Appendix A

Weights, Measures, and Exchange Rates

Weights and Measures

<table>
<thead>
<tr>
<th>Unit</th>
<th>Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>tael (兩)</td>
<td>37.5 g</td>
</tr>
<tr>
<td>catty (斤)</td>
<td>600 g (16 taels)</td>
</tr>
<tr>
<td>picul (擔)</td>
<td>60 kg (100 catty)</td>
</tr>
<tr>
<td>last (rice)</td>
<td>1,200 kg (20 piculs)</td>
</tr>
<tr>
<td>morgen (甲)</td>
<td>roughly 8,516 square meters, or about 2.1 acres</td>
</tr>
<tr>
<td>mile (Dutch)</td>
<td>7.4 km</td>
</tr>
</tbody>
</table>

Exchange Rates

Currency values varied by place of exchange and time, with significant changes during the seventeenth century. The rates shown here are meant as a rough guide.

- tael (兩) of fine silver = 1.4 Spanish real
- Spanish real = 60 light stuivers
- gulden = 20 light stuivers

For context, consider these salaries and prices:

- A Chinese laborer in Taiwan might earn around 3 reals per month.
- A Dutch East India Company sailor (matroos) might earn about the same (8 or 10 gulden per month at roughly 3 gulden per real).
- A Dutch East India Company "assistant-merchant" (ondercoopman) might earn around 13 reals per month (40 gulden).
- A Dutch East India Company "merchant" (coopman) might earn around 23 reals per month (70 gulden).
- A horse cost around 50 reals.

Thus, a real was worth on the order of US $200 (today’s dollars), and a tael about 50 percent more.

Exchange Rates and Measures on Taiwan: A VOC Document

This excerpt from a VOC source focuses on Taiwan in the seventeenth century and is thus worth reproducing.¹

1 Reael van agten doet 52 stuivers.
1 Reael van 56 stuivers.
1 dito doet 73 condryn.
1 Thayl 10 maes.
1 Maes 10 condryn.
100 Thayl Japans van 57 stuyvers doet 143 3/4 Rycksdaelder.
16 ditos swaerte 1 catty.
1 Thayl fyn schuyt Silver doet 71 a 773 stuyvers.
24 Dubbelde stuyvers doen 1 Rycksdaelder van 51 stuyv.
73 Thayl Goudt wort gereekent tegen 100 Rycksd. swaerte.
1 Picol Chinees doet 1262 lb.
1 Vat Vlees . . . . . . 380 lb.
1 dito Spek . . . . . . 280 lb.
1 dito Boter . . . . . 260 lb.
1 Legger hout in 350 en,
1 Aem 90 kannen van 10 mutsjens.

Notes:

Note 1: "Uytrekening van de Goude en Silvere Munts Waardye, inhout der maten en
swaerte de gewigten van Indien" (Middelburg: Johannes Meertens, Drucher van de Ed.
Geoctroyeerde Oost-Indische Compagnie, 1691), VOC 11207. The source contains similar
data for dozens of other trading posts. I am grateful to Paul van Dyke for informing me
about this remarkable document and sending me his transcription.