Supply Chain Analytics (42380)
Exercise: Fixed charge transportation

Go back to Bavarian Wood case study 1 in the slides of lecture 2.

In addition to the per ton transportation cost (handling costs/fuel consumption/insurance, and so on...), assume that a fixed cost is also charged for each route (independent of the amount shipped). Fixed costs could include, for example, administration costs at the ports and destination, and driver wages. The fixed cost is given in the table below.

	Prague	Munich	Salzburg
Hamburg	1000	910	1210
Bremerhaven	1410	990	860
Wilhelmshaven	1360	1320	1320
Rotterdam	1250	1230	990

Add the new fixed cost requirement to the linear programming formulation and the corresponding Julia code for Bavarian Wood case study 1 from the slides. How is the structure of the problem different now? Is the solution different? Why?

Note: The data above is available in the file `fixed_costs.csv`