EXPORT AND POLICY SUGGESTION FOR THE NETHERLANDS

Eric Hsienchen Chu

December 20, 2023

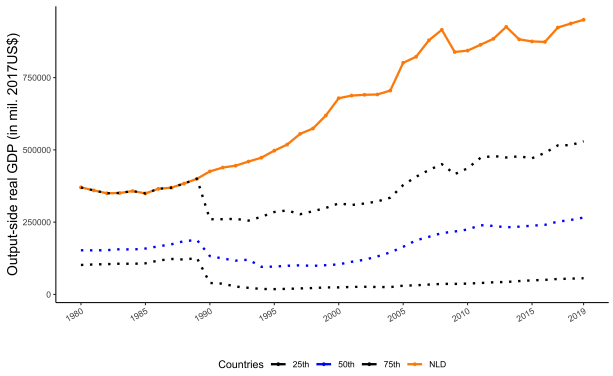
This short report on the Netherlands (*NLD*) export and policy suggestion is a part of ECON664: Issues in International Trade, Fall 2023, by Prof. Lydia Cox. The data and materials are generously provided in Prof. Cox's lecture notes and instructions. All reports of errors are welcome.

1 RECENT ECONOMIC PERFORMANCE OF THE NETHERLANDS

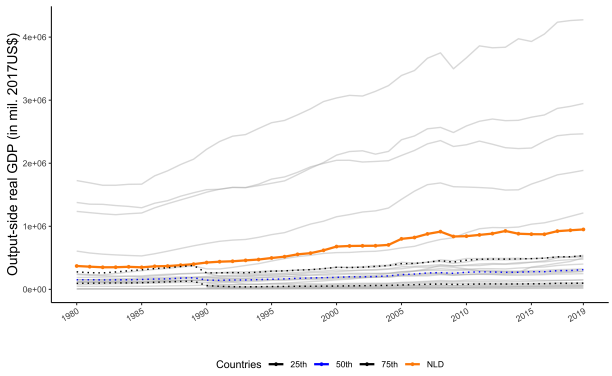
The overview of the Dutch's economy is twofold. I first compare the Netherlands against all countries classified as EU and Central Asia region, which should yield a more aggregate level of the regional economies overview.[1] The second comparison goes by placing the Netherlands against the EU members, which highlights the within-group comparison.[2]

Figure 1: The Output-side Real GDP of the Netherlands: 1980 – 2019

(a) Against Europe & Central Asia ($25th - 75th$)



(b) Against EU members



In Figure 1a, the real GDP of the Netherlands has been fairly consistent in an upward trend, i.e., positive growth, as of 2019. The Dutch substantially outperformed the $75th$ of the Europe and Central Asia countries around 1990, though this huge real output disparity was highly due to the collapse of the Soviet Union and the new entry of the transition economies in Eastern Europe (Fischer et al. (1996)). The positive real output growth also applies to the comparison within EU members in Figure 1b. The Netherlands performs above the upper quartile, with only five countries having even higher real output. Overall, we see the consistency in positive economic growth of the Netherlands and being one of the leading countries from this descriptive evidence.

[1] Here, I only present the $25th - 75th$ countries in Figure 1a as benchmarks.

[2] The list of the EU members was retrieved at the Country Profiles, with 27 countries listed by December 11, 2023.

2 Exploration of the Netherlands Export Patterns

Preliminary explorations in Figure 2 suggest that the export growth rate of the Netherlands fluctuates recently, but the export share of real GDP ramps up gradually. This shows a growing dependency of international trade for the Netherlands. Though we cannot decompose this increasing export share of real output into export intensity or shipments from export-intensive industries for the Netherlands in a Bernard and Jensen (2004) fashion, we can calculate the Revealed Comparative Advantage (RCA) index[3] to identify what sectors in the Netherlands possess the most CA. In Table 1, I calculate the original version of RCA and follow Proudman and Redding (2000) to present five-year averaged RCA. Additionally, the third column $CAGR$ represents the Compound Annual Growth Rate of a specific sector's export, also ranging from 2015 to 2019.[4]

Figure 2: Export Profile: 1995-2021

Table 1: RCA in the Netherlands, 2015-19

Industry	*RCA*	*CAGR*
06 TREES AND OTHER PLANTS	4.54	2.44%
18 COCOA AND PREPARATIONS	3.57	2.17%
01 ANIMALS; LIVE	2.30	3.09%
14 VEGETABLE PLAITING MATERIALS	2.23	4.95%
15 ANIMAL OR VEGE. FATS AND OILS	2.14	2.98%
20 PREPS OF VEGE., FRUIT, NUTS	1.98	1.28%
04 DAIRY PRODUCE	1.97	4.07%
08 FRUIT AND NUTS, EDIBLE	1.96	6.57%
05 ANIMAL ORIGINATED PRODUCTS	1.95	2.23%
99 ETHYL ALCOHOL	1.83	-3.53%

We observe that agricultural products (primary sector) are the most "competitive" sectors for the Dutch's export, generally having an export expansion during the five-year period (positive CAGR). Yet, the Dutch's top export industries (by value) during the same five year are 27 (MINERAL), 85 (ELECTRICAL MACHINERY), and 84 (NUCLEAR REACTORS), which are the secondary sector. The export of the Netherlands clearly has a *mismatch* between her top exporting industries and the most "export-competitive" sectors.

3 Gravity Analysis on Barriers in the Dutch's Export

To study the bilateral trade of the Netherlands and the barriers, I propose the naive gravity model following guidance of Head and Mayer (2014):

$$\ln(F_{ij}) = \ln(G) + \ln(M_i')\alpha + \ln(M_j')\beta - \ln(D_{ij}')\theta_{ij} + \ln(\phi_{ij}')\rho_{ij} + \varepsilon_{ij} \tag{1}$$

where F_{ij} is the trade flows from origin i to destination j, $M_{\{i,j\}}$ is the GDP of country i, j, D_{ij} is the distance between i, j (think of as "trade cost"), and ϕ are primary variables of interest. Since we have already restricted the Netherlands to be exporter (i) and the importing countries to be uniquely present in data, this naive type of identification should at least yields consistent estimates

[3] RCA is given by $RCA_k^i = \frac{X_k^i / X^i}{X_k / X} = \frac{X_k^i / \sum_k X_k^i}{\sum_i X_k^i / \sum_i \sum_k X_k^i}$. $RCA_k^i > 1$ implies country i has a Revealed CA for good k.

[4] CAGR is calculated by $\left((X_{k,t}^i / X_{k,t_0}^i)^{\frac{1}{t-t_0}} - 1 \right) * 100\%$. Here, $t_0 = 2015, t = 2019$.

Table 2: Naive Gravity Estimations (Dependent Variable: Trade flows)

	(1)	(2)	(3)	(4)
Specification	(Baseline)	Cultural	Political	(All)
Distance (log)	-1.01^{***}	-0.98^{***}	-0.98^{***}	-0.95^{***}
	(0.07)	(0.08)	(0.09)	(0.09)
Common Language		2.33^{***}		2.38^{***}
		(0.59)		(0.60)
Contiguity		-0.87		-0.88
		(0.77)		(0.77)
Common Legal Origins (Post Trans)			-0.02	-0.10
			(0.15)	(0.14)
Regional Trade Agreement			0.14	0.14
			(0.16)	(0.15)
Adj. R^2	0.87	0.99	0.99	0.99
Observations	190	187	190	187

Notes: $^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$. This table did not present the Exporter GDP (log) and the Importer GDP (log) since the two are known to positively correlated with bilateral trade.

of ϕ if assuming the standard OLS conditions. I further impose $G = 1$ for the benchmark import country $j = 0$, but I did not report the coefficients of the Exporter GDP (log) and Importer GDP (log) basically for 1) a more succinct gravity regression table and 2) they are already known and estimated to be positively correlated with the bilateral trade, i.e., not trade barriers.

Table 2 summarizes the key estimates in the bilateral trade with The Netherlands being exporters, dividing into the relatively *cultural* and *political* aspects. Particularly, in Model (4), every 1% increase in *Distance* to an importer is associated with a 0.95% decrease in the bilateral trade flows between the Netherlands and the destination. The Netherlands exports 980% more to the countries who share common language ($\exp(2.38) - 1 = 9.80$), but interestingly trades 58.5% less to the countries who share a border with the Dutch than those who do not ($\exp(-0.88) - 1 = -0.585$). This may a bias driven by a small sample pool who fits the two criterions, but aggregately the Dutch's exports is 4.48 times higher if sharing the cultural similarity with the importing countries. In a political lens, the Netherlands exports 9.5% less to countries who share common legal origins ($\exp(-0.10) - 1 = -0.095$), but trades 15% more to her *RTA* partners ($\exp(0.14) - 1 = 0.15$). Jointly, the Dutch's exports is 1.04 times higher if sharing the political similarity with the importing countries.

4 Policy Recommendation for the Export Strategy

In summary, we see the Netherlands has performed better than the $75th$ country in the EU area, and her export has gained a dominant share of the real GDP. While it seems to have a mismatch between the Dutch's current top export industries (the secondary sector, e.g., mineral industry and machinery production) and her most export-competitive sectors (the primary sector, e.g., Tree and plants industry and agricultural products), we also observe that cultural and political factors can significantly impact the Netherlands' export performance by a preliminary gravity analysis.

Bearing all the above in mind, the Policy memo goes by:

(i) The Ministerie van Economische Zaken should aim to reduce the transportation cost domestically and globally. Shortening the "distance" largely increases bilateral trade, especially for agricultural products that are known to be relatively "sticky" around the nearby countries.

(ii) Politically, following (i), the Ministerie van Economische Zaken should also prioritize the markets expansion of their agricultural products by more signing RTAs with the EU and Central Asia countries. It secures a dominant market share in the corresponding export, and a RTA containing both agricultural products and manufacturing products is a first-best.

(iii) Culturally, the Ministerie van Economische Zaken should solidify the trade relationship with the existing Dutch-speaking countries, and use language as a powerful tool to expand into the other foreign markets. A similar case can be seen in the prior rising of Chinese export and the gaining popularity of learning Chinese. A common language smooths out the potential trade cost and generates a huge trade booster according to the data.

References

Bernard, A. B., & Jensen, J. B. (2004). Entry, expansion, and intensity in the us export boom, 1987–1992. *Review of International Economics*, *12*(4), 662–675. https://doi.org/https://doi.org/10.1111/j.1467-9396.2004.00473.x

Fischer, S., Sahay, R., & Vegh, C. A. (1996). Stabilization and growth in transition economies: The early experience. *Journal of Economic Perspectives*, *10*(2), 45–66. https://doi.org/10.1257/jep.10.2.45

Head, K., & Mayer, T. (2014). Chapter 3 - Gravity Equations: Workhorse, Toolkit, and Cookbook. (G. Gopinath, E. Helpman, & K. Rogoff, Eds.). *4*, 131–195. https://doi.org/https://doi.org/10.1016/B978-0-444-54314-1.00003-3

Proudman, J., & Redding, S. (2000). Evolving patterns of international trade. *Review of International Economics*, *8*(3), 373–396. https://doi.org/https://doi.org/10.1111/1467-9396.00229