

IMPACTS ON BANKING AND PRICES OF DE-LINKING FROM KYOTO

An Executive Summary

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INTRODUCTION

Linking is risky.
Others' units surrendered,
Much revenue lost.

Linked emissions trading schemes are those where units originating in one scheme can be used to meet obligations in another. These links are designed to provide the best use of resources between those who can pay and those who can (more easily) mitigate. The New Zealand Emissions Trading Scheme (NZ ETS), which began in 2008, was designed so that NZ ETS participants could buy foreign units without limit. The aim was to set a target New Zealand could be confident of meeting, even if domestic mitigation proved difficult, while allowing the country to meet its Kyoto target in a globally cost-effective way. Unlike the European Union's ETS, the NZ ETS is very small relative to the Kyoto market, and is thus a price taker.

In this paper, we look at two things: the relationship between NZU prices and international Kyoto unit prices; and which types of units New Zealand firms choose to surrender rather than bank for later use.

We find that even in a small, nascent and relatively illiquid market such as New Zealand's, which faces considerable uncertainty about medium-term demand and supply, reacts rationally to changes in supply-side factors.

As a result of arbitrage between NZUs and international units during the long period between the government's announcement that New Zealand would not sign on to the second commitment period of the Kyoto Protocol and when international units were no longer accepted in the NZ ETS, by July 2015, when the arbitrage had ended, there were around 140 million NZUs in the bank worth nearly \$2.5 billion at current prices. This was rational predictable response by market players and could be thought of as a form of free allocation to industrial recipients and to foresters.

Had New Zealand de-linked when the announcement that we were leaving the Kyoto Protocol was first made, then government would probably have needed to auction NZUs already and might now be raising revenue through the ETS.

METHODOLOGY

Our main source of data on prices is CommTrade Carbon, one of the largest market players since the ETS began. We observe daily carbon spot prices for NZUs, CERs (Certified Emission Reductions from developing countries), and ERUs (Emission Reduction Units – mostly from Eastern European countries) from 2011 to 2016. The CER and ERU prices reflect prices from international trades converted to NZD, using that day's exchange rate. The NZU price reflects data on trades occurring through the CommTrade platform. We cross-checked these NZU prices with data from another broker and found them to be almost identical.

PRICES

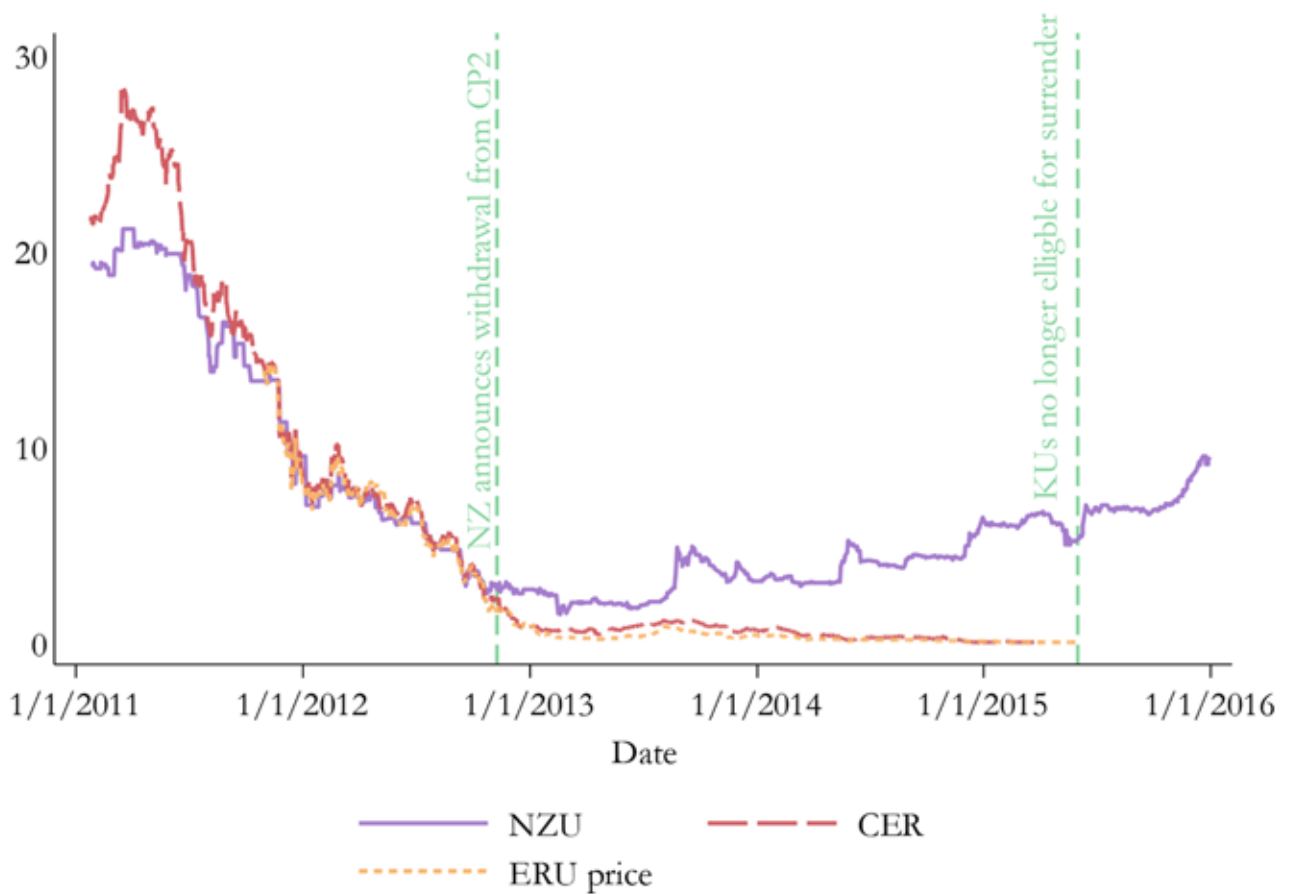
We find that the NZ ETS behaves as theory would predict. Over the duration of certain linking, there were two distinct price periods.

From 2009, New Zealand was linked to the Kyoto market as a (primarily) buyer of units. This meant NZ ETS participants could choose to surrender certain international units rather than use units originating in New Zealand. During this time, when non-forestry sectors would have liked to sell units overseas but could not, NZU prices were around NZD20 and below Kyoto prices. This price differential is consistent with limited ability to sell NZUs abroad.

From June 2011, when Kyoto prices began to fall, NZU prices were roughly equal to Kyoto prices and NZ ETS participants started buying some international units for compliance.

In November 2012, the New Zealand government announced that it would not proceed with the second commitment period of the Kyoto Protocol and future linking became uncertain. The government confirmed this in December 2013 and announced overseas Kyoto units would no longer be acceptable for surrender within the NZ ETS from 31 May 2015.

Figure 1: NZU, CER, and ERU prices in NZD over time



Data Source: OM Financial

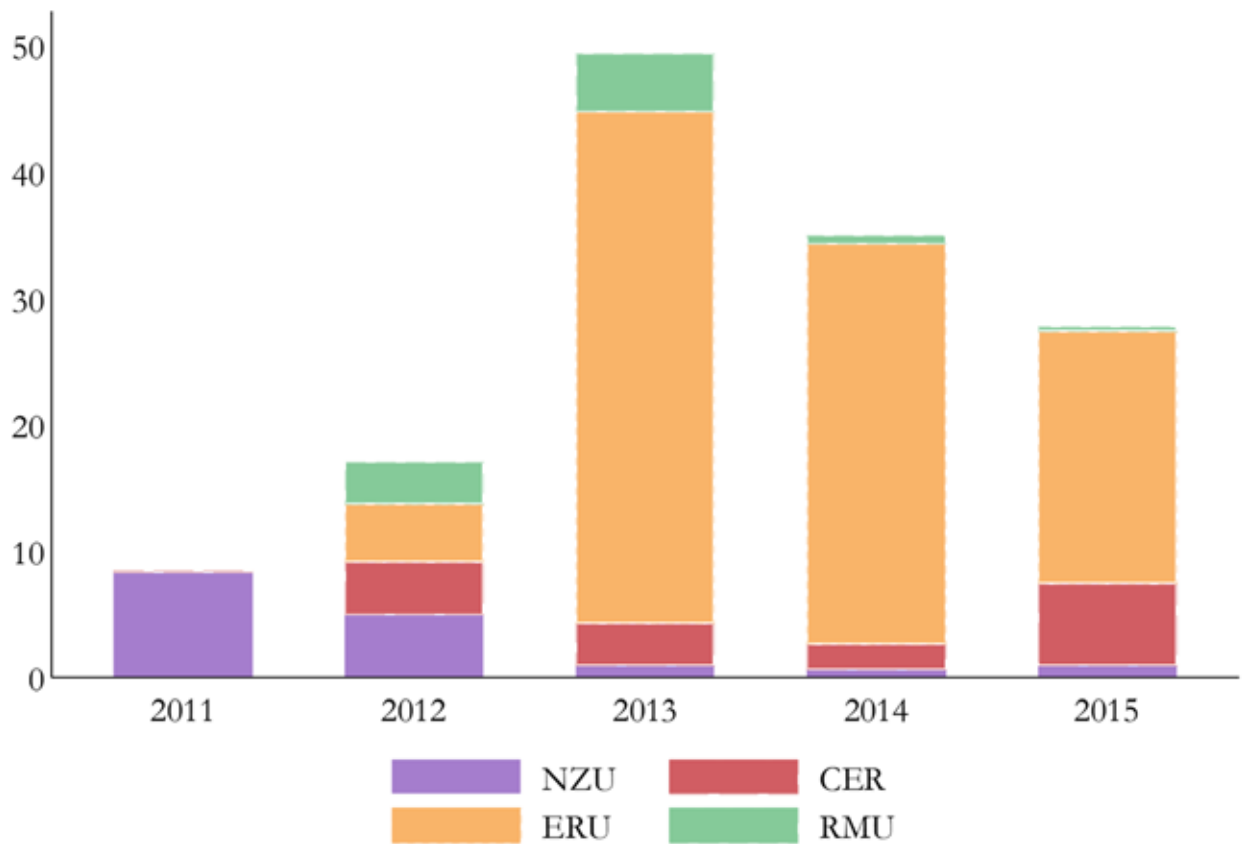


Once the possibility of a future de-link emerged, NZU and Kyoto prices diverged, with NZU prices trading at a level reflecting their anticipated future scarcity (i.e.: at a higher price). In anticipation of the coming change, NZ ETS participants used cheap Kyoto units to meet almost all of their obligations, creating a large participant-held bank of NZUs as the market anticipated a de-linked world of increased scarcity.

SURRENDER AND BANKING

Participants in the NZ ETS with surrender obligations have until 31 May each year to surrender units to cover the obligations incurred from their emissions in the previous year. In practice, this means that most units are surrendered in May, so the May price largely determines which units will be surrendered.

Figure 2: Number and type of units surrendered in the NZ ETS over time



Note that a small number of AAUs are included in this graph as NZUs
 Data Source: New Zealand Emissions Unit Register





In 2011, when May Kyoto prices were higher than NZUs, participants surrendered NZUs almost exclusively.

In May 2012, prices were approximately equal for both types of units and firms surrendered substantive amounts of both NZUs and Kyoto Units.

Between the de-link announcement in November 2012 and its activation after May 2015, NZUs traded at a premium and New Zealand firms surrendered almost exclusively Kyoto units (including Removal Units – RMUs), saving their NZUs for later use.

By July 2015, there were around 140 million NZUs in the bank. This is nearly four times the 32 million units surrendered in 2014 and nearly twice New Zealand's projected 2015 net emissions of 67.9 million tonnes. Valued at roughly \$18 per tonne (the current price), the holdings of NZUs and NZ AAUs were worth nearly \$2.5 billion.

In May 2016, New Zealand firms again surrendered a new tranche of NZUs so the bank is beginning to diminish.

POLICY IMPLICATIONS

Long term policy affects current prices. Linking emissions trading schemes (so that units originating in one scheme can be used to meet obligations in another) is risky and limits New Zealand's ability to control its emissions price.

Arbitrage can be caused by poor policy and result in high fiscal costs. If New Zealand had de-linked when we made the announcement that we were leaving the Kyoto Protocol, government might now be raising revenue through the ETS.

CONCLUSION

From theory, economists expect linking arrangements to have important effects on prices, surrender and banking behaviour. Even a small, nascent and relatively illiquid market such as New Zealand faces considerable uncertainty about medium-term demand and supply reacts rationally to changes in supply-side factors.

Had New Zealand de-linked earlier, say in late 2012 at the time of the announcement, then clearly most of the surrenders in 2013, 2014 and 2015 would have been NZUs and the NZU bank would have been smaller. The government would probably have needed to auction NZUs and would have raised revenue.

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