

Excursus: Trade War I

- Assumption: countries may maximize utility = (social) welfare
- 2 countries: EU, USA
- 2 policy choices: free trade, full protection
- Social welfare calculable and observable

further reading: Krugman/Obstfeld, ch. 9

Excursus: Trade War II

- 3 possible states:
 - Both countries are protectionist: no welfare gains or losses through free trade. => Low social welfare for both countries
 - Both countries choose free trade: => both achieve a high level of social welfare
 - Unilateral trade liberalization: one country chooses free trade while the other is protectionist => highest welfare for protectionist, and very low welfare for free trader

Excursus: Trade War III

Pay-off matrix; game: prisoner's dilemma

EU \ USA	Free trade	Protection
Free trade	(10, 10)	(-10, 20)
Protection	(20, -10)	(-5, -5)

Excursus: Trade War IV

Pay-off matrix; game: prisoner's dilemma

EU \ USA	Free trade	Protection
Free trade	(10, 10)	(-10, 20)
Protection	(20, -10)	(-5, -5)

The table illustrates a prisoner's dilemma game between the USA and the EU. The payoffs are as follows:

- If both choose Free trade: (10, 10)
- If USA chooses Free trade and EU chooses Protection: (-10, 20)
- If USA chooses Protection and EU chooses Free trade: (20, -10)
- If both choose Protection: (-5, -5)

Red circles highlight the second component of each payoff pair, and arrows indicate that the USA always chooses protection, while the EU chooses free trade if the USA chooses free trade and protection if the USA chooses protection.

Excursus: Trade War V

Pay-off matrix; game: prisoner's dilemma

USA \ EU	Free trade	Protection
Free trade	(10, 10)	(-10, 20)
Protection	(20, -10)	(-5, -5)

Excursus: Trade War IV

- Solution: given the strategy of the EU, the USA will always play ‚protectionism‘
- Given the strategy of the USA, the EU will always choose ‚protectionism‘
- ‚protectionism‘ is dominant strategy to play
- => both countries engage in trade war
- => pay-offs: $(-5, -5)$

Excursus: Trade War V

- In trade war, both countries loose social welfare
- Cooperative equilibrium (10,10)
- $(10, 10) \gg (-5, -5)$
- Both countries have incentive to coordinate on (10,10)
- Solution: communication and enforcable contract
- Non-enforcable contract. Incentive to return to trade war
- E.g. EU (for its members), GATT/WTO