Alternate Pricing Model for Transportation Contracts

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Introduction

- US trucking industry has been experiencing a capacity shortage since mid 2017, leading to higher costs and rejections by carriers
- Carrier-shipper relationships become crucial and shippers need to be the 'shipper of choice'
- Long-term contracts often don't align with current market dynamics
- Market-driven index can help in better carrier compliance and cost reductions

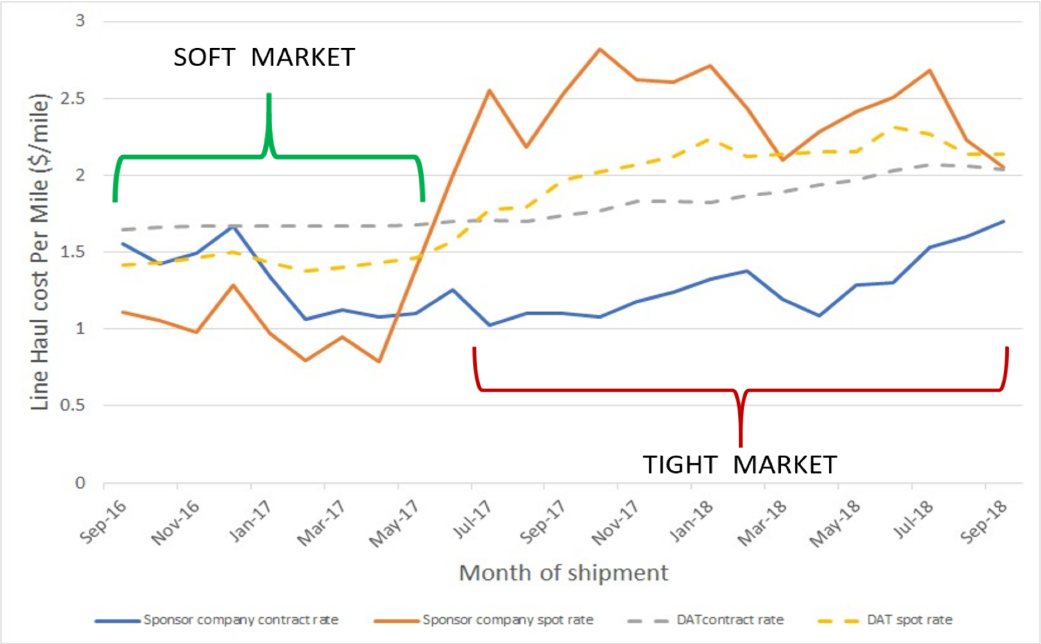
Problem Definition

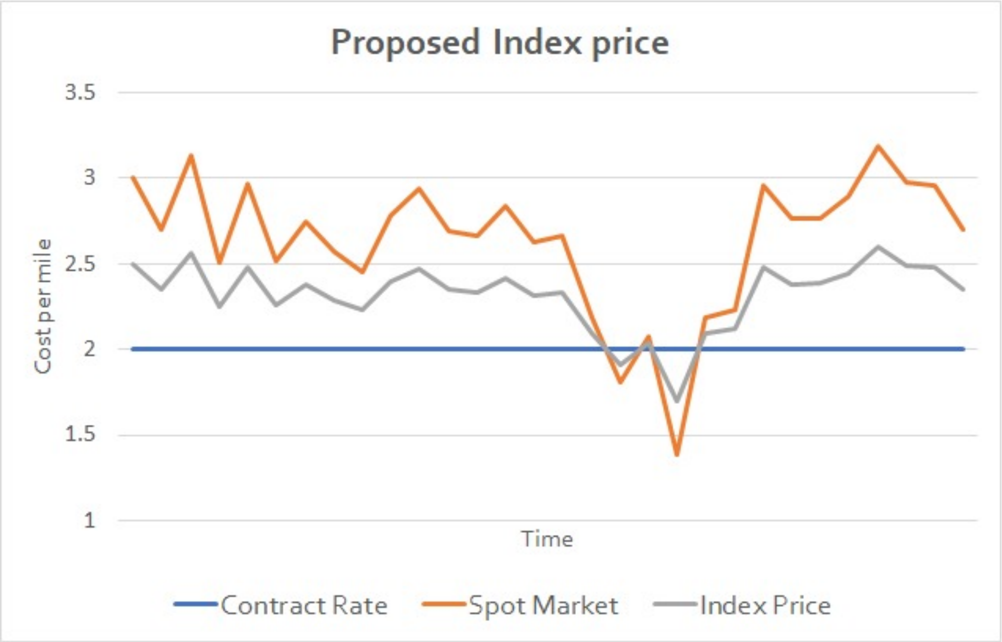
'Transportation contracts are often made for a period of 1-2 years, which makes them irrelevant to the market dynamics. The project explores the feasibility of novel index-based pricing models for the long-term transportation contracts.'

Key Terms

- Tail lane – Lane characterized by low or intermittent shipment volumes
- Line haul cost – Shipment transportation cost after excluding fuel, accessorial and non-compliance costs
- Spot Premium – Cost difference between shipments fulfilled by spot market and contracted carriers
- Auction Ratio – Percentage of shipments fulfilled by spot market
- DAT index – Monthly national average line haul rates for the US trucking market

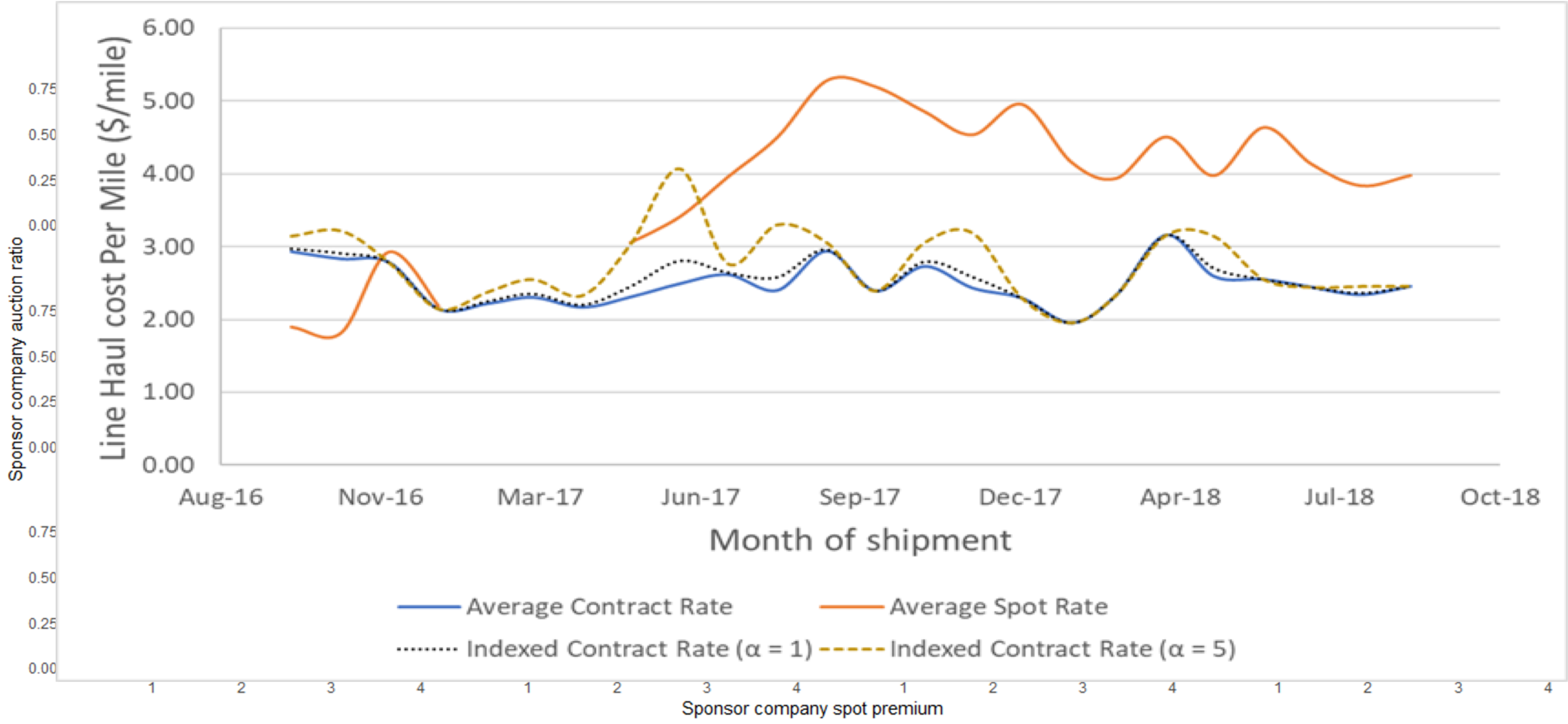
Hypothesis





- A market relevant index regulating contract rates leads to fewer loads going to spot market.
- Dynamic pricing will lead to reduced line haul costs.

Project Methodology

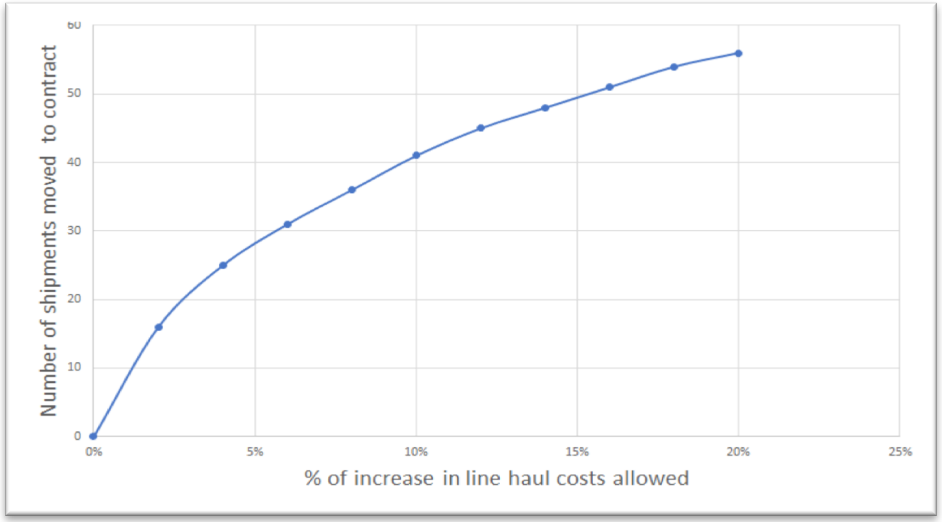


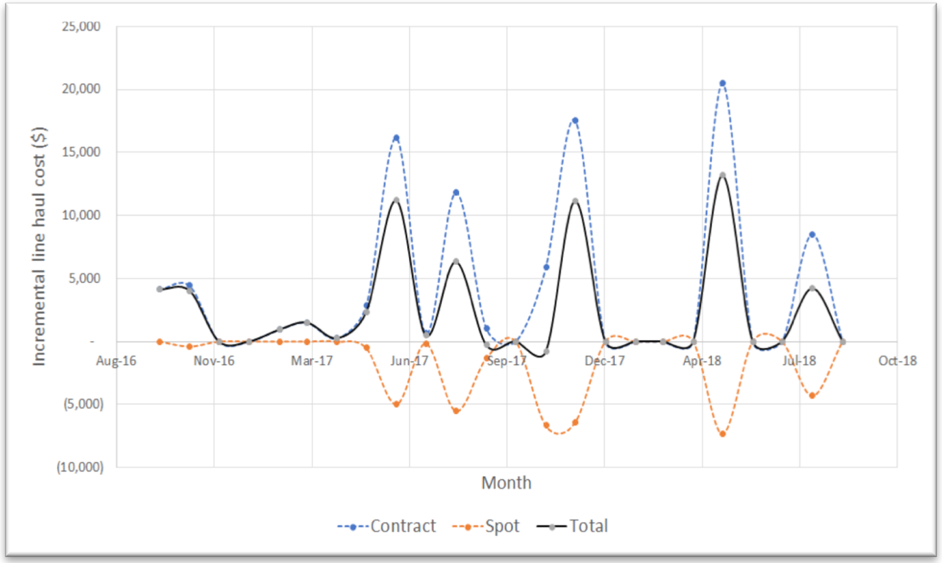
Results Summary

	Wisconsin	Pennsylvania	California	Missouri
Shipments moved in training period	19	64	11	96
Shipments moved in testing period	20	37	25	31
Auction Ratio for testing period (original)	73%	48%	40%	48%
Auction Ratio for testing period (index)	69%	46%	36%	46%
Alpha	8	6	12	7
Cost diff. Contract (test period) $	21k	82k	52k	68k
Cost diff. Spot (test period) $	-38k	-57k	-24k	-53k
Cost diff. Total (test period) $	-17k	25k	27k	14k

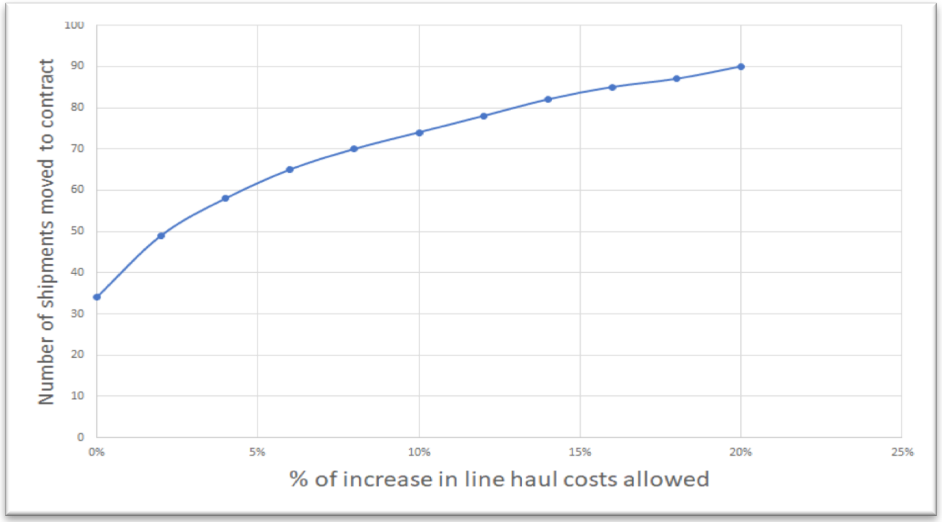
Impact of index-based pricing on Auction Ratio & Costs

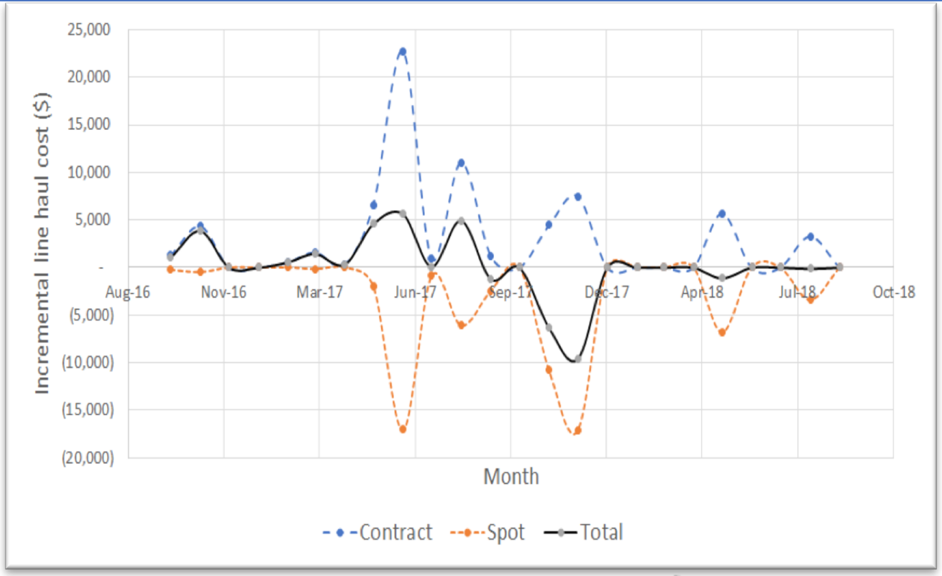
California





Wisconsin





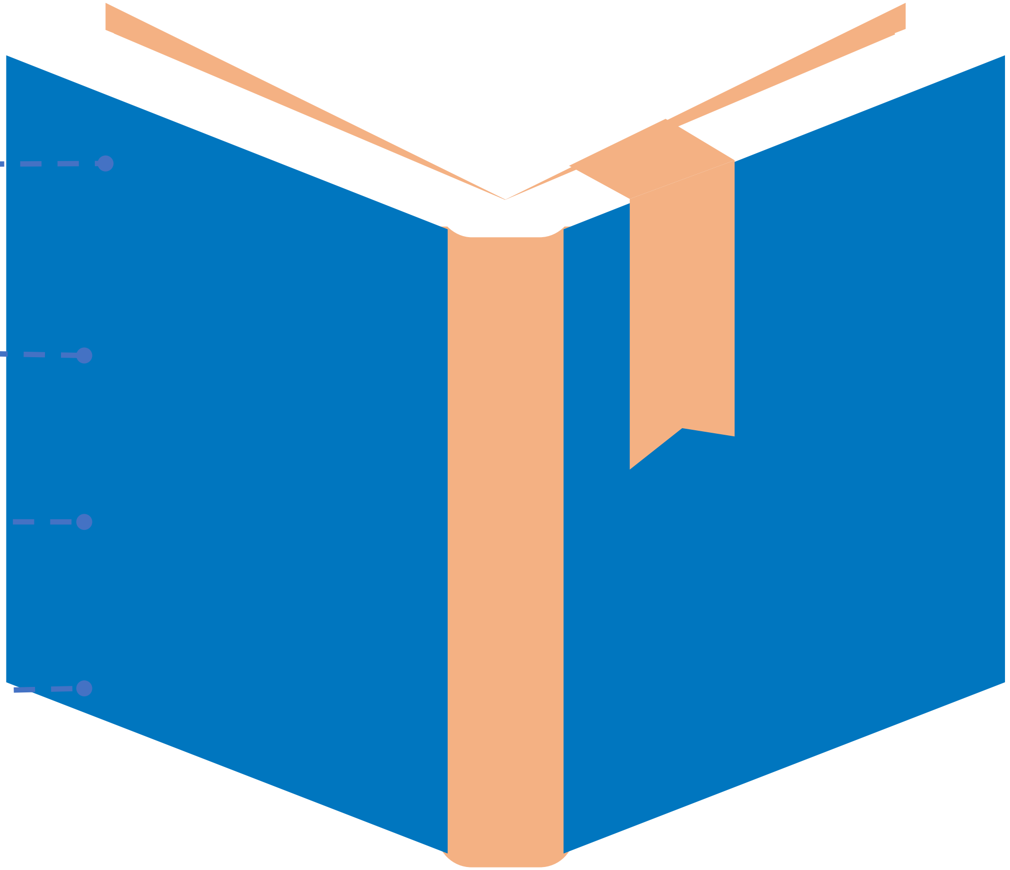
Conclusion

Index based pricing can result in cost savings and reduction in auction ratios

A national index may not be sufficient for all regions

Carrier buy-in and a strong partnership is critical for implementing index based pricing

Delve into upcoming initiatives such as freight futures (Nodal Exchange, DAT and FreightWaves initiative) that enable market hedging



Opportunities for Future Research

- Factor in cost of service and non-compliance
- Expand model to include regional variations by using granular DAT data
- Explore the reasons for rejection by carriers – Capacity shortage, spike in demand, distance travelled, anticipated weather events
- Evaluate feasibility of using a tiered index pricing depending on the percentage of committed loads accepted by the contract carriers