

1 **Dynamic Analyses of Proposed Supply Chain Coordination Programs for the**
2 **US Dairy Industry**

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4 **Abstract**

5 The current degree of coordination in the US dairy supply chain results in substantial price
6 variation, primarily due to large amplitude cycles. Partial and voluntary programs by industry
7 have had a limited impact to date on cycles in farm milk prices, milk production and farm
8 profitability. Industry organizations interested in policy have been discussing mandatory
9 programs to improve supply chain coordination and limit the degree of cyclical variation. Our
10 analyses with an SD model of the global dairy supply chain suggest that a set of programs
11 designed around the idea of improving the coordination between milk supplies and dairy product
12 demand could attenuate—to some degree—cyclical variation in these outcomes. Our analyses
13 suggest that if proposed configurations of Growth Management Programs had been implemented
14 a decade ago, they would have reduced price variation, enhanced farm milk prices and
15 profitability for most farms, and decreased government expenditures. The programs would have
16 also slowed the growth in US dairy product exports and increased consumer prices for dairy
17 products. Opinions of industry stakeholders differ markedly about the extent to which cyclical
18 variation is sufficiently problematic to merit policy action. Our analysis provides information
19 relevant to the ongoing policy debate about future courses of action.

20 Key words: supply chain coordination, dairy, policy