in manufacturing is here (or, there, as in, in the US)

- ▶ "Jobs and factories will come roaring back into our country, and you see it happening already"
- "We will supercharge our domestic industrial base"
- ▶ "We'll impose new tariffs so that the products on our stores will once again be stamped with those beautiful words, made in the USA."

The new era of protectionism in manufacturing is here (or, there, as in, in the US) delivered to us by a new concept: The Trumplanner

- ▶ "Jobs and factories will come roaring back into our country, and you see it happening already"
- "We will supercharge our domestic industrial base"
- ▶ "We'll impose new tariffs so that the products on our stores will once again be stamped with those beautiful words, made in the USA."

The new era of protectionism in manufacturing is here (or, there, as in, in the US) delivered to us by a new concept: The Trumplanner

Joe's paper takes this narrative seriously:

- ▶ "Jobs and factories will come roaring back into our country, and you see it happening already"
- ▶ "We will supercharge our domestic industrial base"
- ▶ "We'll impose new tariffs so that the products on our stores will once again be stamped with those beautiful words, made in the USA."

The new era of protectionism in manufacturing is here (or, there, as in, in the US) delivered to us by a new concept: The Trumplanner

Joe's paper takes this narrative seriously: Can the Trumplanner deliver on his promises?

Pujolas and Rossbach (2024) took this Twitter quote seriously

Pujolas and Rossbach (2024) took this Twitter quote seriously

"When a country (USA) is losing many billions of dollars on trade with virtually every country it does business with, trade wars are good, and easy to win"

U.S. President Donald J. Trump on Twitter, Mar 2, 2018.

Pujolas and Rossbach (2024) took this Twitter quote seriously

"When a country (USA) is losing many billions of dollars on trade with virtually every country it does business with, trade wars are good, and easy to win"

U.S. President Donald J. Trump on Twitter, Mar 2, 2018.

▶ We discovered something new, trade wars can indeed be won in the presence of trade deficits

Pujolas and Rossbach (2024) took this Twitter quote seriously

"When a country (USA) is losing many billions of dollars on trade with virtually every country it does business with, trade wars are good, and easy to win"

U.S. President Donald J. Trump on Twitter, Mar 2, 2018.

- ▶ We discovered something new, trade wars can indeed be won in the presence of trade deficits
- ▶ But the press bombardment was insane

Pujolas and Rossbach (2024) took this Twitter quote seriously

"When a country (USA) is losing many billions of dollars on trade with virtually every country it does business with, trade wars are good, and easy to win"

U.S. President Donald J. Trump on Twitter, Mar 2, 2018.

- ▶ We discovered something new, trade wars can indeed be won in the presence of trade deficits
- ▶ But the press bombardment was insane and even a think tank blacklisted us...!

▶ Most economists (everyone other than Peter Navarro and Ron Vara) read Liberation Day's statements and get horrified

- ▶ Most economists (everyone other than Peter Navarro and Ron Vara) read Liberation Day's statements and get horrified
 - ► Why?
 - ▶ Because we know protectionism is bad.
 - We know import substitution is bad.

- ▶ Most economists (everyone other than Peter Navarro and Ron Vara) read Liberation Day's statements and get horrified
 - ► Why?
 - ▶ Because we know protectionism is bad.
 - ▶ We know import substitution is bad.
 - What do we mean by bad?

- ▶ Most economists (everyone other than Peter Navarro and Ron Vara) read Liberation Day's statements and get horrified
 - ► Why?
 - ▶ Because we know protectionism is bad.
 - ▶ We know import substitution is bad.
 - ▶ What do we mean by bad?
 - Lower real income.

- ▶ Most economists (everyone other than Peter Navarro and Ron Vara) read Liberation Day's statements and get horrified
 - ► Why?
 - ▶ Because we know protectionism is bad.
 - We know import substitution is bad.
 - ▶ What do we mean by bad?
 - Lower real income.
 - That is also the case in Joe's paper, real income is lower if you throw tariffs to it.

- ▶ Most economists (everyone other than Peter Navarro and Ron Vara) read Liberation Day's statements and get horrified
 - ► Why?
 - ▶ Because we know protectionism is bad.
 - We know import substitution is bad.
 - What do we mean by bad?
 - Lower real income.
 - That is also the case in Joe's paper, real income is lower if you throw tariffs to it.
- ▶ But none of Trump's statements talks about income.
 - People may read between the lines that it has to do with income...

- ▶ Most economists (everyone other than Peter Navarro and Ron Vara) read Liberation Day's statements and get horrified
 - ► Why?
 - ▶ Because we know protectionism is bad.
 - ▶ We know import substitution is bad.
 - What do we mean by bad?
 - Lower real income.
 - That is also the case in Joe's paper, real income is lower if you throw tariffs to it.
- ▶ But none of Trump's statements talks about income.
 - ▶ People may read between the lines that it has to do with income...
 - ▶ But they all talk about boosting manufacturing only
 - ► The objective of our "Trumplanner" here is to increase manufacturing

- builds a state-of-the-art general equilibrium model with:
 - dynamics/capital accumulation
 - ▶ multiple countries/trade
 - ▶ multiple industrial sectors/input-output structure,
 - ▶ differentiated consumption-vs-investment aggregates
 - ▶ and a myriad of realistic adjustment costs

- builds a state-of-the-art general equilibrium model with:
 - dynamics/capital accumulation
 - ▶ multiple countries/trade
 - ▶ multiple industrial sectors/input-output structure,
 - differentiated consumption-vs-investment aggregates
 - ▶ and a myriad of **realistic** adjustment costs
- delivers a world where
 - long-run manufacturing employment increases (Trumplanner eventually gets it right)

- builds a state-of-the-art general equilibrium model with:
 - dynamics/capital accumulation
 - ▶ multiple countries/trade
 - ▶ multiple **industrial** sectors/input-output structure,
 - differentiated consumption-vs-investment aggregates
 - ▶ and a myriad of realistic adjustment costs
- delivers a world where
 - ▶ long-run manufacturing employment increases (Trumplanner eventually gets it right)
 - ▶ short-run manufacturing employment falls (Trumplanner will lose the midterms)

- builds a state-of-the-art general equilibrium model with:
 - dynamics/capital accumulation
 - ▶ multiple countries/trade
 - ▶ multiple **industrial** sectors/input-output structure,
 - ▶ differentiated consumption-vs-investment aggregates
 - ▶ and a myriad of realistic adjustment costs
- delivers a world where
 - ▶ long-run manufacturing employment increases (Trumplanner eventually gets it right)
 - ▶ short-run manufacturing employment falls (Trumplanner will lose the midterms)
 - overall employment does not change much, mostly reallocation

- ▶ Trump has also claimed the tariffs are "[...] a matter of national security for us"
- National security reasons evokes the idea of heavy duty industry, more linked to upstream sectors than downstream; perhaps less elastic than more elastic

- ▶ Trump has also claimed the tariffs are "[...] a matter of national security for us"
- National security reasons evokes the idea of heavy duty industry, more linked to upstream sectors than downstream; perhaps less elastic than more elastic
- ▶ The four sectors that Joe has in the paper cover exactly that
 - ▶ 2 upstream (oil, steel), 2 downstream (toys, cars)
 - ▶ 2 low-elasticity (steel, cars), 2 high-elasticity (oil, toys)

- ▶ Trump has also claimed the tariffs are "[...] a matter of national security for us"
- National security reasons evokes the idea of heavy duty industry, more linked to upstream sectors than downstream; perhaps less elastic than more elastic
- ▶ The four sectors that Joe has in the paper cover exactly that
 - ▶ 2 upstream (oil, steel), 2 downstream (toys, cars)
 - ▶ 2 low-elasticity (steel, cars), 2 high-elasticity (oil, toys)
- ► Fun result: US tariffs on everything boost toys employment, leave the rest largely unchanged

- ▶ Trump has also claimed the tariffs are "[...] a matter of national security for us"
- National security reasons evokes the idea of heavy duty industry, more linked to upstream sectors than downstream; perhaps less elastic than more elastic
- ▶ The four sectors that Joe has in the paper cover exactly that
 - ▶ 2 upstream (oil, steel), 2 downstream (toys, cars)
 - ▶ 2 low-elasticity (steel, cars), 2 high-elasticity (oil, toys)
- ► Fun result: US tariffs on everything boost toys employment, leave the rest largely unchanged
- ➤ To increase employment in a given sector, US tariffs need to be placed on that one sector

Some thoughts

▶ This is phenomenal paper that I wish I had written

Some thoughts

- ▶ This is phenomenal paper that I wish I had written
- ▶ I would pick elasticities differently.
 - ▶ CP elasticities deliver bad predictions when it comes to trade liberalization episodes (Kehoe, Pujolas and Rossbach, 2017).
 - ▶ In Pujolas and Rossbach (2024) we use Fontagne et al (2022)

Some thoughts

- ▶ This is phenomenal paper that I wish I had written
- ▶ I would pick elasticities differently.
 - CP elasticities deliver bad predictions when it comes to trade liberalization episodes (Kehoe, Pujolas and Rossbach, 2017).
 - ▶ In Pujolas and Rossbach (2024) we use Fontagne et al (2022)
- ► Tariffing oil boosts output.
 - ▶ Underlying assumption: oil sector can expand its output **enough** if tariffs in place.
 - ▶ I suspect we would not have oil crisis if that assumption was reasonable
 - ▶ The modelling of all sectors makes sense for machinery and toys, and in small departures from equilibrium prices, elsewhere. For larger departures, maybe not?

▶ Paper is not normative.

- ▶ Paper is not normative.
 - ▶ In some of the exercises welfare must go up, at least in the steady state, getting a result aligned with Pujolas and Rossbach (2024).
 - ▶ ... and Johnson (1953) this is a standard terms-of-trade effect of tariffs

- ▶ Paper is not normative.
 - ▶ In some of the exercises welfare must go up, at least in the steady state, getting a result aligned with Pujolas and Rossbach (2024).
 - ▶ ... and Johnson (1953) this is a standard terms-of-trade effect of tariffs
- ▶ Be normative and join the club!
 - ► Formalize the Trumplanner.
 - What's the least harmful combination of policies to increase employment in steel and cars?

- ▶ Paper is not normative.
 - ▶ In some of the exercises welfare must go up, at least in the steady state, getting a result aligned with Pujolas and Rossbach (2024).
 - ▶ ... and Johnson (1953) this is a standard terms-of-trade effect of tariffs
- ▶ Be normative and join the club!
 - ► Formalize the Trumplanner.
 - What's the least harmful combination of policies to increase employment in steel and cars?
- ▶ The underlying tone in Trump's statements, is that some household types (low-skilled, trades, manufacturing) in some regions (rustbelt) will benefit.
 - Introduce heterogeneous households (Waugh has started to work on it already)
 - ► Introduce regions

- Do Canada
 - All the effects that the paper finds have a direct counter-part to Canada and its Provinces
 - ▶ Does AB win with these tariffs, thanks to oil?
 - ► How large are the costs for Ontario's manufacturing?
- ► Changes in aggregate employment?
 - ▶ in the long run, I don't see a reason why tariffs should produce meaningful changes in aggregate employment
 - ▶ When Trump took office, unemployment was at record lows
 - ► Tariffs don't seem to matter for aggregate hours in any country
 - Bringing back Prescott, most long-run changes in hours worked are driven by labour income distortions
 - ▶ Isn't the result that tariffs only reallocate labour almost necessary to be true?