

Spider plots

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Coefficients

Based on the fitted model parameters, the predicted values were obtained for four different profiles focused on four different features: pesticides reduction, unbreakable contract, penalization, and contract length. The variables that compose each profile can be accessed on the right table of Figure 1.

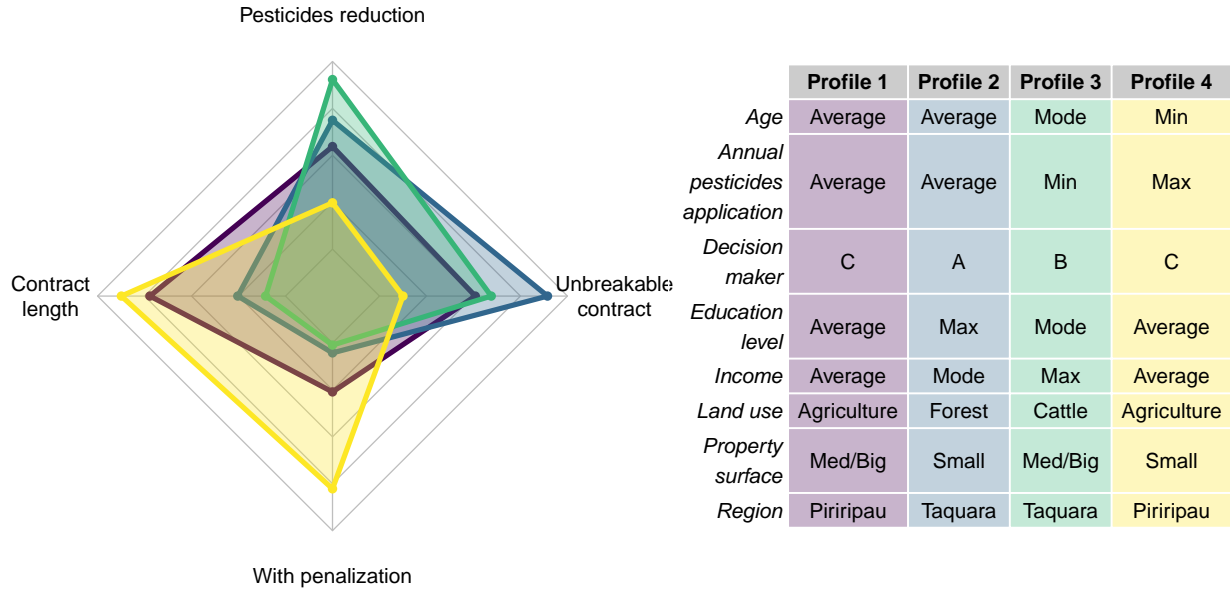


Figure 1: Spider chart for four variables based on the four most frequent profiles and their model coefficients

With Figure 1 and Figure 2, we see a clear difference between the profiles, showing that even with each profile being built by a considerable number of features, each of those features is relevant - given the considerable differences obtained in terms of predicted values from one profile to another. Each profile is highlighted in one direction/variable, which also shows that based on those four profiles we are able to virtually reach all possible spectrums since we basically reach all vertices of the spider chart. In Figure 1 we see all of them together, and in Figure 2, side-by-side. In three of the four features, profile 4 presents the most extreme values.

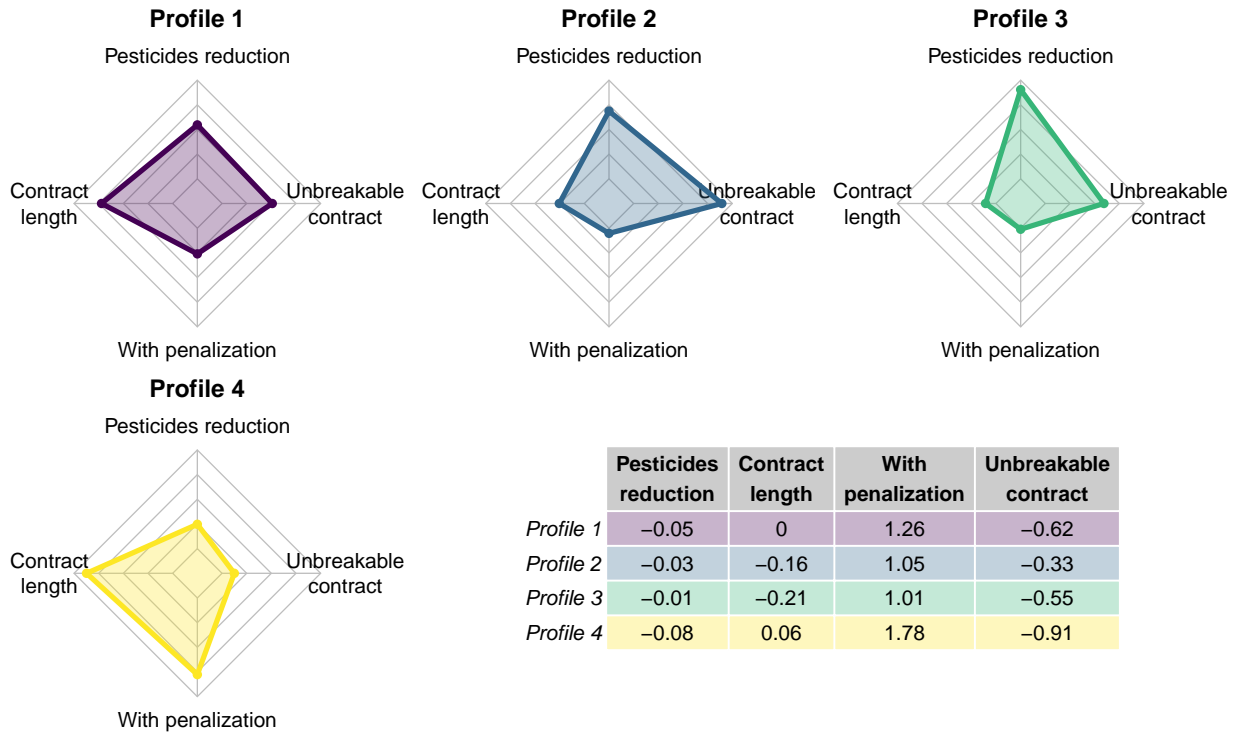


Figure 2: Spider charts for four variables based on the four most frequent profiles and their model coefficients

WTA profit

In Figure 3 and Figure 4, we now look at the WTA profits per feature and profile. We can still see clear differences between the profiles, with each one highlighting a different feature. Again, the most extremes values are obtained with profile 4.

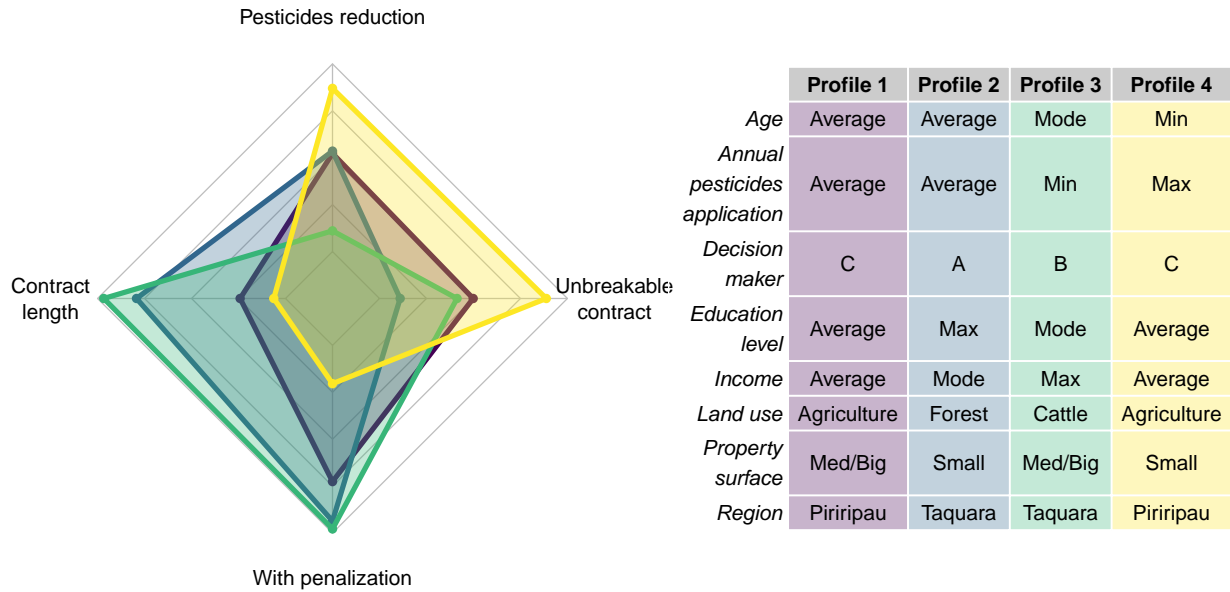


Figure 3: Spider chart for four variables based on the four most frequent profiles and their WTA profits

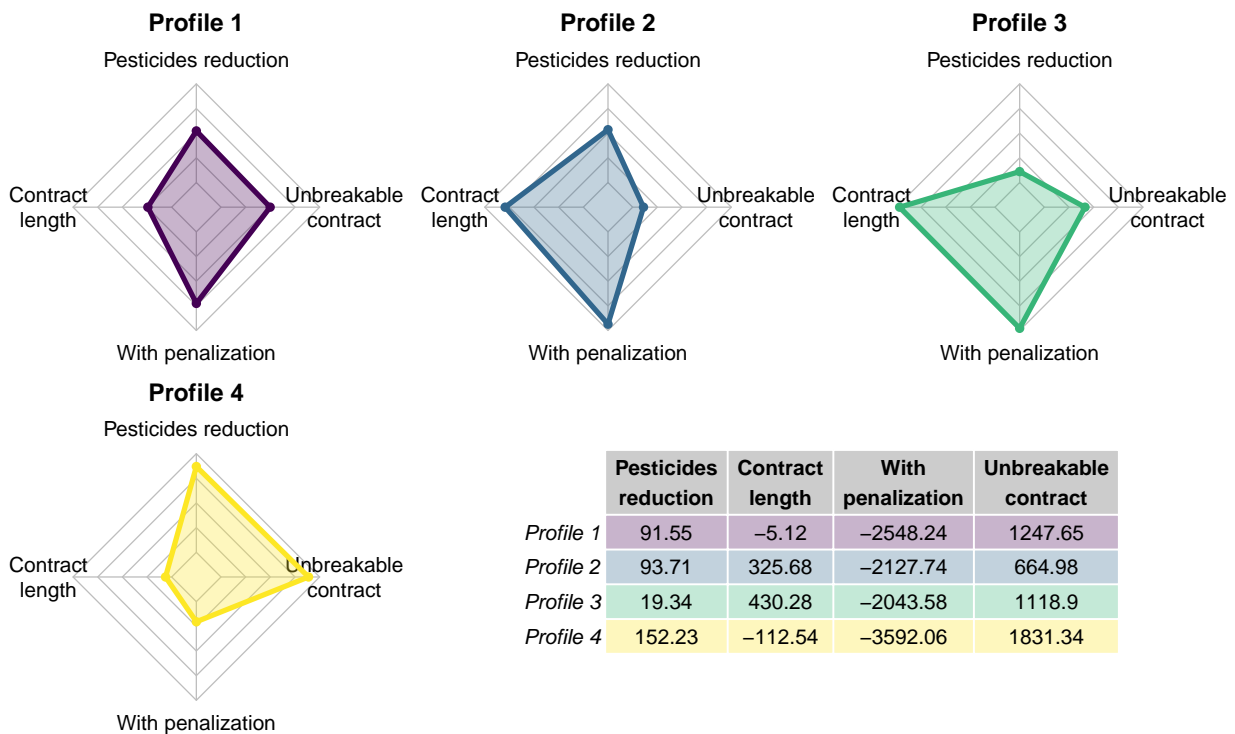


Figure 4: Spider charts for four variables based on the four most frequent profiles and their WTA profits

Scenarios

In Figure 5, we have the total amount to be payed in each of the four profiles in six different scenarios. We see that the profiles behaviors are not the same, varying depending on the scenario and turning out to be very difficult to state any clear pattern besides the fact that scenario 11 present the biggest general amounts, and that scenario 9 presents the general smallest.

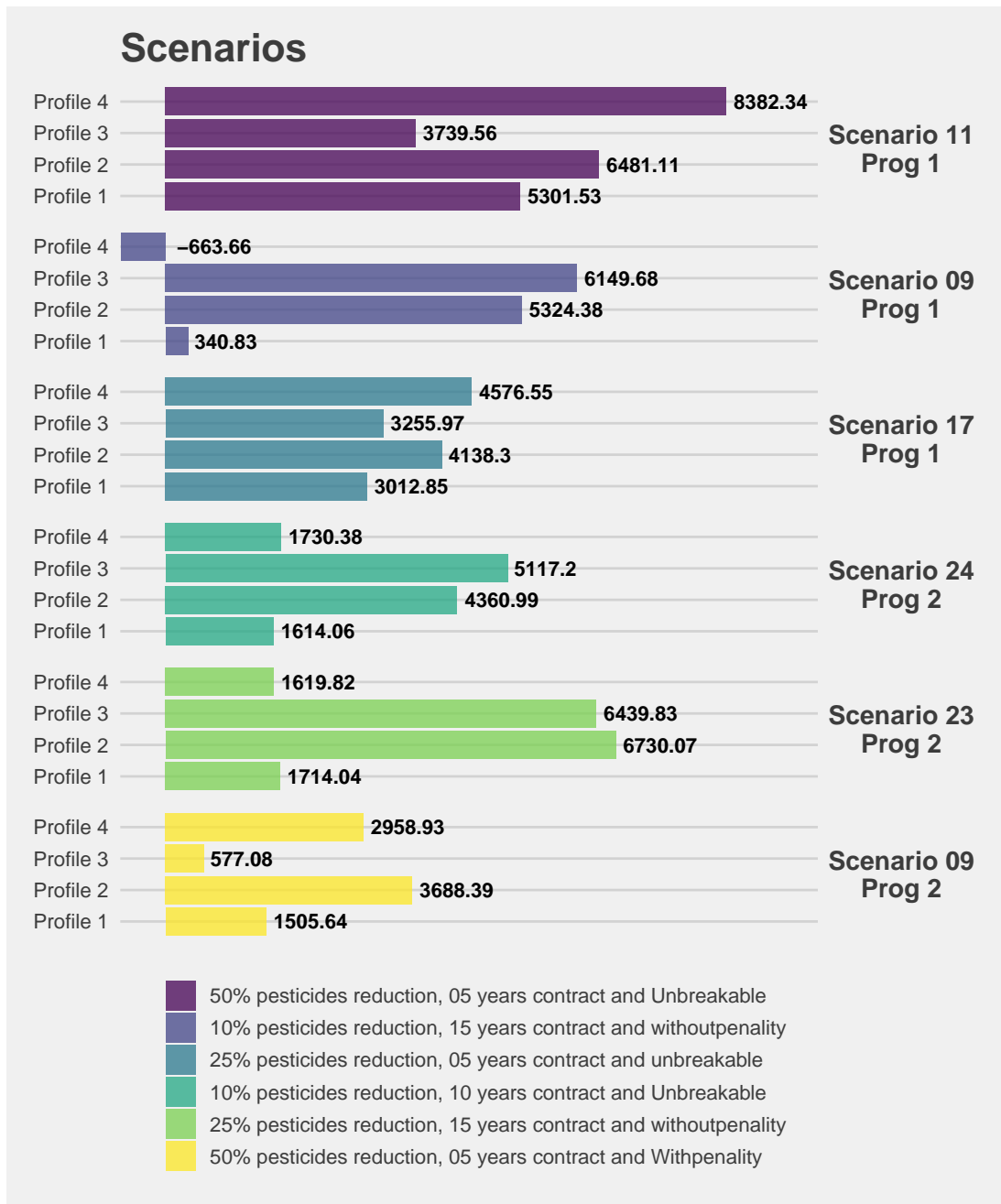


Figure 5: Total amount to be payed for six different scenarios and four profiles

Model formula

$$\begin{aligned}\text{Profile 1}_{\text{Pesticides reduction}} &= -0.04568 \\ &+ 0.0004559 \times \textit{Average Age} \\ &- 0.000001664 \times \textit{Average Annual pesticides application} \\ &- 0.0003879 \times \textit{Average Education level} \\ &- 0.00239 \times \textit{Average Income}\end{aligned}$$

$$\begin{aligned}\text{Profile 1}_{\text{Contract length}} &= -0.1038 \\ &- 0.0002863 \times \textit{Average Age} \\ &+ 0.00007659 \times \textit{Average Annual pesticides application} \\ &- 0.003189 \times \textit{Average Education level} \\ &+ 0.0131 \times \textit{Average Income}\end{aligned}$$

$$\begin{aligned}\text{Profile 1}_{\text{With penalization}} &= 2.2660 \\ &- 0.01639 \times \textit{Average Age} \\ &+ 0.07299 \times \textit{Average Education level} \\ &- 0.03419 \times \textit{Average Income}\end{aligned}$$

$$\begin{aligned}\text{Profile 1}_{\text{Unbreakable contract}} &= -1.2640 \\ &+ 0.009166 \times \textit{Average Age} \\ &+ 0.1232 \times \textit{Average Education level} \\ &- 0.03151 \times \textit{Average Income}\end{aligned}$$