

BANGLADESH JOURNAL OF POLITICAL ECONOMY

VOLUME 19 NUMBER 2
DECEMBER 2003

আমিরুল ইসলাম

বাংলাদেশ অর্থনীতি সমিতির আঞ্চলিক সেমিনার-২০০৩, রিপোর্ট

জ্যোতি প্রকাশ দত্ত

স্বাগত ভাষণ

Abul Kalam Azad

The SAARC Cumulation : Should We Take it or Leave it?

Jyoti Prakash Dutta

Issues and Prospects of Free Trade Agreements for Bangladesh: Theory and Experience

Mudabber Ahmed

Jyoti Prakash Dutta

Relative Influence of Monetary and Fiscal Policies on Industrial Output of Bangladesh: A Dynamic Analysis

Omar Haider Mohammad Nazmul Bashar

A.N.M. Moinul Islam

Forecasting Bangladesh Industrial Production: A Simple Univariate ARMA Approach



বাংলাদেশ অর্থনীতি সমিতি

Bangladesh Economic Association

REGIONAL CONFERENCE

Regional Cooperation Industrialization and Public
Expenditure Reforms

Bangladesh Journal of Political Economy
VOLUME 19, NUMBER 2, DECEMBER 2003

This volume contains papers presented at the
Regional Conference of the
Bangladesh Economic Association
held Chittagong University,
Chittagong in December 2003

Qazi Kholiquzzaman Ahmad
Editor

This Regional Conference Volume has been edited by
Jyoti Prakash Dutta

Bangladesh Economic Association
4/C, Eskaton Garden Road, Dhaka 1000
Phone : 9345996, Fax : 880-2-9345996
E-mail : becoa@bdlink.com

BEA Executive Committee 2002-2004

- Bangladesh Journal of Political Economy is published by the Bangladesh Economic Association.
- No responsibility for the views expressed by the authors of articles published in the Bangladesh Journal of Political Economy is assumed by the Editors or the Publisher.
- Bangladesh Economic Association gratefully acknowledges the financial assistance provided by the Government of the People's Republic of Bangladesh towards publication of this volume.
- The price of this volume is Tk. 200, US \$ 15 (foreign). Subscription may be sent to the Bangladesh Journal of Political Economy, c/o, Bangladesh Economic Association, 4/C, Eskaton Garden Road, Dhaka-1000. Telephone: 9345996. E-mail : becoa@bdlink.com Members and students certified by their concerned respective institutions (college, university departments) may obtain the Journal at 50% discount.

Cover design by:
Syed Asrarul Haque (Shopen)

Printed by:
Agami Printing & Publishing Co.
25/3 Green Road, Dhanmondi
Dhaka-1205, Phone: 8612819

President

Qazi Kholiquzzaman Ahmad

Vice- Presidents

M. A. Sattar Mandal
M.A. Sattar Bhuyan
Md. Ghulam Murtaza
Mohammad Eunos
Jyoti Prakash Dutta

General Secretary

Abul Barkat

Treasurer

Masih Malik Chowdhury

Joint Secretary

Md. Zahirul Islam Sikder

Assistant Secretary

Md. Mostafizur Rahman Sarder
A. Z. M. Saleh
Md. Main Uddin

Members

Muinul Islam
A.K.M. Shameem
Sayed Abdul Hye
Md. Muzaffar Ahmed
Md. Sadiqur Rahman Bhuiyan
Toufique Rahman Chowdhury
Toufic Ahmad Choudhury
Md. Syedul Islam
Mahtab Ali Rashidi
Salehuddin Ahmed
Jamal Uddin Ahmed
Badrul Munir

Bangladesh Journal of Political Economy

VOLUME 19, NUMBER 2, DECEMBER 2003

Editor

Dr. Qazi Kholiquzzaman Ahmad

Editorial Advisory Board

Professor Amartya Sen

Professor Nurul Islam

Professor Mosharaff Hossain

Professor Rehman Sobhan

Professor Muzaffer Ahmad

Professor Muhammad Yunus

Dr. S. R. Bose

Professor Wahiduddin Mahmud

Mr. Mostafa Faruque Mohammed

Editorial Board

Dr. Qazi Kholiquzzaman Ahmad	Editor
Professor Muinul Islam	Member
Professor Ayubur Rahman Bhuiyan	Member
Professor Sayed Abdul Hye	Member
Dr. Quazi Shahabuddin	Member
Professor Sanat Kumar Saha	Member
Professor M. A. Sattar Mandal	Member
Dr. Khaleda Salehuddin	Member

Bangladesh Economic Association

বাংলাদেশ জার্নাল অফ পলিটিক্যাল ইকনমি
উনবিংশ খণ্ড, ২য় সংখ্যা, ডিসেম্বর ২০০৩

সম্পাদক

ড. কাজী খলীকুজ্জমান আহমদ

সম্পাদনা উপদেষ্টা কমিটি

প্রফেসর অর্মত্য সেন

প্রফেসর নুরুল ইসলাম

প্রফেসর মুশাররফ হোসেন

প্রফেসর রেহমান সোবহান

প্রফেসর মুজাফফর আহমেদ

প্রফেসর মুহাম্মদ ইউনুস

ড. স্বদেশ রঞ্জন বোস

প্রফেসর ওয়াহিদউদ্দিন মাহমুদ

প্রফেসর ওয়াহিদ উদ্দিন মাহমুদ

জনাব মোস্তফা ফারুক মোহাম্মদ

সম্পাদনা পরিষদ

ড. কাজী খলীকুজ্জমান আহমদ

প্রফেসর মইনুল ইসলাম

প্রফেসর আইয়ুবুর রহমান ভূঁঞা

প্রফেসর সৈয়দ আব্দুল হাই

ড. কাজী শাহাবুদ্দীন

প্রফেসর সনৎ কুমার সাহা

প্রফেসর এম.এ. সান্তার মন্ডল

ড. খালেদা সলাউদ্দিন

সম্পাদক

সদস্য

সদস্য

সদস্য

সদস্য

সদস্য

সদস্য

সদস্য

বাংলাদেশ অর্থনীতি সমিতি

৪/সি, ইস্কাটন গার্ডেন রোড, ঢাকা ১০০০

টেলিফোন : ৯৩৪৫৯৯৬, ফ্যাক্স : ৮৮০-২-৯৩৪৫৯৯৬

ই-মেইল : becoa@bdlink.com

Preface

I am pleased that Volume 19, No. 2 of Bangladesh Journal of Political Economy (BJPE) is ready for printing.

This volume includes papers presented at the regional conference held at Chittagong University. The articles have been duly reviewed by experts and modified as required. This particular volume has been finally edited, as a special arrangement for the Chittagong regional conference approved by the BEA Executive Committee, by Jyoti Prakash Dutta, Professor, Department of Economics, Chittagong University. It gives me great pleasure to commend this volume of the Journal to BEA members and others interested.

I wish to thank the authorities of the Chittagong University for their goodwill and cooperation. Special thanks are due to the convenor and members of the conference organizing committee and all others who have helped one way or another in the organization of the conference. The efforts and cooperation of the editor of this volume and the authors of the articles are deeply appreciated.

Qazi Kholiquzzaman Ahmad
President, Bangladesh Economic Association
Editor, Bangladesh Journal of Political Economy

Editorial Note

I am thankful to Bangladesh Economic Association (BEA) for giving me the rare privilege of writing few words as the editor of present volume of Bangladesh Journal of Political Economy published by BEA. This volume of the Journal is the outgrowth of the papers presented in a regional seminar jointly organized by BEA and Department of Economics, University of Chittagong, held in Chittagong on December 24, 2003. The title of the daylong seminar was 'Regional Cooperation, Industrialization and Public Expenditure Reforms'. The seminar was divided into three working sessions in which four papers - two each in the first and the third sessions held respectively on regional cooperation and industrialization - were presented. The second session was on public expenditure reforms in which, however, no formal paper was presented but the speaker presented a keynote idea highlighting the issue which generated intense and lively discussion participated by eminent economists of the country. The major attraction of the seminar was Professor Mosharaff Hossain - a famous economist of Bangladesh who was present in the seminar as the chief guest and delivered an eloquent, articulate and persuasive lecture on the overall economic scenario of Bangladesh since independence. The seminar was also enriched by the participation of another renowned economist of the country - Dr. Saifuddin Khaled, a former faculty of Chittagong University, presently on teaching assignment in Victoria University, New Zealand. Being an expert on econometrics and research methodology, Dr. Khaled offered very fruitful discussions particularly on two papers on industrialization based on econometric models, which contributed in a big way in subsequent revision of the papers. The present volume contains the papers thoroughly revised by the authors in the light of the ideas that came up in the seminar.

Finally, a few words on acknowledgements. On behalf of the Department of Economics, Chittagong University, I must extend my gratitude to BEA as well as Chittagong University for financial help in organizing the seminar and again also to BEA for arranging the publication of the papers in a separate volume of Bangladesh Journal of Political Economy. It will be an act of ungratefulness if I do not admit the contribution made by the former students of Department of Economics, Chittagong University, amongst whom the name at least one deserves special mention. He is Mr. Khorshed Quaderi whose overall relentless effort really made the seminar a success. My gratitude is also due to my fellow office bearers of BEA who took the trouble of going all the way to Chittagong and

contributed substantially in making the seminar gorgeous and attractive. Finally, I express my gratitude to my colleagues of the Department of Economics, Chittagong University, for their all out cooperation in holding the seminar. However, for any lapses of the seminar and any errors and omissions of this volume, I am alone responsible.

Jyoti Prakash Dutta
Professor of Economics
University of Chittagong
and
Vice President,
Bangladesh Economic Association.

বাংলাদেশ অর্থনীতি সমিতির যান্মাসিক জার্নাল Bangladesh
Journal of Political Economy প্রকাশনার নীতিমালা

- ১। অর্থনীতির বিভিন্ন শাখায় তাত্ত্বিক এবং প্রায়োগিক বিষয়ে প্রবন্ধ প্রণয়ন করার জন্য প্রবন্ধকারদেরকে অনুরোধ জানানো হবে। ইংরেজী এবং বাংলা উভয় ভাষায় রচিত প্রবন্ধ জার্নালের জন্য গ্রহণ করা হবে।
- ২। Initial screening নির্বাহী সম্পাদকের এখতিয়ারভুক্ত থাকবে, তবে প্রয়োজনবোধে সম্পাদনা পরিষদের অন্য সদস্যদের সহায়তা তিনি নেবেন। নির্ধারিত format মোতাবেক সংশোধনের জন্য এই পর্যায়ে প্রাথমিক ভাবে short-listed প্রবন্ধসমূহ প্রবন্ধকারের কাছে প্রেরণ করা হবে।
- ৩। অভ্যন্তরীণ reviewer সাধারণতঃ সম্পাদনা পরিষদের সদস্যদের মধ্য থেকেই মনোনীত হবেন। বহিঃস্থ reviewer সম্পাদনা পরিষদের সিদ্ধান্তক্রমে প্রবন্ধের বিষয়ের ভিত্তিতে সম্পাদনা পরিষদের বাইরে থেকে মনোনীত হবেন, তবে তিনি দেশের অভ্যন্তরে বা বিদেশে অবস্থান করতে পারেন। সম্পাদনা উপদেষ্টা কমিটির সকল সদস্য reviewer হতে পারবেন। তৃতীয় reviewer প্রয়োজন হলে সম্পাদনা পরিষদের বাইরে থেকে তাঁকে মনোনীত করা হবে।
- ৪। ক) সমিতির দ্বিবার্ষিক কনফারেন্সে উপস্থাপিত প্রবন্ধগুলো referral প্রক্রিয়ার মাধ্যমে জার্নালের জন্য বিবেচিত হবে।
খ) বিভিন্ন সময়ে সমিতি কর্তৃক আয়োজিত সেমিনারে পঠিত আমন্ত্রিত প্রবন্ধসমূহ জার্নালের সম্পাদনা পরিষদের অনুমোদনক্রমে জার্নালে প্রকাশ করা যেতে পারে।
- ৫। অর্থনীতি সমিতির সদস্য এবং সদস্য-বহির্ভূত যে কোন আগ্রহী প্রার্থী জার্নালের গ্রাহক হতে পারবেন। তবে সদস্যদের ক্ষেত্রে গ্রাহক ফি (subscription fee) পঞ্চাশ শতাংশ রেয়াত দেয়া হবে।
- ৬। জার্নালের footnoting এবং writing style এতদসঙ্গে সংযোজিত হলো (অপর পৃষ্ঠায় দ্রষ্টব্য)
- ৭। ক) Reviewer হিসেবে সম্পাদনা উপদেষ্টা কমিটির সদস্যদেরকে involve করা হবে।
খ) দেশের অভ্যন্তরে অবস্থানকারী উপদেষ্টা কমিটির সদস্যদেরকে বছরে দু'বার সম্পাদনা পরিষদের সাথে মিলিত সভায় আমন্ত্রণ জানানো হবে।
- ৮। ক) তিনটি কোটেশন সংগ্রহ করে সম্পাদনা পরিষদের সিদ্ধান্তক্রমে মুদ্রক প্রতিষ্ঠান নির্বাচন করা হবে।
খ) প্রথম proof প্রেস দেখবে, পরবর্তীতে floppy তে প্রবন্ধকার ফাইনাল proof দেখে দেবেন।

Bangladesh Journal of Political Economy
VOLUME 19, NUMBER 2, DECEMBER 2003

Content

- | | | |
|----|---|----|
| 1. | বাংলাদেশ অর্থনীতি সমিতির আঞ্চলিক সেমিনার-২০০৩, রিপোর্ট
<i>আমিরুল ইসলাম</i> | 1 |
| 2. | স্বাগত ভাষণ
<i>জ্যোতি প্রকাশ দত্ত</i> | 5 |
| 3. | The SAARC Cumulation : Should We Take it or Leave it?
<i>Dr. Abul Kalam Azad</i> | 9 |
| 4. | Issues and Prospects of Free Trade Agreements for Bangladesh:
Theory and Experience
<i>Jyoti Prakash Dutta</i> | 31 |
| 5. | Relative Influence of Monetary and Fiscal Policies on Industrial
Output of Bangladesh: A Dynamic Analysis
<i>Mudabber Ahmed</i>
<i>Jyoti Prakash Dutta</i> | 51 |
| 6. | Forecasting Bangladesh Industrial Production:
A Simple Univariate ARMA Approach
<i>Omar Haider Mohammad Nazmul Bashar</i>
<i>A.N.M. Moinul Islam</i> | 57 |

রিপোর্ট :
বাংলাদেশ অর্থনীতি সমিতির আঞ্চলিক সেমিনার-২০০৩
অর্থনীতি বিভাগ, চট্টগ্রাম বিশ্ববিদ্যালয়

আমিরুল ইসলাম*

বিগত ২৪-১২-২০০৩ ইং তারিখে বাংলাদেশ অর্থনীতি সমিতি এবং অর্থনীতি বিভাগ, চট্টগ্রাম, বিশ্ববিদ্যালয়ের যৌথ উদ্যোগে আঞ্চলিক সেমিনার ২০০৩ চট্টগ্রাম বিশ্ববিদ্যালয় সমাজ বিজ্ঞান অনুষদের অডিটোরিয়ামে অনুষ্ঠিত হয়। দিনব্যাপী এ সেমিনারটি উদ্বোধনী অধিবেশন, প্রথম, দ্বিতীয় ও তৃতীয় কর্ম অধিবেশন-এ কয়েকটি পর্বে বিভক্ত ছিল।

উদ্বোধনী অধিবেশনে প্রধান অতিথি হিসেবে উপস্থিত ছিলেন প্রোথিতযশা অর্থনীতিবিদ অধ্যাপক মোশাররফ হোসেন এবং সভাপতিত্ব করেন সমিতির সভাপতি ডঃ কাজী খলীকুজ্জমান আহমদ। অর্থনীতি বিভাগের ভারপ্রাপ্ত সভাপতি ডঃ জ্যোতি প্রকাশ দত্ত-এর স্বাগত ভাষণের মাধ্যমে অনুষ্ঠান শুরু হয়। শুভেচ্ছা বক্তব্য রাখেন বাংলাদেশ অর্থনীতি সমিতির সাধারণ সম্পাদক অধ্যাপক আবুল বারকাত। অধ্যাপক দত্ত বাংলাদেশে বিদ্যমান দারিদ্রের পরিস্থিতি এবং সামগ্রিক আয় বন্টন অবস্থা সম্পর্কে উদ্বেগ প্রকাশ করেন। এ দুরবস্থা থেকে পরিত্রাণের জন্য লাগামহীন বাজার ব্যবস্থা চালু না করে সামাজিক খাতগুলোতে সরকারের অংশগ্রহণের প্রতি তিনি গুরুত্ব আরোপ করেন। দক্ষিণ এশীয় দেশসমূহের মধ্যে আঞ্চলিক সহযোগিতা বৃদ্ধির মাধ্যমে এ অঞ্চলের অর্থনৈতিক সমস্যা অনেকাংশে লাঘব করা সম্ভব বলেও তিনি মতামত ব্যক্ত করেন। অধ্যাপক বারকাত দেশের বিরাজমান অবস্থার কয়েকটি দিক সম্বন্ধে আলোকপাত করেন। বিশেষ করে, তিনি বলেন যে, দেশে বিরাজমান ব্যাপক দুর্নীতি ও দুর্বৃত্তায়নকে নিয়ন্ত্রণে না আনতে পারলে কি শিল্পায়ন, কি আঞ্চলিক সহযোগিতা, কি সরকারী ব্যায় সংস্কার কিছুই সঠিক পথে এগুবে না।

প্রধান অতিথি প্রফেসর মোশাররফ হোসেন তাঁর ভাষণে ১৯৪৭ সাল থেকে শুরু করে বর্তমান সময় পর্যন্ত বাংলাদেশের অর্থনীতির গতি প্রকৃতির ব্যাপক চিত্র তুলে ধরেন। তিনি বলেন সামগ্রিক বিচারে বাংলাদেশের অর্থনীতির ব্যাপক উন্নতি হলেও এ উন্নয়নের ফসল সকলের কাছে সমানভাবে পৌঁছেনি। তিনি বলেন, বৈদেশিক ঋণ বা সাহায্যের উপর বাংলাদেশের উন্নয়ন এখন আর নির্ভরশীল নয়। তবে মানুষে মানুষে অর্থনৈতিক বৈষম্য খুবই উদ্বেগের বিষয়। ড. কাজী খলীকুজ্জমান আহমদ সভাপতির ভাষণে বলেন যে বাংলাদেশে যে ভাবে মুক্তবাজার অর্থনীতি অনুসরণ করা হচ্ছে তাতে দেশে

* সহকারী অধ্যাপক, অর্থনীতি বিভাগ, চট্টগ্রাম বিশ্ববিদ্যালয়।

আর্থসামাজিক বৈষম্য ক্রমাগত প্রকট থেকে প্রকটতর হচ্ছে। দারিদ্র নিরসনের গতি থেকে গেছে অতি শুল্ক। অর্থনৈতিক প্রবৃদ্ধির হারও ১৯৯০-এর দশকের মাঝামাঝি থেকে গড়ে বছরে ৫ শতাংশের একটু ওপরে আটকে গেছে। দেশে বাস্তবায়িত এবং বাস্তবায়ন করা হচ্ছে এমন সংস্কারগুলো দেশে বিরাজমান বাস্তবতার আলোকে পুনর্বিচার করে প্রয়োজনে পূর্ণ:সংস্কার করার ব্যবস্থা গ্রহণ করতে হবে। দেশে অংশগ্রহণমূলক গণতান্ত্রিক ব্যবস্থা চালু করা প্রয়োজন যাতে সাধারণ মানুষ সামাজিক বিবর্তনের বিভিন্ন প্রক্রিয়ায় কার্যকরভাবে অংশগ্রহণ করে যথাযথ ফল লাভ করতে পারে। শিল্পায়ন প্রক্রিয়া ও সরকারী ব্যয়বিন্যাস সেই প্রেক্ষিতে বিন্যস্ত হওয়া বাঞ্ছনীয়। আঞ্চলিক সহযোগিতাও।

প্রথম কর্ম অধিবেশন :

প্রথম কর্ম অধিবেশন ড. মইনুল ইসলামের সভাপতিত্বে বেলা ১১.০০ টায় শুরু হয়। এ অধিবেশনে প্রবন্ধ উপস্থাপন করেন প্রফেসর আবুল কালাম আযাদ ও প্রফেসর জ্যোতি প্রকাশ দত্ত। প্রফেসর আযাদ তাঁর প্রবন্ধে SASRC Cumulation নিয়ে বাণিজ্য মন্ত্রণালয় এবং বস্ত্র মন্ত্রণালয় এর মধ্যকার বিরোধ এবং এই বিরোধের অর্থনৈতিক ব্যাখ্যা প্রদান করেন। উভয় পক্ষের স্বার্থ রক্ষা করেও যে এ সমস্যার সমাধান সম্ভব সে সম্পর্কে তিনি ইঙ্গিত দেন। মধ্যম পস্থা হিসেবে তিনি রপ্তানী দ্রব্য উৎপাদনের ক্ষেত্রে দেশীয় উৎপাদকদের মোট উপকরণের এক তৃতীয়াংশ সংগ্রহের সুপারিশ প্রদান করেন। উপকরণ সংগ্রহের এ শর্ত পূরণ হলেই কেবলমাত্র রপ্তানীকারকদেরকে SAARC Cumulation Benefit ভোগের সুযোগ দেয়া যেতে পারে বলে তিনি মন্তব্য করেন।

প্রফেসর জ্যোতি প্রকাশ দত্ত দক্ষিণ এশিয়ায় মুক্ত বাণিজ্য অঞ্চল গড়ে তোলার সম্ভাবনা এবং এর প্রকৃতি কিরূপ হতে পারে তা নিয়ে আলোচনা করেন। মুক্ত বাণিজ্য এলাকা কার্যকর করার লক্ষ্যে তিনি বিভিন্ন দ্রব্যের ক্ষেত্রে শুল্ক হ্রাস সুবিধা সম্প্রসারণ এবং অশুল্ক ও কাঠামোগত বাধাসমূহ দূরীকরণের উপর গুরুত্বারোপ করেন। উপরোক্ত দুটি প্রবন্ধের উপর ডঃ নিতাই চন্দ্র নাগ এবং ডঃ মাহবুব উল্লাহ নির্ধারিত আলোচক হিসাবে অংশ গ্রহণ করেন। ডঃ নাগ আঞ্চলিক মুক্ত বাণিজ্যের তুলনায় বিশ্ব মুক্ত বাণিজ্যের উপর গুরুত্বারোপ করেন। মুক্ত বাণিজ্যের ক্ষেত্রে Static gain এর তুলনায় Dynamic gain এর পরিমাণ অনেক বেশী বলে তিনি মন্তব্য করেন। ডঃ আযাদের প্রবন্ধের উপর আলোচনা করতে গিয়ে তিনি SAARC Cumulation এর ক্ষেত্রে ৫১% মূল্য সংযোজন বিধান কতটুকু বাস্তব সম্মত তা নিয়ে সন্দেহ প্রকাশ করেন। মূল্য সংযোজনের ক্ষেত্রে SAARC বহির্ভূত দেশসমূহ কেন অন্তর্ভুক্ত হলো না এ নিয়ে তিনি যুক্তি উত্থাপন করেন।

ডঃ মাহবুব উল্লাহ ডঃ দত্তের প্রবন্ধের উপর মন্তব্য করতে গিয়ে কর সুবিধা প্রাপ্ত দ্রব্য সমূহের সংখ্যা ব্যবহারের ক্ষেত্রে সতর্কতা অবলম্বনের পরামর্শ দেন। India প্রদত্ত ২৪০৬টি পণ্যের ক্ষেত্রে বাংলাদেশের তুলনামূলক সুবিধা রয়েছে। বৃহৎ দেশ হিসাবে ভারতের উদারতার উপর SAARC এর সাফল্য নির্ভর করছে বলে তিনি মত প্রকাশ করেন। তাছাড়া অন্যান্য আঞ্চলিক সহযোগিতার তুলনায় এ অঞ্চলের আঞ্চলিক সহযোগিতার গতি অত্যন্ত মস্তুর বলেও তিনি মন্তব্য করেন।

সভাপতি ডঃ মইনুল ইসলাম বলেন, ভারত ও পাকিস্তানের মধ্যে বিদ্যমান রাজনৈতিক বিভেদ থাকার কারণে SAARC কে এগিয়ে নেয়া কষ্টকর হচ্ছে। তাছাড়া এখানে শুল্কের তুলনায় অশুল্ক বাধা অনেক বেশী শক্তিশালী। চোরাচালানের ব্যাপক মাত্রা কমানোর জন্য তিনি ক্রমান্বয়ে অবৈধ বাণিজ্যকে বৈধ

বাণিজ্যে রূপান্তরের পরামর্শ দেন। ভৌগলিক বাস্তবতার কারণে বাংলাদেশের অর্থনৈতিক নীতি নির্ধারণের সময় ভারতের অর্থনৈতিক নীতির প্রতি লক্ষ্য রাখার কথা তিনি উল্লেখ করেন।

দ্বিতীয় কর্ম অধিবেশন :

মধ্যাহ্ন ভোজের পর ড. হরেন্দ্র কান্তি দে এর সভাপতিত্বে দ্বিতীয় কর্ম অধিবেশন শুরু হয় দুপুর ২.০০ টায়। এ অধিবেশনের আলোচ্য বিষয় ছিল সরকারী ব্যয় সংস্কার। প্রবন্ধকার ছিলেন প্রফেসর মাহবুব উলাহ। তিনি প্রবন্ধ লিখেননি তবে সুচিন্তিত বক্তব্য উপস্থাপন করেন। ADP-এর একশ শতাংশ প্রকল্প বাস্তবায়নের সুপারিশ করেন। নির্ধারিত আলোচক ডঃ বেলায়েত হোসেন বলেন যে রাজস্ব আয় বৃদ্ধি না করেও ব্যয়ের গুণগত মান উন্নত করে সামাজিক উন্নতি অর্জন করা সম্ভব। যোগানের সীমাবদ্ধতা দূর করার জন্যে তিনি সরকারী ব্যয়ের উপর গুরুত্বারোপ করেন। তবে তিনি প্রকৃত ব্যয় এবং বরাদ্দকৃত তহবিল এর মধ্যে ব্যবধান কমানোর সুপারিশ করেন।

মুক্ত আলোচনায় অংশ নিয়ে মাহতাব আলম রাশেদী বলেন, ADP-এর আকার কমানো উচিত নয়। বরং এর implementation quality বাড়ানো দরকার। যেহেতু আমাদের দেশের বেসরকারী বিনিয়োগকারীরা কম আগ্রহ দেখায়, তাই সরকারকে এ ব্যাপারে এগিয়ে আসা উচিত। অর্থনীতি সমিতির সাধারণ সম্পাদক ডঃ আবুল বারাকাতও সরকারি ব্যয়ের অপচয় রোধ ও গুণাগুণ বৃদ্ধির স্বপক্ষে মতামত ব্যক্ত করেন।

তৃতীয় কর্ম অধিবেশন :

বিকেল চারটায় সমিতির সহ-সভাপতি ডঃ আবদুস সাত্তার মন্ডল-এর সভাপতিত্বে শিল্পায়নের উপর তৃতীয় কর্ম অধিবেশন শুরু হয়। এ অধিবেশনের প্রথম প্রবন্ধকার ডঃ মোদাবেবের আহমদ এবং প্রফেসর জ্যোতি প্রকাশ দত্ত বাংলাদেশের শিল্প উৎপাদনের উপর আর্থিক নীতি ও রাজস্ব নীতির কার্যকারিতা নিয়ে আলোচনা করেন। বাংলাদেশের শিল্পক্ষেত্রের প্রবৃদ্ধি কখনো দশকের ঘরে (Double Digit) এ উন্নীত হয়নি বলে লেখকদ্বয় হতাশা ব্যক্ত করেন। বহুচলক এবং বহুসমীকরণ মডেল ব্যবহার করে তাঁরা দেখান যে, আর্থিক নীতির তুলনায় রাজস্বনীতি শিল্প উৎপাদনের ক্ষেত্রে সুনির্দিষ্ট প্রভাব ফেলতে সক্ষম।

তৃতীয় অধিবেশনের দ্বিতীয় প্রবন্ধটি উপস্থাপন করেন জনাব ওমর হায়দার মোহাম্মদ, নাজমুল বাশার ও আ.ন.ম. মইনুল ইসলাম। প্রবন্ধের শিরোনাম ছিল বাংলাদেশের শিল্প উৎপাদনের পূর্বাভাসকরণঃ সাধারণ একচলক বিশিষ্ট (ARMA) পদ্ধতি। লেখকরা দেখান যে, কোন তত্ত্ব ব্যবহার না করে শুধু অখীত তথ্য ব্যবহার করে শিল্প উৎপাদনের পূর্বাভাস সম্ভব। এক্ষেত্রে তারা পাঁচটি মডেল পরীক্ষা-নীরক্ষা করে দু'টি মডেল গ্রহণযোগ্য হিসাবে বিবেচনায় রাখেন এবং পূর্বাভাসের ক্ষেত্রে দু'টির মধ্যে আবার একটি অধিকতর গ্রহণযোগ্য বলে মত প্রকাশ করেন। প্রবন্ধটির উপর মন্তব্য করতে গিয়ে নিউজিল্যান্ডের ভিক্টোরিয়া বিশ্ববিদ্যালয়ের অর্থনীতির অধ্যাপক ডঃ সাইফুদ্দীন খালেদ বলেন যে স্বল্প মেয়াদী পূর্বাভাসের ক্ষেত্রে এ ধরনের মডেল উপযোগী হতে পারে তবে দীর্ঘকালীন বিবেচনায় এ ধরনের মডেল পরিহার করা বাঞ্ছনীয়।

প্রথম প্রবন্ধটির উপর মন্তব্য করতে গিয়ে ডঃ সাইফুদ্দীন খালেদ বলেন যে মডেলটির পারফরমেন্স বাড়ানো সম্ভব যদি ব্যবহৃত ডাটা থেকে seasonality দূর করা যায়। এক্ষেত্রে আর্থিক নীতি অস্থির প্রকৃতির পরিবর্তে স্থিতির প্রভাব ফেলবে।

নির্ধারিত আলোচক বৃন্দের বক্তব্য ও মুক্ত আলোচনার পর বাংলাদেশ অর্থনীতি সাধারণ সম্পাদক ড. আবুল বারাকাত ধন্যবাদ জ্ঞাপন করেন। পরে অধিবেশনের সভাপতি সেমিনারের আনুষ্ঠানিক পরিসমাপ্তি ঘোষণা করেন।

স্বাগত ভাষণ

জ্যোতি প্রকাশ দত্ত*

সম্মানিত সভাপতি, বাংলাদেশ অর্থনীতি সমিতির সভাপতি ড. কাজী খলীকুজ্জামান আহমদ, সম্মানিত প্রধান অতিথি বাংলাদেশের প্রতিথযশা অর্থনীতিবিদ প্রফেসর মোশাররফ হোসেন, ঢাকা থেকে আগত বাংলাদেশ অর্থনীতি সমিতির কর্মকর্তা, আমন্ত্রিত অতিথি, শিক্ষক, সহকর্মী, সাংবাদিক ও প্রিয় ছাত্র-ছাত্রীবৃন্দ। অর্থনীতি বিভাগ, চট্টগ্রাম বিশ্ববিদ্যালয় ও বাংলাদেশ অর্থনীতি সমিতির যৌথ উদ্যোগে আয়োজিত 'আঞ্চলিক সহযোগিতা, সরকারি ব্যয় সংস্কার ও শিল্পায়ন' শীর্ষক আজকের দিনব্যাপী অনুষ্ঠিতব্য সেমিনারে অর্থনীতি বিভাগের পক্ষ থেকে এবং আমার নিজের পক্ষ থেকে আপনাদের সবাইকে জানাই আন্তরিক অভিনন্দন ও শুভেচ্ছা।

সম্মানিত সুধীমন্ডলী,

মাত্র আট দিন আগে আমরা পালন করলাম মহান স্বাধীনতা ও মুক্তিযুদ্ধে বিজয়ের দ্বাত্রিংশতম বার্ষিকী। শ্রেণীবিভক্ত সমাজের বিভিন্ন সামাজিক শ্রেণীর কাছে এই কষ্টার্জিত স্বাধীনতার ভিন্ন ভিন্ন ব্যঞ্জনা থাকলেও আপামর বাঙ্গালির কাছে স্বাধীনতার অর্থ ছিল এক ও অভিন্ন। আর তাহলো, বেঁচে থাকার ন্যূনতম আর্থ-সামাজিক ও রাজনৈতিক গ্যারান্টি। অথচ স্বাধীনতা অর্জনের দীর্ঘ বত্রিশ বছর পর আজ যদি আমরা এই ন্যূনতম আকাঙ্ক্ষা ও প্রকৃত প্রাপ্তির খতিয়ানের দিকে দৃষ্টি দিই তাহলে গভীর হতাশার সাথে লক্ষ্য করি যে সেই অভিষ্ট লক্ষ্যে পৌঁছতে আমরা দুঃখজনকভাবে ব্যর্থ হয়েছি। বিশ্বব্যাংকের সর্বশেষ রিপোর্ট অনুযায়ী বাংলাদেশের ৫০ শতাংশ মানুষ আজ যে কোন মানদণ্ডে দরিদ্র। অতি সম্প্রতি ঢাকায় প্রকাশিত বিশ্ব খাদ্য কর্মসূচীর রিপোর্টে বাংলাদেশের কমপক্ষে দুই কোটি মানুষের খাদ্য-নিরাপত্তাহীনতার কথা উল্লেখ করা হয়েছে। দেশের ৫ শতাংশ মানুষ আজ মোট সম্পদের ৩০ থেকে ৪০ শতাংশের মালিক।

দুর্বৃত্তায়িত অর্থনীতি ও রাজনীতির নষ্ট বাতাবরণে এই বৈষম্য উত্তরোত্তর বৃদ্ধি পাচ্ছে। এর মূল ব্যাখ্যা যদি নোবেল বিজয়ী অর্থনীতিবিদ জোসেফ স্টিগলিজের ভাষায় 'বাজার অন্ধত্ব' হয় তাহলে প্রশ্ন তোলা যায়, বাজার ব্যবস্থার কি অবসান হওয়া উচিত নয়? নোবেল বিজয়ীরা সাধারণত বাজার ব্যবস্থার বিরুদ্ধে এই রকম শব্দ অবস্থান নেন না বরং বাজার সংস্কারের কথা বলেন যেখানে সামাজিক খাত সমূহে রাষ্ট্রের অধিকতর অংশগ্রহণ নিশ্চিত করা যায়। নোবেল বিজয়ী বাঙালি অর্থনীতিবিদ অমর্তা সেনও জবাবদিহিমূলক গণতান্ত্রিক (অর্থাৎ বাজার) ব্যবস্থার কথা বলেন যেখানে প্রতিটা মানুষ প্রকৃত স্বাধীনতা

* সভাপতি, অর্থনীতি বিভাগ, চট্টগ্রাম বিশ্ববিদ্যালয়।

ভোগ করার মাধ্যমে সুপ্ত সৃজনশীলতাকে বিকশিত করতে পারে। কিন্তু বাজার সংস্কারের দীর্ঘ অভিজ্ঞতা এটা কি প্রমাণ করে না যে নিয়ন্ত্রিত বাজার ব্যবস্থাও আমাদের মত অনুন্নত অর্থনীতিতে খুব বেশি আশাপ্রদ ফল বয়ে আনতে পারে না? যদি তা না পারে, তাহলে এই মর্মে আরও প্রশ্ন তোলা যায় যে দরিদ্রদের দ্বারা নিয়ন্ত্রিত রাজনৈতিক কাঠামো ও অর্থনৈতিক ব্যবস্থা চালু না করে কেবল নিয়ন্ত্রিত বাজার বা জবাবদিহিমূলক গণতান্ত্রিক ব্যবস্থা কি দারিদ্র বিমোচন আদৌ সম্ভব? যে ব্যবস্থায় শিল্পে বিনিয়োগের চেয়ে নির্বাচনে বিনিয়োগের expected rate of return অনেক বেশী, যে ব্যবস্থায় ২০ টাকা কেজি আলুর দামের মাত্র ২০ শতাংশ কৃষকের পকেটে যায় আর বাকি ৮০ শতাংশ যায় দামসস্ত্রাসী ও চাঁদাবাজদের পকেটে, যে ব্যবস্থায় ২,০০,০০০ কোটি টাকা বৈদেশিক সাহায্যের ৭৫ শতাংশ লোপাট হয়ে যায়, সেই ব্যবস্থায় আর যাই হোক দারিদ্রায়ন বা ভিক্ষুকায়ন বা নিঃস্বকরণ প্রক্রিয়া বন্ধ করার চিন্তা করা কল্পনা বিলাস মাত্র।

শ্রদ্ধেয় সুধীবন্দ,

আজকের সেমিনারের আলোচ্য বিষয়গুলো উল্লিখিত সমস্যার সাথে সরাসরি সম্পর্কিত না হলেও বাংলাদেশের অর্থনীতির কয়েকটা গুরুত্বপূর্ণ দিকের প্রতি যথেষ্ট আলোকপাত করতে সক্ষম হবে বলে আমি মনে করি। আজকাল পৃথিবীর প্রায় প্রতিটা দেশ এক বা একাধিক দেশের সাথে কোন না কোনভাবে আঞ্চলিক সহযোগিতার মাধ্যমে উন্নয়ন প্রচেষ্টা অব্যাহত রাখতে চায়। দক্ষিণ এশিয়া পৃথিবীর দরিদ্র অঞ্চল সমূহের মধ্যে দরিদ্রতম। বিশ্বব্যাংকের রিপোর্ট অনুযায়ী 'South Asia has the lowest GNI per capita (\$ 450) and some of the highest levels of child malnutrition in the world with 53 percent of children below the standards for weight by age. It has the highest rate of youth illiteracy -24% for males and 41% for females and, at 34%, the lowest rate of access to sanitation facilities. The economy, which grew by 5.5% a year in the last decade, in large part to growth in India, depends more heavily on agriculture than any other region. With only about 5 personal computers per 1000 people, South Asia lags behind other regions in access to information and communication technology.' (Source: 2003 World Development Indicators Database, World Bank, 13 April, 2003.)

এমতাবস্থায় দক্ষিণ এশীয় দেশ সমূহের মধ্যে আঞ্চলিক সহযোগিতা বৃদ্ধি করা একান্ত প্রয়োজন। তবে এই মুহূর্তে তার রকম কি হবে সেটা নিয়ে যথেষ্ট চিন্তা-ভাবনার অবকাশ আছে।

বাংলাদেশে সরকারি ব্যয়ের সুষ্ঠু নীতিমালা ও স্বচ্ছতার অভাবের অভিযোগ দীর্ঘ দিনের। আমাদের মতো সম্পদ-অপ্রতুল অর্থনীতিতে এটা নিঃসন্দেহে গদের উপর বিষফোঁড়ার শামিল। আজকের সেমিনারে সরকারি ব্যয় সংস্কার সম্পর্কিত আলোচনা আমাদের এ বিষয়ে আরো আলোকিত করবে নিঃসন্দেহে।

বিগত তিন দশকে আমরা শিল্পায়নের ক্ষেত্রেও খুব বেশি এগুতে পারিনি। মোট জাতীয় আয়ে এ খাতের অবদান ১৫ শতাংশের বেশি নয়। প্রবৃদ্ধির হারও কোনদিন double digit অতিক্রম করতে পারিনি। কি ধরনের policy environment এ শিল্পখাতের প্রবৃদ্ধি ত্বরান্বিত করা যায়, আজকের সেমিনারে উপস্থাপিত প্রবন্ধসমূহ এ ব্যাপারে সঠিক দিক নির্দেশনা দেবে বলে আমি মনে করি।

উপস্থিত সুধীবৃন্দ,

সেমিনারের পরবর্তী তিনটা কর্ম অধিবেশনে উপস্থিত থেকে এবং মুক্ত আলোচনায় আপনাদের সুচিন্তিত মতামত ব্যক্ত করে আমাদের উৎসাহিত ও সমৃদ্ধ করবেন, এই আমাদের একান্ত কামনা। আমাদের ছাত্র-ছাত্রীরা যাদের জন্যে মূলত এই সেমিনারের আয়োজন করা হয়েছে, তারা যাতে উপকৃত হতে পারে সে ব্যাপারে সবার একান্ত সহযোগিতা কামনা করছি।

পরিশেষে আপনাদের সবার প্রতি আবারও কৃতজ্ঞতা জানিয়ে আমার স্বাগত বক্তব্য এখানে শেষ করছি।

সবাইকে ধন্যবাদ।

The SAARC Cumulation : Should We Take it or Leave it?*

Abul Kalam Azad**

Section I

Introduction

Recently, the SAARC cumulation (SC) system approved by the European Union (EU) has given rise to serious uproar in Bangladesh, particularly among those directly or indirectly related with the Readymade Garments (RMG) and Textile industries. Although the SC is expected to accord immediate benefits to the RMG exports of Bangladesh to the EU countries, it is being argued that the system and its practice is sure to hurt the long term interest of the country as far as the future growth of the textile industries, and consequently of the RMG industry also, is concerned. Therefore, stopping implementation of the SC system will deprive the country of short run economic gains while its enforcement will harm the country in the long run. The study¹ sponsored by the Ministry of Commerce, Government of Bangladesh on the subject suggests for enforcement of the SC on the ground that its implementation will not have any serious odd implication as far as the growth of the backward linkage industry, i.e., textile industry is concerned. Yet another study apprehends exactly these same odds to happen to our Textile industry following implementation of the SC and advocates for renegotiating its terms and condition². In the present study, a middle ground is suggested which will allow our RMG exporters to retain the benefits of the SC without sacrificing the growth of the domestic textile industry. The layout of the study is as follows. The present introductory section, Section I, contains a detailed prognosis of the problem at hand. Section II presents the theoretical basis and empirical

* This paper was presented at the Regional Conference of Bangladesh Economic Association on Regional cooperation, Public Expenditure Reforms and Industrialization held in Chittagong University on 24 December 2003.

** Professor of Economics, Chittagong, University.

observations to support the position taken in this study, which is followed by concluding remarks and recommendations in Section III.

Description of the Problem

What is SC? The SC is a proposed tariff and trade arrangement. What is this tariff and trade arrangement? It follows from two other tariff and trade arrangements known as the Multi-fibre Arrangement (MFA) and the Generalized System of Tariff Preferences (GSP). When the General Agreement on Tariff and Trade (GATT) was first concluded in 1947, it was expected that its non-discriminatory trade principle would apply to all types of commodity-trade. However, developed countries by dint of their superior bargaining power were able to keep outside the purview of the GATT most of their trade in Agriculture and Textile where developing countries had a comparative advantage. They tried, and were successful also, to bypass the GATT rules in Textile trade by means of a separate arrangement with the exporting countries and this arrangement came to be known as the Multi-fibre Arrangement or MFA. The MFA provided the developed countries with a tool to protect their domestic textile industry against 'excessive' imports from the developing countries. Meanwhile, the Generalized System of Tariff Preferences (GSP) was instituted as an authorization to the developed nations to grant unilateral non-reciprocal tariff preferences to the developing countries. The EU adopted the GSP scheme and used it together with the MFA to grant differential tariff privileges to the developing countries in respect of trade in textile goods. Because of such differential tariff preferences, Bangladesh as a least developed country enjoys 100% duty-free access to the EU market whereas developing countries like India, Pakistan receive only 15% duty-exemption.

However, such preferential treatment under the GSP scheme hinges on compliance of the exported products with the EU Rules of Origin (RO)³. Previously in order to qualify for GSP benefits, Bangladeshi RMG exports to the EU market were required to undergo *two-stages* and *three stages* of conversions for woven and knit garments respectively⁴. Although the differential tariff privilege accorded to the Bangladeshi exports placed them on a firmer ground in the EU market, the overall GSP utilization rate of Bangladesh declined over the years because Bangladesh did not have strong backward linkage industries⁵ and hence was unable largely to qualify for GSP benefits. In order to have an expanded opportunity for availing GSP benefits, Bangladesh had been asking for flexibility in the RO prescribed by the EU. A short-term derogation in the conversion requirement ('two stages' for knit and 'one stage' for woven garments) was granted in October 1997 and continued up to December 1998 under quota limit.

Later on, the EU RO was revised to *two stages* conversion requirements for both woven and knit RMG and the quota-limit was withdrawn. But even this was not good enough to raise the GSP utilization rate of Bangladesh. So Bangladesh would like to have something more favorable.

Under the EU GSP scheme, partial cumulation is permitted on a regional basis⁶. Regional cumulation allows beneficiary member country of the regional grouping to avail GSP benefits on exports produced from imported raw materials from another member country of the same regional grouping provided the domestic value addition exceeds a certain percentage. The proposed SC is a similar privilege offered by the EU to the members of the SAARC region.

SAARC Cumulation System

So the SC system is a relaxation of the Rules of Origin applicable to the Bangladeshi exports (for that matter, exports of any SAARC member country) in order to obtain GSP facility in the EU markets. More specifically, under the SC system, the RMG exports from Bangladesh will qualify for GSP facility even if they are produced from yarn/fabrics imported from the SAARC countries provided the ratio of domestic value-addition is at least 51 percent.

Conflict of Interest

The relaxation of the Rules of Origin for Bangladeshi exports to the EU markets is, however, likely to affect the domestic industries asymmetrically. The RMG industry will be the direct beneficiary of this change in the Rules of Origin. In other words, the SC system will allow the RMG exporters to procure their raw materials (yarn/fabric) from the SAARC countries at a relatively cheaper price (than the domestic price of the similar products) and yet those RMG produced from imported fabric/yarn will qualify for GSP facility offered by the EU countries to the Bangladeshi exports. This means a direct saving by the RMG exporters in terms of cost of production. Consequently, the profit margin of the RMG exporters will rise and this will directly benefit those involved with the RMG industries.

On the other hand, the implementation of the SC system is likely to have negative effects on the domestic industries producing yarn/fabrics. Since the demand for these products by the RMG industry is likely to be diverted to the foreign sources (SAARC countries), the growth of the textile industry at home is likely to be adversely affected. Consequently, the textile industry in Bangladesh will experience a decline in the sales revenue following implementation of the SC system.

The preceding paragraphs, however, only describe the possible short run gains and losses of the specific industries. National losses from the implementation of the SC system are going to be even larger in the short run as well as in the long run. In the short run, the loss in terms of output and employment in the textile industry is likely to outweigh the savings made by the RMG industry from the cheaper imports of raw materials. In the long run, not only will the growth of the textile industry at home be adversely affected, the savings made by the RMG industry in the short run may also be far exceeded by the expensive imports of raw materials from the same sources⁷.

BGMEA versus BTMA

So the battle line has been drawn. On the one side is the BGMEA—the association of the garments exporters of Bangladesh and on the other side is the BTMA—the association of the textile mill owners of the Bangladesh. The BGMEA maintains that because of the local supply constraint, about 90%⁸ of the raw materials for RMG is to be imported. Under the current *two stages* conversion requirement prescribed by the EU RO, the bulk of Bangladeshi RMG exports do not qualify for GSP benefits. If the SC is allowed, Bangladesh's RMG exports will get an additional boost in the EU market regarding its competitive position.

On the other hand, the BTMA holds the view that under private initiative and government patronage, the backward linkage industry of RMG i.e. textile industry of Bangladesh has made significant progress in the recent years. Such progress has been made possible by the protection received by this industry from the Government in the past. Agreeing to SC will be tantamount to surrendering the competitive advantage presently Bangladeshi textile industry enjoys vis-a-vis its counterpart in the SAARC countries. Once the SC goes into operation, the local producers of fabric will lose their competitive advantage over their SAARC counterparts since the Bangladesh RMG exporters will be able to source their input (fabric) from the SAARC countries and still qualify for GSP benefit.

Reconciling the Conflicting Interests

Obviously, going for SC will jeopardize the interest of the textile manufacturers and not going for it will force the RMG exporters to forego the opportunity offered by foreigners (EU countries). So reconciling the mutually conflicting interests of the two important manufacturing sectors of our country will be the sole endeavor of the present study.

Section II

The Impact of SAARC Cumulation

Several studies on the subject of SAARC cumulation (SC) previously tried to analyze the impact of SC on the textile and apparel industry of Bangladesh. Two of the studies¹, mentioned before, focused mainly on the possible production and trade displacement in Bangladesh following implementation of the SC. Both studies endeavor to demonstrate that the enforcement of the SC will not cause any serious and significant deviation from the present trends of production and trade flows in the textile and apparel industry. On the basis of such findings, the study by the Ministry of Commerce rather meekly suggested that the SC could be implemented since it would not spell any misfortune for Bangladesh. The other study, however, quite contrarily observed that the idea of the SC had been ill-conceived/ill-advised. So the study suggested for re-negotiation of the terms and conditions of the SC, since it would not bring, in its present form, any improvement in the textile and apparel industry. In the present study, we will focus on both the external and internal displacement of production and trade in the textile and apparel industry following implementation of the SC.

Analysis of the Present Production and Trade Structure of the Textile and Apparel Industry

An examination of the production and trade structure of the Textile and Apparel Industry of Bangladesh shows that the RMG exports recorded a compound growth rate of 14.8% between 1991-92 and 2001-02 (Table II.1). The import of fabric through back-to-back L/C grew at the (compound) rate of 9.9% during the same period. The lower growth rate of import of fabric compared to that of the growth of export of RMG indicates that import-substitution occurred in the fabric production in the last decade²

On the other hand, if we look at the imports of cotton and yarn, we can see that both grew at rates roughly equal to or exceeding the growth of RMG exports. The imports of cotton recorded a growth rate of 17.3% and that of yarn recorded a growth rate of 13.2% between 1991-92 and 2000-01. This implies that in the case of yarn, not much import substitution occurred. This is further confirmed by the very little growth rate, if any, of yarn production in the country during the same period.

Table II.1: Production and Trade Structure of the RMG and Textile Sectors of Bangladesh

Year	Production of Cotton (Thousand Tons)	Production of Yarn (Million Kgs.)	Domestic Fabric for RMG (Million Meters)	Import of Cotton (Million Dollar)	Import of Yarn (Million Dollar)	Import of Fabric (B/B L/C) (Million Dollar)	Demand for Fabric for RMG (Million Meters)	Export of RMG (Million Dollar)
1991-92	14	60.50	—	71	92	741.11		1182.57
1992-93	16	60.60	—	82	127	874.39		1445.03
1993-94	26	51.50	45	72	168	1033.39	830	1555.78
1994-95	13	49.10	104	135	200	1522.73	1150	2228.35
1995-96	13	49.90	169	185	296	1432.72	1322	2547.11
1996-97	14	50.16	231	195	395	1265.55	1486	3001.24
1997-98	14	52.88	317	207	327	1529.28	1802	3783.63
1998-99	14	54.80	356	233	283	1389.05	1860	4020.10
1999-00	14	58.54		277	300	1580.91	2049	4352.39
2000-01	—	60.82	—	360	322	—	—	4860.56

Source: Bangladesh Bank, *Economic Trends*, May 2002, Col. 1; *Bangladesh Economic Survey*, different issues, Col.2; MOT and BTMA, Cols.3,7; Bangladesh Bank, *Import Payments* 2000-01, Cols. 4,5,6; EPB, Col.8.

Production and Trade Structure of the Textile and Apparel Industry without SAARC Cumulation

Although according to BBS data, the domestic production level of yarn remained static between 1991-92 and 2000-2001, with a decline of output in the first half of the decade (i.e. first half of 90's) and later rising to the previous level, the EPB and the Ministry of Textile (MOT) reported a growth rate of 14.23% between 1993-94 and 1999-2000 (Table II.2). Anyhow, following the figure reported by the EPB and the MOT, we projected the growth of domestic yarn production for the period 2000-2001 to 2003-2004. For the same period, we projected the growth of demand for fabrics for the production of RMG. In doing so, we used the input (fabric) requirement reported by the EPB and the MOT for the year 1999-2000. Further, we used the assumption that input requirement would grow at the same rate of the growth of output i.e. the growth of the RMG exports. By subtracting the domestic production of yarn from the total demand for yarn, we arrived at the figures for imported yarn for RMG. For estimating the domestic supply of fabric for RMG, we computed the ratio of the same to the total demand for fabric by the RMG

Table II.2 : Domestic Supply of Yarn and Fabric for RMG and Cash Subsidy

Year	Production of Yarn (Million Kgs.)	Domestic Fabric for RMG (Million Meters)	Share of Fabric (B/B L/C) in total Export (percent)	Domestic Fabric as % of total fabric used in RMG Export (percent)	Cash Subsidy (Million Dollar)
1991-92	—	—	63.01	—	0.64
1992-93	—	—	60.51	—	0.58
1993-94	63.20	45	66.42	5.06	1.94
1994-95	96.50	104	68.33	9.91	7.21
1995-96	113.00	169	56.25	13.04	10.77
1996-97	116.80	231	55.04	15.85	18.38
1997-98	139.70	317	49.90	17.93	49.68
1998-99	146.70	356	42.99	18.97	95.87
1999-00	167.57	—	—	—	—

Source: BTMA, MOT, EPB, Bangladesh Bank.

sector for the period from 1993-94 to 1998-99 and then projected those ratios for the years up to 2004, by extrapolation using simple time-trend values. This in turn enabled us to compute the domestic supply of fabric for RMG for the period between 2000-01 and 2003-04 (Table II.3). The estimation of domestic supply of fabrics together with the total demand of fabrics for RMG allowed us to arrive at the figures for imported fabric for RMG-production during the same period. The values for the import of cotton and export of RMG have been projected on the

Table II.3 : Projection of Production and Trade Structure of the RMG and Textile sector of Bangladesh (2000-01—2003-04)

Year	Production of Cotton (Thousand Tons)	Production of Yarn (Million Kgs)	Production of Fabric for RMG (Million Meters)	Requirement of Fabric for RMG (Million Meters)	Requirement of Yarn for RMG (Million Kgs)	Import of Fabric for RMG (Million Meters)	Import of Yarn for RMG (Million Kgs)	Export of RMG (Million Dollar)
2000-01	14	191.42	576.54	2352.25	507.41	1775.71	315.99	4860.56*
2001-02	14	218.66	736.67	2700.39	582.50	1963.72	363.84	4583.80*
2002-03	14	249.77	931.56	3100.04	668.72	2168.48	418.95	5262.20
2003-04	14	285.32	1168.02	3558.85	767.68	2390.83	482.36	6041.00

Note: * actual values.

basis of respective growth rates obtained, by fitting exponential trend line to the time-series data for the period between 1991-92 and 1999-2000. For the cotton production, the last available figure from the BBS has been quoted for the period from 2000-2001 to 2003-2004 as no growth was observed in the preceding period.

The exercise reveals that in the year 2004, the terminal year of MFA, the domestic yarn supplied to our RMG will increase to about 37% of total demand for RMG production. In the same way, the domestic supply of fabrics for RMG production will increase to about 33% of total demand for fabrics by the RMG sector. However the growth of the domestic supply of both yarn and fabrics is somewhat 'phony'. As mentioned before, the BBS has reported an almost static production of yarn between 1991-92 and 2000-01 while BTMA and also EPB claim that yarn production increased by about 14% during the same period. In the case of fabric also, the same story goes. According to the BBS data, while fabric production actually declined between 1991-92 and 1999-2000, the supply of fabric for RMG production recorded a rapid increase according to the BTMA and the MOT. One explanation for this observed contradiction in the production of yarn and fabric may be that while total production declined or remained static, some of the existing production of yarn and fabric were diverted towards the RMG sector by the 'lure' of generous cash-incentive given by the Bangladesh Government under the cash compensation scheme. This is reconfirmed by the strong negative correlation between the growth of cash subsidy and the decline of imports of fabrics and accessories through back-to-back L/C (the Pearsonian coefficient of correlation being -0.98). The strong negative correlation between the growth of cash subsidy and the decline in the imports of fabrics, yarns and other accessories under back-to-back L/C while indicates the replacement of imports by domestic supply, it also suggests the dependence of the latter on the former at the same time. And if this dependence is strong enough (there are also reasons to believe so), the proposed reduction in the rate of cash subsidy from 25% to 15% is likely to have a negative impact on the replacement of imports by domestic supply in the case of yarn and fabrics in the future. In such a situation, the shares of domestic supply of yarn and fabrics are going to be even smaller than those projected for the year 2004.

Analysis of the Production and Trade Structure of the Textile and Apparel Industry *with SAARC Cumulation*

Simple micro economics tells us that the rational producers will try to maximize their profit. In order to do this they may want to raise the price of their product or minimize the costs of inputs or both. Since our RMG exporters sell in a competitive international market, so they are the 'price-taker', that is, for our

RMG exports, price is given. So the other alternative left for our RMG producers is to try to source inputs in such way that the costs will be minimum. Presently, these producers receive subsidy from our Government if they use domestic inputs (fabrics). It is needless to mention that this subsidy defray a part of the cost of production of our RMG producers. Again, if the inputs are sourced locally, our RMG products qualify for tariff-exemption in the EU market under the GSP scheme. This is also equivalent to a reduction in the cost of production³. On the other hand, if our RMG producers procure their inputs from abroad, neither they receive any cash subsidy from our Government nor do their products qualify for GSP benefits in the EU market. Naturally, the RMG producers will prefer domestic inputs (fabrics) to imported inputs provided there is no quality or supply constraint.

If P denotes the price of Bangladeshi RMG product in the EU market, C_B denotes the costs of input (fabrics) procured domestically in Bangladesh, C_I denotes the costs of imported inputs, T denotes the tariff exemption received under the GSP scheme and S denotes the subsidy given by the Bangladesh Government to RMG exports produced from domestic inputs, the profit function of the Bangladeshi RMG exporters to the EU market may be given as follows:

$$\begin{aligned} \Pi_D &= P - (C_B - T - S) \text{ or} \\ &= P - C_B + T + S \quad \dots\dots\dots(1) \end{aligned}$$

On the other hand, if our RMG exporters use imported input, their profit function will stand as -

$$\Pi_I = P - C_I \quad \dots\dots\dots (2)$$

Now our RMG exporters, as rational profit-maximizer, will prefer domestic inputs as long as

$$(P - C_B + T + S) > (P - C_I) \quad \dots\dots\dots(3)$$

The condition (3) can be rewritten as

$$(C_B - C_I) < (T + S) \quad \dots\dots\dots (4)$$

Condition (4) implies that our RMG producers will prefer Bangladeshi input (fabrics) to the imported inputs as long as the costs difference between domestic inputs and imported inputs is less than the sum of tariff exemption (in the EU market) and cash subsidy given by the Bangladesh Government. When the costs difference is just equal to the sum of tariff exemption and cash subsidy, the RMG producers will be indifferent between domestic inputs and imported inputs. And

in the case of cost difference exceeding the tariff exemption and subsidy, the RMG producers will definitely switch to imported inputs. This switching tendency from domestic inputs to imported inputs will increase as the value of the sum of tariff exemption and cash subsidy, $(T+S)$, declines.

With the SC implemented, our RMG exports produced from imported inputs from the SAARC region will qualify for either a maximum 12.8% tariff exemption i.e. $T=0$ or a minimum 2% tariff exemption i.e. $T= 10.8\%$. In both the cases, the value of T declines and so does $(T+S)$. As we have seen that the switching tendency from the domestic inputs to the imported inputs increases with the decrease in the value of $(T+S)$, so it follows that with the SC implemented, there will be a 'switching away' from domestic inputs to imported inputs from the SAARC region. Of course, the extent of such 'switching' from domestic inputs to imported inputs (from the SAARC countries) will depend on the percentage of our RMG exports produced from imported inputs that qualify for a full 12.8% tariff exemption in the EU market. If this turns out to be a small fraction of the total RMG exports, then not much 'switching away' from the domestic inputs to the imported inputs from the SAARC countries is likely to occur.

However a much bigger switching is likely to take place in our external sourcing of inputs. We know that currently about 80%⁴ of inputs (fabrics) for our RMG production is procured from abroad—both SAARC countries and non-SAARC countries. Even in the year 2004, as high as 67% of inputs for RMG production will need to be imported. Presently, all Bangladesh RMG exports produced from inputs (fabrics) imported from the SAARC and non- SAARC countries receive similar tariff treatment in the EU countries. But when the SC is implemented, RMG exports produced from imported inputs from the SAARC countries will receive preferential tariff treatment (ranging from 2% to 12.8%). With this will be added the advantage of 'lead time' reduction. This will create room for additional profits to be made by the Bangladeshi RMG producers by simply 'switching away' from their non-SAARC sources to SAARC source for input (fabrics) supply. Thus following implementation of the SC there is going to be a big 'switch' from the non-SAARC to SAARC countries as far as the imports of fabric for RMG production is concerned.

The SC will allow our RMG producers to make savings on costs by switching the procurement of inputs (fabrics) from non-SAARC to SAARC countries. This savings by the RMG producers will be a net gain for themselves as well as for our country. But if the same cost consideration makes our RMG producers to divert their purchases of inputs (fabrics) from domestic source to other SAARC countries, the RMG producers themselves may benefit but there will be a corresponding production loss in our country, which will be a national loss for all of us.

The available information indicates that presently the cost difference between imported fabrics (from India) and local fabrics is about 40% i.e. imported fabrics is 40% cheaper than the locally procured fabrics⁵. This 40% difference in input cost has been more or less neutralized so long by the cash incentive (25%) given by the Government of Bangladesh and the GSP benefit (12.8%) given by the EU countries, in total, about $(25+12.8=)$ 37.8%. But, from the current fiscal year, the rate of cash incentive given by the Government will be reduced to 15%. This means that the effective cost difference between the imported and domestic fabrics will be widened for the RMG producers. In such a situation, the enforcement of the SC will further widen this margin of effective cost difference by the amount of GSP benefit (at least by 2%, if not by the full amount of 12.8%). Thus the enforcement of the SC is likely to tilt the balance in favor of imported fabrics at least to some extent. Consequently there is possibility of some domestic production loss in the wake of implementation of the SC together with the current reduction in cash incentive. The anticipation of such production loss has got some supporting evidence in the year- to-year growth of imports of cotton, yarn and fabrics in the past.

Table II.4 shows the year-to-year growth rate of imports of yarn, fabrics and RMG. In the year 1997-98, there was a temporary derogation of the Rules of Origin for availing GSP benefits. From October 1997 to December 1998, for woven garments 'one-stage' and for knit garments 'two-stage' conversions were required. This meant that woven garments produced from imported fabric would have qualified for GSP benefits whereas the conversion requirement earlier was 'one stage' higher for each type of garments exports. By implication, this temporary derogation of

Rules of Origin would have negative impact on the import of fabric because now woven garments produced from imported fabric would qualify for GSP benefit. On the other hand, in the case of import of fabric, the derogation of the Rules of Origin supposed to have a positive impact. And this is what we find from the Table above. In the year 1997-98, the import of yarn actually declined as expected and the import of fabric registered a 20.8% growth whereas the previous years had seen negative growth rates. This therefore confirms the view that the enforcement of similar derogation in the Rules of Origin through SC is likely to have a negative impact on the domestic production of fabrics⁶. Then what to do about SC? If it is not enforced, our RMG exporters will be denied the opportunity of making savings in terms of costs of production by relocating the sources of inputs. Contrarily, if implemented, the SC is likely to result in the loss of domestic production by the textile producers. This point of production-loss in the domestic backward linkage industries has been highlighted prominently and rightly in the paper prepared by the MOT on the subject.

TABLE II.4 : Year-to-Year Growth of Imports and Demand of Inputs for RMG

Year	Import of Yarn (Million Dollar)	Year-to-Year Growth	Import of Fabric (B/B L/C) (Million Dollar)	Year-to-Year Growth	Demand for Fabric for RMG (Million Meters)	Year-to-Year Growth
1991-92	92	—	741.11	—		
1992-93	127	38.0	874.39	18.0		
1993-94	168	32.3	1033.39	18.2	830	
1994-95	200	19.0	1522.73	47.4	1150	38.6
1995-96	296	48.0	1432.72	-6.0	1322	15.0
1996-97	395	33.4	1265.55	-11.7	1486	12.4
1997-98	327	-17.2	1529.28	20.8	1802	21.3
1998-99	283	-13.5	1389.05	-9.2	1860	3.2
1999-2000	300	6.0	1580.91	13.8	2049	10.2
2000-01	322	7.3				

A Brief Evaluation of the Paper prepared by the Ministry of Textiles on the SAARC Cumulation

The apprehension that domestic production of fabric may decline following implementation of the SC has been rightly pointed out by the MOT in recommending against the enforcement of SC. The other arguments put forward are, however, not so strong. For instance, it has been pointed out that the mills under the BTMA with a yearly production capacity of 510 million meters produced only 123.3 million meters of woven fabrics which was slightly more than 17% of the total fabric requirement for exports in the year 2001. Despite 75% under-utilization of capacity, MOT recommends massive investment in the textile sector in the rather misplaced hope that Bangladesh will be self-sufficient in fabric production by the year 2004 or so. Similarly, the argument that after the enforcement of the SC, the EU countries will prefer the fabric producing countries when placing orders for RMG because of fresh acquaintance with them or because it will save their costs of transporting fabrics to the RMG producing country like Bangladesh is also not well-founded. The enforcement of SC may entice the EU importers to have rapport with the fabric suppliers in the SAARC countries, but imports of RMG from those countries will not qualify for zero-tariff access in the EU market.

Finally, it is true that in a competitive free market world, every firm/industry/sector of production should compete and survive on its own efficiency. In our particular case, it is not economically just and efficient to ask the RMG sector to purchase inputs from the domestic textile sector at a price higher than the international one as much as it will be unjust to ask the domestic textile sector to supply inputs to the RGM sector at a price lower than the international one just to keep the latter internationally competitive. Nevertheless, the fact remains that the enforcement of SC, though may be beneficial for the RMG sector, may still lead to production-loss in the domestic textile sector and this may not be acceptable from the national point of view.

So, is there a solution that will allow the RMG sector to benefit from the implementation of SC without causing production-loss in the domestic textile sector? Here we present, first, the theoretical sketch of such a solution.

SAARC Cumulation without the Loss of Domestic Production: A Theoretical Analysis⁷

Short Term Benefits

Savings in terms of costs of production

Under the GSP Scheme, the exports from Bangladesh to the EU countries are entitled to receive 12.8% tax-exemption. This means, Bangladeshi exporters are able to enjoy a cost-advantage of 12.8% vis-a-vis exporters from other countries in the EU market. However, in order to avail this cost-advantage, the EU Rules of Origin (RO) required previously that the inputs going into the production of Bangladeshi exports should have been entirely of local origin. But under the SAARC Cumulation System, Bangladeshi exports to the EU market will be able to enjoy the same advantage even if the inputs for exports of Bangladesh are sourced from India and other SAARC countries.

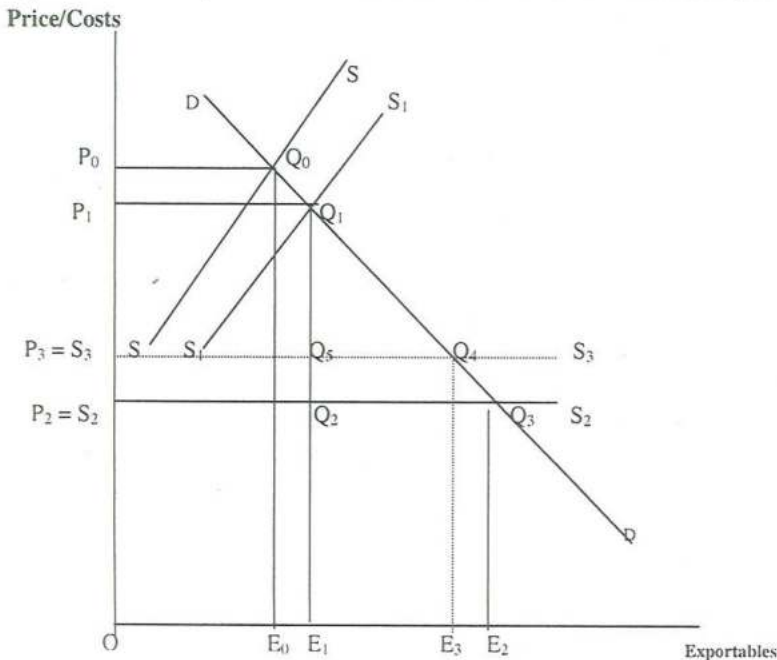
Now if the inputs for producing exports could be procured at the same costs from both domestic source and the SAARC countries, Bangladeshi exporters would be indifferent between the two sources. If, however, the inputs for exports could be sourced at, say x percent cheaper price, from the SAARC countries, then the cost-advantage of the Bangladeshi exporters in the EU market would stand at $(12.8+x)$ percent. This would lead to a direct saving by the Bangladeshi exporters in the EU market as shown in the following diagram: Let us assume that SS is the supply curve of Bangladeshi exportables to the EU countries without GSP benefit. DD is the normal downward sloping demand curve (Fig.II.1). The equilibrium price and quantity of exportables are, respectively, OP_0 and OE_0 . Now, with the GSP benefit

included, the supply curve of Bangladeshi exportable shifts rightward to S_1S_1 and the equilibrium price decreases and quantity of exportables increases to OP_1 and OE_1 , respectively. But with the introduction of SAARC Cumulation System, the supply curve of Bangladeshi exportables not only rotates to horizontal position but also shifts downward to S_2S_2 . The new equilibrium price and quantity of Bangladeshi exportables shift to OP_2 and OE_2 respectively. Before implementation of the SAARC Cumulation System, the quantity of Bangladeshi exports to the EU markets was OE_1 . On this amount of exports, the exporters' savings are equal to $P_1Q_1Q_2P_2$ and it is needless to mention that this saving is possible because of implementation of the SAARC Cumulation System. It may be pointed out here that the savings on costs result in two ways: (i) from both cheaper inputs and tariff-exemption, (ii) from tariff exemption only on exports hitherto not covered by GSP since those exports have been produced from imported fabrics.

Gains from Trade Creation

SAARC Cumulation System not only can create an opportunity for making savings on production costs of exportables, it also opens the door for reaping benefits from the additional trade-creation. We have assumed a downward sloping demand curve for our exportables in the EU market. The savings made by our exporters on the cost of exportables will enable them to reduce price and,

Figure II.1 : Analysis of the Effects of the SAARC Cumulation System



consequently the market for exportables will expand to E^2 . The gains from additional trade-creation are represented by the triangular area $Q_1Q_2Q_3$ in the figure above.

Short Term Losses

Loss from Trade Diversion

However, corresponding to the gains from the simple implementation of the SAARC Cumulation System, there are some losses also to be incurred. This loss will arise because of trade-diversion. Since the producers of our exportables are likely to procure inputs, after implementation of the SAARC Cumulation System, from the SAARC countries, our domestic input suppliers will lose business to the extent our exporters procure inputs from the SAARC countries. So the positive savings made by our exporters on input costs will be offset by the negative trade diversion effect on our domestic input suppliers, following implementation of the SAARC Cumulation System. In the extreme case when all the inputs for exportables are procured from the SAARC countries, Bangladeshi input producers will lose business equal to the area $P_1OE_1Q_1$ and the net loss will be equal to the area $P_2OE_1Q_2$ (net of savings made by the exporters equal to $P_1Q_1Q_2P_2$).

Overall Short-Term Gains/Losses

The overall gains/losses from the implementation of the SAARC Cumulation System will depend on the size of the rectangle $P_2OE_1Q_2$ and the triangle $Q_1Q_2Q_3$. If the area of $Q_1Q_2Q_3$ exceeds that of the rectangle $P_2OE_1Q_2$ then there are clear short-term gains to be had from the implementation of the SAARC Cumulation System. In the opposite case, however, the short-term loss is evident.

Long-Term Loss

Growth of the Linkage Industries

With the short term gains/losses we should take into account the long term losses arising from the impact of the SAARC Cumulation System on the growth of the backward linkage industries. Although we cannot venture to depict this loss diagrammatically, it is for sure that if the implementation of the SAARC Cumulation System diverts the domestic demand for inputs to the SAARC countries, it will impair the future growth of industries producing inputs for our exportables.

Should the SAARC-Cumulation System Stay or Go?

The question that naturally arises is whether the SAARC Cumulation System should stay or go. The answer to this question becomes somewhat subjective. While it is possible to make an estimate of the gain and loss quantitatively for the short term, to make a similar estimate for the long term becomes rather complex and not so definite. Those who put more weight to the long term losses that are assumed to follow from the implementation of the SAARC Cumulation System, will reject the short term gain, if any, very lightly. According to them, if we go for the implementation of the SAARC Cumulation System, we may make short term gain but we may be loser in the long run. On the other hand, if we opt against the implementation of the SAARC Cumulation System, we will perhaps prevent the long term losses but the short term gains, if any, will be foregone.

So, is there a way that will enable us to avail the short-term gains without sacrificing the long run benefits? Here we suggest an alternative way and demonstrate that it takes care of both the short term and long term interests of the country. What is that alternative? It is a crafty implementation of the SC: (i) Go for the implementation of the SAARC Cumulation System and (ii) impose an export duty on the exportables, produced from imported inputs and destined for the EU countries (qualified for GSP facility), to match the GSP-benefit obtainable on our exports to the EU. The latter measure will take away the advantage of using the imported inputs over the domestic inputs following implementation of the SAARC Cumulation System. (iii) However, a certain portion of the exportables produced from the imported inputs and destined for the EU market may be exempted from this proposed export-duty provided that a corresponding pre-specified level of similar exports has been made using domestic inputs. (iv) The ratio of the exports made from imported inputs and qualifying for exemption from the export-duty vis-a-vis the exports made from domestic inputs will depend on the supply capacity of domestic inputs and the amount of expected increase in exports resulting from the implementation of the SAARC Cumulation System. This will put the supply curve S_3S_3 (in the Figure) of our exports to the EU market a little higher than the one with simple implementation of the SAARC Cumulation System, SS_2 .

The resulting gain from trade-creation, $Q_1Q_4Q_5$ though a little smaller, is nevertheless positive. There is also short-term savings in terms of input costs equal to $P_1Q_1Q_5P_3$. Additionally, the net short-term loss from trade-diversion, $P_3OE_2Q_5$ and the long term loss in terms of negative effect on the growth of the backward linkage industries are both escaped. Thus a crafty implementation of the SAARC Cumulation System will enable Bangladesh to reap the short-term benefits without surrendering both the short term and long term gains.

In concrete terms, the abovementioned ‘crafty implementation’ of the SC may be interpreted as follows: **We have seen that the domestic supply of fabrics for RMG will stand at roughly 33% of the RMG exports⁹. So our exporters of RMG may be granted GSP certificate (Certificate of Origin Form A) for 200 taka worth export produced from imported inputs (fabrics) for every 100 taka worth export produced from domestic input (fabric). Otherwise, the exports of RMG (to the EU) produced from imported fabrics may be subjected to an export tax equal to the amount of GSP benefits (2%, if value-addition is less than 50%, or 12.8%, if value-addition is more than 50%) in order to qualify for the Certificate of Origin Form A to be issued by the Government of Bangladesh.** The implementation of the SC in this manner is expected to prevent the loss of domestic textile production while allowing the RMG exporters to obtain GSP benefits on exports made from imported fabrics and also make savings in terms of costs of production from the cheaper imported inputs.

SAARC Cumulation on Non-Textile Exports

Another argument in favor of implementing the SC will be its possible beneficial effects on non- textile exports of Bangladesh to the EU market. Recently the EU has offered that everything but arms (EBA) from the LDCs may enter the EU market free of duty. This means that the SAARC cumulation rules can be applied to all sorts of products except the harmful ones like arms, drugs etc..

Table II.5 shows the commodities that are currently exported to the EU countries and which may benefit from the implementation of SC. Vegetables, fruits, spices,

TABLE II.5 : Non-Textile Exports to the EU Countries

Items of Export	Country of Exports	Value of Exports in 1999-2000 (Thousand US \$)
Vegetables	UK, Germany, Italy, France, Netherlands, Switzerland, Sweden, Belgium, Greece	3657
Fruits	Switzerland	
Bicycle	UK, Germany, Denmark, Belgium, Ireland	10058
Stainless steel Tableware	UK, Germany, Netherlands	734
Spices	EU countries	

Source: EPB, *Export Statistics* 2000-2001.

bicycle, stainless steel tablewares etc. are presently exported to the EU countries from Bangladesh. We can import these commodities and parts thereof from India and other SAARC countries and may re-export them to the EU after full or partial processing in Bangladesh, taking the advantage of tariff-exemption given under the GSP scheme.

2005 and Beyond

The year 2005 will be a milestone in the evolution of the free trade regime worldwide. The previous 31st night would have seen the end of the MFA and January 2005 will welcome the return of textile trade within the fold of worldwide free trade regime envisaged by the WTO. Good or bad, it is true that Bangladesh has been one of the beneficiaries of the outgoing MFA regime. The year 2005 will see an end to such benefits flowing from the MFA. Consequently, Bangladesh will have to face competition in the international market from all the WTO member countries – not only from the countries of the SAARC region. Bangladesh will have to be ready to face fierce competition in all of its exports including the RMG exports. In that competition, the ‘key’ to success will be the competitive advantage enjoyed by Bangladeshi producers vis-à-vis their international counterparts— particularly in India and Pakistan.

Competitive Advantage & Spinning

Available information confirms the common idea that both India and Pakistan enjoy natural advantage over Bangladesh in producing yarn. This advantage stems from the supply of raw material (cotton), because both India and Pakistan produce cotton which Bangladesh imports from these two countries, among others. Since the raw materials are the major cost item in the spinning process, accounting for around 65% of the total yarn costs, Bangladesh will be trailing behind these countries as far as the production of yarn is concerned. Considering the glut in yarn supply in the international market, Bangladesh should consider, as a matter of policy, whether it should try to specialize in yarn production.

Competitive Advantage and Weaving

Weaving is the next higher stage after spinning in the textile production and therefore involves more processing than yarn production. Following the logic of Heckscher-Ohlin’s Factor-Endowment Theory, it is in this stage where Bangladesh can use its cheap labor supply, production skill and ingenuity to overcome the natural disadvantage in the lower ladder (spinning) of textile

production. The cost structure of new weaving projects show that in this stage of production Bangladesh stands at a comparable level with India and Pakistan as far as the cost of production of fabrics is concerned.

Dumping by India and China

Regarding the Indian and Chinese dumping practices in fabric supply, it may be pointed out that in the year 2005, MFA will be abolished and redress will be available from the WTO against 'harmful' dumping as both of them are members of the WTO.

Financial Assistance

Besides, Bangladesh will be able to provide, if she desires and can afford, indirect financial support to textile production via incentives to RMG exports and she can do so without violating the WTO-rule until her per capita income reaches 1000 US dollar benchmark.

Section III

Conclusions and Recommendations

In the present study, we have examined the past growth and performance of our RMG and Textile sectors, their present state and future prospects both before and after the abolition of the MFA in the year 2004. We have also tried to analyze the impact of the SC on the performance of our RMG and Textile sectors.

It has been found that the EU takes about 70% of our Knit-RMG exports and more than 45% our woven RMG exports, which is indicative of the importance of the EU as a destination of our exports in general and RMG exports in particular. Again it has been observed that nearly 70% of fabric requirement of our knit-RMG exports and only about 20% of the fabric requirement of the woven-RMG exports are met from domestic source thus making them eligible for GSP benefits offered by the EU.

It has been further observed that if the RMG exports and the domestic supply of fabrics continue to grow at the current rates, the latter will meet roughly 33% of the total fabric requirement for the RMG exports in the year 2004.

The theoretical analysis of the impact of the SC has revealed that if the SC is not implemented, it will deprive Bangladesh from the short term benefits of savings to be accrued from cheap imported inputs, GSP coverage of RMG exports

produced from imported fabrics (from SAARC countries) and also from the additional exports resulting from the additional trade-creation. On the other hand, the exercise adequately demonstrated that the short term gains from the SC may be far outweighed by the production-loss due to trade-diversion effects and its negative impact on the growth of the domestic backward linkage industries to the RMG sector.

The theoretical exercise further demonstrates that a crafty implementation of the SC will enable the country to escape the negative trade-diversion loss and its effect on the growth of the domestic Textile industry. Since the domestic fabric supply for the export-oriented RMG is projected to stand at roughly 33% of the total demand, the said crafty implementation of the SC may be designed as follows: **Go for enforcement of the SC. But exports to the EU of RMG made of imported fabric and eligible for GSP may be subjected to an export tax equal to the GSP benefit (2%, if value-addition is less than 50%, or 12.8%, if value-addition is more than 50%). However, such export taxes may be waived for 200 taka worth RMG exports for every 100 taka worth exports of the same produced from domestic fabrics.**

As regards the comparative advantage of Bangladesh in RMG and Textile production vis-a-vis India and Pakistan, it has been pointed out that Bangladesh's natural advantage is likely to lie at the upper end of the manufacturing process. So Bangladesh should do better in specializing in cutting-making (RMG), fabric processing and weaving instead of spinning, at least initially.

Further it has been shown that Bangladesh's RMG exports are likely to face stiff competition in the post-MFA period but Bangladesh, as an LDC, can take the advantage granted by the WTO of continuing present financial assistance to the RMG exports till her per capita income level reaches the 1000 US dollar benchmark.

Notes

Section I

1. International Business & Technical Consultants , Inc., 'Report on Impact of SAARC Cumulation Agreement on Bangladesh RMG and Textile sectors and on the Overall Economy of Bangladesh', report submitted to the Ministry of Commerce, GOB, Dhaka, December, 2000.
2. Rahman, M and D. Bhattacharya, 'Regional Cumulation facility under EC-GSP : Strategic Response from Short and Medium term Perspective', Center for Policy Dialogue (CPD), Dhaka, Nov. 2000.

3. When the product of two or more countries of a regional group are used in manufacturing a particular commodity, conflict or uncertainties may arise regarding the originating status of the product. RO specifies the criteria for the determination of origin of different products in such cases for tariff purpose.
4. The stages of conversion are as follows:
Stage 1: conversion of cotton to yarn (spinning)
Stage 2: conversion of yarn to fabrics (weaving)
Stage 3: conversion of fabric to RMG (cutting & making)
5. Rahman, M and D Bhattacharya, op. cit., p. 5.
6. Currently, similar regional cumulation are allowed by the EU to countries belonging to three regional groupings, for instance, the Association of South east Asian Nations (ASEAN), Central American Common Market (CACOM) and the Andean group.
7. The BTMA claims that presently they supply roughly 20% of the fabric required for woven RMG and about 70% of the fabric requirement of the knit RMG.

Section II

1. International Business & Technical Consultants, Inc., and Rahman and Bhattacharya, op. cit.
2. Rahman & Bhattacharya op. cit. p.11.
3. It should be noted that the duty rebate under the GSP is actually received by the importer of RMG in the importing country. Nevertheless, the effect of the scheme provides an edge to the Bangladeshi exporters over the potential competitors and works as a force similar to that causing rightward shift of the supply curve.
4. Domestic fabric supply for RMG, according to BTMA, was about 19% in the year 1999-2000 while the BGMEA claims it to be around 10%.
5. One study shows that price difference between Chinese fabric and Bangladeshi fabric is 43 to 51% in some cases. Since India is a rival supplier of China in Bangladesh, so the price of Indian fabric also should be similarly competitive. Dr. Martelli Associates, 'Bangladesh Textile Study', IFC, Washington, D.C, May 1999.
6. This is exactly what the MOT apprehends strongly. MOT, 'Recommendation on the SAARC cumulation in respect of Five Categories of RMG exports to the EU under the GSP Scheme', March 2002.
7. This analysis has been reproduced from Azad, A.K., 'A Theoretical Note on the SAARC Cumulation System', paper presented at XIV Biennial Conference of the Bangladesh Economic Association held at Dhaka on 18-20 September 2002.

8. Because of cost advantage resulting from the use of imported inputs and because of huge supply of inputs (from imports) compared to domestic supply.
9. Although, according to BTMA, the rate of GSP-utilization has been 46% in the year 2001, around 35% of that took place in the knit-Garments exports. It is the woven-Garment exports which is our weak point as far as the domestic supply of fabric is concerned. And here the implementation of SC is likely to yield benefits.

References

- Azad, A. K. "A Theoretical Note on the SAARC Cumulation System", Paper presented at XIV Biennial Conference of the Bangladesh Economic Association held on 18-20 September 2002 at Dhaka.
- Bhattacharya, D. and Mustafizur Rahman (2000). "Experience With Implementation of WTO-ATC and Implications for Bangladesh". *CPD Policy Paper, # 7*, September, Centre for policy Dialogue, Dhaka.
- Bhuyan, A.R. et al. (1997). *Bangladesh Cotton textile Industry: Constraints and Policy Options*, Final Report, BTMA, June.
- Bjoe, Anna (2000), "Bangladesh's Readymade Garments Industry: Emerging Challenges" Ford Foundation.
- Center For Policy Dialogue (2001), "Viability of Backward Linkage Industries in Bangladesh".
- DR. Martelli Associates, (1999). *Bangladesh Textile Sector Study*, Final Report, IFC.
- Spinanger, Dean (2000). "The WTO, ATC and Textile and Clothing in a Global Perspective: What's in it for Bangladesh?" *CPD Policy Paper, # 8*, Centre for Policy Dialogue, Dhaka.

Issues and Prospects of Free Trade Agreements for Bangladesh: Theory and Experience*

Jyoti Prakash Dutta**

1. INTRODUCTION

Regional cooperation or integration, as is often interchangeably used, particularly in the form of trade-related agreements, either bilateral or multilateral, have now become more than ever a global phenomenon. In fact, the world now is divided into several trade blocs. In almost all parts of the globe, Latin and North America, Western Europe, Africa, Southeast and South Asia; regional cooperation in one form or another, is at work today with varying degrees of integration of participating countries, which is usually considered as an important policy option in a second best world for growth and development. Bangladesh, as a member of least developed countries, also opted for this popular but not uncontroversial policy option only very recently in the mid 1980s through taking the initiative of forming SAARC (South Asian Association for Regional Cooperation) in 1985, although SAARC is not a trade agreement rather a broad forum for mutual collaboration in economic, social, cultural, scientific and technical fields. Later, however, in order to promote cooperation for pursuing common economic objectives of the region, SAARC countries decided to establish Preferential Trading Arrangement (PTA) the agreement of which was signed in 1993 as SAPTA or SAARC Preferential Trading Arrangement (the rounds I, II, and III have already been implemented in 1995, 1996, and 1998 respectively) and also embarked upon a program of establishing a Free Trade Area called South Asian Free Trade Area (SAFTA) by 2001. In order to reap the full benefits of cooperation through further liberalization of trade, the SAARC Chamber of Commerce and Industry (SCCI) has recently expressed its interest to form a SAARC Economic Union by 2008. These are all multilateral initiatives in South Asia. On the bilateral front, South Asian nations are also engaged in regional

* This paper was presented at the Regional Conference of Bangladesh Economic Association on Regional cooperation, Public Expenditure Reforms and Industrialization held in Chittagong University on 24 December 2003.

** Professor of Economics, Chittagong, University.

cooperation through creating Free Trade Areas (FTAs) on bilateral basis. For example, Srilanka and India have signed an agreement on FTA in 1998. Following the suits of other nations in the region, Bangladesh, very recently, has started showing her keen interest for bilateral free trade agreements with India, Srilanka and Pakistan and, with that end in view, has held several rounds of talks with these countries in the mean time. Her recent initiative to actively participate in the BIMSTEC (Bangladesh, India, Myanmar, Srilanka and Thailand Economic Cooperation) through a framework of agreement on FTA to be signed on February 10, 2004 in Bangkok, Thailand, and interest aired in the last OIC summit held in Malaysia to form an Islamic Common Market are quite indicative of present regime's optimistic attitude towards one or other form of regional cooperation as an effective policy option for harnessing development potentialities of the country. The main objective of the present paper is to have an overview of the issues relevant for Bangladesh with respect to regional cooperation particularly in the form of FTA – both bilateral and multilateral, and the possible benefits and costs that could emanate from these agreements in the short-run as well as in the medium and long-run. Accordingly, the paper is structured as follows. Section 2 briefly presents different concepts or dimensions of regional cooperation. Section 3 dwells upon the theory of regional cooperation with special emphasis on FTA along with some of its major benefits and costs. Section 4 reports some experience of cooperation from across the globe. Section 5 illustrates the issues and prospects of SAPTA and SAFTA along with the bilateral talks of Bangladesh on FTA. Section 6 concludes the paper with some policy suggestions.

2. FORMS OF REGIONAL COOPERATION:

Regional cooperation may assume different forms. The simplest form of cooperation could begin with a **sectoral** approach, where contracting countries could select one or more specific sectors or areas for effective cooperation in the profiles of production, choice of technology, marketing, government policies, etc. The process of regional cooperation in Europe, in fact, started in this way following a proposal of the then French foreign minister, Robert Schuman, for pooling European coal and steel resources.¹ In 1952, European Coal and Steel Community was established and by the end of 1954 nearly all custom duties, quota restrictions and other barriers to community trade in coal, coke, pig-iron and scrap iron had been removed.²

Preferential Trading Arrangements (PTA) can be considered as an offshoot of this form of cooperation where the contracting countries offer not a single product or products of a single sector rather a list of products and services in which they

are willing to provide preferential market access in their economies to other members of the group. Under this arrangement, the contracting countries need to arrive at a consensus for the extent of phased reduction in the tariff and non-tariff barriers on a preferential basis for the suppliers of other member countries. This **product-by-product** approach indeed implies a very slow process of cooperation, which, however, can be hastened by agreeing upon across the board tariff reduction.

The **PTA** is an interim step towards establishing a **Free Trade Area (FTA)**. A FTA is also considered to be a loose form of cooperation where member countries agree to remove tariffs and other barriers to trade, while each member country retains its own commercial policy to countries outside FTA. The aim of FTA is to partly, or in the end, to totally, eliminate customs duties and restrictions to trade between them. As each member of a FTA keeps its own custom tariff and commercial policy in force toward outsiders, rules are needed to determine which goods inside the area can move freely from one country to another. In other words, it is basically the rules of origin that are very important for FTA. Examples of FTAs include the **EFTA** (European Free Trade Agreement), **NAFTA** (North American Free Trade Agreement formed in 1993 by the U.S., Canada and Mexico), **Mercosur** (in Latin America formed in 1991 by Argentina, Brazil, Paraguay & Uruguay), **Andean Pact** (reactivated as FTA in 1990 by Bolivia, Colombia, Ecuador, Peru and Venezuela), **Group of 3** (G 3 – a FTA includes Colombia, Mexico and Venezuela), Caricom (in the Caribbean) and **AFTA** (ASEAN Free Trade Area established in 1992).

A **Customs Union** is deeper than FTA with respect to commitments within which trade restrictions are abolished but which has a concerted commercial policy towards non-members and common external tariff on imports from them, though the tariff rates may vary between commodities.

Even higher order of cooperation is the **Common Market** in which, in addition to the common external tariff and the concerted commercial policy of the custom union, it aims at establishing a unified market area with the free movement of good, services and factors of production (viz., labor and capital). The **European Common Market** until 1992 is a conspicuous example of functional common market.

The highest and most organized form of cooperation is the **Economic Community** or **Economic Union** which not only aims at achieving common external tariff and commercial policy and removal of restrictions on trade of goods, services and factors of production within the union, but also aims at

harmonizing agricultural and industrial policies, concerted monetary, fiscal and exchange rate policies as a step to a common currency and a common central bank. The **European Union** is currently passing through such a critical phase of regional cooperation.

3. THEORY OF FREE TRADE AGREEMENT

Typically, the stylized analyses based on static models assume that under free trade agreements all tariff and non-tariff barriers are completely dismantled and that all the effects of liberalization materialize. They also assume that all other basic parameters – import and export elasticities, technology, structure of preferences – remain fixed. In short, demand and supply functions are altered only by the modified tariff structure. But when partial equilibrium techniques are used, existing studies, following Jacob Viner (1953)³, estimate **trade creation** and **trade diversion** effects on consumers, producers and government⁴. Generally speaking, a FTA or customs union has effects on both the export and import sides. New export opportunities to partner countries yield net trade-creation effects and are beneficial; but the net import effects may be ambiguous, and depends, among others, on the size of the countries and pre-existing trade flows.

Thus the theory of Customs Union, following Viner, and the mainstream theoretical research on the subject, suggests certain degree of uncertainty of net gains that might accrue from regional trade agreements particularly FTAs. It is, therefore, difficult to pass any categorical judgments on the economic impacts of any kind of trade-related cooperation mentioned in the preceding section. In static and partial equilibrium settings, the basic concepts of the theory are those of trade creation and trade diversion. Trade creation affects the economy favorably while the trade diversion adversely affects the economy. An agreement (a FTA or Customs Union) is more likely to lead to trade creation if (a) the contacting countries are actually competitive but potentially complementary, (b) the cost differentials between the countries in goods they both produce is larger, (c) the initial tariff differentials between the contacting countries is greater, (d) the volume of trade originally covered by the contacting countries is larger, and the losses caused by trade diversion would be smaller if the tariffs to the countries outside FTA (rest of the world) is smaller⁵. But the **static** and **partial equilibrium** approaches have their own theoretical pitfalls. The analysis of trade creation and trade diversion effects in static sense simulates the trade impacts of FTA at a particular point in time (say a year) and, therefore, is unable to capture the effects if tariff reductions are phased in over a period (say 10 or 12 years). Again, the partial equilibrium analysis is only capable of capturing the trade impacts of FTA.

But, as we all know, FTA will not only affect trade alone; through trade it will also impact overall growth, income distribution, employment, industrial structure, technology, foreign direct investment (FDI), etc. Since the empirical foundation of dynamic analysis is still weak, comparative static analysis using Applied General Equilibrium (AGE) or Computable General Equilibrium (CGE) models are largely used in simulating the effects of FTA or Customs Union or any other form of regional cooperation. Keeping these theoretical loopholes in mind, let us see what could be the benefits and costs FTA in a competitive situation.

FTA is generally built on strategic considerations arising from imperfect and incomplete market at home and abroad, which handicap the spread of efficiency gains in certain sectors and the development of new productive patterns with progressively higher degree of value-added. The conventional literature on the benefits and costs of FTA focuses attention in a framework of competitive equilibrium. In this framework, FTA is beneficial if the effects of trade creation (shift toward cheaper sources of supply) are larger than those of trade diversion (shift toward more costly source of supply). The crucial issue, however, is how benefits and costs are measured. Apart from trade creation through guaranteed market access, FTA ensures economic efficiency in different product lines through raising competition and promoting specialization in regional market, balances regional investment pattern, creates potential platform for non-traditional products, helps exploit externalities through providing foreign market as catalyst, etc. Moreover, in the face of economies of scale, what otherwise would be costly trade diversion can eventually become a cost-reducing welfare-enhancing effect. Expansion of regional market can also attract FDI. These, however, are all potential benefits of FTA rather than guaranteed outcomes, which will ultimately depend on nature of policy environment under which FTAs operate. The most frequently cited costs are as follows:⁶

- (a) FTA can divert trade away from possibly more efficient firms, which are located in non-member countries. This has costs for domestic consumers and for non-member countries that lose market share. The trade diversion risks locking the partner economies into patterns of inefficient production.
- (b) FTA can improve the terms of trade of member countries at the expense of non-member countries and give rise to incentives for maintaining or increasing protection.
- (c) While FTA induces FDI in the expanded regional market, it can locate unevenly and, in the absence of harmonized incentives, may be a source of competition among partners and thereby may cause fiscal drain.

- (d) Benefits are often asymmetrically distributed and initially concentrated in some members while others are dependent on uncertain spillover effects (in multilateralism).
- (e) An explosion of FTA creates a spaghetti pattern of agreements with multiple hubs and spokes that give rise to distortions of trade, administrative costs, rent seeking and a difficult to predict distribution of gains among countries.
- (f) The emergence of FTA can create defensive reactions, in which a country joins an agreement not because it is the best option, but because of the real or potential costs of being left out of an integration process.
- (g) Finally, FTA distracts attention from multilateral rounds of liberalization and delays further unilateral opening.

Before we conclude the section, we want to iterate that evaluating the benefits and costs of FTA is no easy task. Part of the problem is the nature of the subject matter because it is a complex general equilibrium phenomenon with dynamic process, making it difficult to dissect for purposes of causal explanation. Moreover, a short-run analysis is incomplete because, when an agreement becomes successful, one expects to see initial costs compensated by benefits that play out over the medium and long run. Besides, FTA is usually evaluated in the light of what would have happened in its absence. Moreover, economists are interested in measuring changes in welfare; given the complications of defining this for a particular country they often use a proxy expressed in summary statistic reflecting growth in trade. However, conclusions about FTA rarely are based on the entire story. Much of the debate centers on static trade creation and trade diversion effects. This is partly because many economists consider these effects to be the fundamental dimension for evaluating FTA. One problem, however, is that the static analysis frequently uses a partial competitive equilibrium framework to jump to general conclusions about a process that is a general equilibrium phenomenon. Consequently, dynamic approach is resorted to, which is still weak. Nevertheless, the models of dynamics are sufficiently specified to suggest that the benefits behind the dynamics of FTA are potentially large. It is therefore worth the effort to go beyond static trade creation-diversion analysis (which has its ambiguous dimensions as well) to begin to better understand, even if only very imperfectly, the longer-term dynamics. What we should remember is that any sort of transformation has costs. So FTA will involve some unwanted trade diversion costs. However, countries justify these costs by the greater benefits that are expected, which are spread over a longer period of time.

4. EXPERIENCE OF FTA IN OTHER REGIONS

4.1 Mexico and Latin America

In the 1980s Mexico went through a very acute debt crisis, caused by macroeconomic imbalances, inefficient policies and highly protected import-substituting industries. To get rid of these economic ailments, it rapidly started stabilization and structural adjustment in 1983. It liberalized trade by lowering its protection rate to a maximum of 20 per cent and completely freed 75 per cent of its production⁷. It also opened up its capital market. In 1993, it became the member of NAFTA (North American Free Trade Area, the other two members are the United States and Canada) and signed a number of bilateral trade agreements with many Latin American countries like Chile (1991), Bolivia (1994), Costa Rica (1994), Colombia (1994), Venezuela (1994), Nicaragua (1998), etc. As a result of opening up the economy and signing regional trade agreements – both bilateral and multilateral, massive foreign investment, approximately US\$15 billion a year, was attracted to Mexico⁸. Its industrial production grew rapidly with widening diversity. Employment in its manufacturing sector increased, and its industrial production was restructured, not destroyed. In other words, overall unemployment did not increase because of FTA, as was feared initially, rather it was observed that more jobs were created in Mexico as a result of accession to NAFTA. But wage structure followed the same pattern as in the U.S., with higher wages for skilled workers and stagnating or decreasing wages for unskilled workers⁹ (the Stolper-Samuelson Theorem¹⁰).

Not only Mexico, the 1990s witnessed a wave of regional integration in Latin America where as many as 15 agreements – FTA and customs union – were signed. Between 1990 and 1997, the region's exports expanded by 95 per cent; imports grew even faster, at 127 per cent¹¹. Imports as a percentage GDP now equal more than 20 per cent, up from 10 per cent in 1990¹². Moreover, the region's growth of imports has consistently exceeded that recorded at the world level: according to WTO estimates, the value of world imports grew by an average 7 per cent a year between 1990 and 1996, compared to 15 per cent for Latin America¹³.

4.2 APEC Countries

With the help of an **Applied General Equilibrium** (AGE) model called **Global Trade Analysis Project** (GTAP), Philip D. Adams simulates the effects of trade liberalization on the APEC countries, taking in the U.S., Japan, Canada, and most of the South-East Asian nations¹⁴. The simulations, using a multi-country AGE model with 37 commodity types and up to 20 regions of the world, conclude that at the macroeconomic level, the trade liberalization generates an increase in the

capital stock and hence in real GDP in all regions other than the rest of the world, which maintains existing barriers to trade. Domestic consumption is assumed to expand in line with GDP but investment expands with the capital stock, i.e., more rapidly than GDP. Hence, overall domestic spending in each APEC region expands more than GDP and their trade balances move towards deficit. Imports expand sharply when protection is reduced. Exports are stimulated by depreciations of the real exchange rate. The analysis further observes that the implications for each region's industries primarily depend on the extent to which the trade liberalization exposes the industries to additional import competition and on industries' export orientation. Examples of sectors, which are strongly stimulated by the liberalization, are the agricultural industries of Australia, New Zealand and Taiwan; and some of the manufacturing sectors (e.g., textiles, clothing and footwear and chemical products) of South-East Asia. Transport is the sector, which, overall is adversely affected by trade liberalization¹⁵. The paper finally concludes that trade liberalization offers large long-term benefits in terms of increased GDP to those which liberalize.

4.3 Morocco and Tunisia

In 1995, Morocco and Tunisia – the first two Arab countries, signed Association Agreements that committed them to integrate into a FTA with the European Union (EU). The implementation of the agreements is scheduled to take place over 12 years, and it is still not clear how effective the FTA will be before the time is up. But the impacts of FTA on the economies of these two North African lower middle-income countries in the last few years were rather clear, of course in a comparative static sense. During the period 1990 and 1995, the real GDP growth rates of Morocco and Tunisia were 1.0 and 4.0 per cent respectively. But between the period 1995 and 2002, Morocco and Tunisia registered relatively fair growth rates, which were 3.4 and 5.1 per cent respectively¹⁶. The performance in the foreign sector was also noticeable. The exports/GDP ratio (or export propensity) of Morocco which was about 26% in 1995, stood at 30% in 2002. The corresponding figures for Tunisia were 40.5% and 44.3%. More specifically, export shares in Morocco and Tunisia both increased during the first half of the 1990s, stabilizing afterwards until 2001 when they experienced a significant rise¹⁷. From the data available in the website of the World Bank, it is observed that trade openness (or trade ratio) in Morocco measured as the sum of real exports and imports of goods and services as a share of real GDP increased from 58.53% in 1995 to 64.48% in 2002. The corresponding figures for Tunisia are 86.55% and 94.2%¹⁸. Although the FDI figures for Tunisia are not readily available, the World

Bank data show that the FDI in Morocco in 1992 was U.S.\$503 million, which stood at U.S.\$2658 million in 2001.

However, there are economists who observe no significant correlation between trade policy reforms of the countries like Mexico, Morocco or Tunisia and their growth in GDP¹⁹. They argue, “ we find little evidence that open trade policies – in the sense of lowering tariff and non-tariff barriers to trade – are significantly associated with economic growth”²⁰ Because, according to them, the methods of ascertaining the link between trade policy and growth have serious shortcomings. Also there are studies which observe that trade policy reforms had minimal impacts on employment²¹.

In spite of this controversy inherent in the subject as mentioned earlier, we can see that the usual predictions of the static models that FTA would prove costly to these two countries have been proved unfounded. It should be mentioned here that Moroccan and Tunisian manufactured goods have had free access to EU markets since 1976. Thus so long as agriculture is excluded, the proposed FTA offers the two countries no additional export advantages, while requiring them gradually to remove their own trade barriers against manufactured goods imported from the EU. Nevertheless, these two countries have been reaping benefits from the new opportunities generated by the FTA’s dynamic effects, e.g., increased FDI. Indeed, estimates indicate that further reforms coupled with more domestic and foreign investment could make the benefits of FTA outweigh its costs, if any, and increase employment, income and growth in real terms²².

5. SAARC, SAPTA, SAFTA, BIMSTEC AND BILATERAL FTAS

The idea of South Asian regional cooperation was first proposed by Bangladesh in 1980 with a view to holding periodic, regional-level consultations among countries in South Asia on matters of mutual interest and possible cooperation in economic, social, cultural and other fields. As a result, SAARC formally came into existence with the adoption of the Charter at its first summit in Dhaka in 1985 (7 – 8 December). In December 1991, the sixth summit held in Colombo approved the establishment of an Inter-Governmental Group (ICG) to formulate an agreement to establish a SAPTA (SAARC Preferential Trading Arrangement) by 1997. But well in advance of the date stipulated in Colombo summit, the framework agreement on SAPTA was finalized in 1993, and formally came into operation in December 1995. The agreement reflected the desire of the SAARC countries to promote and sustain mutual trade and economic cooperation within the SAARC region through exchange of concessions. So far three rounds of talks

on this agenda have taken place. The first two rounds of trade negotiations under SAPTA were concluded on product-by-product basis and the third round was based on chapter-wise. The fourth round has been decided to be held chapter-wise, sectoral and across the board. The tenth summit held in Colombo in 1998 decided that in order to accelerate progress in the next round of SAPTA negotiations, deeper tariff concessions should be extended to products which are being actively traded, or likely to be traded, among members; that discriminatory practices and non-tariff barriers should be simultaneously removed on items in respect of which tariff concessions are granted or have been granted earlier. Measures to remove tariff and non-tariff barriers and structural impediments should also be taken in order to move speedily towards the goal of a South Asian Free Trade Area (SAFTA). SAPTA was, therefore, envisaged primarily as the first step towards the transition to a SAFTA leading subsequently towards a Customs Union, Common Market and Economic Union. A Committee of Experts for drafting a comprehensive treaty framework on SAFTA has already finalized a working draft following the decision taken in the eleventh SAARC summit held in Katmandu on 4 to 6 January 2002, which is now under consideration of member states. In the mean time, bilateral agreements on FTAs between some member countries have been signed (e.g., India and Sri Lanka) and negotiations for more of such arrangement are going on between Bangladesh and Sri Lanka, India and Pakistan. The recent bias of SAARC countries towards bilateral FTAs probably has emanated from the poor performance of SAPTA (For example, about 95% of total imports of Bangladesh from India takes place **not** under SAPTA but under general rules) and the bleak prospect of multilateral SAFTA.

The number of products covered and the depth of preferential tariff concessions agreed in the three rounds of negotiations under SAPTA are shown in Table: 1, which shows that the concessions covering a total of 4951 products range from 7.5% and 100%.

One of the core principles of the SAPTA agreement is that there should be special treatment for LDCs through the consideration of additional measures and reduction of domestic content requirement (i.e., the rules of origin) further so that the LDCs within SAARC (Bangladesh, Nepal, Bhutan, Maldives) can benefit equitably from trade liberalization.

Table 1: Tariff Concessions offered by SAARC Countries

Country	Number of Products	Depth of Tariff concessions
Bangladesh	572	10% and 15%
Bhutan	266	10%, 13%, 15%, 18% and 20%
India	2402	10%, 15%, 20%, 25%, 30%, 40%, 50%, 90% and 100%
Maldives	390	5%, 7.5%, 10% and 15%
Nepal	425	10% and 15%
Pakistan	685	10%, 15%, 20% and 30%
Srilanka	211	10%, 15%, 20%, 30%, 50%, 60% and 75%
TOTAL	4951	

Source: <http://www.saarcnet.org>

Table 2: Revised Rules of Origin

Items	Before	Before	After	After
	Amendment	Amendment	Amendment	Amendment
Not wholly produced and obtained	For non-LDCs	For LDCs	For non-LDCs	For LDCs
Domestic value addition in an exporting country	50%	40%	40%	30%
Maximum input permitted from non-contracting states	50%	60%	60%	70%
Cumulative Rules of Origin				
Aggregate domestic value addition in an exporting country including inputs sourced from within the SAARC region	60%	50%	50%	40%
Maximum input permitted from outside the SAARC region	40%	50%	50%	60%

Source: <http://www.saarcnet.org>

Table: 2 shows the reduction in the rules of origin criteria (both for LDCs and non-LDCs within SAARC) in terms of the extent of value addition required

before and after the downward revision in the SAPTA rules of origin.

Any analysis for expanding trade and economic progress in South Asia must begin with the recognition and concern that the share of SAARC countries in total world trade today is less than 1% and that intra-SAARC trade, despite all efforts on SAPTA tariff concessions and relaxed rules of origin, remains a meager 3% of their total world trade. This compares poorly with 63.4% for intra-European (EU) trade, 37.2% for North America (NAFTA), 38.4% for East Asia (ASEAN)²³. The cumulative loss to the region is rather colossal, which is confirmed by the large amounts of “unofficial trade” that continues to be traded across the borders of India and Bangladesh, Nepal, Pakistan and Sri Lanka. A recent survey conducted by the South Asia Enterprise Development Facility (SAEDF), an organization supported by the International Finance Corporation (IFC), reveals that about Rs. 3.42 billion (in Indian currency) of trade takes place between the seven Northeastern States (NES) of India and Bangladesh of which 43% takes place through informal trade route²⁴. From the data available in the website of SAARC (), it can be observed that smaller economies like Nepal, Bangladesh and Maldives, are having substantial levels of trade with their neighbors. But India and Pakistan are the only two countries where the export levels to SAARC countries are much higher than the import levels, i.e., these two countries are having huge trade surpluses with their SAARC neighbors. Therefore, it is recognized that in an effort to materialize SAFTA, the base of traded commodities within SAARC must be enlarged from a meager level of 3% to at least 10% of their total world trade. Thus multilateral trade liberalization through SAPTA could not serve the purposes of LDCs like Bangladesh so far. Consequently, the interest for bilateral FTAs is growing, which are widely considered **not** as a “**stepping stone**” rather as a “**stumbling bloc**” for multilateral arrangements like SAFTA²⁵.

Again, Bangladesh along with four other members (India, Myanmar, Sri Lanka and Thailand) is also supposed to sign a framework of agreement on FTA (BIMST Economic Cooperation or BIMSTEC) in Bangkok on February 10, 2004, although Bangladesh, as usual, is less clear about the benefits of the deal. In a rapidly changing scenario, Thailand, Sri Lanka and India have said that they would sign the deal whether or not Bangladesh agrees to join such a framework. Both India and Thailand are in talks to sign a bilateral FTA. In order to improve bilateral trade with the countries like Myanmar and Thailand, India, bypassing Bangladesh, has established a new road linkage with Myanmar via Manipur. Sri Lanka and Thailand are also involved in similar talks while the bilateral FTA between India and Sri Lanka has proved to be a success. Under the circumstances, if Bangladesh decides to stay outside this multilateral FTA, there might emerge

some real or potential costs of being left out in such a regional trade integration process, as mentioned earlier.

However, Peter Warr, an Australian consultant of ESCAP, in his recent report submitted to the Commerce Ministry of GOB has opined that Bangladesh would not gain much from the FTA with BIMSTEC countries²⁶. National Board of Revenue is also known to have conducted a similar study in which it was also observed that Bangladesh would lose revenue, many industries would be forced to close down leading to huge job losses, and import dependence would increase²⁷. The basis of this sort of skeptic conclusions regarding BIMSTEC is, however, not readily known. Probably the frustrating results of SAPTA as well as the unfamiliar markets, divergent levels of developments and meager volume of trade with Myanmar and Thailand, are putting brake on Bangladesh initiative to sign a FTA with these countries. Table: 3 shows that almost three-fourth of the merchandise exports of Bangladesh goes to Western Europe, North

Table 3: Direction of Merchandise Exports and imports of Selected Asian Countries in 2002

Country	Asia	Exports to (in %)		
		Western Europe, North And Central America	Western Europe, North And Central America	Asia
Myanmar	61.2	29.2	91.6	3.9
Thailand	51.5	37.6	59.0	22.7
Bangladesh	6.0	73.6	62.4	15.5
Bhutan	88.3	10.0	65.9	32.6
India	26.9	50.1	25.5	30.1
Maldives	36.6	62.8	65.2	13.0
Nepal	51.3	45.6	60.7	12.5
Pakistan	20.2	56.2	31.9	27.1
Sri Lanka	11.5	70.4	65.3	19.3

Source: Key Indicators of Developing Asian and Pacific Countries, 2003, Asian Development Bank, Tables 21 & 22, pp. 113 & 114. and Central America, while more than three-fifth of her imports originates from Asian region. Apparently Bangladesh is having large trade deficits with Asia as a whole. On the

other hand, the foreign trade of both Myanmar and Thailand are basically dependent on Asia. Under such a situation, if the BIMSTEC countries sign a FTA, it may be difficult for Bangladesh to penetrate the markets of these countries through competing out the Asian giants. It may also further widen the already existing trade deficits of Bangladesh with this region. This is, however, an observation based on static facts. From dynamic viewpoint, the long-run effects of such FTA may outweigh the short-run costs as observed elsewhere in the globe.

Let us now look at the issues and prospects of bilateral FTAs between Bangladesh, India, Sri Lanka and Pakistan that are now in the process of laborious negotiations. Opinions of academics and policy makers are, however, divided in this respect. Those who are in favor argue that Bangladesh has already opened up her economy to a great extent including floating her exchange rate with convertibility in the current account, scaling down her tariff line from 150% in 1992-93 to 32.5% in 2002-03, and reducing the tariff structure from nine steps in 2001-2002 to five steps in 2002-2003²⁸. If we consider the trade ratio as the degree of openness of an economy we see that Bangladesh (42.1) ranked second after Sri Lanka (88.8), followed by Pakistan (34.5) and India (19.41) in 2000²⁹.

Table 4: GNI, Exports and Imports of Selected SAARC Countries, 2002 (in million US \$)

Country	Gross National Income	Total Exports	Total Imports
Bangladesh	48617 (8.07)	5617 (8.26)	7968 (9.33)
India	477368 (79.24)	48430 (71.26)	60540 (70.89)
Pakistan	60047 (9.97)	9530.7 (14.02)	11107.7 (13.01)
Sri Lanka	16411 (2.72)	4386.4 (6.45)	5785.4 (6.77)
TOTAL	602443 (100)	67964.1 (100)	85401.1 (100)

Notes: Figures in the parentheses indicate percentage of the total.

Source: Key Indicators of Developing Asian and Pacific Countries, 2003,

~~So, opening the economy further will not do the harm. They argue that if a small country like Sri Lanka (having the highest openness), contributing only 2.72% of total income (GNI) of these four countries, as shown in Table: 4, can benefit from~~

an agreement on FTA with a country like India (having about 80% of total income), then there is no reason of why Bangladesh, contributing 8.07% of total income would not gain from such an arrangement.

Asian Development Bank, Country Tables. To them, if Bangladesh goes into an agreement on FTA with India or with other SAARC neighbors, colossal damages to her economy as usually are feared would not likely to happen. In support of their view they draw the reference of prognosis that was proved groundless in the case floating versus fixed exchange rate debate.

But those who are against argue that Bangladesh is currently having a very meager level of trade with these SAARC countries. Moreover, whatever is the trade volume, she is facing continuous trade deficits with India, Pakistan and Sri Lanka. As we have already mentioned, only 6% of her total exports in 2002 (Table: 3) was directed to Asia in which the amount directed to these three SAARC nations was certainly meager. In 1999, the total exports of Bangladesh were U.S.\$4520 million of which only 0.6 per cent was exported to these countries³⁰. In the same year, total imports were U.S.\$8352 million of which, however, 13.35 per cent originated from these three SAARC nations³¹. Thus with the present basket of exports, according to them, if Bangladesh enters into FTAs with India or Pakistan, the trade balance will further worsen. So, neither the pre-FTA level of trade nor the existing trade balance scenario immediately provides a strong basis to argue in favor of bilateral FTAs. Besides, Bangladesh does not have any prior experience of FTA. If she at all wants to go for such an arrangement, according to them, she may sign FTAs with small neighbors like Nepal, Bhutan or Srilanka on experimental basis and closely monitor the repercussions on her economy. They also frequently cite the security question particularly with India as an important factor that can undermine the potential benefits of FTA. Let us now try to put the usual benefits and costs of FTAs mentioned in section 3 into this perspective.

First, the benefit of FTA would be small if the pre-existing tariff level were low. The pre-FTA tariff structure of these countries including Bangladesh indicate that although, all of these countries have reduced tariff to a considerable extent, narrowed down the varieties of protection, moved toward fairly uniform tariff rates and unified exchange rate systems³², yet it is observed that both average tariff on manufacturing and primary products, and the coverage of QRs, is still high compared to East Asian countries³³. Thus the pre-FTA tariff structure of these four countries does offer a good ground for FTAs. Moreover, the prevalence of trade dwindling para-tariff (border charges, fees, etc) and non-tariff (regulations

or practices other than tariff) barriers and other impediments of trade (e.g., anti-dumping or countervailing tax, etc.) also provides a sound basis for FTAs.

Table 5: Major Exports by Principal Commodity of elected SAARC Countries

Bangladesh	India	Pakistan	Sri Lanka
1. Jute Manufacture	1. Non-metallic mineral manufactures	1. Cotton yarn and Thread	1. Garments
2. Fish		2. Cotton Cloth	2. Tea
3. Leather		3. Rice	3. Petroleum Products
4. Raw Jute and mesta	2. Textile yarn, fabrics and articles, etc	4. Leather	4. Rubber
5. Tea	3. Clothing	5. Raw Cotton	5. Precious Stones
	4. Coffee, tea, cocoa, spices and manufactures		6. Desiccated Coconut
	5. Leather products, n.e.s.		7. Copra
			8. Coconut Oil

Source: **Key Indicators of Developing Asian and Pacific Countries, 2003**, Country Tables, Asian Development Bank.

Second, if we look at the composition of major exports and imports of these countries (Table: 5), we see that in many sectors they are competitive, although in many sectors again complementarity exists. For example, exports of textiles and clothing continue dominate total manufacturing exports countries like Bangladesh, Pakistan and Sri Lanka the shares of which are respectively 76, 78 and 50 percent³⁴. By December 2004, when MFA will be phased out, Bangladesh will face severe competition with these SAARC members including India. Under the changed scenario, Bangladesh can try to survive in the tariff/quota-free international market by importing necessary raw materials from Pakistan or for that matter, from India, for her RMG industry (the so-called SAARC cumulation) and regain her lost markets of raw jute, jute goods, tea, etc. Although, countries like Pakistan, Sri Lanka, India, China, Indonesia, etc. will, as they are now, remain the big competitors of Bangladesh in this respect, because at that time they will be able to export RMG without any quota or tariff through converting the fabrics they export now. Here, however, Bangladesh may enjoy some competitive edge over other countries with respect to unit labor cost. **Third**, it is usually argued that FTAs will adversely affect the existing industrial structure of Bangladesh. But this

fear also would be misplaced if the scale economies and vertical linkages among industries were taken into account. It is true that FTAs may lead to losses of some industries and gains of others. But countries like Bangladesh where labor is relatively cheap, labor-intensive downstream firms can attract capital-intensive upstream firms. In other words, agglomeration of vertically linked industries (e.g. composite textiles and RMG) may offset the potential loss in this respect. **Fourth**, if agriculture is included in the FTA and rules of origin are relaxed, many agricultural and non-traditional products like battery, cosmetics, cement, light engineering products, spares of machineries and transports, etc. may add to this list of exports. **Fifth**, intra-regional investment flow and increased FDI in the post-FTA regional market can open up new product lines and generate employment opportunities. **Sixth**, the fear of fiscal loss also seems to be less reasonable in view of relatively low volume of imports from the countries under consideration and already scaled down tariff structure. Nonetheless, whatever loss would be incurred, it could be compensated by resorting to less distortionary taxes like VAT. **Finally**, an analysis of the political economy of FTA particularly with India suggests that FTA with India might be able to help bridge up the existing chasms in the relationship between these two countries. Here, however, the chauvinistic attitude of India should be relinquished and its treatment to Bangladesh as a LDC must be ensured in conformity with the WTO and SAPTA rules of business. In her recent talks with Bangladesh on FTA, India is reported to have demanded transit facilities and withdrawal of bar imposed by Bangladesh on the import of sugar and yarn from India using the land routes in exchange of 118 products for which Bangladesh wanted tariff-free entry. As a result, the FTA talks between India and Bangladesh have reached deadlock. It is relevant to mention here that there are some other lingering issues with India like sharing of the waters of 54 common rivers, cross-border terrorism, demarcation of territorial boundary, etc. that have been contributing to worsening political relationship between these two neighbors. India's recent initiative to adopt an inter-river linking project will certainly widen this gap further. We think that many of these bilateral issues are more political than economic, which can be resolved if a meaningful and effective FTA is worked out. Because mutually benefiting economic agreements may help resolve political problems and bring these two countries closer.

It should, however, be remembered that all these issues and prospects of FTAs discussed above in the context of Bangladesh are probable and based on long-run assumptions. It is natural that many economic costs, real or monetary, hidden or overt, may wreak upon the economy immediately but the corresponding benefits that would ensue may spread over a longer period of time and outweigh these

costs. Everything, however, depends on the objective conditions under which the policies pertaining to FTAs operate.

6. POLICY SUGGESTIONS

In order to make FTAs a success, the following policy suggestions may be put forward:

- (a) FTAs should be negotiated and applied on the principles of overall reciprocity and mutuality of advantages of the contracting nations taking into account the respective levels of industrial, technological and overall development.
- (b) Preferential measures must be ensured for the LDCs in order to resist the possibility of unequal distribution of benefits.
- (c) Para-tariff, non-tariff and other barriers to trade must be removed.
- (d) High-intensity trade items should be identified on priority basis.
- (e) Supporting trade-augmenting measures like opening of land routes between the member countries, improving infrastructural linkages like port, harmonization of measures and standards, custom valuation system, dispute settlement procedure, etc. should be enforced and monitored meticulously.
- (f) Proper investment climates (both political and economic) of the contracting nations should be ensured and their investment policies be harmonized so that intra-regional and international investments may flow. In this respect, the 'Agreement on the Promotion and Protection of Investment' should be signed between the SAARC nations.

Notes

1. Pearce, David W., (ed): *Macmillan Dictionary of Modern Economics*, Macmillan Press, London, 1985, p.136.
2. Ibidem.
3. Viner, Jacob,: *The Customs Union*, New York, Carnegie Endowment for International Peace, 1953.
4. By trade creation we mean the increase in import demand of a product following a reduction in tariff; the extent of which will depend on the original level of imports of the product as well as the responsiveness of import demand to changes in price (i.e., price elasticity of demand). By trade diversion, on the other hand, we mean supplanting the imports of a

more efficient source by a less efficient one following changes in tariff rates; the extent of which again will depend on relative changes in the tariff rates of the contracting countries as well as the substitution response of domestic output.

5. Soderstern, Bo.: *International Economics*, Macmillan (2nd edition), 1980, p.284.
6. Devlin, Robert and Ffrench-Davis, Ricardo.: 'Towards an evaluation of Regional Integration of Latin America' in *The World Economy*, vol. 22, No.2, March 1999, pp.261-290.
7. Boughzala, Mongi.: 'Impact on workers of reduced trade barriers: The case of Tunisia and Morocco' in *International Labour Review*, International Labour Office, Geneva, Vol. 136 (1997), No. 3 (Autum), p. 388.
8. Ibidem.
9. Ibidem.
10. The Stolper-Samuelson (SS) theorem states that the wages of skilled workers increase with the increase in the relative price of skill-intensive goods. When applied to international trade, it comes in contradiction with Hecksher-Ohlin (HO) Theory.
11. Devlin, Robert and Ffrench-Davis, Ricardo, Ibid, p. 263.
12. Ibidem.
13. Ibidem.
14. Adams, Philip D.: 'Long-run Effects of APEC Trade Liberalisation: An Applied General Equilibrium Analysis' in *The World Economy*, Vol 21, No. 7, September 1998, pp 931- 952.
15. Ibid, p. 951.
16. Website of World Bank, *World Development indicators Online 2003*.
17. D. Fanizza (et al.): *Tunisia's Experience with Real Exchange Rate Targeting and the transition to Flexible Exchange Rate Regime*, IMF Working Paper No. WP/02/190, pp.22-23.
18. <http://www.saarcnet.org>:
19. Levine, R. and D. Renelt., 'A Sensitivity Analysis of Cross-Country Growth Regressions' in *American Economic Review*, 1992, 82(4): 942-963.
20. Rodriguez, Francisco, and Rodrik, Dani,: *Trade Policy and Economic Growth: A skeptic's guide to cross national evidence*, National Bureau of

- Economic Research, Working Paper No. 7081, April 1999, p. 2.
21. Harrison, A. and G. Hanson,: *Who gains from trade reforms: some remaining puzzles*, NBER Working Paper Series, No. 6915, January 1999.
 22. Boughzala, Mongi, Ibid, p. 380.
 - 23: <http://www.saarcnet.org>: ‘Road-map to SAFTA or Revising SAPTA Fast-Track’, SAARC Document.
 24. *The Financial Express*, Dhaka, November 6, 2003.
 25. Schiff, Maurice.: *Multilateral trade liberalization and Political Disintegration: Implications for the evolution of FTAs and Customs Union*, Development Research Department, World Bank, April 2000.
 26. *The Financial Express*, Dhaka, November 2, 2003.
 27. Ibidem.
 28. *Bangladesh Economic Survey*, 2003, Economic Adviser’s Wing, Finance Division, Ministry of Finance, Govt. of the Peoples’ Republic of Bangladesh, p.44.
 29. Ibid, p.48.
 30. The World Bank: *Development, Trade and the WTO, A Handbook (CD)*, 2002, Washington, U.S.A.
 31. Ibidem.
 32. Bandara, J.S. and McGillivray, M.: ‘Trade Policy reform in South Asia’ in *The World Economy*, Vol. 21, No.7, September 1998, p.886.
 33. Ibid, p.894.
 34. Ibidem.

Relative Influence of Monetary and Fiscal Policies on Industrial Output of Bangladesh: A Dynamic Analysis*

Mudabber Ahmed**
Jyoti Prakash Dutta***

1. INTRODUCTION

The share of industrial sector in the GDP of Bangladesh is low (around 15%)¹ and its growth could never achieve a double-digit rate in the last three decades. In the 1970s, 80s and 90s, the actual or compound growth rates of this modern sector were 8.8%, 2.5% and 7.67% respectively² Researchers usually tried to assign either demand or supply related factors for explaining the poor performance of this sector (Dutta and Ahmed, 1994; Raj, 1976; Bagchi, 1970, etc). But a complete analysis in this regard should take into cognizance of the monetary and fiscal policy issues to explain the dynamic behavior of industrial output. The previous studies also suffer from a major methodological deficiency. Most of these studies mainly dealt with single equation model and thus important feedback mechanism was overlooked. Some of these studies also were subject to omitted variables bias. Studies exploring the relative influence of public policies (monetary and fiscal policies) on industrial sector are, to the best of our knowledge, rarely available. The present study is an endeavor towards this unexplored area in the sense that a dynamic multivariate and multi-equation model is developed in order to isolate the relative influence of monetary and fiscal policies on industrial output and also trace the behavior of industrial output over time due to each of the policy shocks.

Accordingly, the paper is structured as follows: section 2 specifies the model and

* This paper was presented at the Regional Conference of Bangladesh Economic Association on Regional cooperation, Public Expenditure Reforms and Industrialization held in Chittagong University on 24 December 2003.

** Associate Professor, Department of Economics, CU And

*** Professor, Department of Economics, CU

¹ Key indicators of developing Asian and Pacific countries, 2003, ADB.

² Dutta J. P. (1993).

methodology. Section 3 presents a brief discussion about the data set used in the present paper. Section 4 displays and discusses the empirical findings. Section 5 concludes.

2. METHODOLOGY

The methodology applied in this study is known as **Vector Autoregressive (VAR)** model where each of a set of variables is regressed on past values of itself and past values of all other variables included in the system. As an alternative to traditional econometric system of equations where variables are generally arbitrarily labeled as endogenous or exogenous, VAR models have been developed as powerful multivariate models (Sims, 1980) where no such dichotomy of variables is used. In these models, all variables are simultaneously included in order to unlock the dynamic influence of all the variables of the system.

Since the objective of this paper is to examine the effect of monetary and fiscal policies on industrial output in a multivariate framework, our model includes two policy variables, viz. money stock (M) which represents monetary policy and quarterly development expenditure (QDE) of the government which represents the fiscal policy and one target variable, viz. industrial production index (IPI). So the VAR model with n lags is:

$$\begin{aligned} IPI_t &= \sum_{i=1}^n A_i IPI_{t-i} + \sum_{i=1}^n B_i QDE_{t-i} + \sum_{i=1}^n C_i M_{t-i} + e_{ipit} \\ QDE_t &= \sum_{i=1}^n A_i IPI_{t-i} + \sum_{i=1}^n B_i QDE_{t-i} + \sum_{i=1}^n C_i M_{t-i} + e_{qdet} \\ M_t &= \sum_{i=1}^n A_i IPI_{t-i} + \sum_{i=1}^n B_i QDE_{t-i} + \sum_{i=1}^n C_i M_{t-i} + e_{mt} \end{aligned}$$

Since in VAR models, estimated coefficients do not provide us with interpretable economic insights, we, therefore, present two important summary measures, namely, **Forecast Error Variance Decompositions (FEVD)** and **Impulse Response Functions (IRF)**, which capture the dynamic properties of the model.

Variance decompositions measure the quantitative effect that individual shocks have on all the variables in the system including the shocked variable itself. A system's reaction to shock in one of the variables can best be explained by IRF³

3. DATA

³ See Enders (1995, p. 310) for details about Forecast Error Variance Decompositions (FEVD) and Impulse Response Functions (IRF).

The data used in this study are taken from the IMF, *International Financial Statistics* (IFS) CD-ROM- supplemented by IMF, IFS Yearbook except for QDE. The QDE figures are taken from the various issues of Statistical Year Book of Bangladesh. Quarterly observations comprising the period 1975:Q2-2001:Q4 are used to estimate the model. Where quarterly observations are not available, figures are obtained by using Lisman and Sandee (1964) method.

4. RESULTS

The VAR model is estimated with a lag length of 4. To capture dynamics, it is customary to include 4 lags if the data are quarterly and to include 12 lags if the data are monthly (Sims, 1986 and 1992; and Christiano et. al. 1994). In principle there is nothing to prevent us from incorporating a large number of lags in a VAR model. But as a practical matter degrees of freedom are quickly eroded, as more lags are included. The simple VAR model is estimated by applying OLS method.

We start our analysis with Forecast Error Variance Decompositions (FEVD).

Table 1: Variance decompositions for IPI

Steps	Explained by innovations in		
	IPI	QDE	M
1	100	0	0
2	97.79131	0.661873	1.546816
3	95.91193	2.283018	1.805052
4	92.52711	3.908352	3.564543
5	93.51659	3.843432	2.639975
6	92.38841	4.072404	3.539184
7	91.97650	4.46365	3.559847
8	91.40982	4.706694	3.883491
9	92.02192	4.554596	3.423483
10	91.23951	4.891516	3.868973
11	90.51544	5.550632	3.933931
12	90.05148	5.997592	3.950931
13	90.26881	6.003349	3.727845
14	89.78888	6.146873	4.064248
15	89.23030	6.573194	4.196504
16	88.87864	6.970295	4.151063
17	88.80059	7.157613	4.041800
18	88.27082	7.440406	4.288778
19	87.64491	7.919398	4.435693
20	87.24301	8.347617	4.409371

Though there is no hard and fast rule regarding the number of steps to be examined but it should be enough to understand the dynamic interactions among the variables. We will examine 20 quarters, which is five years worth of steps.

The variance decompositions for series IPI are displayed in table 1. A closer look at the table reveals the following:

- (a) From the beginning to the end, the principal factor driving industrial output is the industrial output itself contributing 100% in the first period to 87% in the last period. This result is not surprising as it reflects effect of all factors other than government policy.
- (b) Both fiscal and monetary policies have moderate power in explaining industrial output.
- (c) Contribution of fiscal policy in explaining industrial output is below 1% in the beginning but the long-run effect is moderate explaining around 8%.
- (d) Contribution of fiscal policy in explaining the industrial output is stronger than monetary policy across the entire time horizon.
For information on the simulated trajectory of industrial output due to fiscal policy and monetary shocks, we need to look at the impulse response functions depicted in figures 1 and 2 respectively.

Shock to Fiscal Policy

The impulse response function or the simulated trajectory of industrial output due to a positive one standard deviation fiscal policy shock shows that industrial output reaches its peak level at the 4th period followed by a gradual decline up to 8th period.

Then output increases again up to 11th period and stabilizes thereafter. However,

Then output increases again up to 11th period and stabilizes thereafter. However, the overall trend is positive.

Shock to Monetary Policy

The simulated trajectory of industrial output due to a positive one standard deviation monetary policy shock is shown in figure 2. The response shows an erratic behavior (ups and downs) throughout the entire time horizon for which no acceptable explanation whatsoever is readily available.

Figure 1: Response of Industrial Production to Shock in Fiscal Policy

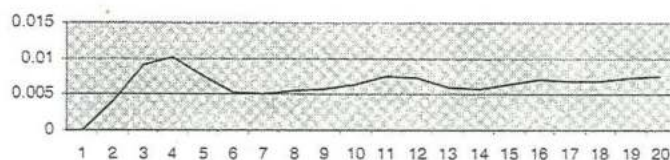
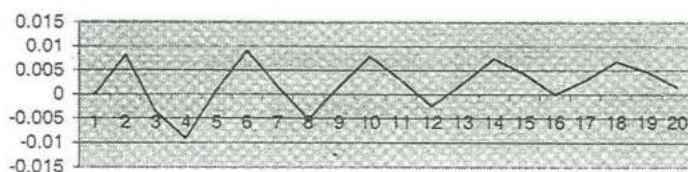


Figure 2: Response of Industrial Production to Shock in Monetary Policy



5. SUMMARY AND CONCLUSIONS

The main objective of this paper was to examine relative influence of fiscal and monetary policy on industrial output and dynamic behaviour of industrial output due to each of the policy shocks. Accordingly, a simple VAR model is developed and our objective is achieved by estimating variance decompositions and impulse response functions. Several conclusions emerge from the results presented above. These are:

- i) our finding states that fiscal policy is more effective than monetary policy;
- ii) expansionary fiscal policy drives industrial output up;
- iii) expansionary monetary policy has uncertain effect on industrial output.

These findings have significant policy implications. The policy maker should be aware of the potential consequences of an expansionary policy since the main objective of the government is to achieve rapid industrial growth.

Bagchi, A.K. (1970). "Long-term Constraints in India's Industrial Growth: 1951-1968." in E. A. G. Robinson and Michael Kindron (eds.), *Economic Development in South Asia*, Macmillan, London.

Christiano L. J., M. Eichenbaum and C. Evans (1994). "The Effects of Monetary Policy Shocks: Evidence from the Flow of Funds." *The Review of Economics and Statistics*, 78, pp. 16-34.

Dutta, J. P. (1993), "Behavior of Industrial Output in Bangladesh: A Critical Analysis of Alternative Data Sets." *Chittagong University Studies, Commerce Volume*, 9, P. 54.

Dutta J. P. and M. Ahmed (1994) "Relative Influence of Supply and Demand Related Factors on Industrial Growth in Bangladesh: Some Econometric Exercises" *Chittagong University Studies*, 1994, Social science Vol. XV. No. 1, pp. 41-55.

Enders, W. (1995). *Applied Econometric Time Series*. John Wiley & Sons, Inc.

Lisman, J. H. C. and J. Sandee (1964). "Derivation of Quarterly Figures from Annual Data." *Applied Statistics*, 13, pp. 87-90.

Raj, K. N. (1976): "Growth and Stagnation in Indian Industrial Development" *Economic and Political weekly*, Annual Number, February.

Sims, C. A., (1980). "Macroeconomics and Reality" *Econometrica*, 48 (10), pp.1-48.

————— (1986). "Are Forecasting Model Usable for Policy Analysis?" *Federal Reserve Bank Of Minneapolis Quarterly Review*, 10, Winter, pp. 2-16.

————— (1992). "Interpreting the Macroeconomic Time Series Facts: Effects of Monetary Policy." *European Economic Review*, 36, pp. 975-1011.

Forecasting Bangladesh Industrial Production: A Simple Univariate ARMA Approach*

Omar Haider Mohammad*

Nazmul Bashar**

A.N.M. Moinul Islam**

1. INTRODUCTION

Bangladesh, a predominantly agrarian society, is striving hard to industrialize the economy by mobilizing resource from within and outside its geographic boundary. The recent years have seen significant improvement in the relative share of industry in the national economy. Relative shares of industry in Gross Domestic Product were 16.3 20.9 and 25.5 percents in the years of 1980, 1990 and 2002 respectively (ADB, 2003). Industrial growth has also been more or less steady despite the ongoing recession in the world economy. The average growth rate of industrial output was 6.56 percent during 1997 to 2001 (ADB,2003). Hence, forecasting industrial output is an important issue in analyzing the economic performance of Bangladesh which is showing a steady improvement in the relative share of industrial output in GDP. In fact, this is equally important for developed industrialized economies as well as for the LDCs. Actually, industrial sector is important in explaining aggregate fluctuation of the economy. In addition, forecasts of industrial output can be useful in more general forecasting models.

As far as Bangladesh economy is concerned, to the knowledge of the authors, no satisfactory forecasting model for industrial output in Bangladesh has yet been developed. At least one attempt however, is made to explain the behavior of the industrial output on sector basis (Dutta, 1993), which does not attempt to forecast

the future behavior explicitly and also not substantiated by sophisticated econometric analysis. A number of attempts are made for other countries viz. for Italy (Bruno & Lupi, 2003), for the UK (Simpson et al, 2000) etc that use mainly univariate models and provide satisfactory forecast results. In this light, this paper is an attempt to develop a univariate forecasting model for Industrial output in Bangladesh. Such a univariate model provides a more sophisticated method of extrapolating time series in that they are based on the notion that the series that is to be forecasted has been generated by a stochastic process, with a structure that can be characterized and described. As we know, a time-series model provides a description of the random nature of the process that generates the sample of observations under study, which is given not in terms of a cause and effect relationship (as would be the case in a regression model) but in terms of how that randomness is embodied in the process. Hence, our objective is to develop a model that explains the movement of time series data of industrial output in Bangladesh by relating it to its past values and to a weighted sum of current and lagged random disturbances.

The structure of the rest of the paper is as follows: the Methodology Section explains general ARMA modeling as well as the procedures used to derive the particular specifications adopted. The following section tests the stationarity of the data series employed. The Model Specification Section intends to select an appropriate specification from various rival models. Substantive results are presented in the following section that shows both forecast results and their forecasting performance. Finally some conclusions are presented.

2. OBJECTIVES AND METHODOLOGY

The main objective of this study is to specify a short run forecasting model of industrial output within the ARMA framework. Our study is based on the monthly data of industrial output index of Bangladesh covering the period January 1992 to November 2002. These data are taken from the IFS CD Rom Version (September 2003). We have chosen 1992 as the starting year to avoid any possible structural break due to major political regime change in early 1990s. On the other hand we couldn't use the most recent industrial output data, as data were not available beyond November, 2002. We have used the data from January 1992 to December 2001 for the estimation purpose and the data for remaining eleven months for out of sample forecasting purpose.

An ARMA (Autoregressive-Moving average) model has the general form:

$$y_t = c + \sum_{i=1}^p \alpha_i y_{t-i} + \sum_{i=0}^q \beta_i \varepsilon_{t-i} \quad [1]$$

where y_t is a stationary variable, C is constant and ε_t is the error term. It can be seen from equation [1] that ARMA models consist of two main parts; the first is the Autoregressive part (AR) that includes lag values of the dependent variable and the second is the Moving Average part that contains the lag values of error terms. In fact, AR(p) and MA(q) can be treated as the restricted ARMA model. For an AR(p) model $\beta_i = 0$ for $i = 1, 2, 3, \dots$ and for an MA(q) model $\alpha = 0$ for all i . The main task of these types of model is to set the appropriate lag orders for AR and MA terms. In this paper we will follow standard Box-Jenkins procedure to specify the appropriate model. This procedure involves the following steps:

Step-1: Check the stationarity of the industrial output series, and, if necessary, transform the series to induce stationarity.

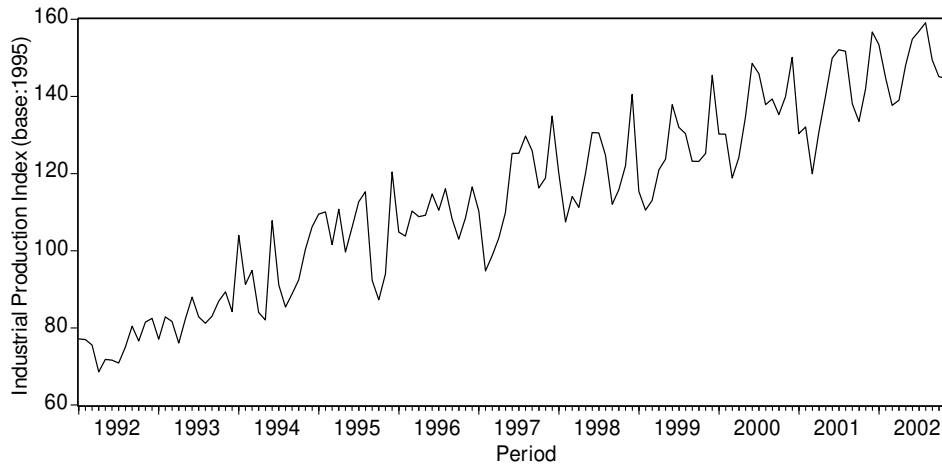
Step-2: From the examination of the data series as well as the autocorrelation and partial autocorrelation functions of the series (transformed series for nonstationary case) choose a few ARMA specifications for estimation and testing in order to arrive at a preferred specification with white noise residuals.

Step-3: Calculate forecasts over a relevant time horizon from the preferred specification.

3. STATIONARITY CHECK

Figure 1 shows the graph of Industrial output indices for the period between 1992:01 and 2002:11.

Figure 1: Industrial Output Index



In the above figure what we notice at the first glance is the presence of a linear time trend. Industrial production is increasing over time. However, it is very difficult to get any idea about the stationarity of the series from this graph. Like many other macroeconomic monthly series, the industrial output series exhibits some seasonality. This is evident from the peaks roughly observed in every year ending.

To check the stationarity of the series we will use Augmented Dickey Fuller (ADF) test of the unit root. The unit root tests are mainly based on the following AR(1) process:

$$Y_t = \rho Y_{t-1} + \mathbf{X}_t' \boldsymbol{\delta} + \varepsilon_t \quad [2]$$

where \mathbf{X}_t is the vector of optional exogenous regressors which may consist of a constant, or a constant and a trend; ρ and $\boldsymbol{\delta}$ are parameters to be estimated, and ε_t is assumed to be white noise. If $|\rho| \geq 1$, Y is a nonstationary series and the variance of Y increases with time and approaches infinity. If $|\rho| < 1$, Y is a stationary series. Thus, the hypothesis of stationarity can be evaluated by testing whether the absolute value of ρ is strictly less than one.

The ADF test uses the modified version of [2], which suggests estimating the following equation:

$$\Delta Y_t = \alpha Y_{t-1} + \mathbf{X}_t' \boldsymbol{\delta} + \beta_1 \Delta Y_{t-1} + \beta_2 \Delta Y_{t-2} + \dots + \beta_q \Delta Y_{t-q} + \upsilon_t \quad [3]$$

where Y_t denotes the industrial output and $\Delta Y_t = Y_t - Y_{t-1}$, $\alpha = \rho - 1$ and the null hypothesis $H_0: \alpha = 0$ is tested against the alternative, $H_1: \alpha < 0$ based on the ADF-t statistic. We will use the critical values provided by Mackinnon (1996) to evaluate the null hypothesis. Observing figure 1, we include a constant and linear time trend as regressors in the test equation. Lag order (0 in this case) of the difference terms is determined by the Modified Akaike Information Criterion (MAIC). The result of the ADF unit root test is shown below (t-statistics are shown in the parentheses):

$$\Delta Y_t = 46.6 - 0.617Y_{t-1} + 0.37\text{trend} + \upsilon_t$$

(7.01) (-7.13) (6.69)

ADF Test Statistic = -7.13, P value = 0.000

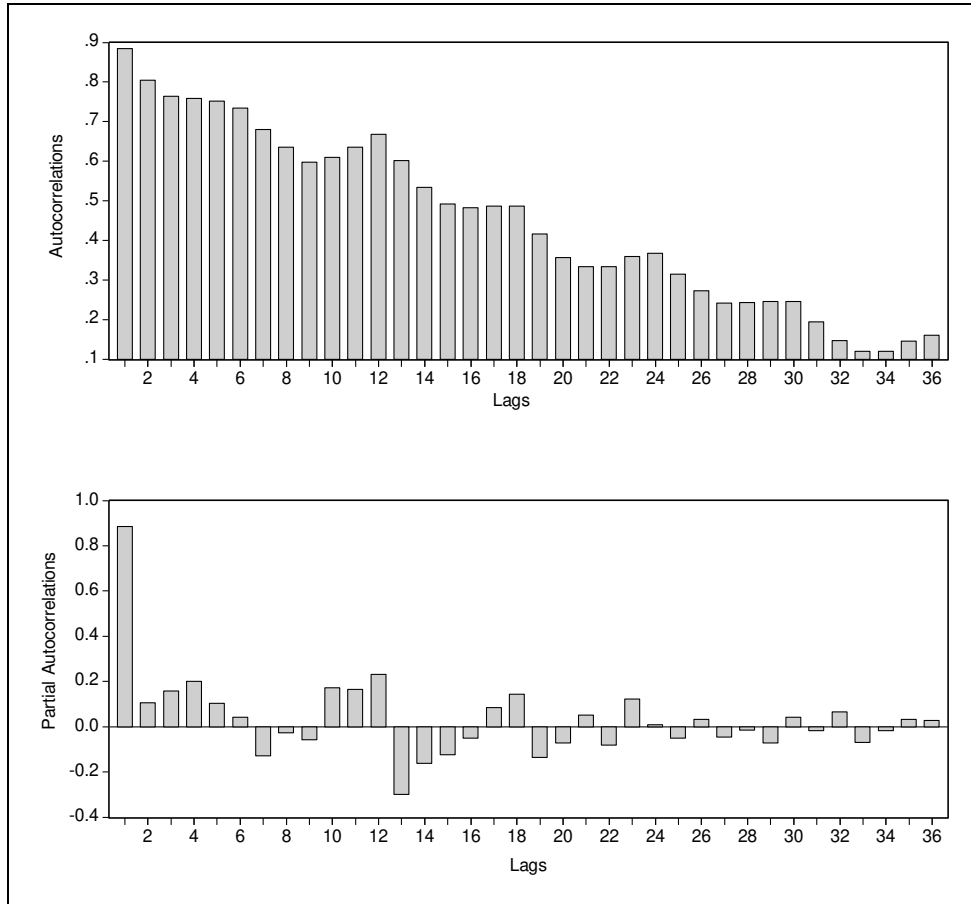
The significance of all the coefficients and the value of DW statistic close to 2 indicate the correct specification of the test equation. The ADF test statistic is highly significant. The above results clearly reject the unit root hypothesis. Thus we may consider the industrial output series as stationary.

4. MODEL SPECIFICATION

Following Box-Jenkins procedure, we first observe autocorrelation and partial autocorrelations of the industrial output series.

Figure 2 shows the autocorrelation function (ACF) and partial autocorrelation function (PACF) (up to lag 36) for the industrial output index that covers the period 1992:01 to 2001:12. Slowly decaying autocorrelations may give us an indication of the nonstationary series. However, the formal ADF test already rejected the nonstationarity hypothesis. The wavy pattern of the autocorrelation function is an indication of the presence of seasonality in the series.

Figure 2: Autocorrelation and Partial Autocorrelation Functions of Industrial Output Index



The single spike at lag 1 in the partial autocorrelation function suggests an AR(1) model. Along with this, positive spike at lag 12 and negative spike at lag 13 hints at a multiplicative Seasonal Autoregressive (SAR(12)) model with the following specification:

Model 1:

$$(1 - \alpha_1 L)(1 - \delta L^{12}) Y_t = c + \varepsilon_t \quad [4.1]$$

where Y_t is the industrial output and ε_t is the error term. L is the lag operator defined as $L^i Y_t = Y_{t-i}$ ($i = 1, 2, 3, \dots$). We may rewrite equation [4.1] as

$$(1 - \alpha_1 L - \delta L^{12} + \alpha_1 \delta L^{13}) Y_t = \varepsilon_t \quad [4.2]$$

Now we can see that Model 1 is able to capture the facts of spikes at lag 1, 12 and 13 of the PACF. Thus we start our experimentation of the model building with equation [4.1], the result of which is reported here:

Estimated Model 1:
 $(1 - \alpha_1 L)(1 - \delta L^{12}) Y_t = c + \varepsilon_t$

	Estimates	Std. Error	t-Statistic	Prob.
C	149.7392	13.67209	10.95218	0.0000
α_1	0.349226	0.093125	3.750068	0.0003
δ	0.827484	0.050212	16.47982	0.0000

Adj R² = 0.86,

Q Stat for Residuals (p Values are shown in parentheses):

Lag 6: 5.50 Lag 12: 20.699 Lag 18: 35.738 Lag 24: 49.64
 (0.239) (0.023) (0.003) (0.001)

All the estimated coefficients are highly significant. High value of R² also suggests very good fit of the model. However, these are not enough to find an appropriate model unless the estimated residuals turn out to be white noise. We were particularly interested in checking the serial correlation left in the residuals. To perform this, we calculate the Ljung-Box Q statistics from the autocorrelations and partial autocorrelations of the residual series up to 24 lags. If the estimated residuals are serially uncorrelated, the Q statistic for any specific lags should be insignificant. Here we report Q statistics for lags 6, 12, 18 and 24. We find that Q statistic is decisively significant at lags 12, 18 and 24, which is an indication of the presence of serial correlation in the residuals. It implies that model represented in equation [4.1] is not adequate and we need to look for a little more complicated model.

If we look at the ACF of the industrial production series, we may observe the slowly decaying autocorrelations with the relative peak at lag 12. Thus we may

want to include an MA term with single lag 12 along with the AR(1) and SAR(12) in our model. This model can be represented as:

Model 2:

$$(1 - \alpha_1 L)(1 - \delta L^{12}) Y_t = c + (1 + \beta_1 L^{12}) \varepsilon_t \quad [5]$$

The result of which is shown below:

Estimated Model 2:

$$(1 - \alpha_1 L)(1 - \delta L^{12}) Y_t = c + (1 + \beta_1 L^{12}) \varepsilon_t$$

	Estimates	Std. Error	t-Statistic	Prob.
C	943.2226	2845.279	0.331504	0.7409
α_1	0.364892	0.091959	3.967986	0.0001
δ	0.991984	0.027448	36.14060	0.0000
β_1	-0.896867	0.023559	-38.06874	0.0000

Adj R² = 0.8919

Q Stat for Residuals (p Values are shown in parentheses):

Lag 6: 8.443 Lag 12: 14.23 Lag 18: 18.808 Lag 24: 33.56
 (0.038) (0.114) (0.223) (0.04)

Q Stat for Squared Residuals (p Values are shown in parentheses):

Lag 6: 9.526 Lag 12: 13.00 Lag 18: 18.881 Lag 24: 22.086
 (0.023) (0.163) (0.219) (0.395)

Compared with the previous model, we can see that estimation of equation [5] gives relatively larger coefficients for AR and SAR terms. Nevertheless, all the coefficients are highly significant. The significant Q-stats for the residual at lag 6 and 24, however, still indicate the serial correlation in the residuals. Again, this suggests need for re-specification of the model.

We may now look again at the wavy seasonal pattern of the ACF of the industrial output series. It can be seen that every wave has the duration of about six months. Thus we introduce multiplicative Seasonal MA term (SMA (12)) along with

MA(6) term and multiplicative Seasonal AR (SAR(12)) with AR(1) term in our new specification, which can be shown as:

Model 3:

$$(1 - \alpha_1 L)(1 - \delta L^{12})Y_t = c + (1 + \beta_1 L^6)(1 + \gamma L^{12})\varepsilon_t$$

[6]

the estimation results of which are shown below:

Estimated Model 3:				
$(1 - \alpha_1 L)(1 - \delta L^{12})Y_t = c + (1 + \beta_1 L^6)(1 + \gamma L^{12})\varepsilon_t$				
	Estimates	Std. Error	t-Statistic	Prob.
C	1708.259	8959.224	0.190670	0.8492
α_1	0.365602	0.092180	3.966170	0.0001
δ	0.995816	0.023481	42.40898	0.0000
β_1	-0.178433	0.095791	-1.862734	0.0654
γ	-0.890753	0.024360	-36.56691	0.0000

Adj R² = 0.8957 **Q Stat for Residuals** (p Values are shown in parentheses):

Lag 6: 1.125 (0.57)	Lag 12: 7.06 (0.53)	Lag 18: 11.489 (0.647)	Lag 24: 27.041 (0.134)
------------------------	------------------------	---------------------------	---------------------------

Q Stat for Squared Residuals (p Values are shown in parentheses):

Lag 6: 7.039 (0.03)	Lag 12: 11.45 (0.177)	Lag 18: 19.72 (0.139)	Lag 24: 25.81 (0.172)
------------------------	--------------------------	--------------------------	--------------------------

This model apparently produces better results. All the ARMA coefficients are reasonably significant. Q statistics for the residuals (up to 24 lags) are all insignificant, which indicates no serial correlation in the estimated residuals. However we may have to deal with different kind of problem indicated by the Q statistics of the squared residuals. We see that the Q statistic for the estimated squared residual is significant at lag 6. Although not reported here, lag 5 and 7 also show the significant (at 5% level) Q statistics. This implies the variances of the residuals are serially correlated. Stated differently, this may be an indication

of the ARCH (Autoregressive Conditional Heteroscedasticity) effect. A series is said to have an ARCH effect if its unconditional (long run) variance is constant but there are periods in which the variance is relatively high / low. In the graph of the industrial output indices in figure 1, we may observe the smaller fluctuations of the series prior to the year 1994. There is, however, much more certain statistical test for ARCH effect, which is known as ARCH-LM test. In terms of the previous model we perform this LM test, and with lag 1, the result is shown below:

<p><u>ARCH LM (1) Test for Model 3:</u></p> $\hat{\varepsilon}_t^2 = 31.54 + 0.179\hat{\varepsilon}_{t-1}^2$ <p style="text-align: center;">(0.00) (0.0651)</p> <p>F Statistic = 3.4749 (0.0651)</p> <p>nR² = 3.4272 (0.0641)</p>

We can reject the null hypothesis of no ARCH at 6% level of significance.

Thus we may need to incorporate this ARCH effect in our ARMA model (equation 5). After some experimentation with the order of ARCH process, we finally specify the following generalized ARCH (GARCH, in short) model:

Model 4:

$$(1 - \alpha_1 L)(1 - \delta L^{12})Y_t = c + (1 + \beta_1 L^6)(1 + \gamma L^{12})\varepsilon_t \quad [7]$$

$$\sigma_t^2 = b_0 + b_1 \varepsilon_{t-1}^2 + b_2 \sigma_{t-1}^2 + b_3 Y_t$$

where σ_t^2 denotes the conditional variance of the residual. According to our specification, the main difference between model 3 and 4 is that model 3 assumes constant variance for the residual but model 4 assumes that the variance of the estimated residuals is a function of the news about the volatility of the series in the previous period (ε_{t-1}^2), last period's forecast variance (σ_{t-1}^2) and current level of Y. The result of the estimation of this model is shown below. As before all the ARMA coefficients are found significant. Now the constant term also turns out to be significant which was insignificant in the model with no accommodation for ARCH. The coefficients in the variance equation are all also significant. Most

importantly, Q statistics for residuals as well as for the squared residuals at any lag are insignificant at conventional 5% level.

Estimated Model 4:

$$(1 - \alpha_1 L)(1 - \delta L^{12}) Y_t = c + (1 + \beta_1 L^6)(1 + \gamma L^{12}) \varepsilon_t$$

$$\sigma_t^2 = b_0 + b_1 \varepsilon_{t-1}^2 + b_2 \sigma_{t-1}^2 + b_3 Y_t$$

	Estimates	Std. Error	z-Statistic	Prob.
C	229.4776	41.19560	5.570439	0.0000
α_1	0.472526	0.112462	4.201641	0.0000
δ	0.927319	0.026550	34.92758	0.0000
β_1	-0.198338	0.105113	-1.886895	0.0592
γ	-0.535471	0.089619	-5.974940	0.0000

Variance Equation

b ₀	318.0190	96.85419	3.283483	0.0010
b ₁	0.259426	0.132282	1.961165	0.0499
b ₂	-0.694004	0.162457	-4.271923	0.0000
b ₃	-1.990113	0.672988	-2.957128	0.0031

Adj R² = 0.8695

DW : 2.04

Q Stat for Residuals (p Values are shown in parentheses):

Lag 6: 3.78 Lag 12: 7.47 Lag 18: 18.62 Lag 24: 28.352
 (0.15) (0.48) (0.18) (0.101)

Q Stat for Squared Residuals (p Values are shown in parentheses):

Lag 6: 4.88 Lag 12: 10.032 Lag 18: 19.996 Lag 24: 24.00
 (0.09) (0.263) (0.130) (0.242)

The formal ARCH LM test could not reject the no ARCH hypothesis for any lag specification (not reported here). Although this model is a quite good one, we can still try to find some better model, as some of the Q stats for residuals and squared residuals in this model are only marginally insignificant.

In search of a better model we may return to the model 3 (equation 6) and try to incorporate ARCH specification in this model. Note that the calculated Q statistics for squared residuals in model 3 are found significant for the lags 4 to 10. These might be the indication of the presence of ARCH effect. The formal ARCH LM (1) test on this model shows the presence of ARCH effect at 10% level of significance.

ARCH LM (1) Test for Model 2:

$$\hat{\varepsilon}_t^2 = 33.65 + 0.163\hat{\varepsilon}_{t-1}^2$$

(0.00) (0.0949)

F Statistic = 2.8409 (0.0949) nR² = 2.8186 (0.0931)
p-values are in parentheses

The suggested GARCH model is:

$$(1 - \alpha_1 L)(1 - \delta L^{12})Y_t = c + (1 + \beta_1 L^{12})\varepsilon_t$$

$$\sigma_t^2 = b_0 + b_1 \varepsilon_{t-1}^2 + b_2 \sigma_{t-1}^2 + b_3 Y_t$$

[8]

The result of the estimation is shown below:

$(1 - \alpha_1 L)(1 - \delta L^2)Y_t = c + (1 + \beta_1 L^2)\varepsilon_t$ Estimated Model 5: $\sigma_t^2 = b_0 + b_1 \varepsilon_{t-1}^2 + b_2 \sigma_{t-1}^2 + b_3 Y_t$				
	Estimate	Std. Error	z-Statistic	Prob.
C	238.6053	51.59849	4.624270	0.0000
α_1	0.516633	0.115334	4.479460	0.0000
δ	0.928115	0.031024	29.91637	0.0000
β_1	-0.565369	0.095167	-5.940813	0.0000
Variance Equation				
B ₀	334.2981	102.2236	3.270262	0.0011
B ₁	0.240220	0.102809	2.336577	0.0195
b ₂	-0.721578	0.154760	-4.662564	0.0000
b ₃	-2.059769	0.708525	-2.907125	0.0036

Adj R² = 0.86 DW = 2.08

Q Stat for Residuals (p Values are shown in parentheses):
Lag 6: 5.23 Lag 12: 8.18 Lag 18: 17.14 Lag 24: 24.74
(0.16) (0.52) (0.311) (0.258)

Q Stat for Squared Residuals (p Values are shown in parentheses):
Lag 6: 1.38 Lag 12: 10.429 Lag 18: 19.104 Lag 24: 26.32
(0.71) (0.317) (0.209) (0.195)

Obviously this model produces the best results so far. All the coefficients in ARMA and variance equations are significant. Moreover, the Q statistics of the estimated residuals and squared residuals up to lag 24 are not significant at any reasonable level of significance. Another advantage of this model over model 4 is that this is more parsimonious. However, ultimate model selection will be done

based on the forecasting ability of the model. In the next section we will examine the forecasting ability of these two models.

5. FORECASTING

We have so far introduced five ARMA models for the industrial output of Bangladesh. It is already shown that the first three models could not pass the diagnostic tests. Model 4 and 5 are the preferred ones where we assume a GARCH (1,1,Y) process for the error variance. In model 4 we include a constant, AR(1), multiplicative SAR for lag 12 and MA({12}) as regressors. In model 5 we retain AR(1) and SAR({12}) and also include MA({6}) with multiplicative SMA({12}). It is found that estimated coefficients and their standard errors are similar in these two models. It can be noted that these models can explain about 86% of the total variation in industrial output index.

As noted earlier, we have estimated these models using the data that cover the period between 1992:01 and 2001:12. We retain remaining samples between 2002:01 and 2002:11 for out of sample forecasting. In the following figures we have shown the dynamically forecasted values of industrial output index for these eleven months.

Figure 3: Forecast of Industrial Production based on Model 4

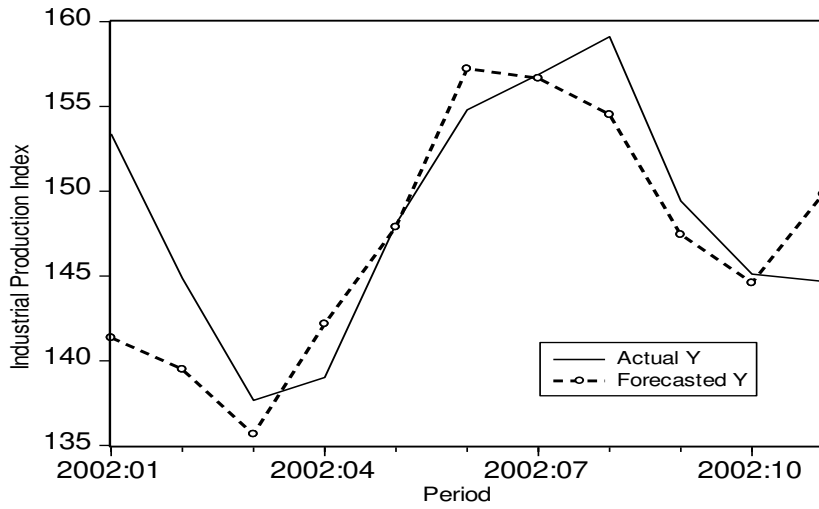
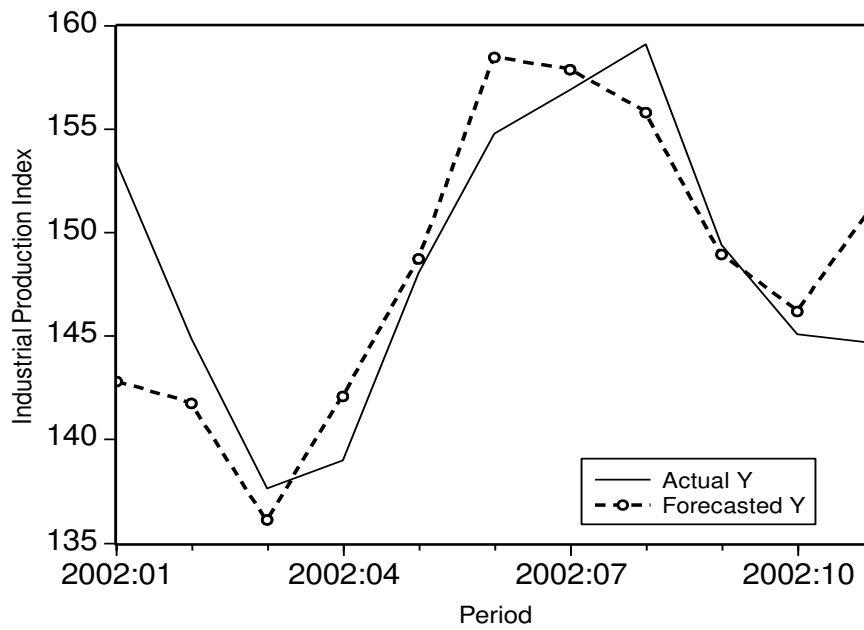


Figure 4: Forecast of Industrial Production based on Model 5



The two figures are almost identical. Both the forecasted series roughly mimic the actual series. On average, both models under-predict the industrial production in the first and third quarters and over-predict in the remaining two quarters. However, these two models exhibit slight differences in the magnitudes of the forecast errors. The forecasting evaluation based on various forecasting error criteria is summarized in the following table:

Forecast Evaluation:

		<u>Model 4</u>	<u>Model 5</u>
Root Mean Squared Error		4.717268	4.305568
Mean Absolute Error		3.419541	3.189317
Mean Absolute Percentage Error		2.293223	2.138738
Theil Inequality Coefficient		0.015951	0.014500
Proportions of Mean Squared Error	Bias Proportion	0.097331	0.003878
	Variance Proportion	0.000450	0.002392
	Covariance Proportion	0.902219	0.993730

In terms of all basic criteria it is evident that model 5 produces the smaller forecast errors. Mean squared error, Mean absolute error and Mean absolute percentage error are slightly bigger in model 4. Theil inequality coefficients are very close to zero in both model indicating almost perfect fit.

We also report the components of total mean squared for both models. The bias proportion tells us how far the mean of the forecast is from the mean of the actual series. The variance proportion tells us how far the variation of the forecast is from the variation of the actual series. The covariance proportion measures the remaining unsystematic forecasting errors. Note that the bias, variance, and covariance proportions add up to one. If the forecast is "good", the bias and variance proportions should be small so that most of the bias should be concentrated on the covariance proportions. Here we observe that in model 4 bias and variance proportions account for about 10 percent, whereas in model 5, these two proportions account for only 1 percent. Particularly the bias proportion is relatively large (about 9%) in model 4, which indicates that mean of the forecasts does a poor job of tracking the mean of the dependent variable. On the contrary, in model 5 most of the errors (about 99%) come from the unsystematic sources, indicating very good forecast performance. Thus we may treat model 5 as our desired forecasting model.

6. CONCLUSION

In this paper we tried to develop a short run forecasting model of industrial production for Bangladesh using the information about the history of industrial production. In attempting to do so we introduced several ARMA models and based on some diagnostic tests we finally chose two models for forecasting. We then showed that between these two models, one model is preferred over another for forecasting purpose. Our preferred model suggests an ARMA specification with multiplicative seasonal autoregressive term. This model implies that we can forecast the industrial output series; at least for few months ahead using the information about last month's industrial output, seasonal variation in the series and shocks occurred in the same period of last year. There may exist many other variables, which can be used for forecasting industrial output. However, our analysis shows that information regarding the history of industrial output alone can be very useful in predicting the future values of the series.

References

- Asian Development Bank (2003): Key Indicators of Developing Asian and Pacific Countries. Web: www.adb.org
- Bollerslev, Tim (1986). "Generalized Autoregressive Conditional Heteroskedasticity", *Journal of Econometrics*, Vol.31, pp.307-327.
- Bollerslev, Tim, Ray Y.C. and Kenneth F.K.(1992). "ARCH Modeling in Finance: A Review of the Theory and Empirical Evidence", *Journal of Econometrics*, Vol. 52, pp. 5-59.
- Bollerslev, Tim, Robert F. E. and Daniel B. N. (1994). "ARCH Models," Robert F. Engle and Daniel L. McFadden (eds.), *Handbook of Econometrics*, Vol. 4, Chapter 49, North-Holland.
- Box, George E. P. and Gwilym M. J. (1976), *Time Series Analysis: Forecasting and Control*, Revised Edition, Holden-Day.
- Bruno, G. and Lupi, C. (2003), "Forecasting Industrial Production and Early Detection of the Turning Point," Economics and Statistics Discussion Paper, No. 04/3, University of Molise.
- Bureau of Statistics, Bangladesh (1987), Statistical Year Book.

Dickey, D.A. and Fuller W.A.(1979), "Distribution of the Estimators for Autoregressive Time Series with a Unit Root", *Journal of the American Statistical Association*, Vol.74, pp. 427-431.

Dutta. J. P. (1993), "Behaviour of Industrial Output in Bangladesh: A Critical Analysis of Alternative Data Sets", *Chittagong University Studies*, Com. Vol. 9, pp. 39-68

Engle, Robert F. (1982). "Autoregressive Conditional Heteroskedasticity with Estimates of the Variance of U.K. Inflation", *Econometrica*, Vol.50, pp.987-1008.

Engle, Robert F. and Victor K. N., (1993)." Measuring and Testing the Impact of News on Volatility", *Journal of Finance*, Vol. 48, pp.1022-1082.

International Monetary Fund (2003). IFS CD Rom.

Ljung, G. and Box, G., (1979), "On a Measure of Lack of Fit in Time Series Models", *Biometrika*, Vol.66, pp. 265-270.

Pindyck, R. S. and Rubinfeld, D. L. (1998), *Econometric Models and Economic Forecasts*, Fourth Edition, McGraw-Hill Publishers.

Simpson, P.W., Osborn, D.R. and Sensier, M. (2001) "Forecasting UK Industrial Production over the Business Cycle", *Journal of Forecasting*, Vol.20, pp. 405-424.



Bangladesh Economic Association
4/C Eskaton Garden Road
Dhaka-1000, Bangladesh
Tel: 9345996; Fax: 880-2-9345996
e-mail: becoa@bdlink.com