

TRENDS IN SELECTED INDICES OF THE CANADIAN APPAREL  
INDUSTRY AND THEIR RELATIONSHIP TO IMPORTS  
AND EXPORTS, 1961 TO 1979

A Thesis Presented to  
The Faculty of Graduate Studies  
University of Manitoba

In Partial Fulfillment  
of the Requirements for the Degree  
Master of Science

by  
Sonia G. Tibbatts

1980

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## ABSTRACT

The present study investigated the trends in and relationships between imports and exports and indices of the Canadian apparel industry throughout the 1961 to 1979 time period. Five indices were studied. They were value of shipments, number of employees, wage rate, wage bill, and capital investment. The total apparel industry was examined as well as the following six segments: men's and boys' apparel production, women's and girls' apparel production, children's and infants' apparel production, the industry in Quebec, the industry in Ontario, and the industry in Manitoba. In order to test for the strength of trends overtime, the lines of best fit were calculated and graphs were made for all the indices as well as imports and exports. The nature of the relationships between imports and exports and the indices was also determined by calculating correlation coefficients.

The analysis of trends indicated that shipments increased significantly in the total apparel industry and all segments. Import values significantly increased in the total industry and the men's and boys', women's and girls', and children's and infants' sectors. No significant trends were found regarding the capital investment index.

Investigation of the relationships between imports and the indices found positive relationships in all segments except the children's and infants' when shipments were considered. Imports and employment related positively in the men's and boys', women's and girls', and Quebec segments, but displayed a negative relationship in the children's

and infants' sector. No significant relationships were found regarding imports and capital investment.

Export sales and shipments related positively in the total industry and all segments. Negative relationships were found between exports and the number of employees in the children's and infants' and Ontario apparel industries. This same negative pattern of relationships was found regarding the wage bill for these two segments.

## ACKNOWLEDGEMENTS

The author wishes to express sincere appreciation to her advisor, Professor M.E. Tyrchniewicz for the encouragement and guidance throughout this study. Mrs. S.C. Hayward's thorough examination of the study and helpful suggestions and Professor R. Harris's assistance with the economic analysis are also gratefully acknowledged.

The financial assistance from the Department of Clothing and Textiles and the contribution of information from the Department of Regional Economic Expansion, Western Region were greatly appreciated.

Gratitude is also expressed to the author's family and friends for their support and encouragement throughout the study. To Ron, my personal appreciation for the patience, understanding, and help during this lengthy study.

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## Chapter I

### INTRODUCTION

Since its inception, Canadian apparel manufacturing has contributed to the employment, the economic bases of communities, and thus the economy of Canada. The nearly 2,200 apparel producing factories are predominately Canadian owned.<sup>1,2</sup> In many instances, these firms were established by a family and have been continued by successive family members.

The Canadian apparel industry is a large employer as the production of clothing products is labour intensive. In 1977, approximately 95,000 people were employed by apparel firms.<sup>3</sup> Within the Canadian manufacturing sector this industry is noted as being the largest single employer of women. Nearly seventy-five percent of apparel workers are female.<sup>4</sup> As well, the apparel industry provides employment and training for many people who do not have the necessary attributes that facilitate obtaining other types of work.<sup>5</sup>

The economies of some regions of Canada have been strengthened by the presence of the apparel industry which has provided employment and income for those areas. In the province of Quebec, for example, twelve percent of its labour force is employed by the clothing industry. Shipments of apparel from that province alone were slightly more than sixty-five percent of all apparel produced in Canada in 1976.<sup>6</sup>

Many of the apparel firms employ very few people. This has enhanced the ability of the producers to specialize in a product area.

These smaller facilities also have resulted in flexible production lines that can easily respond to fluctuations in style and fashion.<sup>7</sup> Yet, the apparel industry has constantly struggled to compete in an efficient manner with the world market.

The changes in economic structures in other countries have created one of the major difficulties experienced by the Canadian apparel industry.<sup>8</sup> Since the end of World War II, many Third World countries have become progressively more industrialized. The products they produce are much lower in cost than Canadian made counterparts. As apparel production is prevalent in these countries, the Canadian apparel industry has been challenged as a viable, competitive supplier for Canadians.<sup>9</sup>

These changes in the economies of other countries and their subsequent effect on Canadian industry has encouraged government participation in private business. Policies developed by the Canadian government as it attempts to coordinate its interests with those of industry, have included ensuring the functioning of some industries. The basis for selecting the industries to be aided and the policies for providing assistance have varied widely. In working to aid the Canadian apparel industry, the federal government has provided support through grants and trade restrictions on apparel from low cost countries who provide goods at prices uncompetitive with those of domestically manufactured clothing.<sup>10</sup> However, both costs and benefits to the Canadian economy have been created by choosing to protect the domestic apparel industry.<sup>11</sup>

Protection of the domestic apparel firms from low-cost imports helps to ensure jobs for many Canadians. As well, economic hardship is

prevented in those areas, such as Quebec, that are strengthened by the presence of apparel firms. These benefits must be carefully weighed.

The many costs that would result if these apparel manufacturers were not protected from disruptive imports and not provided financial grants are difficult to calculate. The apparel workers, the government, and the apparel manufacturers fear that increased imports would result in a decreased demand for domestically produced clothing. This reduced need for Canadian made apparel is believed to result in lower requirements for workers and "the danger of severe unemployment in textiles has therefore always weighed heavily on government".<sup>12</sup> While these groups can calculate the economic costs of unemployment, lowered shipments, and reduced profits, they cannot as easily arrive at costs such as those due to the social tragedy that evolved with unemployment.<sup>13</sup>

The above mentioned costs are not the only limitations that result from selecting an industry to protect. Imposition of trade restrictions on Canada's trading partners inhibit the ability of other Canadian producers to sell their products abroad. Potentially the Canadian economy loses some of the export revenue it could anticipate if it did not choose to protect some industries.

A report by the C.D. Howe Research Institute suggests that the Canadian apparel industry can never achieve a position of viability and competitiveness in the international marketplace. The report also states that the support by the Canadian government for the Canadian apparel producers will have to continue without a foreseeable end. This continual infusion of financial aid into the apparel industry could be used in other means that may provide a better return on investment to the economic system.<sup>14</sup>

Both the federal government and the Canadian apparel producers have carefully assessed changes in the economic structures of countries throughout the world and have analyzed the impact of this on the Canadian industry. The resulting papers have given detailed explanations of the effects of government policy decisions and changes in world market structures. However, there has been no attempt to quantitatively relate the factors affected by government policy decisions with indices of the apparel industry such as shipments, employees, wages, and investment. A study of this nature seems warranted at this time.

Improved knowledge of the effects of federal policies on the industry would promote better understanding of the apparel industry by producers and government as well as inform other interested groups such as retailers and consumers. This type of information could also be used by government planners in developing strategies for the apparel industry as it may provide a clearer image of the effects of policy changes. Apparel producers may also gain a better insight into the possible changes that can be anticipated by changes in federal policies and may thus be able to adjust plans and expectations accordingly.

#### Objectives:

The general purpose of this study is to examine the various segments (men's and boys', women's and girls', and children's and infants' apparel production, and the apparel industry in Quebec, Ontario, and Manitoba) of the apparel industry for possible trends in specific indices (shipments, employment, wages, and capital investment) Canadian apparel export and import figures will also be examined.

The specific objectives concerning this study are as follows:

1. To analyze for possible trends the indices of the apparel industry and its various segments as well as the values of imports and exports through a nineteen year period.
2. To investigate the relationships between selected indices of segments of the apparel industry and imports and exports.

Definitions:

For the purpose of this study, the following terms will be defined as indicated.

**Apparel Industry:** The manufacturing activity that consists of firms producing apparel by processes that include cutting, sewing, knitting, and finishing of products.<sup>15</sup>

**Men's and Boys' Apparel Industry:** That portion of the apparel industry comprised of establishments producing or contracted to produce men's and boys' apparel.<sup>16</sup>

**Children's and Infants' Apparel Industry:** That portion of the apparel industry comprised of establishments producing or contracted to produce children's and infants' apparel.<sup>17</sup>

**Women's and Girls' Apparel Industry:** That portion of the apparel industry comprised of establishments producing or contracted to produce women's and girls' apparel.<sup>18</sup>

**Value of Shipments:** The net selling value of goods made by the reporting establishments from their own materials. This includes repair and custom revenue, all exports, transfers to other firms within the same company, and consignment goods to other countries but excludes

discounts, returns, allowances, sales and excise tax, duties, and charges for transportation. The term used by Statistics Canada is 'value of shipments of goods of own manufacture'.<sup>19</sup>

**Employees:** The total labour force of an establishment, including all manufacturing and non-manufacturing workers as well as working owners and partners.<sup>20</sup>

**Wages and Salaries:** The gross earnings of all employees before deductions of any kind. This includes bonuses, profits that are shared, and other taxable benefits provided by the employer for the employees.<sup>21</sup> In this study, wages and salaries will be referred to as the wage bill.

**Wage Rate:** The annual gross earnings of a single employee before deductions of any kind. This value is derived by dividing the annual wages and salaries values by the number of employees for that same year.

**Capital Investment:** The expenditures that cover the cost of procuring, constructing, and installing new, durable plant and machinery but excluding the acquisition of used, domestic equipment and land. These capital expenditures are normally divided into construction and machinery or equipment.<sup>22</sup>

**Imports:** Those products purchased from foreign persons or countries as recorded for custom duty purposes. The value of these items generally does not include transportation costs.<sup>23</sup>

**Exports:** Those products purchased by foreign persons or countries as recorded on export documents. The value of these domestically produced goods is usually the selling price at the point of initial shipment.<sup>24</sup>

## Chapter II

### REVIEW OF LITERATURE

In order to understand the potential relationships that may exist between governmental policies and apparel production indices, it is necessary to examine the actual government decisions and their intended outcome as well as the factors of the apparel industry that may be affected by these decisions. Hence, this chapter has been divided into two sections; the first discusses government policies and the second examines selected indices of the apparel industry.

#### Government Policies Regarding the Canadian Apparel Industry

Governmental policy decisions aimed at altering domestic industrial situations are not new. Over one hundred years ago the government of John A. MacDonalld introduced the 'National Policy' on tariffs with the intent of aiding manufacturing in Canada. This policy was established to protect Canada's new, struggling industries, through the use of high customs rates, from excessive competition by Foreign countries where production was well established.<sup>25</sup> The 'National Policy' became a cornerstone in Canadian economic thinking. While no longer 'infant industries', domestic manufacturers have been able to count on tariff protection from competition since that time.<sup>26</sup>

Apparel manufacturing was one of the industries that received protection by the 'National Policy'. A report by the Government of Canada suggests that this "industry did not begin to prosper ... until ...

tariff protection was adopted".<sup>27</sup>

Tariff rates remained high until the Canadian government joined other countries in the 1940's to promote freer trade.<sup>28</sup> Part of the resulting agreements, known as the General Agreement on Tariffs and Trade, lowered customs taxes. However, most manufactured goods continued to receive some protection from foreign competitors.<sup>29</sup>

Until the time of World War II, Canadians had imported many apparel products, but these goods had not detracted from domestic production as they "were mainly from other industrialized countries and generally complemented Canadian production".<sup>30</sup> After World War II this same group of countries that promoted freer trade also began work to promote economic development in underdeveloped countries of the world.<sup>31</sup> These underdeveloped areas did not have the background knowledge and skills necessary for many technical industries, but they did have a large labour supply that could be taught the necessary skills for production of apparel. The wages in these countries were low and the countries quickly became important exporters of clothing at a low cost.<sup>32</sup> Thus, during the 1950's imported apparel sold in Canada increased. Now, however, domestic producers could not compete with its low cost.<sup>33</sup>

Appeals to the Canadian government by the domestic textile and apparel producers for assistance in dealing with these increasing levels of imports resulted in voluntary restraint agreements that were initiated in 1956 and formalized in 1960.<sup>34</sup> These restraints were renegotiated annually, but often the negotiations were not completed until late in the current year. This was met with opposition from the domestic apparel producers who felt that the agreements were being

made without the guidance of an established government policy as to the products that should be protected.<sup>35</sup> The textile and apparel industry also believed there was inadequate consideration of substitutable fibres, fabrics, and end products,<sup>36</sup> and negotiations were made with no official means for communication between apparel producers and the government.<sup>37</sup> Apparel industry dissatisfaction with this form of assistance heightened as they believed too few countries and products were covered by the agreements and enforcement remained ineffective, as it was controlled by the exporting countries.<sup>38,39</sup>

Thus, while the government had intended to limit imports while maintaining as positive an export relationship with trade partners as possible, the domestic apparel industry was trying to exist in a climate of uncertainty with regard to their marketplace. The Canadian clothing manufacturers purported that this "uncertainty and disruption undermined the further investment in expansion, modernization, or restructuring necessary to deal with the increasing import penetration."<sup>40</sup>

As a result of their feelings of uncertainty due to the piecemeal nature of government assistance, a combined group from management and labour in the textile industry approached the Federal Cabinet in October of 1968. Their purpose was to request formally a government policy that would control imports from low cost areas throughout the world and, hence aid the industry in establishing guidelines for future investment, planning, and development.<sup>41,42</sup>

The result of this appeal to the government was the national 'Textile Policy' introduced in May, 1970.<sup>43</sup> The government had, of necessity, compromised between allowing imports to flood the domestic market and restricting all imports and thus, the ability to export

other Canadian produced items. It intended "to provide a sense of direction, a framework and conditions within which the textile and clothing industries can plan, invest, and develop with a greater degree of confidence".<sup>44</sup> Control of imports was only part of the policy's objectives. Guidelines were offered for aiding development of local industries but there was also the caution that the manufacturers must plan "progressively to phase-out the least competitive lines and to move into those with the highest competitive potential for the future."<sup>45</sup> The 'Textile Policy' was an attempt to co-ordinate the forces of government and industry for the developing and promoting of a Canadian business.<sup>46</sup>

The 'Textile Policy' included three elements: Commercial Policy, Financial Support, and Promotional and Technical Support. Under the Commercial Policy, the government expressed its intent to consider rationalizing the tariffs on textiles and apparel and removing anomalies that existed. As well, improved means of accounting for import products were proposed and a means for dealing with injury to the domestic industry due to imports from low cost areas was established. Should the threat of injury be present, those manufacturers affected were to present formally to the newly formed Textile and Clothing Board their report of harm and their plans for restructuring of manufacturing activities to avoid future injury. The report would then be analyzed and the Textile and Clothing Board would make recommendations to the government as to required actions. It was then up to the government to act upon these recommendations as they saw fit.<sup>47</sup>

Financial Support measures proposed by the 'Textile Policy' were to ensure more financial aid could be provided to firms that were

attempting to restructure their production lines in such a way that further injury by low cost imports would be reduced. The Canadian Manpower services would also be involved in consulting with employers and employees who were affected due to injury by imports.<sup>48</sup>

Through the Promotional and Technical Support aspect of the new policy the government expressed its intent to establish productivity centres aimed at assisting industry members in deriving full benefits from new technology. Fashion promotion and design assistance was to be partially financed by the government with the purpose of stimulating sales and knowledge of Canadian apparel products and designers.<sup>49</sup>

In spite of the 'Textile Policy', 1975 imports of apparel had risen to one hundred seventeen percent of 1970 imports in constant dollars.<sup>50,51</sup> Throughout the years the low cost countries had improved the quality and styling of their clothing and had become better at initiating export contracts.<sup>52,53</sup> This improved product plus a recession from 1974 to 1975 are believed by the Canadian government to be the reasons for the increase in clothing imports.<sup>54</sup> The level of imports continued to increase in 1976 to the extent that 1976 import levels were one hundred seventy-one percent of 1970 levels in real dollar terms.<sup>55,56</sup>

Apparel producers and the government viewed these increases as a serious problem. After a series of reports and studies by both government and industry the Canadian government imposed global quotas on clothing in November, 1976 that limited the quantity of imports for 1977 and 1978 to the level of imports in 1975.<sup>57</sup>

This new policy of global quotas covered all countries, whether or not they were low cost clothing suppliers, and extended beyond the

normal one year agreements that had previously been negotiated. While jeopardizing Canada's position as an exporter of goods, the government strongly expressed its stance on limitation of apparel imports.<sup>58</sup>

Canada's trading partners did not consider global quotas an acceptable form of providing the apparel industry with assistance on a long term basis. While they were imposed as an emergency measure under the General Agreement on Tariffs and Trade, there were countries, such as the United States, who had to be compensated. Thus it was necessary to find a new form of protection for the Canadian apparel industry.<sup>59</sup>

During the period of global quotas the federal government embarked on a new policy of negotiating bilateral agreements for a three year term with seven low cost countries which supplied eighty percent of imports in 1977.<sup>60</sup> The countries initially restricted were Hong Kong, Korea, China, Poland, Romania, the Philippines, and Taiwan. These restrictions allowed for annual increases of imports. All other countries were to be monitored for import levels and additional negotiations would evolve if the threat of low cost apparel imports made it necessary. The bilateral agreements came into effect in January of 1979 and are to conclude in December 1981. Since their inception Macao, Thailand, India, Malaysia, Sri Lanka, and Bulgaria have been included in the agreements.<sup>61</sup> This latest policy of the Canadian government appears to be an attempt to maintain a respectable position as a trading partner while limiting the amount of apparel imports into the Canadian market.

Government aid to the Canadian apparel industry was not limited to imports. They had also established procedures to assist companies

in developing export markets. Clothing producers and government officials began working together on export promotion programs in 1968.<sup>62</sup> When introducing the 'Textile Policy', J.L. Pepin, the minister of Industry, Trade, and Commerce, noted the importance of expanding the apparel industry's export trade. To this end, the government established procedures to provide additional resources to promote Canadian apparel goods at home and abroad through fairs, displays, and shows.<sup>63,64</sup>

Three export-oriented programs for industries were set up after the introduction of the 'Textile Policy'; the Fashion Design Assistance Program, the Program for Export Market Development, and the Promotional Project Program. Of these three, the Fashion Design Assistance Program was most oriented to the apparel industry. One of its main divisions was Fashion Canada which worked to promote Canadian apparel.<sup>65</sup> Beyond the financial assistance provided to send Canadian apparel producers to other countries or to entice foreign buyers to Canada, government departments have compiled statistics, market information, and other necessary details to aid apparel manufacturers who are intent on exporting.<sup>66</sup>

This support by the government in encouraging export sales has continued through the 1970's. Fashion fairs in Montreal and, more recently, Winnipeg have been used since 1976 as a means of promoting Canadian goods. Buyers from foreign countries have received financial assistance from the Canadian government to attend these promotions.

In summary, two areas to which the Canadian government is believed to have directed policy decisions are the adjustment of levels of apparel imports and assistance in developing apparel exports. These

are not the sole areas of government concern regarding the apparel industry, nor does the government completely control the ultimate level of these two factors. However, federal policy decisions have often been made with regard to these two items.

#### Indices of Performance in the Canadian Apparel Industry

In the second section of this chapter, the Canadian apparel industry will be examined. Some of the factors within the domestic apparel industry that are frequently identified as those reflecting the health of the industry and may be affected by government decisions concerning imports and exports are shipments of domestically produced apparel, the number of employees, the wage rate, the wage bill, and the investment in the industry.<sup>67</sup> While it is recognized that these may be but a few of the total factors affected, the scope of this exploratory study will be limited to an examination of these indices. The remainder of this chapter will describe these indices and indicate possible relationships with the alteration of governmental policy decisions in the areas of imports and exports.

The apparel industry in Canada is involved in cutting, sewing, and finishing a wide range of products that are generally sold to domestic consumers and institutions.<sup>68</sup> Clothing is manufactured for all age groups, but a single firm is usually engaged in production of apparel for only one segment of the total market. Apparel manufacturing can be divided into the three major areas of men's and boys' apparel production, women's and girls' apparel production, and children's and infants' apparel production. These subsectors account for approximately eighty percent of all apparel manufactured in Canada.<sup>69</sup>

Apparel production can be found to some extent in almost every province in Canada, but it has become concentrated in Quebec and Ontario which shipped sixty-five and twenty-three percent, respectively, of the apparel produced in Canada in 1977.<sup>70</sup> On a smaller scale, Manitoba has developed as a centre of apparel production. In that same year Manitoba shipped almost six percent of Canada's apparel.<sup>71</sup>

In this study the total apparel industry will be examined and the following six subsectors: men's and boys' apparel production, women's and girls' apparel production, children's and infants' apparel production, the apparel industry in Quebec, the apparel industry in Ontario, and the apparel industry in Manitoba. Over the years, some associations such as the Manitoba Fashion Institute, the Children's Apparel Manufacturers Associations, and the Apparel Manufacturers Association of Quebec have been formed to assist groups with common interests and problems in working together to reach mutually beneficial goals.<sup>72</sup> Reports concerning each of these groups as well as reports by other groups have emphasized that each subsector holds a unique position in the Canadian economy. These subsectors have indicated that while similar to other subsectors in some aspects, each segment may have experienced a unique impact from government decisions on imports and exports.

For example, children's and infants' apparel producers reported decreases in sales of their goods in May 1975 due to large amounts of apparel products being imported from South Korea. This segment of Canada's apparel industry found it could not compete with these goods, nor could it organize well enough to lobby the federal government for adequate protection from these imports.<sup>73</sup>

The Manitoba apparel producing group formally presented briefs to the Textile and Clothing Board many times, but in 1975 and 1976 they found that it was necessary to increase their presentations regarding damage to the industry created by imports. Leather garments and outerwear were two areas where harm was believed to be taking place. They believed that influxes of low cost apparel were contributing to decreases in production in their industry.<sup>76</sup> Imports were not the only area where the Manitoba group reported effects. Exports were seen as an important means of maintaining production levels.<sup>77,78</sup>

Men's and boys' apparel producers have asked for protection from imports as they believe the bilateral agreements for 1979 through 1981 allow too great a quantity of apparel into Canada. They fear that this segment of the industry will produce fewer items and become much smaller if the quota levels are not adjusted.<sup>79,80</sup>

Reports on the Canadian Textile and Apparel industries have also been done by such groups as the Canadian Economic Policy Committee, the C.D. Howe Research Institute, banks, and government committees. These have been produced at the request of the government or in response to concern and interests in the apparel industry.

In 1976 the Canadian Economic Policy Committee released a report concerned with evaluating the 'Textile Policy' in terms of the goals that had been established for this policy by the government in 1970. Pestieau, the author, hoped to extend the conclusions from this report on one industry to other industrial segments where policies by government were in effect.<sup>81</sup> Information was computed through the use of interviews and questionnaire surveys,<sup>82</sup> and all segments of the policy were examined. The report concluded that little success had

been met in joint attempts by government and producers to plan for the apparel industry.<sup>83</sup> Government and industry were not in agreement over the measures required to aid the industry and the procedures to deal with industry problems were viewed as inadequate.<sup>84</sup> The report illustrated some areas where alterations were needed to aid successful application of the 'Textile Policy'. The areas needing change were agreement on current and future potential of the industry, creation of a climate of mutual confidence, implementation of necessary tools to ensure cooperation between the government and industry, and clear definition of the rules of participants.<sup>85</sup>

Pestieau produced a second report in 1978 for the O.D. Howe Research Institute. While the focus of this presentation was on the economic relationship between Quebec and the rest of Canada,<sup>86</sup> much of the information was applicable to the Canadian apparel industry as a whole. This report concludes that the industry is not likely to become viable in an international sense without government aid,<sup>87</sup> and that it is not desirable to maintain this industry beyond a minimum level that could be required should world unrest prevent flows of supplies to Canada.<sup>88</sup> It does acknowledge the important role played by this industry in employment of Canadians.<sup>89</sup>

In 1970, the Canadian Imperial Bank of Commerce discussed the Canadian textile and apparel industry in its monthly newsletter. The paper reviewed the rapid advances being made in technology and development of products. Growth potential for this industry was seen as good, as both the domestic market and export opportunities were believed to be on an upswing.<sup>90</sup>

The Provincial Bank of Canada reviewed the clothing industry's

difficulties in a paper in 1976. It outlined the problems and characteristics of the industry and concluded that Canadians will have to choose between the higher prices of domestically produced clothing and higher social costs created by such social upheaval as unemployment if the industry is not protected from imports. The solutions to the industry's problems were seen to be with the manufacturers who would have to work to ensure themselves a market share in Canada.<sup>91</sup>

In 1978, the government called for an examination and analysis of textile and clothing industries to determine appropriate action to improve the economic performance of these manufacturing sectors. The Sector Task Force Report chaired by J.E. Newell concluded that the Canadian industry must become healthy again as it is an important contributor to the economy. Prompt implementation of the recommendations on productivity, fiscal and commercial policy, government incentive programs, and trade policy would be necessary. A one billion dollar increase in production was anticipated if the recommendation were followed.<sup>92</sup>

These reports indicate that there is not a consensus on the future of the apparel industry. Some groups believe that protection of the industry is too costly to maintain while others believe the apparel group is important enough to the economy that protection must be continued. Due to the conflicting nature of these reports, it is valuable to examine the relationships between government influenced factors and indices of the apparel industry and thus attempt to clarify some aspects of these relationships. Discussion of various indices of the apparel industry will follow.

### Value of Shipments:

Shipments of apparel produced in Canada are estimated at 317 trillion dollars for 1979.<sup>93</sup> In constant 1971 dollars, this is an 82.5 percent increase over 1961.<sup>94</sup> These increases may, in part, be explained by the population expansion creating additional demand for apparel. As well a report by the C.D. Howe Research Institute has suggested that since the late 1960's fashion has received new emphasis and this has increased demand for apparel goods.<sup>95</sup>

Reports such as The Eighties and Beyond by the Canadian Apparel Manufacturing Institute<sup>96</sup> and that by the Consultative Task Force on Textiles and Clothing<sup>97</sup> propose that as the level of apparel imports increases, the domestic apparel producers lose portions of the market and thus reduce production of clothing.<sup>98</sup> The government policy over time has been to control levels of apparel imports to varying degrees, with the period of tightest constraint being the imposition of global quotas during the years 1977 and 1978. Hence, it would seem that if constraints on apparel imports were great, domestic production would maintain itself or increase.

When introducing the 'Textile Policy' of 1970, exports of domestically produced apparel were seen by the government as a means to develop longer production runs and would thus make Canadian production internationally viable.<sup>99</sup> The 'Textile Policy' anticipated that Canadian apparel manufacturers would rationalize their product lines to be specialized and internationally competitive.<sup>100</sup> The expectation seems to be that increasing exports would increase total shipments of domestically produced apparel.

### Employment and Wages:

Apparel production requires large numbers of employees as its cut and sew operations are labour intensive.<sup>101</sup> In 1977 approximately 95,000 people were employed in all the aspects of the garment firms.<sup>102</sup> Of this ten percent, or 9500, work in non-production areas.<sup>103</sup>

Employment is believed to be affected by changes in imports. The Sector Task Force Report on the clothing industries gave the principal reason for declining employment as "increased import penetration of markets."<sup>104</sup> Pestieau's report of 1976 for the Canadian Economic Policy Committee also cited the expected relationship of apparel imports and employment in the Canadian apparel industry to be negative.<sup>105</sup>

It is not made entirely clear what relationship can be expected between employment in the Canadian apparel industry and exports. However, a Manitoba firm indicated in a report that by expanding its exports, it would increase employment.<sup>106</sup> This seems probable since production increases normally require greater numbers of employees to fill the orders unless there is a situation of production below capacity or an improvement in mechanization.

Wages and salaries represent approximately twenty-five percent of production costs.<sup>107</sup> Compared to many of their counterparts throughout the world, Canadian apparel workers are considered well-paid. This has been cited as the major factor in prohibiting Canadian apparel producers from becoming competitive internationally.<sup>108,109</sup> Imports are believed to increase as Canadian wages increase.<sup>110,111</sup> Decreases in Canadian wages may result in a lower price for domestically produced apparel and this may make it more advantageous to purchase Canadian made products than import items.<sup>112</sup>

The high cost of Canadian labour is reported by the Canadian Apparel Manufacturers Institute as a constraining factor in exporting apparel.<sup>113</sup> The Manitoba Fashion Institute conforms to this belief, as they claim exports 'dried up' because of increased Canadian wages in 1975.<sup>114</sup>

In order to clarify some of the possible relationships between imports and exports and the indices of employment and wages, it may be necessary to consider the wages per employee or wage rate. This indicator would control for fluctuations in the total wage bill that were created by changes in the number of employees.

#### Investment:

Investment figures are divided into two areas; repair and equipment investment and capital investment. Repair and equipment expenditures are used to improve present facilities or equipment. Capital expenditures cover the costs of new, durable plants and machinery. Investment of capital has been used to represent investment in this study, as it was felt that the decision to build new establishments or purchase new equipment is a more optimistic investment than repair of presently owned facilities. Repair and equipment investment may occur due to necessity whereas capital investment would reflect more consideration of future expectations of the industry.

Pestieau's report for the C.D. Howe Research Institute claims "investments are a function of both current and expected profits".<sup>115</sup> The Sector Task Force profile of the clothing industry linked low levels of investment with the uncertain expectations for the future of the industry that are created by the increasing imports of apparel.

This uncertainty inhibits long-range planning.<sup>116</sup> Pestieau's earlier report for the Canadian Economic Policy Committee noted that at the time of decreased non-tariff protection, investment in the textile and clothing industries increased.<sup>117</sup> These reports present contrasting expectations of relationships of imports with investment, thus making it difficult to predict possible relationships.

Increasing export sales has been cited as the reason for increasing investment in apparel production by Gemini Outerwear Limited, a Manitoba apparel firm.<sup>118</sup> It is not made clear what other sectors of the industry believe the relationship between exports and investment to be.

These are the suggested relationships between government influenced factors and indices of the Canadian apparel industry. In reviewing the many reports by government, manufacturing, and outside agencies, a quantitative relationship for any of these has not been found. While the qualitative reports have provided some explanations for changes in the indices of the industry, the exact nature of the relationships of policy decisions to the apparel industry over time is not clear. It is believed that a study of a quantitative nature would be beneficial to the understanding of the Canadian apparel industry.

## Chapter III

### RESEARCH METHODOLOGY

The methodology of investigating this problem has been divided into four sections. This chapter will discuss the definition of the problem, the null hypotheses, the sources of information, and the method of analysis.

#### Problem Definition:

The general purpose of this exploratory study is to investigate the trends in and relationships between the government influenced factors of imports and exports and the indices of the Canadian apparel industry for the time period 1961 through 1979. As well, differences in regional sectors and production segments of this industry will be explored.

In order to study this problem, the five indices of the apparel industry identified for examination are as follows: the value of shipments, the number of employees, the wage per employee (wage rate), the total wages (wage bill), and the capital invested. Two independent factors will also be delineated. They are the value of apparel product imported and the value of apparel product exported.

The total Canadian apparel industry will be examined as well as six segments. Three segments are defined by age and sex of their target market. They are men's and boys' apparel production, women's and girls' apparel production, and children's and infants' apparel production. The remaining three segments are defined by region of

production. The regions to be examined are Quebec, Ontario, and Manitoba.

Hypotheses:

The following hypotheses have been developed and are stated in the null form.

1. There will be no significant trends, indicated by any index of any segment of the apparel industry throughout the nineteen year period.
2. There will be no significant trends indicated by the values of apparel imported throughout the nineteen year period.
3. There will be no significant trends indicated by the values of apparel exported throughout the nineteen year period.
4. There will be no relationships between the value of apparel product imported and the various indices of the apparel industry for any of the segments of the industry.
5. There will be no relationships between the value of apparel product exported and the various indices of the apparel industry for any of the segments of the industry.

Information Sources:

Statistics Canada publications were used to obtain the total annual values of each indices of each segment of the apparel industry. As these values are secondary information, normal validity and reliability has been assumed except where deviations were delineated by Statistics Canada.

The values of the indices were collected for the years 1961 through 1979. For comparative purposes, all monetary figures were

converted to 1971 dollars. There was no index for the total apparel industry, thus the men's and boys' industrial price index for clothing was used to convert all figures except total wages to constant dollars. Wages were converted to constant 1971 dollars by using the 'Average Weekly Earnings in Manufacturing Current Dollars and Adjusted for Changes in the Consumer Price Index' table found in Statistics Canada publications. All sources of information are listed in Appendix 'A'.

Information on the value of shipments, the number of employees, and the total wages was collected from yearly publications of Manufacturing Industries of Canada for each of the segments of the industry for the years 1961 through 1978. The 1978 and 1979 values for shipments were taken from Inventories, Shipments, and Orders in Manufacturing Industries. Employment and total wage figures for these latter two years were derived by calculating the average monthly figures as published in Employment, Earnings and Hours. Wages per employee were calculated by dividing the total wages of a segment of the apparel industry by the number of employees in that segment for each year. This index was necessary to control for changes in the payments to employees in a given year.

Capital expenditures were taken from Private and Public Investment in Canada, as well as an occasional publication Investment Statistics. The expenditures for the total industry, men's and boys', women's and girls', and children's and infants' apparel production refer only to capital used in the clothing industry. In the children's and infants' apparel manufacturing industry actual expenditures were not always available due to confidentiality rulings by Statistics Canada. Wherever possible preliminary figures or estimates as published by

Statistics Canada were used. There were no known published figures for the children's and infants' apparel industry for the years 1961, 1970, and 1971.

Capital expenditures for apparel production in the province of Manitoba were not available for any years due to confidentiality rulings. For the province of Quebec and Ontario capital spending for the clothing industry alone was available for 1973 through 1979 only. Prior to 1973 the capital investment of the clothing industry was combined with that of the knitting industry. For the purposes of this study, capital spending for clothing and knitting from 1961 to 1979 and clothing for 1973 through 1979 were both used in analysis of the Quebec and Ontario apparel industries.

For all segments of the apparel industry, 1978 capital spending figures are preliminary estimates and 1979 figures are estimates only. These were also taken from Statistics Canada publications.

The value of imports was used as the indicator of apparel shipments as it was consistently reported. The quantity of apparel imported was not always given and therefore was not used in the study. This information was taken from the annual publication Imports. To derive figures for imports in the men's and boys', women's and girls', and children's and infants' sectors each category of import was assigned to the appropriate area of apparel production and these were then totalled to arrive at an import figure for each industry. If the import category could not be assigned to a specific apparel segment, or included more than one segment, it was omitted from these calculations. These calculated values of apparel imports for these three segments of the apparel industry accounted for 21.4 to 45.9 percent of total

apparel imports through the nineteen year period. Thus the import figures for these sectors are not all-inclusive and may be less than accurate in reflecting actual imports. Due to this uncertainty regarding these figures, each index of each segment of the apparel industry was also considered for relationships with the total value of imports for the apparel industry.

Import figures were not available for the three provinces, as apparel is often purchased by a retailer and delivered to only one port in Canada and distributed from that point. Indices of the apparel industries in each of the provinces were compared to the total value of imports.

Export values were collected by category from the annual Statistics Canada report Exports. The same methodology as was used for imports of each segment of the apparel industry was followed to derive figures for exports of men's and boys', women's and girls', and children's and infants' apparel. Exports of apparel for these segments ranged from 0.5 to 32.6 percent of total apparel exports. As these figures are seen as somewhat less than comparable from year to year, the total exports for the Canadian apparel industry were considered for relationships with each of the indices of the apparel industry.

Export values of the provincial apparel industries were available from 1966 to 1977 from unpublished Statistics Canada sources. Exports from various areas of Canada are usually attributed to the province of manufacture but if shipments are combined, or resold prior to export, they are denoted as being a product of the province involved in the last transaction prior to leaving Canada. In recognizing this

limitation of the data, indices of the provincial apparel industries were also examined in relation to the total apparel exports of Canada.

The time period 1961 to 1979 was used as this included the initial, formal import restraint program implemented by the Canadian government to affect low-cost apparel imports. Values for each of the indices were not always reported with normal reliability and validity prior to 1961.

#### Method of Analysis:

In order to analyze the indices for significant trends throughout the nineteen year period, each index for each industry segment was plotted on a graph. A linear trend line of best fit for the years 1961 to 1977 was then calculated using the least squares method.<sup>119</sup> An Olivetti Programma P602 program was then used to determine the strength of the relationship between time and the index using the Pearson's correlation coefficient. The value of the Pearson's 'r' was then tested for significance by deriving a 't' value.<sup>120</sup> The .01 level of probability was accepted as indicative of significance while the .001 level was considered highly significant.<sup>121</sup>

Testing for the strength of relationships between the values of apparel product imported or exported and the indices of the apparel industry was done by using the Olivetti Programma P602 to perform the parametric calculation of Pearson's 'r' for these factors. In all instances, excepting the values of imports and exports, 1978 and 1979 figures were estimates or preliminary figures that were not entirely comparable to the figures of previous years. It was recognized that these figures might distort the relationship, thus correlations were

derived for each factor using 1961 to 1977 figures and again using 1961 to 1979 figures.

As previously indicated, the value of imports and exports for the segments of the apparel industry may not be entirely reflective of actual occurrences due to changes by Statistics Canada in the categories of recording these figures and the difficulty in assigning all categories of imports and exports to an appropriate apparel segment. To eliminate these variations as much as possible when considering the possible relationships between imports or exports and indices of the apparel industry, each index for each segment of the apparel industry was correlated with the total value of imports or exports.

For certain indices for some segments of the apparel industry, values were not available for a specific year. In such a case all values of both imports and exports and those of the industry segment were omitted from the correlation calculation.

As with the analysis of the trends of the indices, the Pearson's 'r' was tested for significance by calculating a 't' value. The .01 and .001 probability levels were considered significant.

## Chapter IV

### RESULTS AND DISCUSSION

In this study information was obtained regarding the trends of the indices by graphing the figures for the nineteen years. As well, the nature of the relationships between the values of imports and exports and the indices for the Canadian apparel industry and six subsectors was established. The information regarding the trends and relationships is presented and discussed in this chapter.

#### Trends of Indices of the Canadian Apparel Industry

Graphing of the indices, as well as the values of imports and exports in the constant dollar form for the 1961 to 1979 time period yielded some general information about the Canadian apparel industry and the six subsectors studied in this paper. The slope of the line was calculated for the 1961 to 1977 time period for all indices and correlation coefficients were calculated with time and each indice for the same time period.

#### Value of Shipments:

The total apparel industry and all subsectors except children's and infants' have shown significant general increases in shipments over the seventeen year period ( $p = .001$ ). (See Table 4.1.) Shipments peaked in 1966 in all sectors. In 1977 concurrent decrease occurred. Other than these two trends, each sector tended to display an individual pattern over the time period under study. (See Figures 4.1, 4.2, and 4.3.)

Table 4.1

A Comparison of Time and Indices of the Apparel  
Industry, 1961-1977  
(*'r'* values)

	Total apparel industry	Men's and boys' industry	Women's and girls' industry	Children's and infants' industry	Quebec industry	Ontario industry	Manitoba industry
Value of shipments	.96**	.98**	.95**	.57	.96**	.88**	.85**
Number of employees	.66*	.89**	.87**	-.93**	.76**	-.35	.35
Wage rate	-.53	.37	-.76**	.67*	-.44	-.86	-.18
Wage bill	.42	.90**	.67*	-.86**	.73**	-.74**	.36
Capital investment (clothing)	.58	.20	.60	-.36	-.89	-.05	
Capital investment (clothing & knitting)					.22	.46	
Value of imports	.93**	.89**	.91**	.89**			
Value of exports	.86**	.89**	-.53	-.86	.66	.61	.48

\* Correlation significant at .01 level.

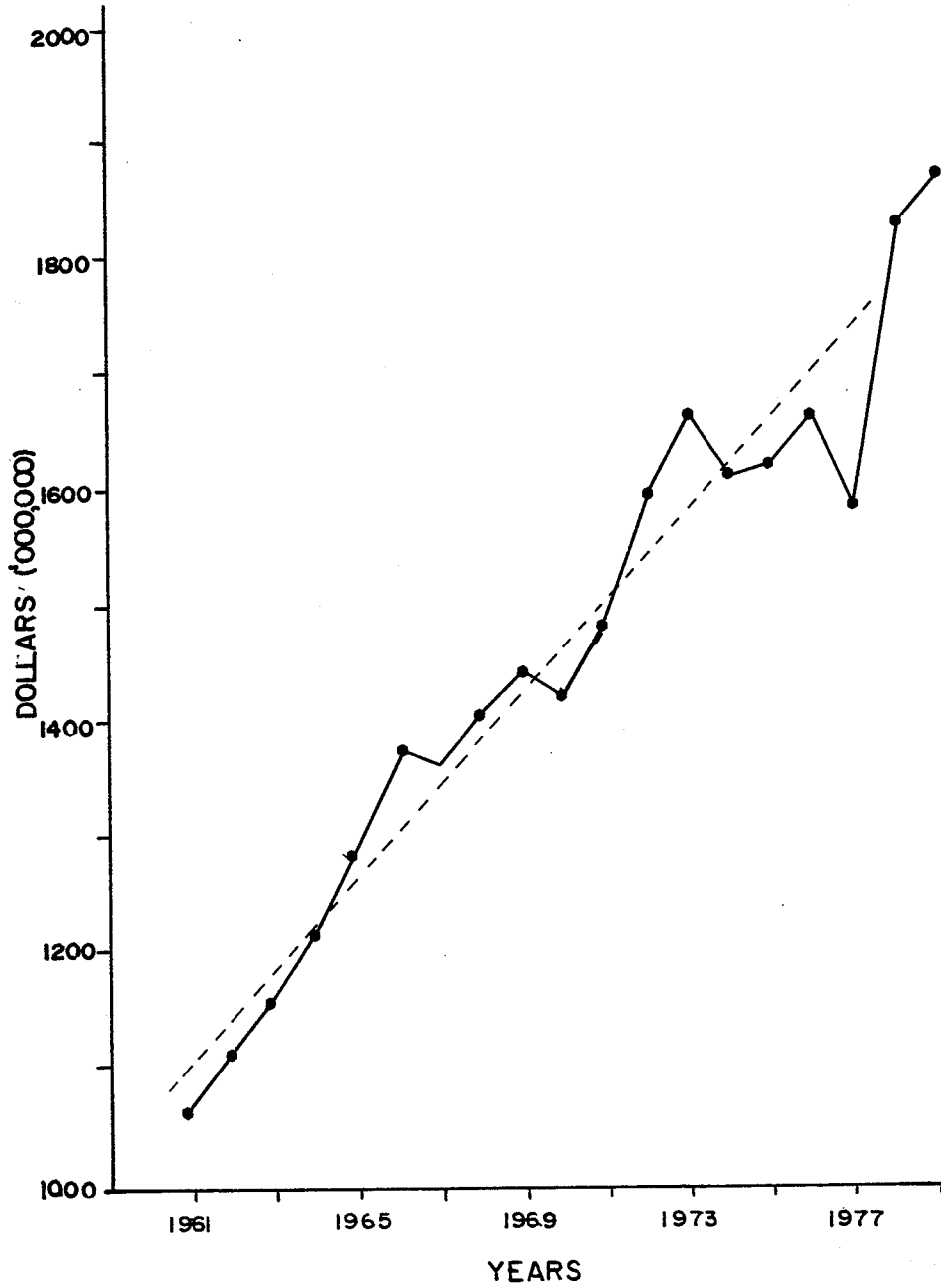
\*\* Correlation significant at .001 level.

Overall, the total apparel industry has increased the value of shipments significantly ( $p = .001$ ) through the 1961-1977 time period. (See Figure 4.1.) Decreases in shipments in real dollars occurred in 1967 and 1970. The recession of 1974 and 1975 seems to have created another decrease in shipments. While 1976 was a year of increase sales, shipments in 1977 dropped in real dollar terms. This decrease may have been the time lag required by the clothing industry and retailers to adjust to the global quotas that had been imposed in late 1976. The estimates figures for 1978 and 1979 suggest that the positive trend of previous years has continued.

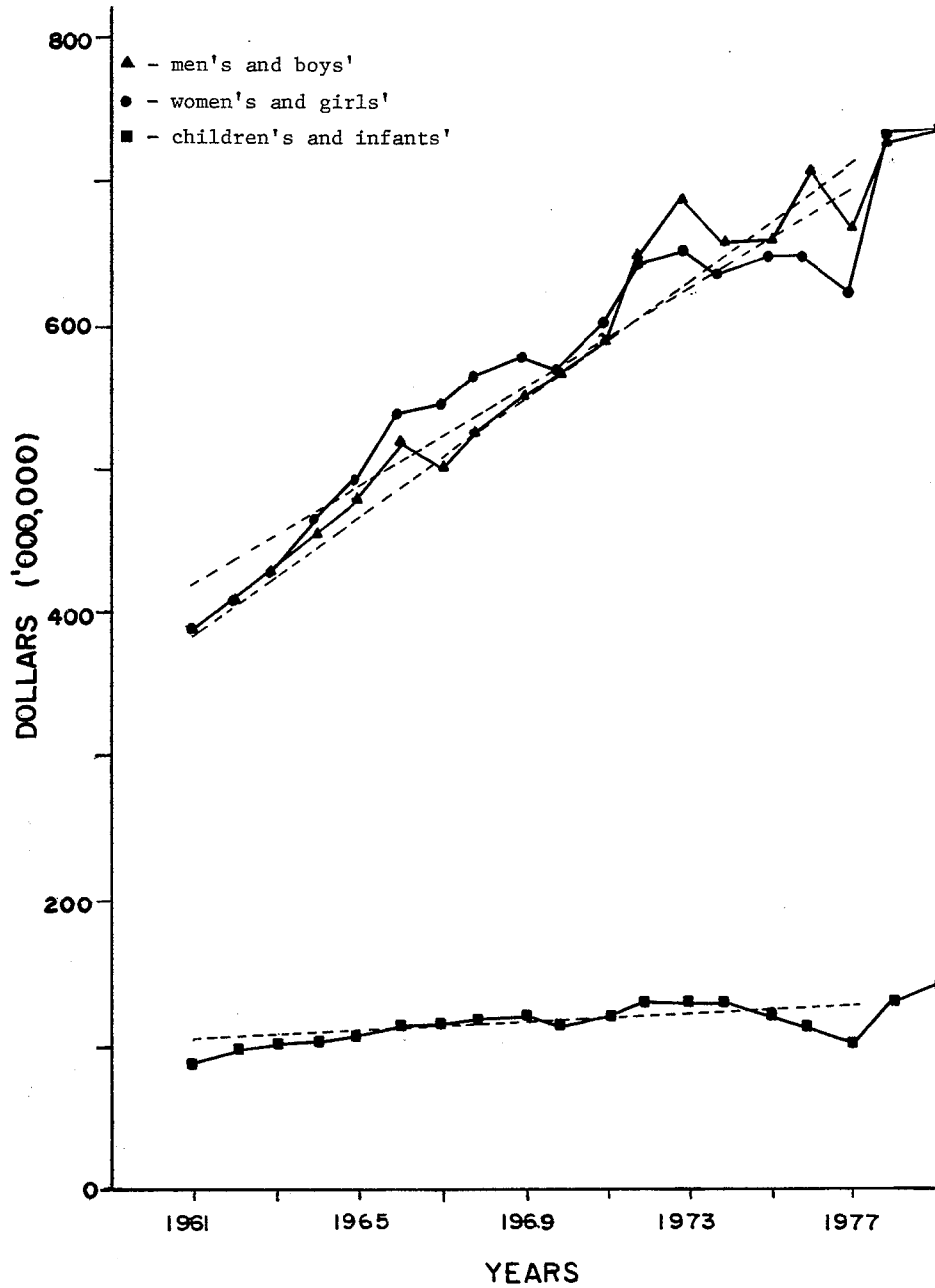
Shipments have increased significantly ( $p = .001$ ) in the men's and boys' apparel industry through the 1961 to 1977 time period. (See Figure 4.2.) Increasing values in real dollars were shipped in all years except 1970, 1974, 1975, and 1977. Again the slump in shipment in 1974 and 1975 may have been caused by a general recession and the 1977 decreases may represent adjustment to global quotas. Peak years were 1973 and 1976 which may be reflective of strong economic conditions at those times. The general positive trend appears to have continued in 1978 and 1979.

Women's and girls' apparel production displayed a positive trend throughout the seventeen years ( $p = .001$ ). Decreased shipments, in real dollars, occurred in 1967, 1974 and 1977. Economic recessions in 1967 and 1974 may have created the drops in sales in 1967 and 1974, whereas the global quotas may have affected shipments in 1977. Values for 1978 and 1979 suggest that the general positive trend is continuing.

Men's and boys' and women's and girls' apparel shipments have exhibited similar levels throughout the nineteen years. Women's and



4.1 Value of Shipments - Total Apparel Industry



4.2 Value of Shipments - Production Segments

girls' apparel production was greater than in the men's and boys' segment from 1962 to 1971. However, men's and boys' shipments were greater from 1972 to 1979 with the exception of 1978. There may have been greater protection from imports of men's and boys' apparel in this latter time period which may have allowed increases in domestic production. This same level of protection may not have been available in the women's and girls' apparel market. Thus, domestic producers of these goods were not able to maintain their dominance over domestic men's and boys' apparel producers.

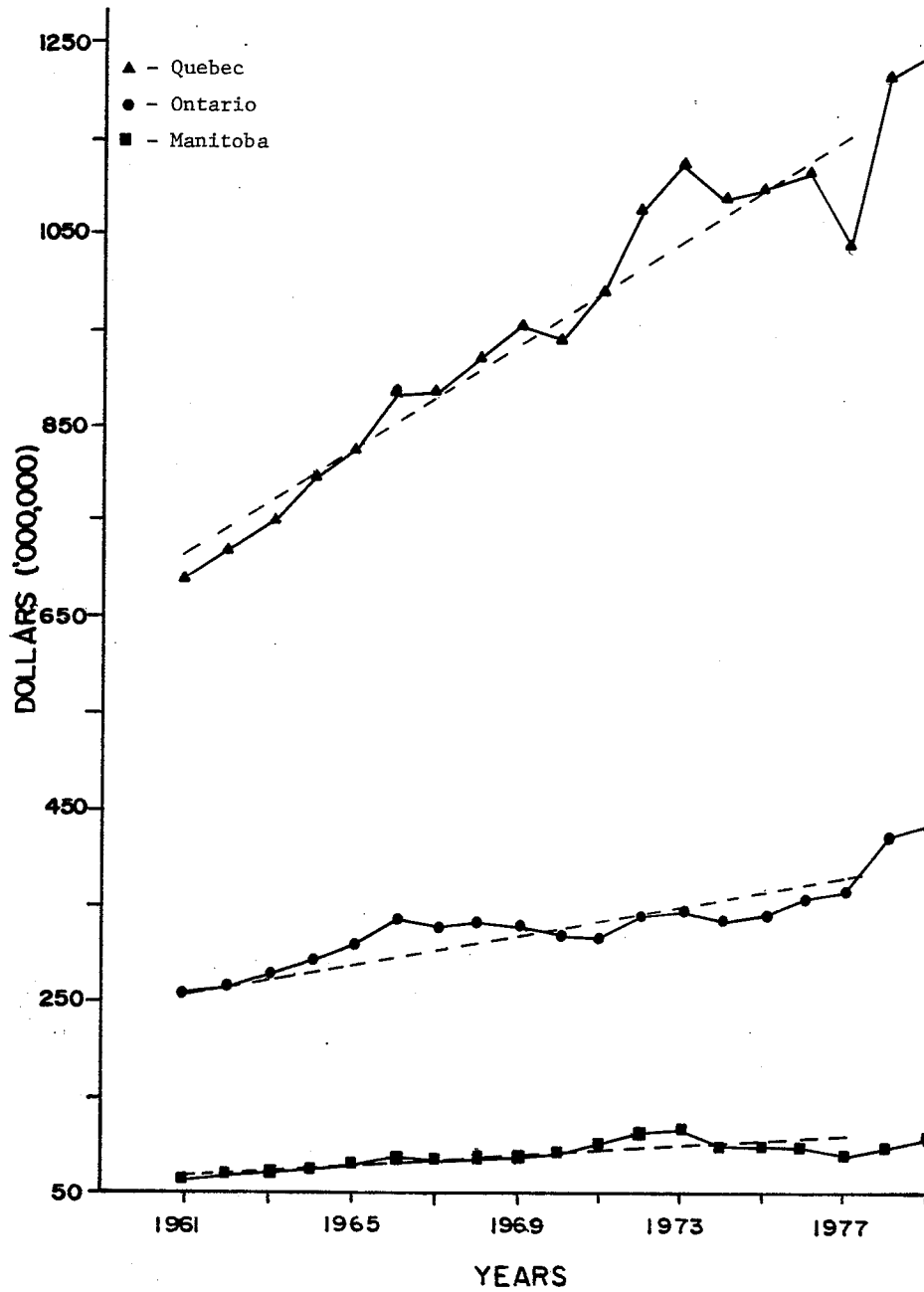
Children's and infants' apparel producers have shipped relatively low volumes of apparel throughout the 1961 to 1979 time period. The value of shipments in real dollars did not exhibit a significant relationship with time. Increased values of shipments occurred until 1969. The decreased sales in 1970 may have been created by an economic recession. Shipments increased in 1971 and continued at a relatively constant level until 1975 when a marked decline began that continued through 1977. As suggested by children's and infants' apparel producers this decrease may be a result of increased imports from low cost countries, such as South Korea.<sup>123</sup> As well as increased imports of this type of apparel, it is possible that the age composition of the population has been changing and this has resulted in a decreased demand for children's and infants' apparel. The 'baby boom' group has progressed out of the children's and infants' sector and has increased demand for men's and boys' and women's and girls' apparel.<sup>124</sup>

Quebec, Ontario, and Manitoba consistently increased the value of shipments from 1961 to 1966. (See Figure 4.3.) Thereafter the patterns of shipments vary by province.

Shipments of apparel from the province of Quebec exhibited a significant positive trend from 1961 to 1977 ( $p = .001$ ). After 1966, the value of shipments, in real dollars, continued a general increase until 1974 that was interrupted only by a decline in 1970. This decline in 1970 may have been due to the summation of problems during the 1960's that possibly were resolved by the 'Textile Policy' during the ensuing years until 1974. From 1975 to 1977, this province's apparel industry maintained a lower, but fairly constant level of shipments. Adjusting to greater imports an economic recession, and the new global quotas may have helped create this plateau. The 1978 and 1979 estimate figures suggested a reversal to this trend and the value of shipments in constant dollars was again increasing.

The general trend of the value of shipments was positive ( $p = .001$ ) in the Ontario industry. However, after 1966 shipments declined until 1971. Increases in 1972 and 1973 may have been a result of protection afforded through appeals to the Textile and Clothing Board, or a general upswing in the economy. While the real dollar value of shipments declined in 1974, steady increases have occurred through to 1977. Possibly this industry segment has diversified and rationalized production into areas that allowed for improvement of sales. Protection of this industry from imports may also have been sufficient to allow shipments to increase. The estimate figures for 1978 and 1979 indicate that this upward trend has continued.

Manitoba's shipments had a significant positive relationship with time ( $p = .001$ ). After 1966, the value of shipments continued to increase until 1973. However since that time decreased occurred until 1977. In part, the industry may have been able to grow in real



4.3 Value of Shipments - Provincial Segments

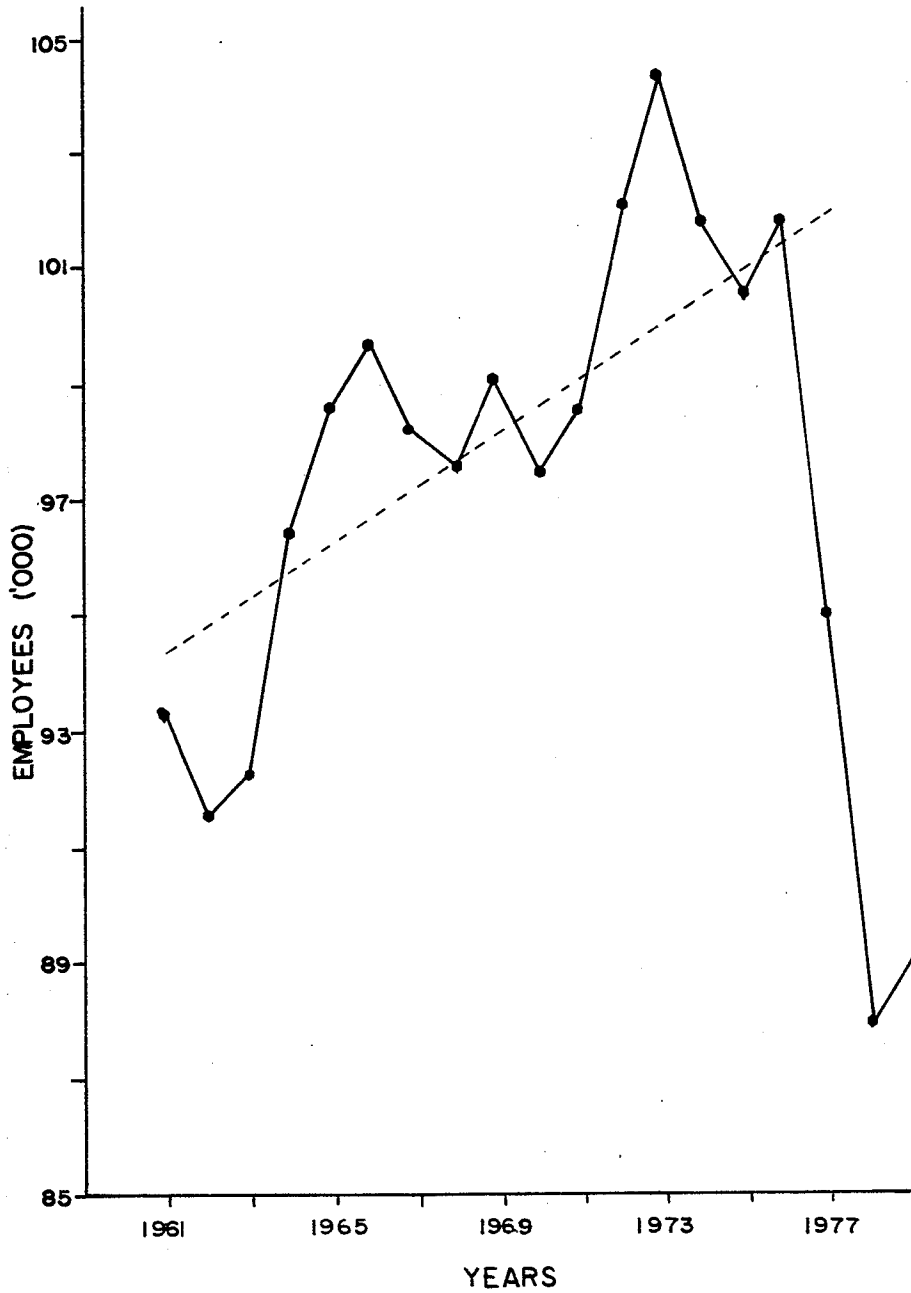
dollar terms until 1973 because it had been relatively small in 1961 and, therefore, had many markets open for expansion. As well, it may have been producing items that were not produced by foreign countries to standards that were acceptable to the Canadian market. By 1974, the industry may have diversified into areas that were more susceptible to import competition.<sup>125</sup> This competition combined with an economic recession possibly created a downward pressure on production levels in Manitoba. Estimates for 1978 and 1979 suggest that this down trend may be reversing.

In summary, the null hypothesis stating that no significant trends would be found with the index value of shipments must be rejected for the total apparel industry and all segments except children's and infants' apparel production. The null hypothesis can be accepted for the children's and infants' segment.

#### Employment:

Employment increased significantly in the total apparel industry ( $p = .01$ ) and in the men's and boys', women's and girls', and Quebec segments ( $p = .001$ ). A significant negative relationship ( $p = .001$ ) was found between time and employment in the children's and infants' sector. No significant relationships were found between time and the number of employees in the apparel industries in Ontario or Manitoba. (See Table 4.1.)

In the total apparel industry, employment increased from 1962 to 1966. This expansion may have been necessary to increase production to meet the need of a growing population. (See Figure 4.4.) From 1967 to 1970 there were erratic, but lower employment levels that may have been partially caused by increased imports. As apparel imports increased,

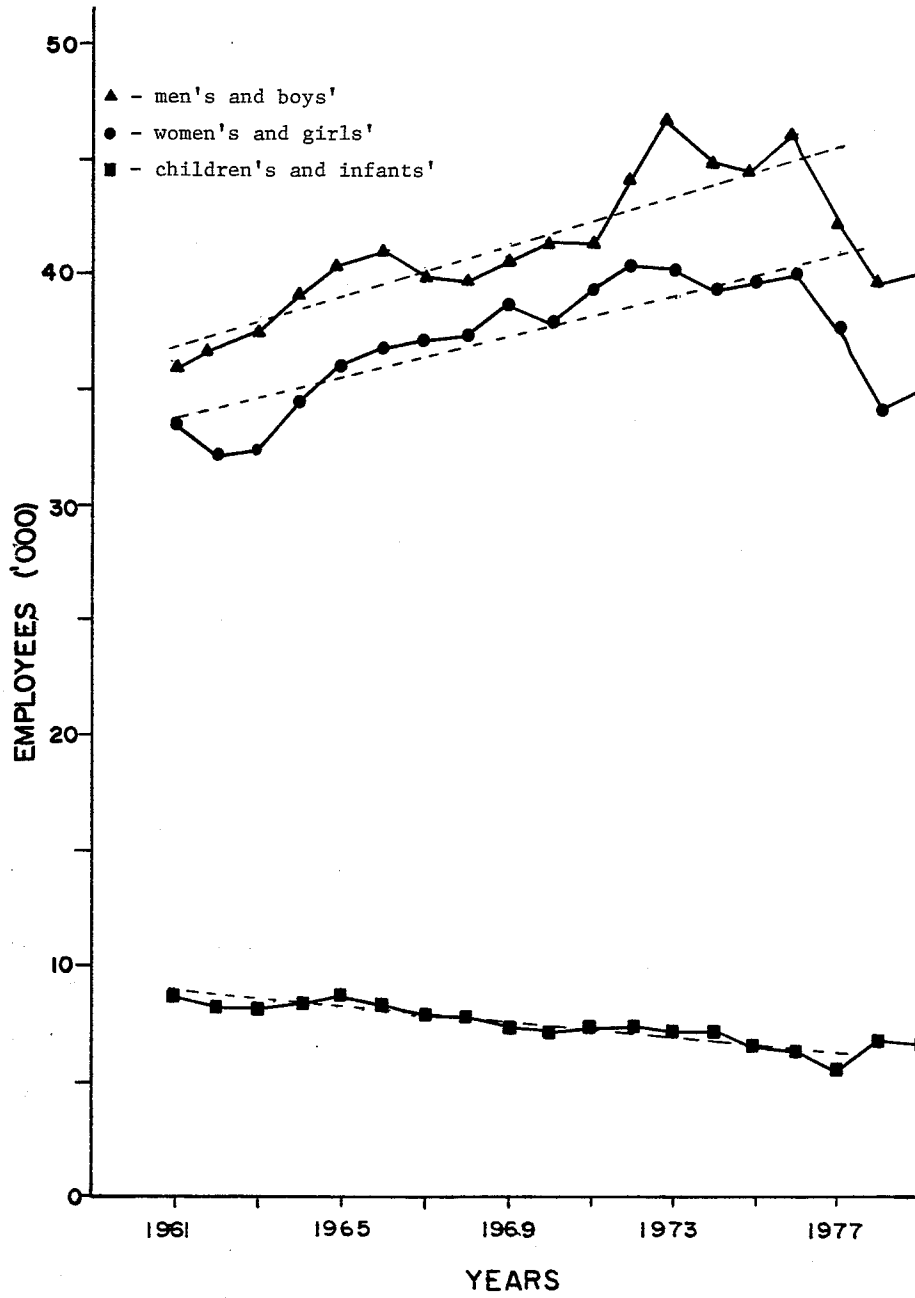


4.4 Number of Employees - Total Apparel Industry

domestic producers may have felt uncertain about the level of shipments and dismissed employees. However, employment levels increased each year after 1970 until 1973. Shipments were increasing during those years and more employees were needed to produce the apparel. Since 1973 there has been a continuous decline in the number of employees with the exception of 1976. Imports may have taken more market share and thus reduced the need for high employment levels. As well, procedures within the industry may have become more mechanized and these new methods require fewer people. Overall, employment increased ( $p = .01$ ) over time.

Employment in the men's and boys' industry also increased significantly ( $p = .001$ ) over time. (See Figure 4.5.) Some increase in level of employment was seen from 1961 to 1966 which was probably due to expansion of the Canadian market. Although 1967 employment levels were lower, a general increasing trend began that continued until 1973. This second increase was likely in response to increased demand as well. Since 1973, employment has followed a declining trend with the exception of 1976. Possibly mechanization has replaced the need for some employees.

Women's and girls' apparel industry employment generally increased from 1962 to 1972, excepting a decline in 1970. Thereafter the trend was constant or declining employment through to 1977. Again mechanization may have improved production procedures in the latter years and lowered the demand for people. Possibly there has been a loss of market share in these latter years and this has reduced employment requirements. Employment related positively to time in this segment ( $p = .001$ ).

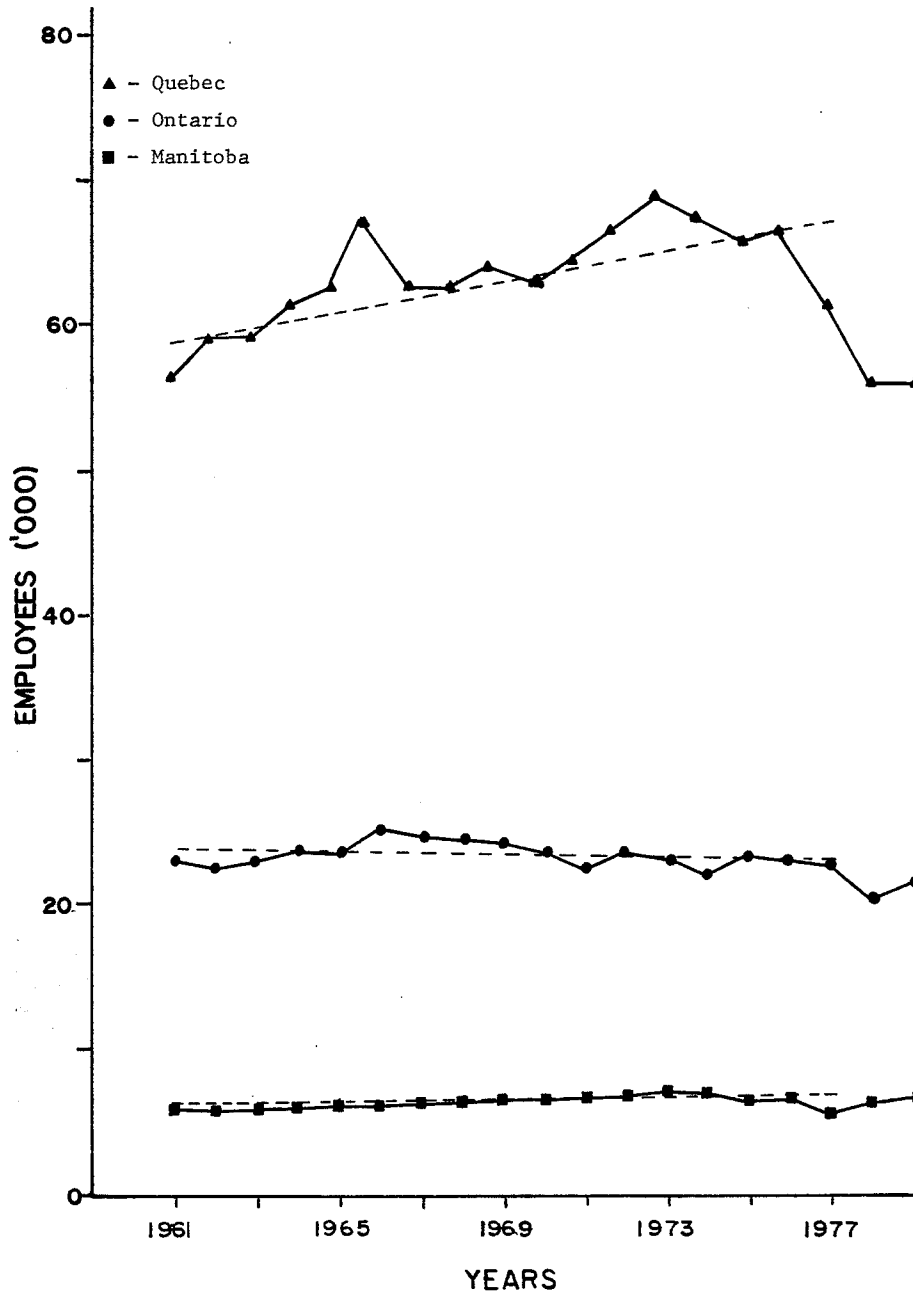


4.5 Number of Employees - Production Segments

Children's and infants' apparel production has employed fewer people than either the men's and boys' or women's and girls' segments. Over the 1961 to 1977 time period employment has tended to decline ( $p = .001$ ). Increases in the number of employees occurred from 1962 to 1965, but this was followed by a period of decreasing employment that continued until 1970. Economic recession may have, in part, contributed to this decline. From 1971 to 1974, the number of employees increased slightly or remained relatively constant. The 'Textile Policy' may have helped this apparel production segment to improve its position with regard to imports and therefore increase employment. However, after 1974, a general decrease in employment occurred through 1977. The imposition and adjustment to global quotas and an economic recession may have precipitated this decline. Estimate values for 1978 and 1979 suggest employment has increased once more.

Employment in the Quebec apparel industry tended to increase from 1961 to 1977 ( $p = .001$ ). (See Figure 4.6.) The number of employees generally increased from 1961 to 1966, possibly due to increased demand for apparel. A period of low employment was found from 1967 to 1970. Imports may have created uncertainty with regard to shipments and lower numbers of employees were maintained. Employment generally increased from 1971 to 1973, Demand for and shipments of apparel increased at that time, thus creating the need for more employees. Excepting the employment level in 1976, there has been a general decline in employment since 1973. This may be due to improved, mechanized processes, or to uncertainty created by rising import levels.

There was no significant relationship between time and the number of employees in the Ontario apparel industry. Employment



4.6 Number of Employees - Provincial Segments

increased or remained stable from 1962 to 1966. After this period, decreasing employment continued from 1967 to 1971. In 1972 employment improved somewhat, only to decline again in 1973 and 1974. This decline may have been created by an economic recession. While the number of employees increased in 1975, the subsequent years have shown decreasing levels of employment. Estimates for 1978 continued this trend although 1979 figures showed an increase in the number of employees. Possibly in this industry progressive improvements have been made in mechanizing procedures and thereby reducing the need for employees.

Employment in Manitoba's apparel industry also did not display a significant relationship with time. Generally employment increased or remained constant until 1973. Thereafter employment decreased until 1977 with the exception of 1976 when a slight increase occurred. During the years since 1973 imports may have hampered the ability of the industry to expand or there may have been difficulty in recruiting more employees. As well, improved mechanization of processes may have controlled the need for more employees. The figures for 1978 and 1979 suggested that the downtrend in employment was reversing.

The null hypothesis stating that no significant trends would exist between time and employment can be accepted for the Ontario and Manitoba apparel industries. However, the hypothesis must be rejected with regard to the total apparel industry, and the men's and boys', women's and girls', children's and infants', and Quebec segments.

#### Wages:

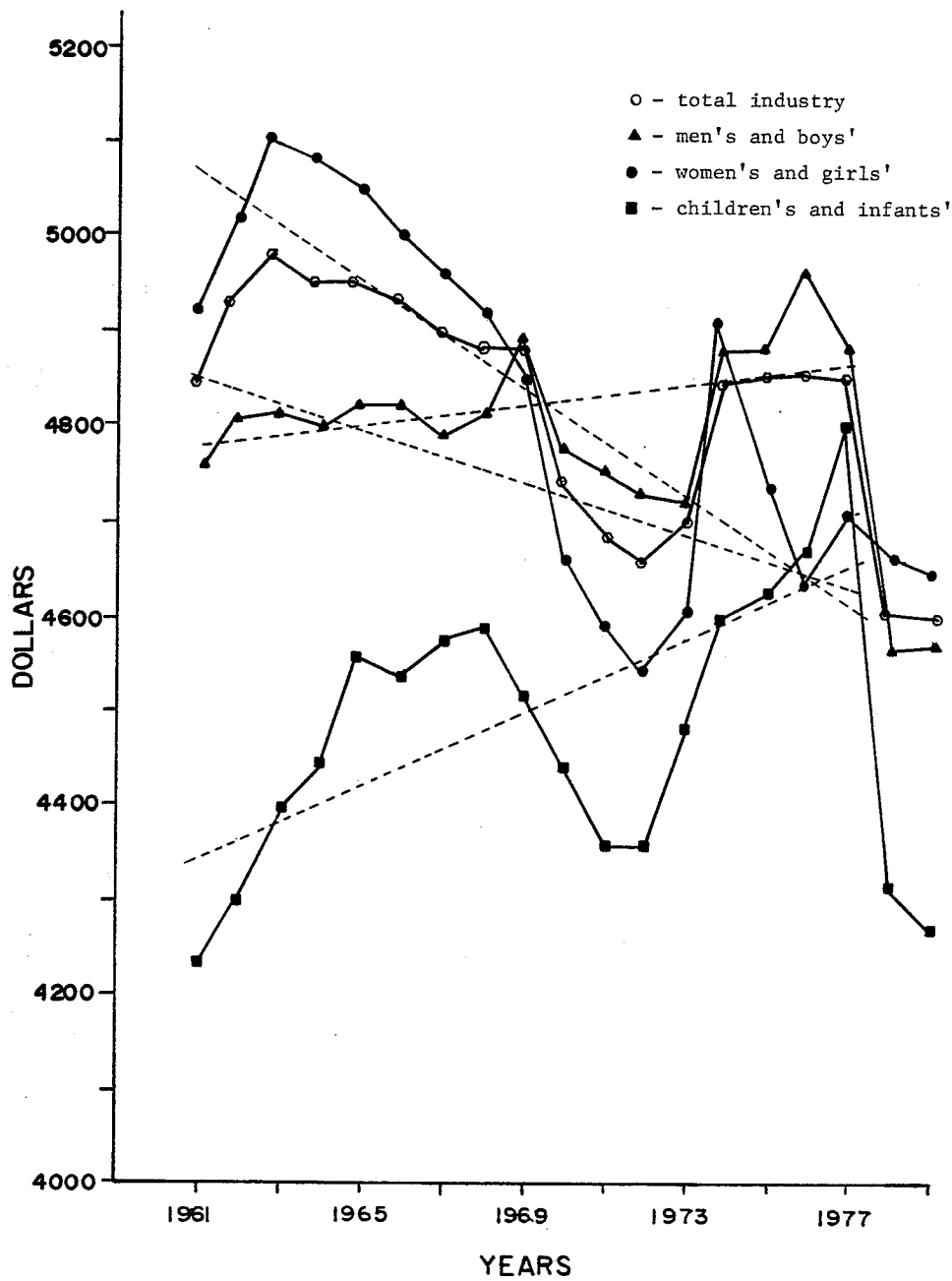
The wage rate and time exhibited a positive relationship from

1961 to 1977 in the children's and infants' apparel industry ( $p = .01$ ). A negative relationship was found in the women's and girls' and Ontario industries ( $p = .001$ ). There were no significant relationships displayed in the total apparel industry, men's and boys', Quebec or Manitoba segments. (See Table 4.1.)

In the total apparel industry, the wage rate followed a constant or decreasing trend from 1963 to 1972. (See Figure 4.7.) The industry may have improved production so that less highly skilled and therefore highly paid employees were needed over this time period. After 1972, the wage rate increased until 1974 and remained relatively constant at that level until 1977. Unions may have intervened to obtain higher wage rates, or the industry may have had to pay more to encourage people to work in the apparel industry.

Wage rates in the men's and boys' industry followed a cyclical pattern from 1961 to 1967, but increasing in 1968 and 1969. The cyclical pattern may have been created by the periods of wage contracts in this segment. After 1969, the wage rate fell in real dollars until 1973. Mechanization and employment of lower cost employees may have caused this decline. Wage rate rose in 1974 and remained constant through 1977 with the exception of an increase in 1976. Higher wage rates may have been necessary to entice people to work in this industry. The wage rate paid to men's and boys' employees was lower than that paid to employees in the women's and girls' segment until 1969. After that year the men's and boys' employees earned more per person than the women's and girls' apparel workers and this trend has continued through 1977 with the exception of 1974.

In the women's and girls' apparel industry, the wage rate related

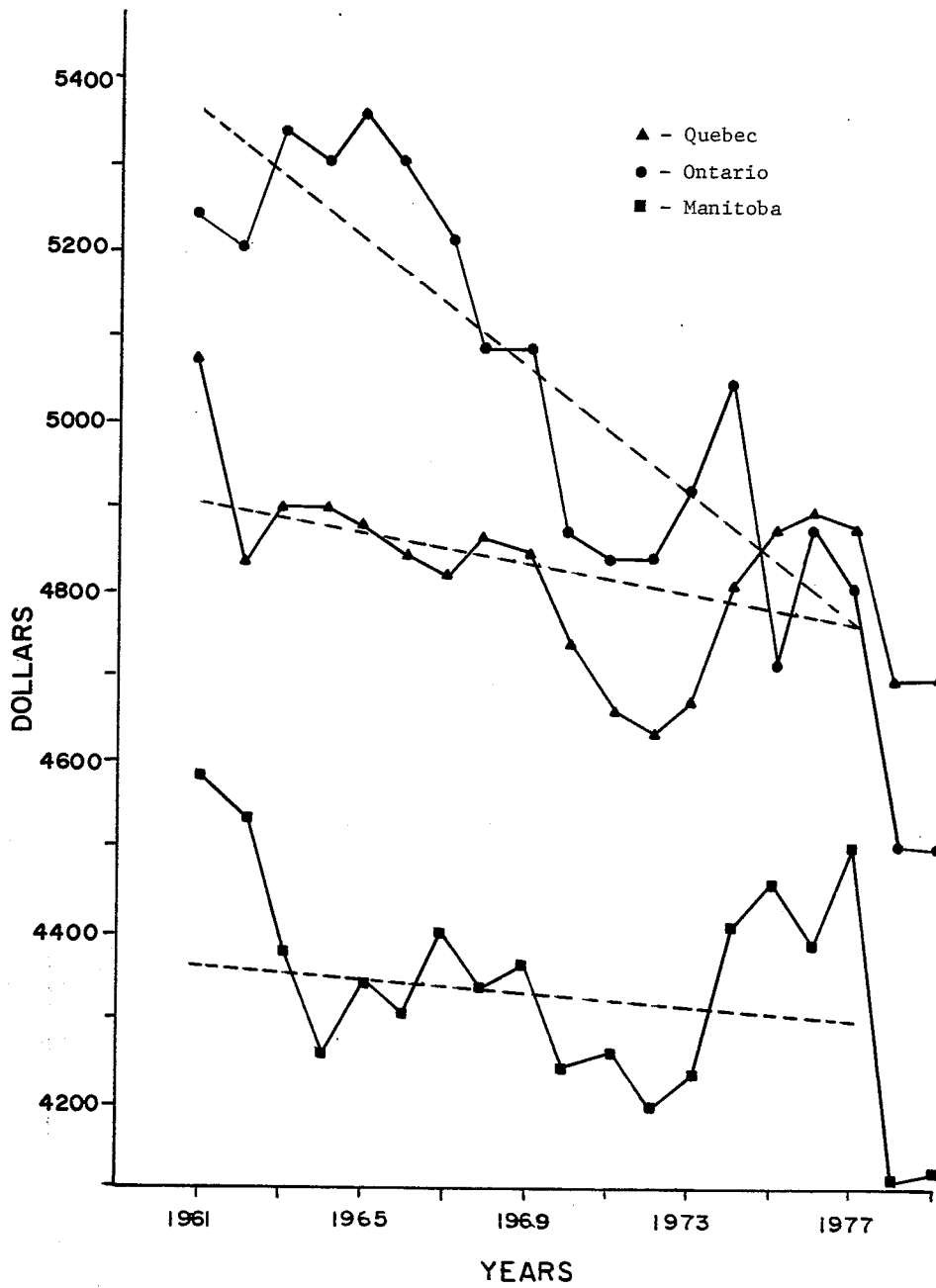


4.7 Wages Per Employee - Total Apparel Industry and Production Segments

negatively with time ( $p = .001$ ). After 1963 the wage decreased in real dollar terms until 1972. Mechanization may have caused the declining rate. Increasing wage rates were found in 1973 and 1974, but 1974 and 1975 rates were again lower. During 1973 and 1974 the producers may have felt it was necessary to pay higher rates to obtain more employees, but reversed their decision in later years. The high cost or improved mechanization possibly caused the reversal of the first decision.

The children's and infants' apparel production employees have consistently been paid lower than employees in the men's and boys' and women's and girls' segments except in 1976 and 1977 when the wage rate of the children's and infants' segment exceeded that in the women's and girls' sector. The wage rate in the children's and infants' sector related positively with time from 1961 to 1977 ( $p = .01$ ). Improvement of the wage rate generally occurred from 1961 to 1968 in real dollar terms. These increases may have been encouraged by worker pressure on the employer to reconcile the disparity between the low wage rates in the children's and infants' sector and the higher rates in the other sectors. However, the constant dollar value of the wage rate fell from 1969 to 1972. Mechanization and employment of lower cost employees may have created this decline. Since 1972, the wage rate has continuously increased. Again, pressure may have been exerted to pay more equitably with other industry sectors, or it may have been necessary to increase rates to ensure employment levels were maintained.

The Quebec apparel industry did not display a significant relationship between time and the wage rate. From 1961 to 1972 there was an erratic but general decline in the real dollar value of the wage rate.



4.8 Wages Per Employee - Provincial Segments

Mechanization may have contributed to this. Increased wage rate payments have occurred from 1973 to 1976. In 1977 the wage rate was slightly lower than the 1976 level. These increasing wage rates may have been necessary to encourage people to work in the industry. (See Figure 4.8.)

Wage rates in Ontario related negatively with time from 1961 to 1977 ( $p = .001$ ). In real dollars, a declining trend of the wage rate occurred from 1963 to 1971. As in the other sectors, improved, mechanized processes may have allowed for employment of lower cost employees. Increased rates were paid in 1972 through 1974, possibly to encourage employment. Since 1974, there have been erratic changes in the wage rate.

The wage rate in Manitoba has consistently been the lowest of these three provinces throughout the nineteen years. No significant relationship was found between time and the wage rate for this segment. In 1961 the constant dollar wage rate was at the highest level of the nineteen year period. Decreases in this rate occurred from 1962 to 1964. The rate in 1965 improved but was followed by a lower rate in 1966. This pattern of a high rate followed by a lower wage rate the next year continues through 1978. Negotiation of contracts may have occurred in a two year cycle and caused this pattern. Generally, the wage rate decreased in real dollars from 1967 to 1972. From 1973 to 1975 there was improvement in this rate but 1976 saw a decline. The value for 1977 was higher than the 1975 level. Estimate rates for 1978 and 1979 were the lowest seen by this segment in the nineteen years.

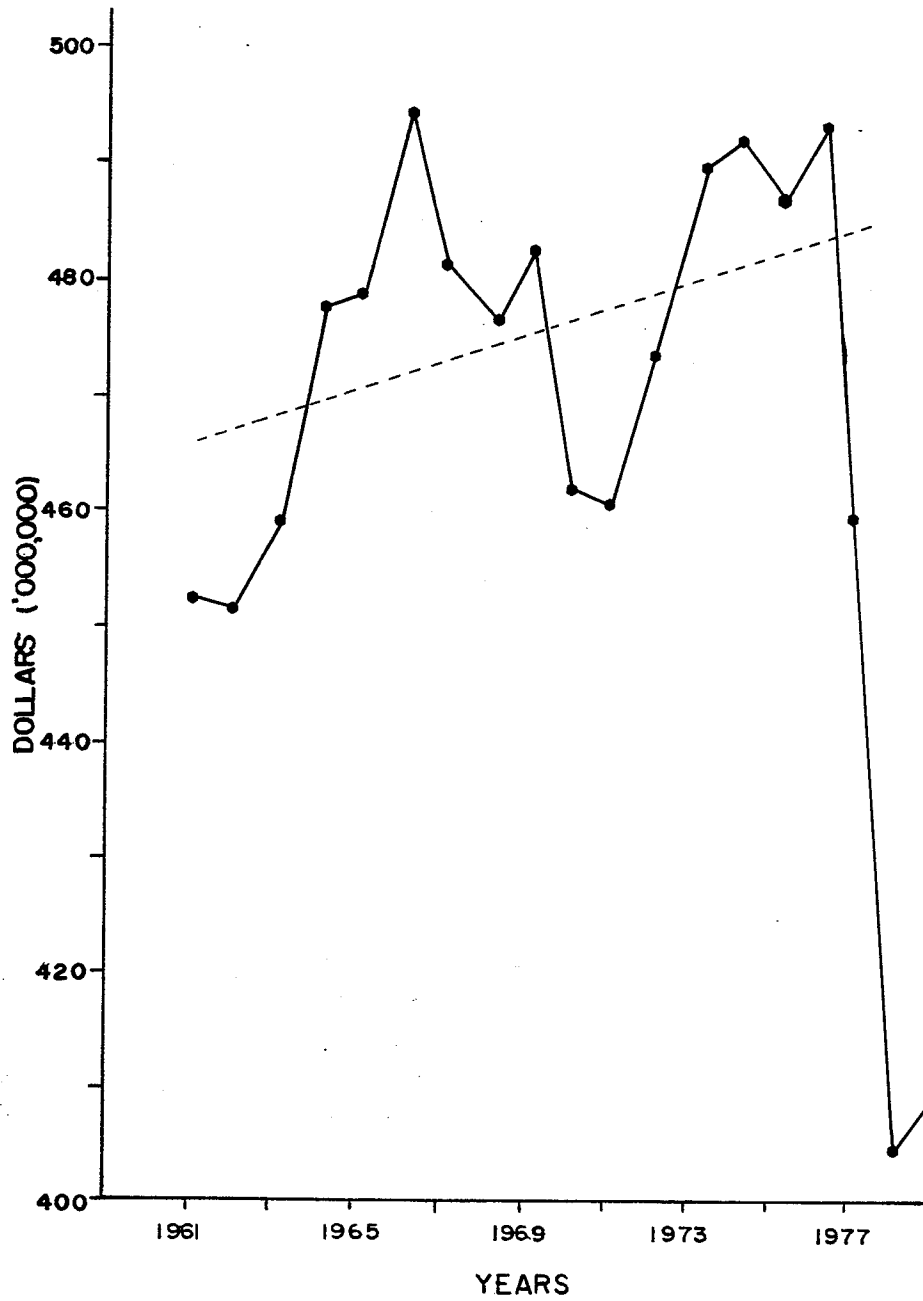
With regard to the null hypothesis stating that no significant trends existed between time and the wage rate, there are mixed results.

The hypothesis in the null form can be accepted for the total industry, the men's and boys', Quebec, and Manitoba segments. It is rejected for the women's and girls', children's and infants', and Ontario sectors.

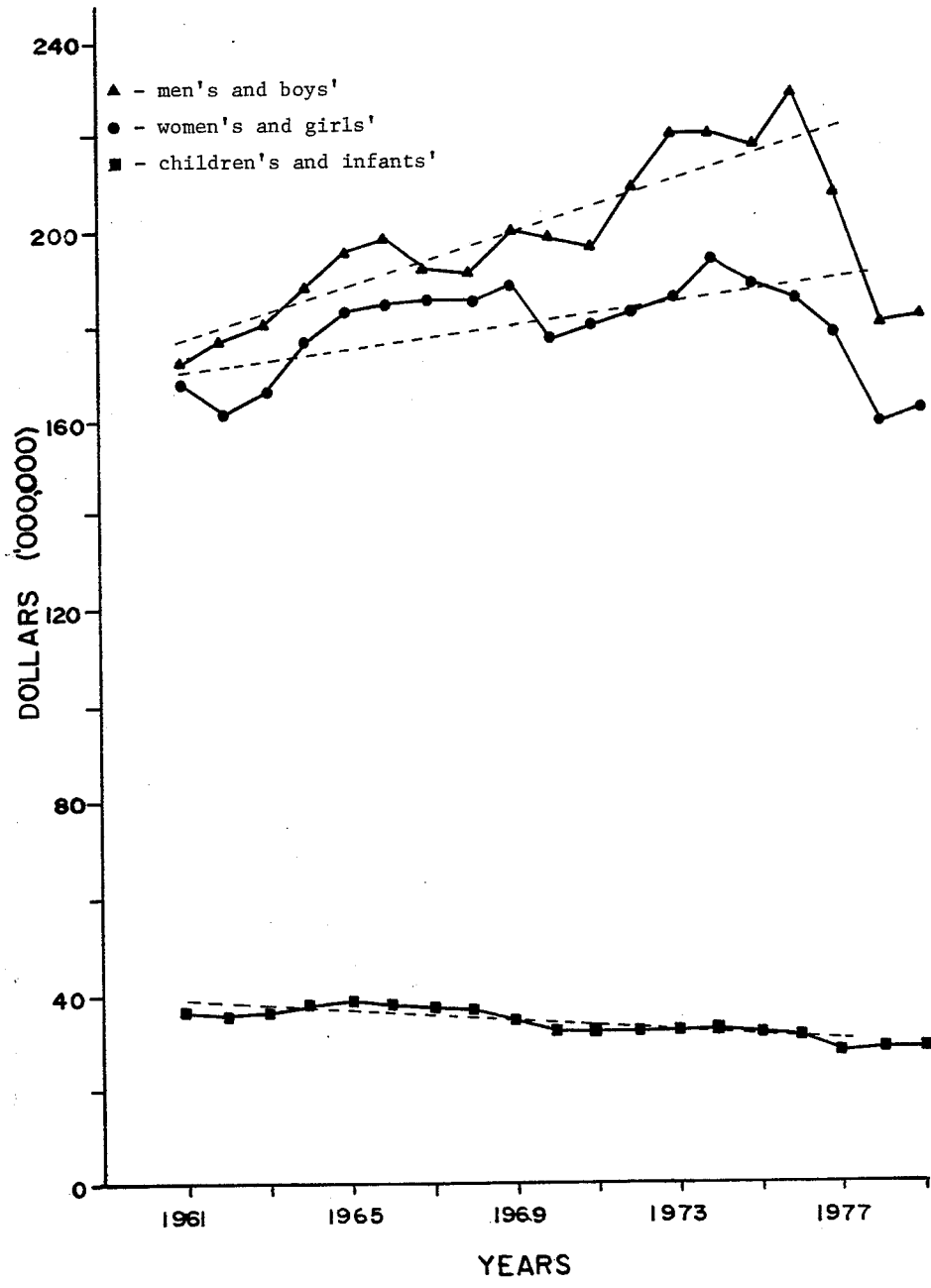
The wage bill increased significantly over time in the men's and boys' ( $p = .001$ ), women's and girls' ( $p = .01$ ), and Quebec industries ( $p = .001$ ). It decreased significantly in the children's and infants' and Ontario sectors ( $p = .001$ ). No significant relationships were found between time and the wage bill in the total apparel industry or the Manitoba segment. (See Table 4.1.)

In the total apparel industry, the wage bill increased from 1962 to 1966. Decreased amounts were paid in real dollars in 1967 and 1968. (See Figure 4.9.) An increased wage bill occurred in 1969 but further decrease took place in 1970 and 1971. Employment followed a similar pattern from 1962 to 1970 and is probably the factor contributing to the fluctuations in the wage bill. The wage bill again increased in 1972 through 1974. In 1975 there was a lower wage bill payment which again can be attributed to the fewer employees due to the economic recession at that time. While the wage bill increased in 1976, it decreased in 1977. The 1978 and 1979 estimates for this index show a continuation of this decreasing trend.

The wage bill of the men's and boys' apparel industry increased significantly overtime ( $p = .001$ ). (See Figure 4.10.) Increase in the wage bill consistently occurred from 1961 to 1966. In 1967 and 1968 the wage bill decrease, but this reversed in 1969. While there was another decrease in 1970 and 1971, the 1972 and 1973 wages bills increased. Since 1973 there has been a general decrease in this bill with the exception of 1976. Possibly the recession of 1974 and 1975



4.9 Wages and Salaries - Total Apparel Industry



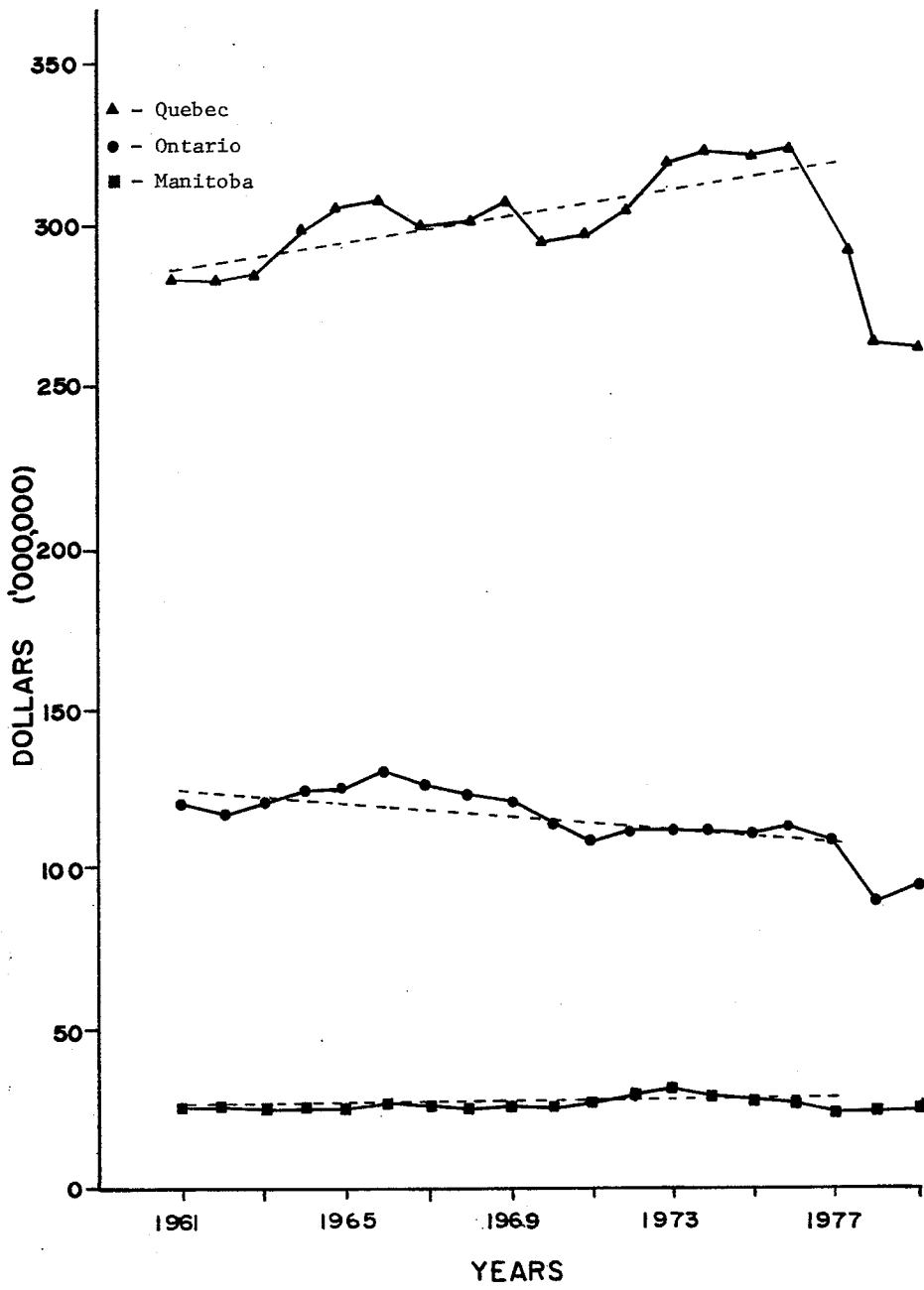
4.10 Wages and Salaries - Production Segments

contributed to this. Estimate figures for 1978 and 1979 show the continuation of this downtrend. The general trend of an increasing wage bill from 1961 to 1977 can probably be attributed to increasing employment in this industry sector. The wage bill of the men's and boys' apparel industry was greater than that of the women's and girls' and children's and infants' segments.

In the women's and girls' apparel industry, the wage bill also correlated positively with time ( $p = .01$ ). Although the 1972 wage bill was lower in real dollars than the 1961 bill, there were continuous increases in this index after 1962 that continued until 1969. The wage bill dropped in 1970 but again made a continuous increase through 1974. An economic downswing in 1975 may have created the lower wage bill in real dollars in that year. This downtrend continued through 1977. Estimate values for 1978 were lower than 1977 figures, but 1979 values were up slightly. The general increasing trend of this wage bill has probably been created by increased numbers of employees.

The wage bill of the children's and infants' sector decreased significantly throughout the 1961 to 1977 time period ( $p = .001$ ). In real dollars the wage bill increased from 1961 to 1965, but thereafter decreased until 1970. Although some real dollar improvement was made between 1971 and 1974, the recession of 1975 seems to have precipitated a decline in the wage bill that continued through 1977. The estimates of the wage bill for 1978 and 1979 show some increases have occurred. This negative trend of the wage bill can be attributed to decreasing employment by this segment of the industry.

Quebec apparel industry's wage bill relate positively with time



4.11 Wages and Salaries - Provincial Segments

( $p = .001$ ). (See Figure 4.11.) In real dollars the wage bill increased from 1961 to 1966. Although a drop in real dollars occurred in 1967, increased wage bills were found in 1968 and 1969. Another slump took place in 1970, but increased or constant wage payments continued after that year through 1976. In 1977 the real dollar value of this index fell and this trend appears to have continued with the estimate values for 1978 and 1979. The trend of an increasing wage bill in the Quebec industry can be attributed to increasing employment between 1961 and 1977.

Ontario's wage bill decreased significantly in real dollars between 1961 and 1977 ( $p = .001$ ). Although the wage bill increased from 1962 to 1966, this was followed by a decline that continued until 1971. A slight improvement was made in the wage bill from 1972 through 1976, but the 1977 value was lower than that of 1976. While the estimate for 1978 shows a further decline in the real dollar value of the wage bill, the 1979 estimate suggests an increase. The negative trend of the wage bill in this industry segment may, in part, be created by the decreasing trend of the wage rate.

The wage bill of the Manitoba apparel industry did not display any significant relationship with time. Increased wage bills were found each year from 1961 to 1966. A slight decrease in real dollar terms occurred in 1967 and thereafter the wage bill remained constant or increased until 1973. Since that year the real dollar value of the wage bill has decreased until 1977. Estimates for 1978 and 1979 suggest the wage bill may have increased in these years.

The null hypothesis which states that no significant trends would be found with this index throughout the time period can be

accepted for the total apparel industry and the Manitoba segment. In the other segments this null hypothesis must be rejected.

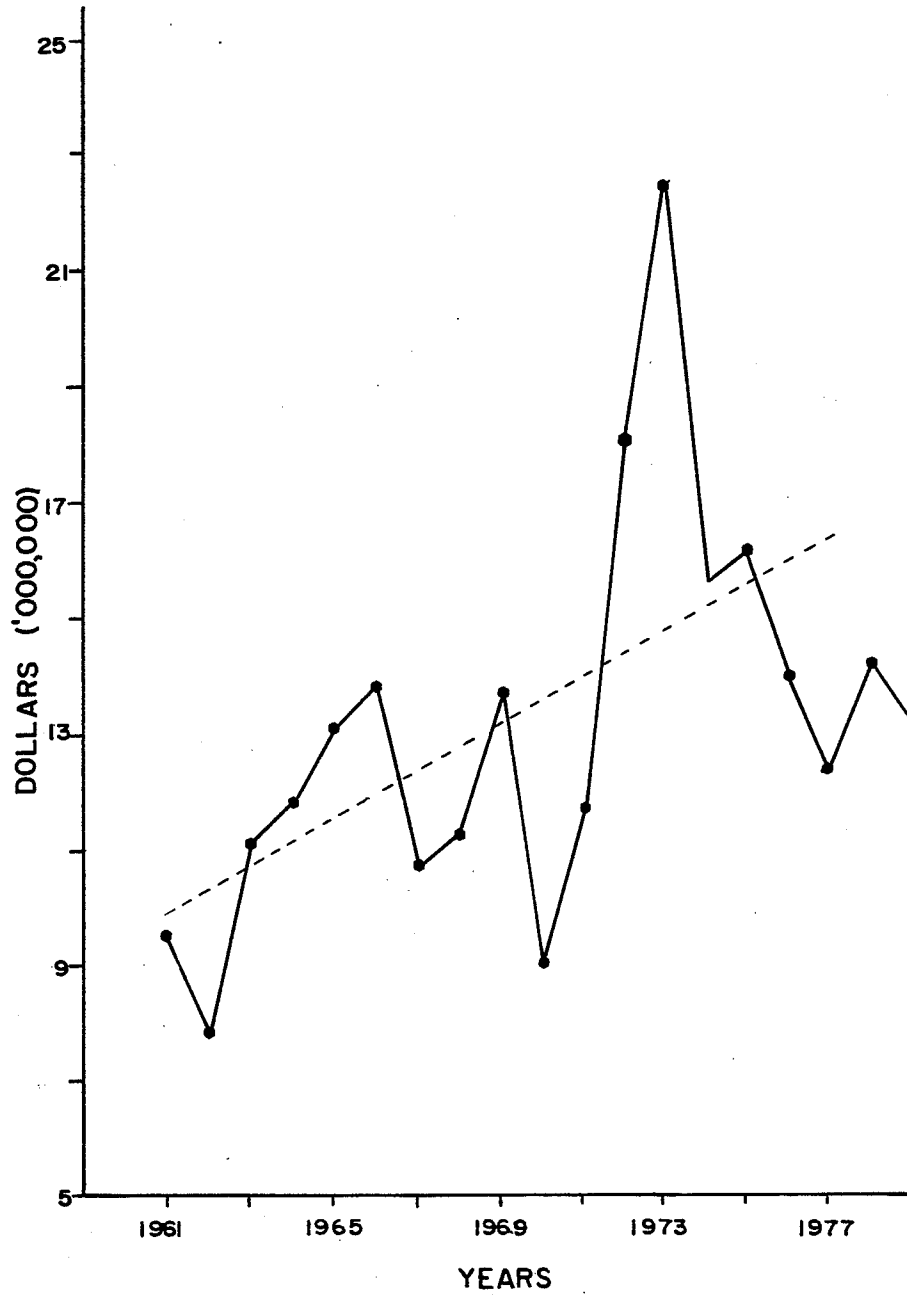
#### Capital Investment:

This index was the most variable of those investigated. Generally, a period of increasing investment was followed by a period of very low investment. This cyclical pattern tended to be found in all segments of the apparel industry.

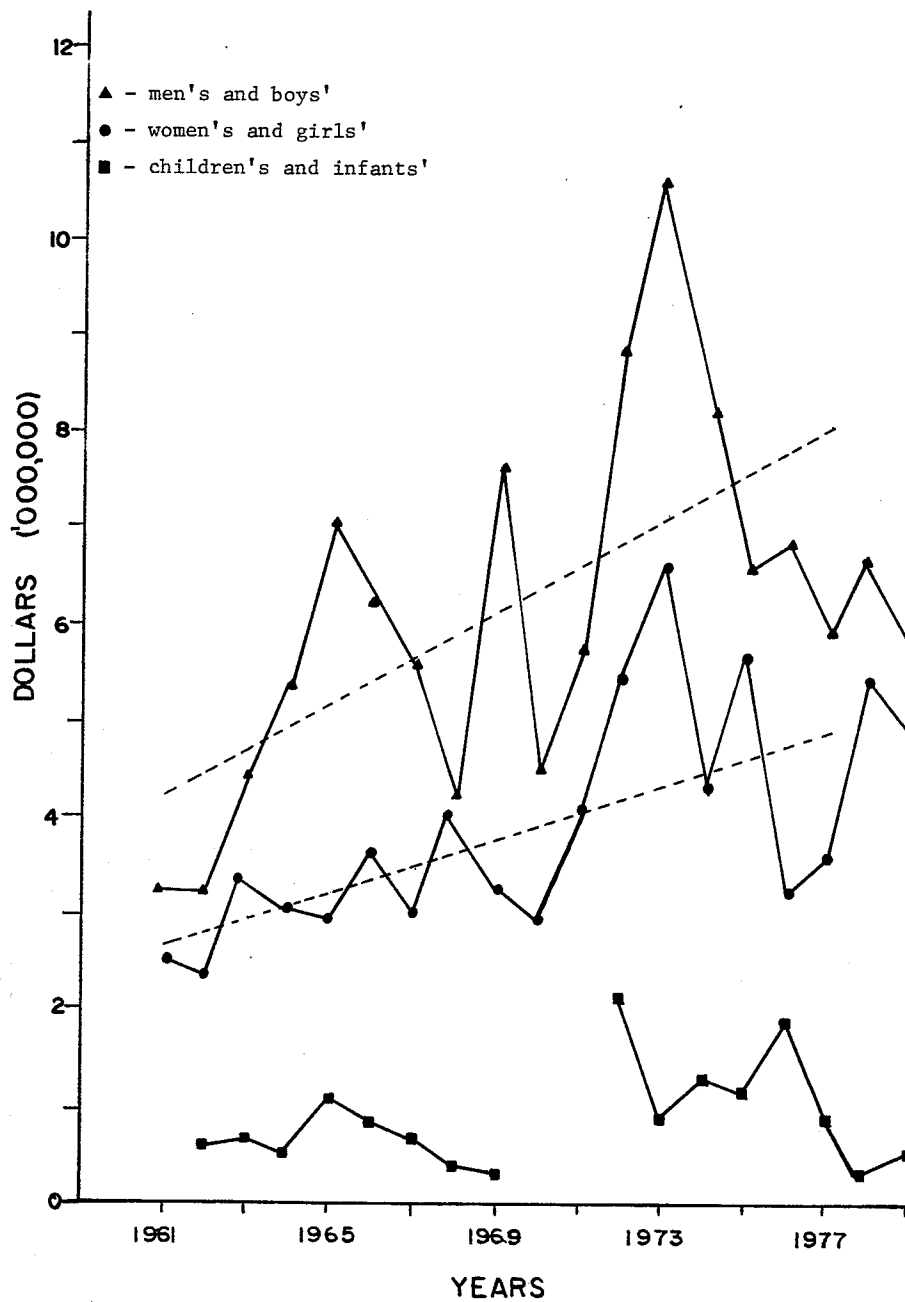
Investment in the clothing industry did not display any significant relationships with time for the total apparel industry nor for any of the six segments. Capital investment in the clothing and knitting industries of Quebec and Ontario also did not have any significant relationships with time. (See Table 4.1.)

In the total apparel industry, the cyclical trend has shown peak years to be 1966, 1969, and 1973. The estimates values for 1978 indicate a peak at that time, as well. (See Figure 4.12.) Investment may have increased in real dollars in 1973 due to an increasing sales trend and the relatively promising economic conditions at that time. The years of low investment were 1962, 1967, 1970 and 1977. There were slight economic recessions in 1962, 1967, and 1970 that may have influenced these values. In 1977, there may have been uncertainty regarding production and shipping on a long term basis as global quotas were only to be in effect for a two year term.

Investment in the men's and boys' apparel industry peaked in 1965, 1969, and 1973. (See Figure 4.13.) As in the total industry, the estimate value for 1978 suggests another peak. The increased investment from 1971 to 1973 may have been influenced by the producers expectations of support for the maintenance of their industry by the



4.12 Capital Investment (Clothing) - Total Apparel Industry

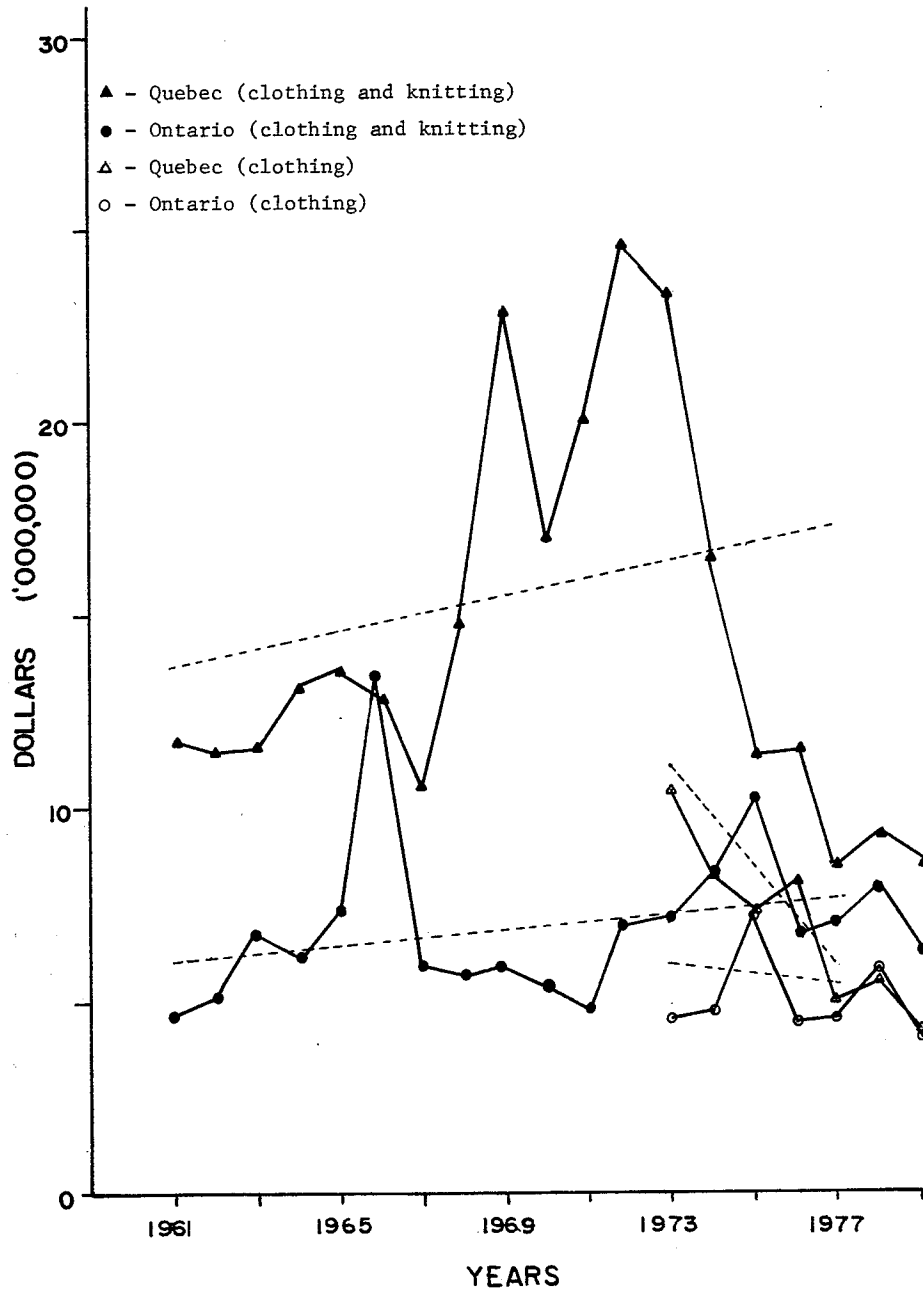


4.13 Capital Investment (Clothing) - Production Segments

'Textile Policy'. Periods of low investment have occurred in 1961 to 1962, 1968, 1970, and 1977. The decreasing trend that took place from 1973 to 1977 may have been a reaction to the increasing levels of imports that continued to 1976. Investment in the men's and boys' apparel industry has consistently been greater than that in the women's and girls' and children's and infants' segments.

The investment pattern in the women's and girls' industry was cyclical from 1961 to 1970 with relatively smaller distances between the high and low periods. This may have occurred as the industry worked to maintain its capacity or to increase moderately. Possibly the industry was not working as a whole to make major alterations to the nature of the industry. After this period investment increased sharply until 1973. Increased investment may have been encouraged by the government's urging that rationalization take place within the apparel industry. Investment levels were high in 1975 and are estimated as peaking in 1978 as well. A period of low investment during 1976 and 1977 may have been the industry's reaction to the high import levels and the short term nature of the global quota restraints.

Investment values for the children's and infants' apparel industry displayed an increase in 1965 and thereafter decline until 1969. The decline may have been partially due to an economic slow down and partially the reaction by the industry to increasing imports. Values for investment in this sector were not available for 1970 and 1971. Peak years of investment thereafter were 1972 and 1976. These may represent attempts by the industry to restructure the type of production carried out so as to better survive in terms of increasing imports. Investment in the children's and infants' segment is lower than that in



4.14 Capital Investment - Provincial Segments

the men's and boys' or the women's and girls' sectors.

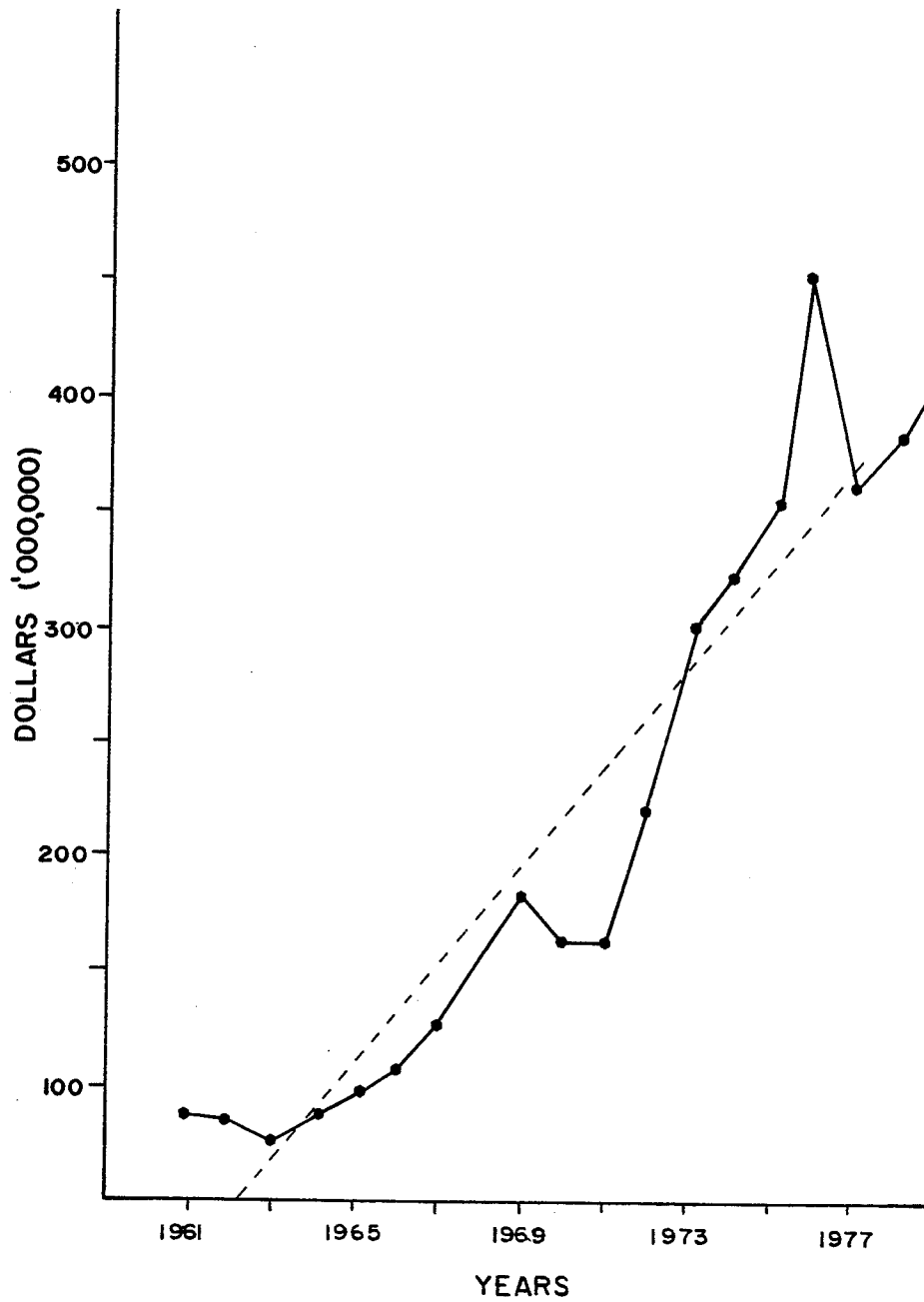
In the Quebec clothing and knitting industries, investment was relatively low from 1961 to 1967. This may represent only the capital investment that was required to expand slightly into these industries. In 1969 and 1972 to 1973, investment levels were very much higher. There may have been an attempt to rationalize product lines to become more viable at these times. Since 1973, investment has declined, possibly in reaction to uncertainty created by increasing imports. When the investment in the Quebec clothing industry only was considered, there has been a general decline since 1972.

The investment in the Ontario clothing and knitting industries increased from 1961 to its highest level in 1966. Thereafter investment was low until increases began in 1972 to peak in 1974. This may have been in response to increasing shipments of apparel. Investment declined in 1976 and 1977. Possibly there was uncertainty due to increasing imports and the short term agreement to impose global quotas. In Ontario's clothing industry, investment was high in 1974, but again decreased in 1975 and 1976.

The null hypothesis stating that no significant trends would be found in this index can be accepted for the total apparel industry and all of the segments except the Manitoba industry. Investment figures for the apparel industry in Manitoba were not available.

#### Value of Imports:

The value of imports of apparel has increased significantly in the total apparel industry and the men's and boys', women's and girls', and children's and infants' segments ( $p = .001$ ). (See Table 4.1.)



4.15 Value of Imports - Total Apparel Industry

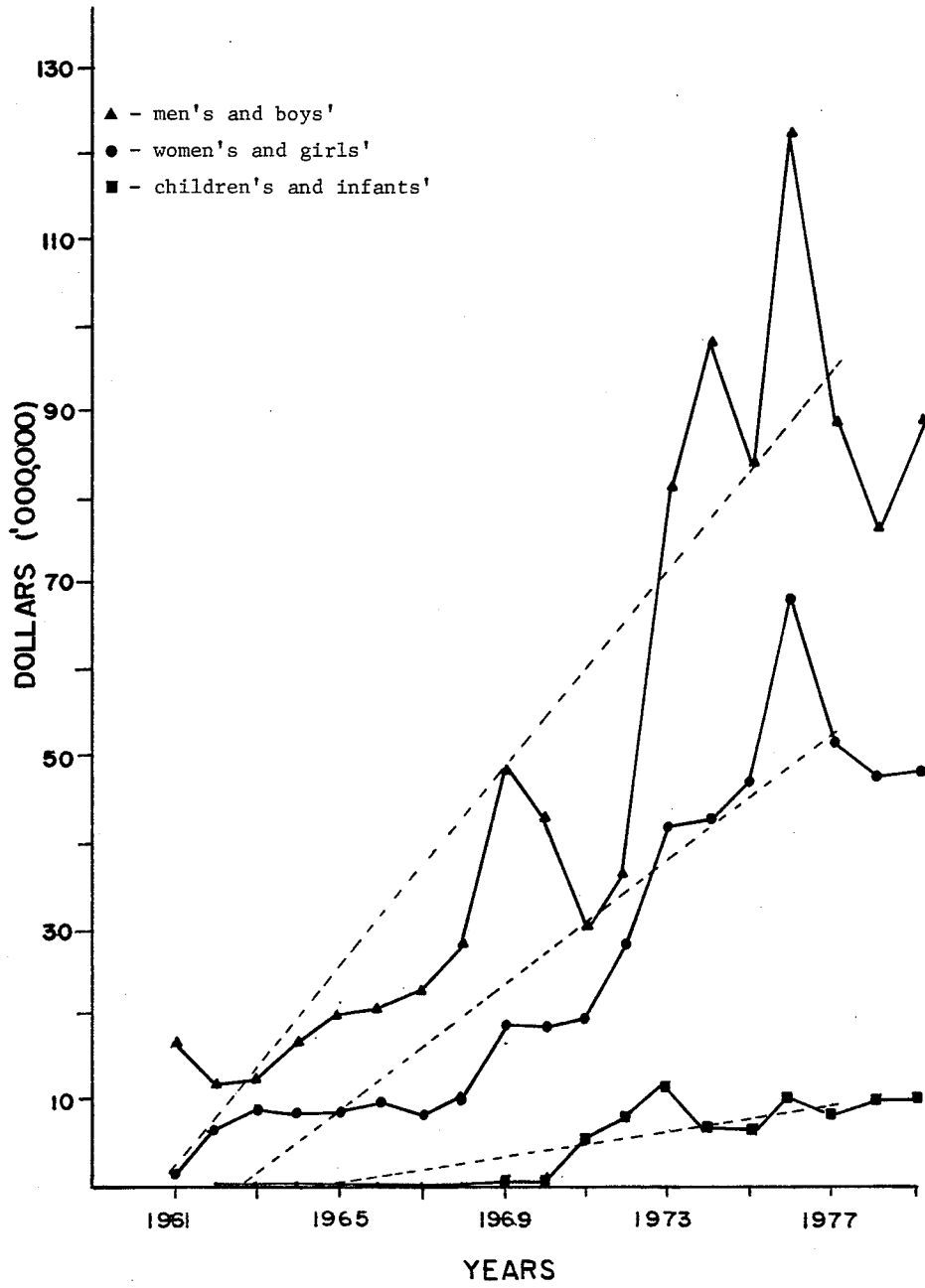
There were no import values available for Quebec, Ontario, or Manitoba.

Although apparel imports by the total apparel industry decreased somewhat from 1961 to 1963, they increased from that time until 1968. (See Figure 4.15.) There were lower values imported in 1969 and 1970, but a period of increasing levels then continued until 1976. This period of continuous increase may reflect the greater demands created by increased population. Possibly the measures taken by the government did not act to restrain imports to a constant level.

Men's and boys' apparel imports increased until 1969, fell through 1971 and increased again until 1974. (See Figure 4.16.) The decrease in 1970 and 1971 may be an indication of a cautious approach by exporting countries prior to the institution of the 'Textile Policy'. Subsequent increases may have been created by an improved economic outlook and expanding markets. Decreases in 1975 may have resulted from a slightly depressed Canadian market. The values of imports rose sharply in 1976 but decreased in 1977 and 1978. The decreases in 1977 and 1978 may be attributed to global quotas while the increase in 1979 suggests the bilateral agreements may not be as adequate at limiting the volume of imports as global quotas.

Women's and girls' apparel imports have never been as great as those of men's and boys' sector, but they had followed a general increasing trend until 1976. Again global quotas appear to be the factor that reduced imports of these goods in 1977 and 1978. However, bilateral agreements seem to be allowing for less growth of imports in this area than in men's and boys'.

Children's and infants' apparel imports were relatively stable until 1970, when they began an increase that continued through to 1973.



4.16 Value of Imports - Production Segments

Perhaps during this time there was little effective control instituted at the request of Canadian producers to ward off apparel imports in this category. Decreasing values of apparel were imported during 1974 and 1975, but an increase occurred in 1976. Since then, apparel imports for this segment of clothing have remained relatively stable. Global quotas and bilateral agreements may not have been as effective in protecting this industry as in protecting men's and boys' and women's and girls'.

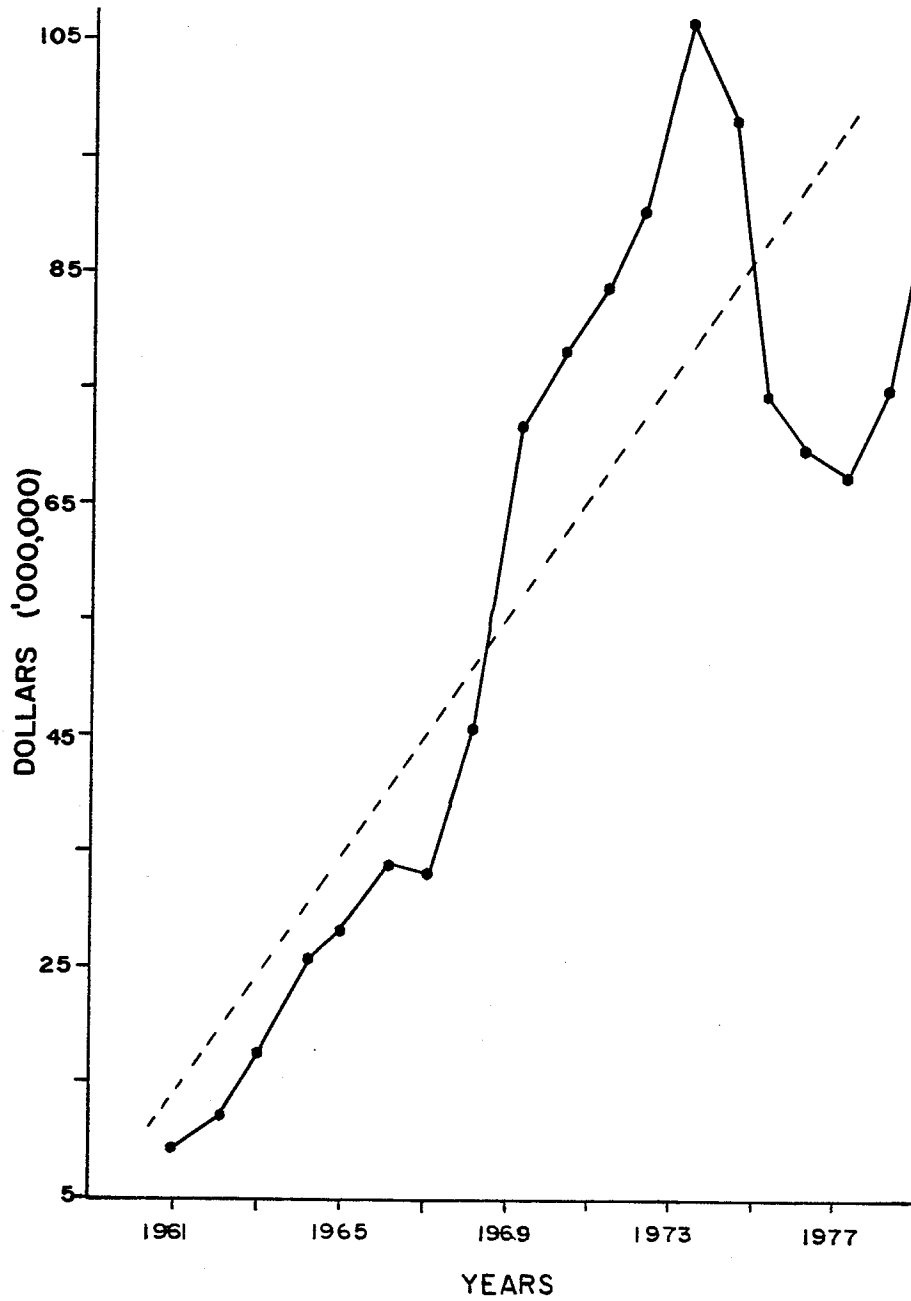
The value of imports has displayed significant trends in the total industry, men's and boys', women's and girls', and children's and infants', sectors. Therefore the null hypothesis must be rejected.

#### Value of Exports:

A significant, positive trend was found with the value of exports of the total apparel industry and the men's and boys' segment ( $p = .001$ ). (See Table 4.1.) There were no significant trends found in the women's and girls', children's and infants', Quebec, Ontario, or Manitoba segments.

Export sales of the total apparel industry increased from 1961 to 1966, fell slightly in 1967 and continuously improved from that year until 1974. (See Figure 4.17.) The government support in encouraging export sales in the late 1960's and early 1970's may have aided the industry in achieving the consistent increases through that period. After 1974, export sales in real dollars decreased each year until 1977. An improvement seems to have occurred in 1978 and 1979.

In the men's and boys' apparel industry, exports remained relatively constant from 1961 to 1967. (See Figure 4.18) Thereafter,

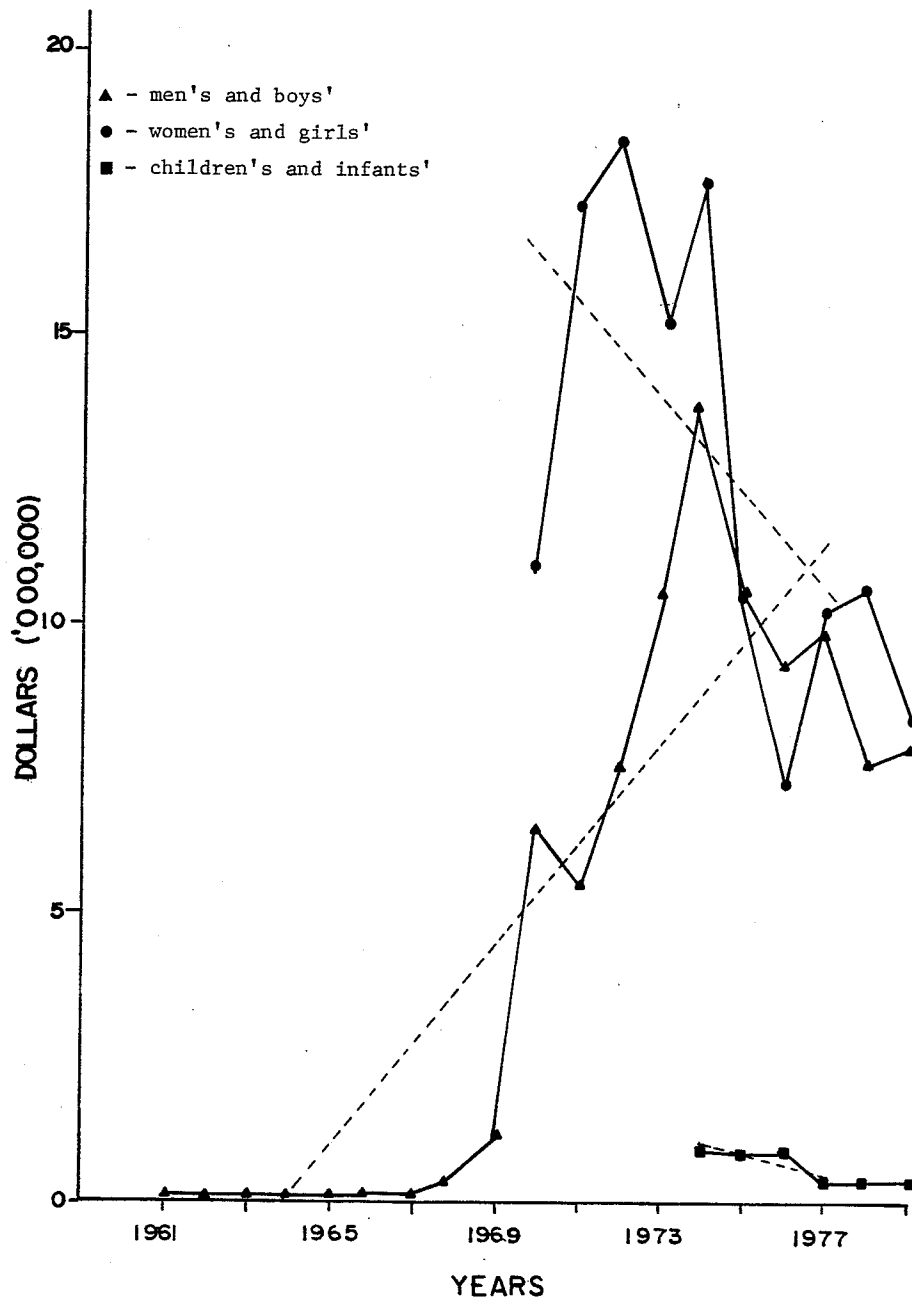


4.17 Value of Exports - Total Apparel Industry

export sales grew until 1974 with the exception of a slump in 1970. Again, government support seems to have aided export sales during this period. Decreasing values were exported in 1975 and 1976. Some recovery was made in 1977 but the 1978 value continued the downward trend. The figure for 1979 shows some improvement in sales was made. In the years since 1974, this segment may have been struggling to survive in the Canadian market and was not able to develop the necessary attributes to encourage export sales.

There was no significant relationship between time and the value of exports in the women's and girls' apparel industry. Export sales increased from 1970 to 1972, decreased in 1973 and increased again in 1974. In 1975 and 1976 export sales decreased to a level below that of 1970. While 1977 and 1978 values were greater than the 1976 level, the 1979 value was again below the 1970 level. As in the men's and boys' industry, this segment may have experienced difficulty in maintaining its position in the Canadian market and thus, did not develop export sales. When domestic markets were protected stringently from imports during 1977 and 1978, this segment was able to again increase exports. Exports of women's and girls' apparel were greater than that of men's and boys' until 1975 and 1976. In 1977 through 1979, exports of women's and girls' clothing again exceeded that of men's and boys'.

In the children's and infants' sector, export sales did not display any significant trends. Export levels were relatively constant from 1974 to 1976 but dropped to a lower level in 1977 and remained there through 1979. The children's and infants' apparel industry consistently exported less than the men's and boys' and women's



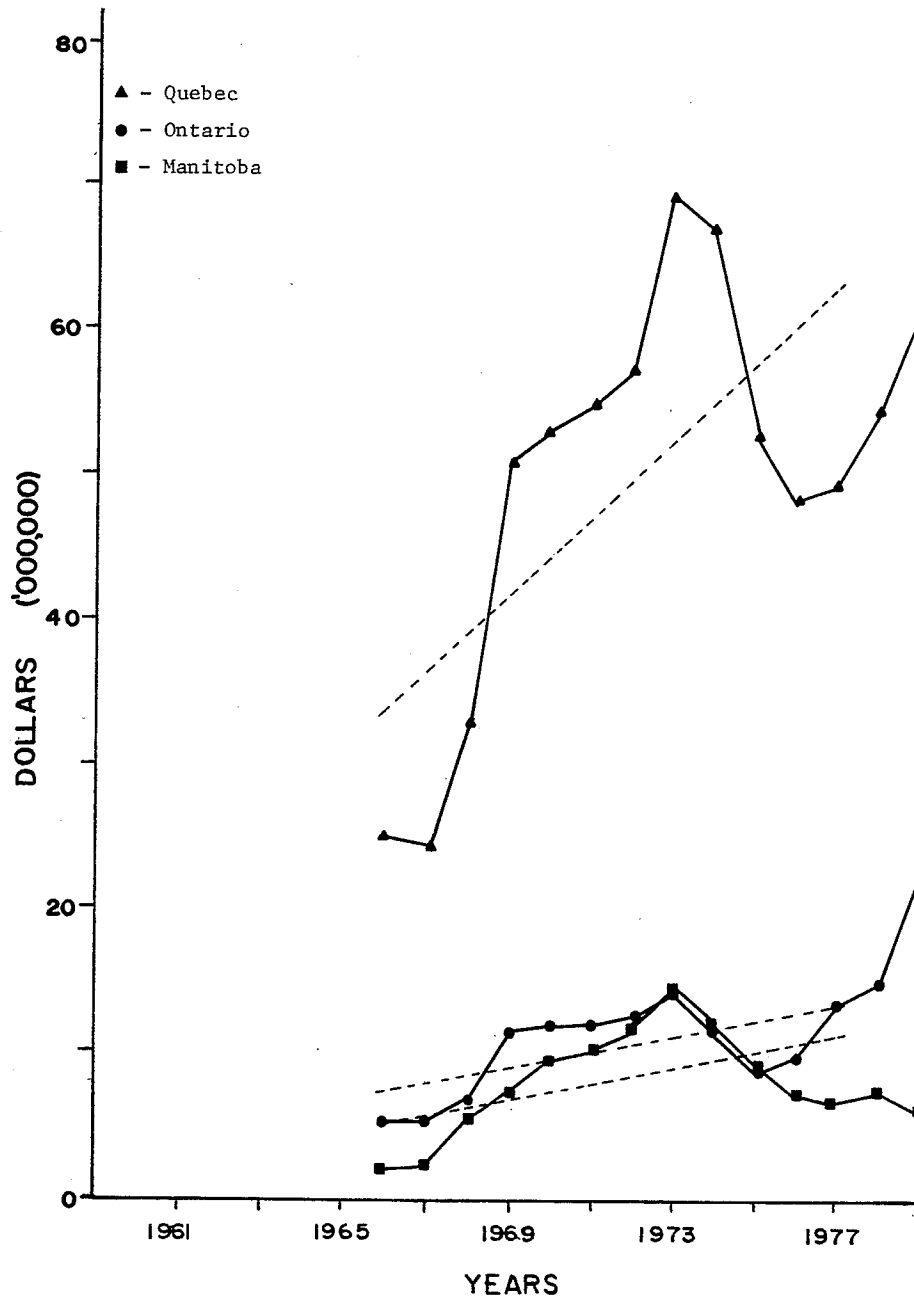
4.18 Value of Exports - Production Segments

girls' sectors. Possibly Canadian producers of children's and infants' apparel did not have low enough costs to entice foreign buyers and have not succeeded in developing other attributes in their products that might establish a comparative advantage for them in export markets.

Export sales from Quebec's apparel industry did not relate significantly with time. From 1967 to 1973 export sales increased, but a general decline then occurred until 1976. In 1977 exports improved somewhat and this trend continued in 1978 and 1979. (See Figure 4.19.) The government aid to producers who were intent on exporting during the late 1960's and early 1970's may have created the increasing sales levels at that time. Quebec exports more apparel than Ontario or Manitoba.

Ontario's exports of apparel increased or remained constant from 1966 to 1973. This trend may have been encouraged by government support. In 1974 and 1975 export sales decreased, but from 1976 to 1979 there were consistent increases in export sales. Diversification of product lines in the years since 1975 may have aided this industry in developing export sales. There was no significant trend found in the Ontario apparel industry regarding exports.

Exports from Manitoba also did not relate significantly with time. As in Ontario, export sales increased or maintained their level between 1966 and 1973 and began a downtrend in 1974. However, this decline continued in the Manitoba industry through 1979 with only slight deviation being shown in 1978. Possibly this industry segment was not able to diversify into product areas that had an appeal to foreign markets or perhaps government aid was not sustained in a manner that continued to have real dollar effects on export sales from this sector. Manitoba



4.19 Value of Exports - Provincial Segments

and Ontario exported similar values of apparel from 1966 until 1975. Since then, the value of Ontario's exports have become greater than those in Manitoba.

With regard to export sales, the null hypothesis stating no significant trends would be found must be rejected for the total apparel industry and the men's and boys' segment. The null hypothesis can be accepted for the other five segments.

### The Value of Imports and Indices of the Apparel Industry

In the second portion of this chapter the relationships between the values of imports and the indices of the apparel industry will be presented and discussed. The nature of the relationships were established by calculating correlation coefficients.

The relationships between values of imports from an industry segment or total imports and indices of the apparel industry were varied in strength. However, significant correlations occurred with all indices for at least some segment of the apparel industry.

#### Value of Shipments:

The total apparel industry and all of the segments except the children's and infants' sector exhibited positive relationships with the value of total imports ( $p = .001$ ). (See Table 4.2). When import values for the men's and boys', women's and girls', and children's and infants' segments were correlated with the value of shipments for each segment, positive relationships were found in the men's and boys' and women's and girls' apparel industries ( $p = .001$ ). No significant relationship was found in the children's and infants' sector.

Correlation values were calculated with 1978 and 1979 estimate

Table 4.2

A Comparison of Value of Apparel Imports and Value of  
Domestic Shipments, 1961 to 1977  
(*'r'* values)

	Total apparel industry	Men's and boys' industry	Women's and girls' industry	Children's and infants' industry	Quebec industry	Ontario industry	Manitoba industry
Segment's imports/ shipments		.87**	.79**	.43			
Total imports/ shipments	.87**	.91**	.82**	.39	.88**	.77**	.73**

\* Correlation significant at .01 level.

\*\* Correlation significant at .001 level.

figures included. Again, all segments of the apparel industry except children's and infants' had significant positive relationships ( $p = .001$ ) with imports of their own sector and imports of the total industry. (Results of correlations including 1978 and 1979 estimate figures for all indices are found in Appendix 'B'.)

Thus, the value of domestic shipments increased even when the values of apparel import were increasing. Part of this positive relationship can be explained by the expansion of the domestic market. Population increases over the nineteen years studied in this paper account for some of the increased demand for apparel goods. The other portion of this market expansion may be reflective of the closer attention paid to fashion as suggested by Pestieau's 1978 report for the C.D. Howe Research Institute.

The absence of significant relationships between apparel imports and value of shipments in the children's and infants' apparel industry may also be explained, in part, by changes in market size. While the value of shipments in this industry have a positive relationship with apparel imports, it is not significant. This may be due to the decreasing proportion of the Canadian population that is at this life cycle stage. The 'baby boom' of the 1950's and 1960's has been progressively aging and there has not been the same number of births since this 'bbom' period. As these people aged, they purchased apparel in the men's and boys' and women's and girls' segments, thus increasing sales in these segments. As well, there may have been more units of low cost apparel entering the country which displaced the demand for higher cost Canadian made apparel. This may have created non-significant relationships between imports and shipments of children's and

infants' clothing.

Overall, the apparel manufacturers have been able to realize real dollar increases in their shipments despite increases in clothing imports. This may have been done by improving the domestic product so that it continuously managed to appeal to increasing numbers of people. Diversification within segments of the apparel industry away from those areas that received the stiffest competition from imports may be another factor that has fostered growth in domestic production.

The children's and infants' segment may have been unable to adjust their product sufficiently to increase sales strongly and have therefore been unable to increase production. As well, this segment of the apparel industry has possibly been less successful in moving into activities that are less susceptible to import competition.

From this study it is impossible to determine the sales of domestic shipments at varied levels of imports, thus it is not possible to speculate on the level of domestic production in the absence of import restrictions or with greater constraints on foreign apparel imports. It seems that most segments of the apparel industry have not been sufficiently repressed by imports of apparel to prohibit growth over these nineteen years. However, it is not known what level sales may have reached had restraints been greater.

The children's and infants' industry may have been repressed due to increasing values of imports. These import levels, however, were not such that a negative relationship was created with domestic shipments during this time period.

In summary, the null hypothesis stating that no relationships

would be found between imports and the value of shipments can be rejected for total apparel imports and imports of an industry segment for the total apparel industry and the men's and boys' and women's and girls' sectors, but must be accepted for the children's and infants' apparel industry. With regard to total apparel imports, this hypothesis can be rejected for the Quebec, Ontario, and Manitoba segments.

#### Employment and Wages:

The total apparel industry, the Ontario, and the Manitoba segments did not display significant relationships between the total value of imports and the number of employees. (See Table 4.3.) Positive, significant relationships were found between total imports and employment in the men's and boys', women's and girls' ( $p = .001$ ), and the Quebec ( $p = .01$ ) sectors. Imports from the men's and boys' and women's and girls' segments also related positively with employment ( $p = .001$  and  $.01$  respectively). In the children's and infants' segment, imports of that segment and total imports correlated negatively with employment ( $p = .001$ ).

When 1978 and 1979 estimates of employment were included in the correlation calculations, the relationship patterns were upheld in the total industry, men's and boys', children's and infants', and Manitoba segments. In the women's and girls' and Quebec sectors no significant relationships were found. Total apparel imports and employment in the Ontario industry correlated negatively ( $p = .01$ ). (See Table B.2.)

No significant relationships were found between total apparel imports and the wage rate in the total apparel industry, men's and boys',

Table 4.3

A Comparison of Value of Apparel Imports and  
Number of Employees, 1961-1977  
(*'r'* values)

	Total apparel industry	Men's and boys' industry	Women's and girls' industry	Children's and infants' industry	Quebec industry	Ontario industry	Manitoba industry
Segment's imports/ employees		.84**	.69*	-.81**			
Total imports/ employees	.59	.85**	.74**	-.90**	.68*	-.40	.25

\*Correlation significant at .01 level.

\*\*Correlation significant at .001 level.

Quebec, Ontario, or Manitoba segments. (See Table 4.4.) Total imports related positively to the wage rate in the children's and infants' sector ( $p = .01$ ) and negatively to the wage in the women's and girls' apparel industry ( $p = .01$ ). When imports of the men's and boys', women's and girls', and children's and infants' segments were considered, only the women's and girls sector displayed a significant relationship. The imports of this sector correlated negatively with the wage rate ( $p = .01$ ).

Recalculation of these correlations including 1978 and 1979 wage rate estimates resulted in the same patterns of relationships in the total industry, men's and boys', women's and girls', Quebec, and Manitoba segments. The children's and infants' sector no longer displayed a significant, positive relationship between total imports and the wage rate. In the Ontario industry total imports related negatively to the wage rate ( $p = .001$ ). (See Table B.3.)

In the total apparel industry, no significant relationships were found between total imports and the number of employees or the wage rate. This may suggest that changes in the levels of imports have not caused alteration of these indices to any significant degree.

Employment increased significantly in the men's and boys' sector as imports of apparel from that segment and total imports increased ( $p = .001$ ). There were no significant relationships between the wage rate and either set of import values. Employment increases were likely the cause of the increased wage bill that correlated positively with imports of men's and boys' apparel and total apparel imports ( $p = .001$ ). (See Table 4.5.) The men's and boys' apparel industry may have been able to diversify their product lines

Table 4.4

A Comparison of Value of Apparel Imports and the Wage Rate,  
1961-1977  
( 'r' values)

	Total apparel industry	Men's and boys' industry	Women's and girls' industry	Children's and infants' industry	Quebec industry	Ontario industry	Manitoba industry
Segment's imports/ wage rate		.56	-.65*	.33			
Total imports/ wage rate	-.37	.52	-.65*	.66*	-.19	-.71*	.05

\* Correlation significant at .01 level.

\*\* Correlation significant at .001 level.

Table 4.5

A Comparison of Value of Apparel Imports and the Wage Bill,  
1961-1977  
( 'r' values)

	Total apparel industry	Men's and boys' industry	Women's and girls' industry	Children's and infants' industry	Quebec industry	Ontario industry	Manitoba industry
Segment's imports/ wage bill		.89**	.50	-.82**			
Total imports/ wage bill	.44	.90**	.56	-.84**	.76**	-.71*	.32

\* Correlation significant at .01 level.

\*\* Correlation significant at .001 level.

into areas where they could expand production and therefore increase the number of employees. This resulted in a greater wage bill but not necessarily a higher wage rate in real dollars. As well, it is possible that some diversification may have taken place to ensure a more secure market share for domestic goods, but this industry segment overall received protection from imports in such a manner that it was not required to decrease employment.

In the women's and girls' segment, imports of those goods and total apparel imports related positively to employment ( $p = .01$  and  $.001$  respectively). The wage rate related negatively to these two sets of imports ( $p = .01$ ) while the wage bill did not display any significant relationship with either imports of women's and girls' apparel or total imports. Women's and girls' apparel manufacturers may have diversified activities to avoid competing with imports of apparel and thus have been able to improve production and employ more people. As well, this segment of the industry may have received enough protection from apparel imports that decreases in production and therefore employment were not necessary. The individual employee was earning less in real dollars as imports were increasing. This may have helped maintain a more constant cost for apparel produced in Canada and thereby aided sales of these goods even as imported apparel levels were increasing.

Employment in the children's and infants' segments decreased as imports of this type of apparel and total apparel imports were increasing ( $p = .001$ ). The wage rate in this sector did not relate significantly to imports of the sector's apparel but did display a positive relationship with total imports ( $p = .01$ ). The wage bill in

the children's and infants' segment decreased in real dollars as the segment's imports and total apparel imports increased ( $p = .001$ ). (See Table 4.5.) Decreasing levels of employment were probably the factor that caused the decreases in real dollars in the wage bill. Increasing levels of imports may have exerted a pressure on this industry segments' shipments and therefore on the employment level. As well, there may have been advances made in mechanization of processes in this industry and the requirements for employees have therefore decreased. The wage rate tended to increase as imports increased. This increasing rate may have increased the price of the domestic product as that it was less economical than import goods and thus apparel imports increased.

In Quebec's apparel industry, employment increased as total apparel imports increased ( $p = .001$ ). The wage rate did not display a significant relationship with total imports but the wage bill related positively ( $p = .001$ ). This segment of the industry may have diversified its product lines to ensure itself of a market share and thus was able to employ more people. The wage bill has probably increased in real dollar terms due to the greater number of employees.

The Ontario apparel industry's employment and total apparel imports did not relate significantly. However, the wage rate and the wage bill decreased as total imports increased ( $p = .01$ ). The negative relationship concerning the wage bill is probably created by the decreasing wage rates in real dollar terms. There may have been an attempt by this industry segment to reduce the wage rate as a means to lower costs and thereby maintain a more constant price level on domestically produced goods. This would aid Canadian made goods in

competing with import apparel. Mechanization may have increased in this industry segment and thus there was a lesser demand for the highly skill, highly paid employee. Employees with lower skill levels may have been hired and this reduced the wage rate in real dollars.

There were no significant relationships between total apparel imports and the number of employees, the wage rate, or the wage bill in the Manitoba industry. This may suggest that overall this segment was not conclusively affected by apparel imports to the extent where adjustments to these indices occurred.

With regard to the employment index, the null hypothesis stating no relationships would be found between imports and this index, the hypothesis can be accepted for total apparel imports in the total industry, Ontario and Manitoba segment. When imports of an industry segment were considered, the hypothesis was rejected for the men's and boys', women's and girls', and children's and infants' sectors. These same three segments and the Quebec sector displayed significant relationships between total imports and employment, thus rejecting the null hypothesis.

Total apparel imports related significantly to the wage rate in the women's and girls', children's and infants', and Ontario segments, thus rejecting the null hypothesis for wage rates. The null hypothesis could be accepted for total imports and the wage rate in the total apparel industry, men's and boys', Quebec and Manitoba segments'. This null statement was also accepted regarding imports of men's and boys' and children's and infants' apparel and the wage rate but was rejected in reference to the women's and girls' sector.

The null hypothesis stating that there would be no significant

relationships between imports and the wage bill can be accepted for total imports and the wage bill in the total industry, women's and girls', and Manitoba segments. This hypothesis can also be accepted for imports of women's and girls' apparel and the wage bill in that sector. The null hypothesis was rejected when imports of men's and boys' and children's and infants' goods and the wage bills of these sectors were considered. When total apparel imports were related to the wage bill, the null hypothesis was rejected for the men's and boys', children's and infants', Quebec, and Ontario segments.

#### Capital Investment:

Capital investment in the children's and infants' clothing industry related positively to imports of apparel in that segment ( $p = .01$ ). No other significant relationships were found with imports of an industry segment or total imports and capital investment. (See Table 4.6.)

When 1978 and 1979 values were included in the correlation calculations, there were no significant relationships concerning imports from any industry segment or total exports except in the women's and girls' apparel industry. In that segment, imports of women's and girls' apparel related positively to capital investment ( $p = .01$ ). (See Table B.5)

The absence of correspondence between import values and capital investment in most of the industry segments may be caused, in part, by the cyclical nature of investment. Periods of increased investment followed by drops in investment did not produce any significant relationships with time and thereby fail to display a relationship with

Table 4.6

A Comparison of Value of Apparel Imports and Capital Investment, 1961-1977  
( 'r' values)

	Total apparel industry	Men's and boys' industry	Women's and girls' industry	Children's and infants' industry	Quebec industry	Ontario industry	Manitoba industry
Segment's imports/capital (clothing)		.55	.54	.70*			
Total imports/capital (clothing)	.56	.55	.53	-.10	-.40	-.08	
Total imports/capital (clothing & knitting)					-.05	.21	
1973-1977							
Total imports/capital (clothing & knitting)					-.66	-.25	

\* Correlation significant at .01 level.

\*\* Correlation significant at .001 level.

imports. Other factors, such as the cost of borrowing money, may also affect the level of investment and distort the relationship between imports and investment. While the apparel industry may have been spending money to diversify into areas that received less competition from imports, this may have been done without the use of continuous large sums of capital investment and may have relied on other types of investment such as in repair and equipment. As well, it is possible that a time lag may be distorting this series of relationships. There may be a lapse of months and perhaps years between the decision to invest in an industry and the actual expenditure of the money.

In the children's and infants' apparel industry, the imports of that sector related positively to capital investment ( $p = .01$ ). This significant relationship may suggest that as imports of this type of apparel increased, the children's and infants' apparel firms may have attempted to invest money in their operations in order to diversify their production lines to product areas less susceptible to import competition. As the values for imports of children's and infants' apparel may not accurately reflect actual import levels of these commodities, this relationship must be considered cautiously.

The recalculation of the correlations between imports and capital investment including 1978 and 1979 estimate values upheld all former patterns of relationships except in the women's and girls' and children's and infants' segment. Imports of women's and girls' apparel related positively to investment ( $p = .01$ ) and there was no longer a significant relationship between imports and investment in the children's and infants' sector. (See Table B.5.)

The null hypothesis stating there will be no significant relationships regarding imports and capital investment can be accepted except concerning the imports of the children's and infants' segment and investment.

#### The Value of Exports and Indices of the Apparel Industry

The final portion of this chapter discusses the relationships found between the value of exports and indices of the apparel industry. Again, these relationships were established through calculations of correlation coefficients.

##### Value of Shipments:

Total apparel exports correlated positively with shipments in the total apparel industry, men's and boys', women's and girls', children's and infants', Quebec, Manitoba ( $p = .001$ ), and Ontario ( $p = .01$ ) industries. Exports from an industry segment related positively to exports in the men's and boys' ( $p = .001$ ), Quebec, and Manitoba ( $p = .01$ ) segments. The relationship between exports of the segment and shipments in the women's and girls', children's and infants', and Ontario sectors was not significant. (See Table 4.7.)

Inclusion of 1978 and 1979 values in the correlation calculation did not alter the pattern of relationships when total exports were considered. When the exports from an industry segment were considered the pattern of relationships remained the same except in Ontario where the relationship became positive and significant ( $p = .01$ ). (See Table B.6).

In all of these sectors, export sales were increasing as shipments of domestic good increased. Government support to companies

Table 4.7

A Comparison of Value of Apparel Exports and Value of  
Domestic Shipments, 1961-1977  
(*'r'* values)

	Total apparel industry	Men's and boys' industry	Women's and girls' industry	Children's and infants' industry	Quebec industry	Ontario industry	Manitoba industry
Segment's exports/ shipments		.91**	.03	.87	.81*	.16	.82*
Total exports/ shipments	.91**	.90**	.91**	.82**	.93**	.71*	.94**

\* Correlation significant at .01 level.

\*\* Correlation significant at .001 level.

wishing to export apparel may have created the increasing trend in export sales. Increases in shipments of domestic apparel may be due to population growth.

The null hypothesis stating there would be no significant relationships between exports and the value of shipments can be rejected for all industry segments with regard to total apparel exports. When exports of an industry segment are considered, the null hypothesis can be accepted for the women's and girls', children's and infants', and Ontario segments, but rejected for the remaining sectors,

#### Employment and Wages:

Total apparel exports related positively to employment in the total industry, men's and boys', women's and girls', Quebec ( $p = .001$ ), and Manitoba ( $p = .01$ ) segments, but related negatively in the children's and infants' sector ( $p = .01$ ). (See Table 4.8.) Exports of an industry segment related positively to employment in the men's and boys' ( $p = .001$ ) and Quebec ( $p = .01$ ) segments and negatively in the Ontario industry ( $p = .01$ ). There were no significant relationships between a segments' exports and employment in the women's and girls', children's and infants', or Manitoba sectors.

When 1978 and 1979 estimates were included in the calculations, all relationships with the total exports were upheld except in the total apparel industry and Quebec industry. The relationships using exports of an industry segment remained as before except the Quebec sector no longer displayed a significant relationship. (See Table B.7.)

Exports from industry segments did not display any significant correlations with the wage rate. (See Table 4.9.) However, total

Table 4.8

A Comparison of Value of Apparel Exports and Number of  
Employees, 1961-1977  
(*'r'* values)

	Total apparel industry	Men's and boys' industry	Women's and girls' industry	Children's and infants' industry	Quebec industry	Ontario industry	Manitoba industry
Segment's exports/ employees		.86**	.36	.91	.72*	-.79*	.60
Total exports/ employees	.78**	.88**	.91**	-.69*	.87**	-.39	.67*

\*Correlation significant at .01 level.

\*\*Correlation significant at .001 level.

apparel exports related negatively to the wage rate in the total apparel industry, women's and girls', Ontario ( $p = .001$ ) and Quebec ( $p = .01$ ) sectors. In the remaining sectors the relationships were not significant. Recalculation of these correlations with 1978 and 1979 estimate values did not show any changes in the patterns of significant relationships. (See Table B.8.)

In the total apparel industry the number of employees was increasing as export sales increased, but at the same time the wage rate in real dollars was declining. Increases in export sales may have created the need to hire more people. The individual employee was being paid less and this may have lowered or maintained the price of Canadian produced goods and thus made them acceptable in a foreign market.

Total apparel exports and exports from the segment related positively to the number of employees and the wage bill ( $p = .001$ ) but did not display a significant relationship with the wage rate in the men's and boys' apparel industry. The increasing wage bill was likely due to the increasing number of employees. As export sales improved, firms within this industry may have hired more employees. There is no significant relationship found with exports and the wage rate. This may indicate that the individual employee neither gained nor lost income due to changes in the level of export sales. The men's and boys' apparel producers may have developed markets that are less price conscious so that changes in the cost of wages did not become a significant factor affecting their export sales. It is also possible that greater efficiencies in production in areas other than employment and wages have been realized and these more efficient processes have helped in

Table 4.9

A Comparison of Value of Apparel Exports and the  
Wage Rate, 1961-1977  
(*'r'* values)

	Total apparel industry	Men's and boys' industry	Women's and girls' industry	Children's and infants' industry	Quebec industry	Ontario industry	Manitoba industry
Segment's exports/ wage rate		.22	-.02	-.98	-.49	-.66	-.40
Total exports/ wagerrate	-.77**	.01	-.82**	.31	-.72*	-.80**	-.46

\* Correlation significant at .01 level.

\*\* Correlation significant at .001 level.

Table 4.10

A Comparison of Value of Apparel Exports and the  
Wage Bill, 1961-1977  
( 'r' values)

	Total apparel industry	Men's and boys' industry	Women's and girls' industry	Children's and infants' industry	Quebec industry	Ontario industry	Manitoba industry
Segment's exports/ wage bill		.85**	.28	.89	.49	-.79*	.59
Total exports/ wage bill	.39	.83**	.69*	-.69*	.70*	-.72*	.64*

\* Correlation significant at .01 level.

\*\* Correlation significant at .001 level.

lowering the prices of men's and boys' goods.

Export sales of women's and girls' apparel did not relate significantly with employment, the wage rate, or the wage bill. However, total apparel exports related positively with the number of employees ( $p = .001$ ) and the wage bill ( $p = .01$ ) and negatively with the wage rate ( $p = .001$ ) in this segment. As exports were increasing, this segment was building up its labour force and therefore increasing its wage bill. However, in real dollars each employee was earning less as export sales improved. The lower real dollar cost of an employee may have helped to lower or maintain the price of Canadian made goods and this may have helped to foster export sales.

In the children's and infants' segment, total apparel exports related negatively to the number of employees and the wage bill ( $p = .01$ ). Employment decreased in this industry segment and this created the lower wage bill. Possibly export sales do not affect employment in their industry sector, or perhaps this industry has had little success in establishing greater export markets that would be large enough to create a positive relationship with employment.

Export sales from Quebec's apparel industry correlated positively with employment ( $p = .01$ ). Total apparel exports related positively to employment ( $p = .001$ ) and the wage bill ( $p = .01$ ), but negatively to the wage rate ( $p = .01$ ). Increases in export sales may have encouraged the industry to hire more people and this caused the overall increase in the wage bill. However, each employee was probably earning less in real dollars as exports increased. The lower cost of each employee may have helped lower or maintain price levels and thereby encourage export sales.

Ontario's apparel exports related negatively to employment and the wage bill ( $p = .01$ ), while total apparel exports related negatively to the wage rate ( $p = .001$ ) and the wage bill ( $p = .01$ ) in this segment. As export sales of Ontario produced apparel increased, employment in that sector decreased. This decrease in employment caused the real dollar decrease in the wage bill. The decreases in wages and employment may indicate general changes in this industry segment to more automated processes which require fewer people and probably lower skilled employees. Possibly Ontario producers are highly oriented to the domestic market and adjust employment factors according to domestic incidences rather than foreign demand. The negative relationship of total apparel exports and wages per employee in the Ontario industry may be an indication that overall, Ontario employees have been receiving less pay and this may or may not be encouraging export sales in the total industry.

Manitoba's apparel exports did not relate significantly to employment, the wage rate, or the wage bill. Total apparel exports displayed positive relationships with employment and the wage bill ( $p = .01$ ) in Manitoba's industry. The increase in the number of employees probably created the higher wage bill. Increased export sales may have encouraged the hiring of more people.

The null hypothesis stating there would be not significant relationships between exports and employment can be rejected with regard to total exports and employment in the total apparel industry and all segments except Ontario. This null hypothesis can be accepted with regard to export sales of an industry segment in the women's and girls', children's and infants', and Manitoba sectors. It can be rejected in

the men's and boys', Quebec, and Ontario segments.

With regard to the wage rate, the null hypothesis can be accepted for all segments when exports of the segments are considered. When total exports are used, the null hypothesis can be accepted in regard to the men's and boys', children's and infants', and Manitoba segment. It is rejected for the total apparel industry, women's and girls', Quebec, and Ontario sectors.

The null hypothesis was accepted in the total apparel industry, but rejected in the six segments when total apparel exports were related to the wage bill. When exports from industry segments were considered, the null hypothesis was rejected in the men's and boys' and Ontario segments, but accepted in the women's and girls', children's and infants', Quebec, and Manitoba sectors.

#### Capital Investment:

Exports of the industry segment related positively to capital investment in the men's and boys' apparel industry ( $p = .01$ ). (See Table 4.11.) Total apparel exports related positively to investment in the total apparel industry ( $p = .01$ ), the men's and boys', and the women's and girls' segments ( $p = .001$ ). Total exports also related positively to capital investment in the clothing and knitting industry in Quebec ( $p = .01$ ).

In the total apparel industry, men's and boys', and women's and girls' segments increased export sales may have encouraged investment in the apparel industry. Apparel producers may have seen improvement in foreign sales as an indication of good business in the future. However, as export sales are a small portion of total sales, there may not truly be much consideration by a total industry segment of export

Table 4.11

A Comparison of Value of Apparel Exports and Capital  
Investment, 1961-1977  
(*'r'* values)

	Total apparel industry	Men's and boys' industry	Women's and girls' industry	Children's and infants' industry	Quebec industry	Ontario industry	Manitoba industry
Segment's exports/ capital (clothing)		.61*	.46	.58	.74	-.66	
Total exports/ capital (clothing)	.70*	.76**	.74**	.52	.82	-.22	
Segment's exports/capital (clothing & knitting)					.55	-.41	
Total exports/capital (clothing & knitting)					.65*	.10	
1973-1977 Segment's exports/ capital (clothing & knitting)					.91	-.60	
1973-1977 Total exports/capital (clothing & knitting)					.96*	-.03	

\* Correlation significant at .01 level.

\*\* Correlation significant at .001 level.

sales when planning investment.

Total export sales correlated positively with capital investment in the Quebec clothing and knitting industry. However, when capital investment in clothing only was correlated with total exports for the 1973 to 1977 period, no significant relationships were found. This suggests that investment was directed towards the knitting sector rather than the apparel industry during these years.

As significant relationships were not evident for other sectors of the industry, it is possible that investment related to factors other than exports or that export sales were not important enough to these industries to adjust investment expenditures. Again, a time lag may exist between the decision to invest and actual expenditure and this may be reflected in the absence of relationships.

The null hypothesis stating there would be no significant relationships between exports and capital investment can be ~~accepted~~ with regard to exports from an industry segment for all sectors except men's and boys'. When total exports are considered, the null hypothesis can be rejected for the total apparel industry, men's and boys', women's and girls', and Quebec segments, but can be accepted for the children's and infants' and Ontario sectors.

## Chapter V

### SUMMARY AND CONCLUSIONS

To investigate the trends in and relationships between imports and exports and indices of the Canadian apparel industry, correlation coefficients were calculated and graphs were made of all indices for the 1961 through 1979 time period. The apparel industry was examined as a whole and in the following six segments: men's and boys', women's and girls', children's and infants', the Quebec industry, the Ontario industry, and the Manitoba industry.

Value of shipments, number of employees, wage rate, wage bill, and capital investment were the indices examined. The values for all of these, as well as for imports and exports, were collected from Statistics Canada. All values were converted to constant 1971 dollars.

Two series of hypotheses were tested. In the first set, the null hypothesis stated that no significant trends would be found in any of the indices or the value of imports or exports for any segment of the industry throughout the time period of the study. With regard to the value of shipments the null hypothesis were rejected as all segments of the apparel industry displayed significant increases in this indice over time.

When the number of employees was considered, the null hypothesis was rejected for all segments except the industries in Ontario and Quebec. Employment increased in the total apparel industry, men's and boys', women's and girls', and Quebec segments but decreased in the

children's and infants' sector.

The null hypothesis was accepted regarding the wage rate except in the women's and girls', children's and infants', and Ontario industries. Over time, the wage rate increased significantly in the children's and infants' sector, but decreased in the women's and girls' and Ontario sectors.

Regarding the wage bill, the null hypothesis was rejected for all segments except the total apparel industry and the Manitoba industry. The wage bill increased significantly in the men's and boys', women's and girls', and Quebec sectors and decreased significantly in the children's and infants' and Ontario segments.

The null hypothesis was accepted for all industry segments with regard to capital investment. No significant relationships with time were found when this indice was examined.

The value of imports in the total apparel industry, men's and boys', women's and girls' and children's and infants' sectors increased significantly over time, thus rejecting the null hypothesis. No import values were available for the provinces.

Exports increased significantly only in the total apparel industry and men's and boys' segment. The null hypothesis was accepted for all other segments.

The second in the series of hypotheses stated that there would be no significant relationships between the value of imports or exports and the indices of the apparel industry for any segment of the industry.

Regarding imports and the value of shipments, significant positive relationships were found for all segments except children's and infants'. Thus the null hypothesis was rejected concerning

all sectors except children's and infants' and Ontario. In these latter two areas, employment and exports displayed a significant negative relationship.

The null hypotheses was accepted for exports and the wage rate in the men's and boys', children's and infants', and Manitoba segments. However, as exports and the wage rate displayed a significant negative relationship in the total industry, women's and girls', Quebec, and Ontario segments, the null hypotheses was rejected for those sectors.

Acceptance of the null hypotheses regarding exports and the wage bill was limited to the total apparel industry. The hypotheses was rejected in the men's and boys', women's and girls', Quebec, and Manitoba segments due to the positive relationships exhibited. Negative relationships were found in the children's and infants' and Ontario segments, thus causing their rejection of the null hypotheses.

The null hypotheses was rejected concerning exports and capital investment in the total apparel industry, men's and boys', and women's and girls' segments. Significant positive relationships were found in those sectors. Capital investment in the Quebec clothing and knitting industry also related positively to exports, thus rejecting the null hypotheses for that segment. In the children's and infants' and Ontario sectors the null hypotheses was accepted.

The findings of this exploratory study indicate that generally the apparel industry and all of the segments except children's and infants' have managed to improve their shipments of clothing in real dollars during periods of increasing imports. Imports levels have been restrained to at least allow growth in the domestic industry's

shipments. It is not possible to determine from this study the level of shipments had imports been restrained earlier or at more stringent levels. In the children's and infants' apparel industry, there has not been a significant trend regarding shipments. This may indicate that imports have caused harm to this segment.

Employment has also managed to increase in many segments of the industry despite increasing imports. The growth in real dollars of shipments has been sufficient to make it necessary to hire more employees. The children's and infants' sector has shown a negative employment trend that may well have been caused by increasing imports. The total industry, Ontario, and Manitoba segments may or may not have had to reduce employment due to increasing imports. Mechanization may have replaced jobs in those segments.

The wage rate has generally declined over time. Possibly there have been more low skilled, low cost employees hired over time. There has not likely been a lowering of the wage rate due to import competition or the desire to increase export sales. Other factors such as union pressure, mechanization, and employment problems have probably had more effect on this index.

Capital investment, with its cyclical pattern, does not seem to relate to import levels, although this probably has some influence on decisions regarding investment. There tended to be more relationship between export sales and capital investment than with import levels. Export sales may also influence decisions to invest, however, the strength of the relationships between investment and exports may outweigh the influence they exert. Further study of a non-quantitative style is necessary to determine the actual factors affecting