

# International Production Network Planning

## Motivation / Background



- Every year for US companies alone, several billions of dollars in duty drawbacks remain unclaimed
- Strategic network design can help multinational corporations save millions of dollars in duty fees every year

## Key Question / Hypothesis

- How do import custom duties and credits impact global production planning and network design?

## Relevant Literature

- Global Production Under Duties, Duty Drawbacks and Local Content Trade Barriers in Mercosul – Georg Maier (2011)
- Supply Chain Configuration: Mathematical Programming Approaches – C. Chandra, J. Grabis (2016)



## The Problem

- Our sponsor's products are manufactured across different regions. They are then shipped to different markets and trading blocs. Given the existing production footprint, how can we determine the optimal plants that should service each market to take advantage of import duty credits

## Methodology

- Build a mixed integer linear programming model that incorporates both duty rates and duty credits to maximize revenue

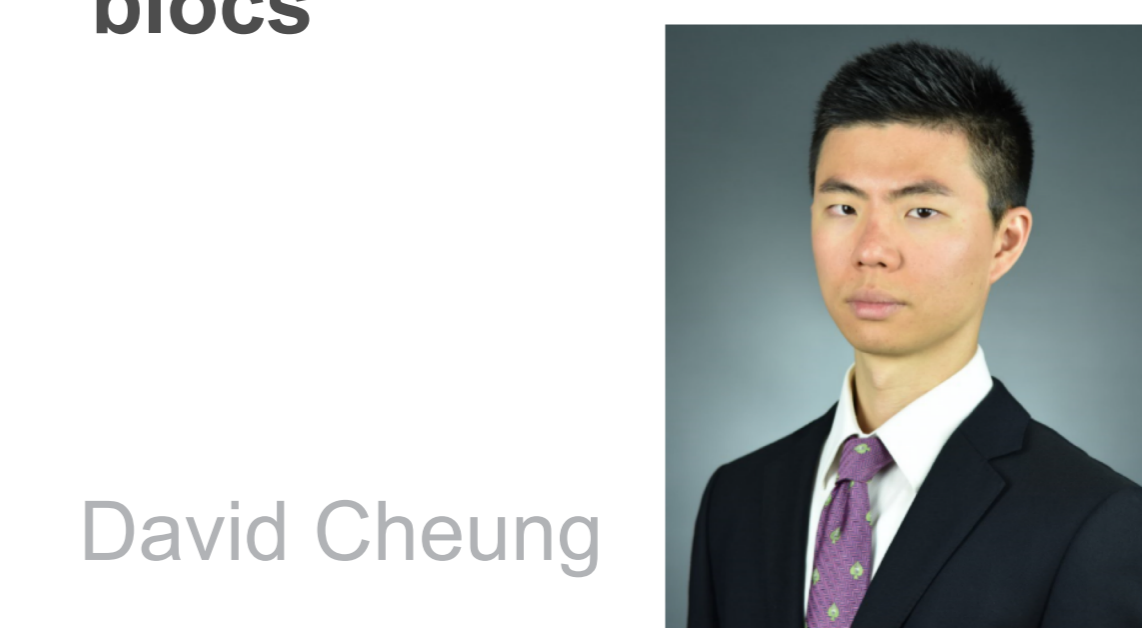
## Initial Results

- Conducted literature review and determined an appropriate framework to address the problem of optimizing international planning with duties
- Identified the roles of relevant trading blocs and how they affect international trading



## Expected Contribution

- To develop a model template that our sponsor can use and update going forward to plan production strategy
- To compile duties and duty credits for relevant trading blocs



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