IIT_{ikt} can be broken down into horizontal intra-industry trade ($HIIT_{ikt}$) and vertical intra-industry trade ($VIIT_{ikt}$) as $IIT_{ikt} = HIIT_{ikt} + VIIT_{ikt}$, using the degree of product differentiation and the overlap in trade, as defined in equations (3) and (4). $HIIT_{ikt}$ is defined as the simultaneous export and import of similar products if the unit value of exports (UV^x) measured f.o.b. relative to the unit value of imports (UV^m) measured c.i.f. is within a range of ±15 percent:

$$1-\alpha \leq \frac{UV^{x}_{ijkt}}{UV^{m}_{ijkt}} \leq 1+\alpha, \qquad (3)$$

where $\alpha = 0.15$. When the above condition does not hold, products are considered to be vertically differentiated ($VIIT_{ikt}$).[9] The rationale for using unit values is the presumption that prices will tend to reflect quality, even with imperfect competition (Stiglitz, 1987).[10]

With regard to the trade overlap, trade in a product is considered to be "two-way" when the value of the minority flow (for example imports) represents at least 10 per cent of the majority flow (exports in this case), i.e. they fulfil the following condition:

$$\frac{Min(X_{ijkt}, M_{ijkt})}{Max(X_{ijkt}, M_{ijkt})} \succ 10\%, \qquad (4)$$

where X and M stand for the value of exports and imports. Although arbitrary, below the 10 per cent threshold, the minority flow does not appear to represent a structural feature of trade.

If trade flows of a particular product with a partner country fulfill both criteria of similarity and trade overlap (yes-yes coordinate in Table B2), then exports as well as imports are considered as two-way trade in horizontally differentiated products. If trade flows meet the criterion of trade overlap but fail that of similarity, then it is a two-way trade in vertically differentiated products (yes-no coordinate in Table B2). Finally, if trade flows fail both criteria of similarity and trade overlap, then it is a one-way trade or inter-industry trade (no-no coordinate in Table B2).

Table B2: Bilateral Trade Types at the Product Level

	Similarity of export and import values: Do export and import unit values differ by less than 15%?	
Degree of overlap between export and import values: Does the minority flow represent at least 10% of the majority flow?	Yes	No
Yes	HIIT	VIIT
No		Inter-industry trade

Analysis of Results

The United Nations COMTRADE data, four-digit SITC rev1 is used to compute the shares of horizontal intra-industry trade, vertical intra-industry and inter-industry in Canada-US bilateral trade.

Before calculating the shares of HIIT, VIIT and inter-industry trade, the data is cleaned, dropping products for which import and export quantities are zero in order to compute the unit values. The shares of three types of trade are determined at the product level, and then aggregated to the whole economy by year. Figure B1 shows the evolution of the respective shares over the period 1973-2003. As can be seen in Figure B2, it appears that the inter-industry trade is trending downward. The average inter-industry trade share went from 39.8 per cent in the 1970's to 32.2 per cent in the 1990's and to 28.6 per cent since 2000.

[9] Other thresholds, 25 per cent and 30 per cent, have been used in the empirical studies like Greenaway et al. (1995).

[10] Stiglitz, Joseph E. (1987). The Causes and Consequences of the Dependence of Quality on Price. Journal of Economic Literature, 25, 1-48.