What is the likely scale of the effect of using the current chain linking algorithm?

Question(*)

What is the likely scale of the effect of using the current chain linking algorithm (CCLA) on existing UK price indices?

This is not intended as a purely theoretical question but as the start to a pragmatic approach to underpin decision making about the possible need to develop a new algorithm.

Context

The development of a new fully operational chain linking algorithm is likely to involve substantial resource and time not least because of the potential complexities surrounding implementation of the no revisions convention.

To echo the point made in the previous note entitled "Is there a theoretical basis for the current chain linking algorithm?" – if there is no theoretical rationale which implies that the CCLA is the only one that can be used then on its own this would not require changing the algorithm for existing indices. If it can be shown that the likely scale of the effect of using the CCLA would be small then the argument for a change of algorithm for existing or future indices would be weak.

The exploration of the likely effect of using a theoretically more robust algorithm than the CCLA could start with a relatively simple optimisation technique – for example, linear programming. The no revisions convention can be set aside for this exploratory exercise which will reduce the complexity and allow a simpler technique to be used.

Something analogous to this question may already have been asked when the RPI moved from being a direct index to a chain linked index and the original decision to adopt the CCLA was taken. If available the rationale and the evidence upon which that original decision was based would represent a useful starting point for any future exploration of the issue.

The answer to the above question has practical implications for the development of a new Household Index. The development of such an index would be simpler if the CCLA could continue to be used whichever elementary aggregate formulae are selected. This is not to advocate any particular formula, or combination of formulae, for the index.

(*) *Note: this question assumes that there is no theoretical basis which implies that the current chain linking algorithm is the only one that can be used.*