TEACHING INTERMEDIATE MACROECONOMICS WITH ISLAMIC INPUTS: THE IIUM EXPERIENCE*

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1. INTRODUCTION

This paper aims to share the IIUM experience in teaching intermediate macroeconomics with Islamic inputs, with a special focus on ECON 2310 Intermediate Macroeconomics I. The Bachelor of Economics (Honours) (BECS) program is offered by the Department of Economics, Kulliyyah of Economics and Management Sciences (KENMS). The program is among the earliest programs offered by International Islamic University Malaysia (IIUM), which started since its inception in 1983. The program is designed to equip students with the knowledge and skills needed to become ethical professionals in the rapidly expanding field of economics. The program emphasizes the development of critical and analytical thinking, decision-making, and problem-solving skills through a variety of teaching and learning methods such as the use of modern technology, case studies, industrial visits, guest lectures, and practical training. Additionally, the program offers specialized areas such as Islamic economics and finance, which are niche subjects. Specializations in Islamic economics, international economics, development and finance, as well as minor packages in Fiqh and Usul Fiqh, Quran and Sunnah Studies are offered. The program is taught by highly qualified and experienced staff with diverse backgrounds and specializations.

During the first year of study, students will take a combination of University-required and Kulliyyah-required courses. These courses are intended to provide students with a broad understanding of the IIUM philosophy and mission, the objectives of the Kulliyyah, and the foundational skills needed for economics. The courses taken at this stage include those related to Islamic worldview and fundamental courses in economics, finance, management, accounting, and information technology. By the end of the first year and having successfully completing both ECON 1510 Principles of Microeconomics and ECON 1610 Principles of Macroeconomics, students are ready to take intermediate and advanced courses that will lead to their specialization in the third year and fourth year. The intermediate courses provide students with a deeper understanding of the knowledge, techniques, tools, and resources required for economics and related fields.

An important aspect of the integration of Islamic principles in education is the inclusion of Islamic perspectives in the teaching of economic theory courses. The current paper examines the implementation of incorporating Islamic inputs in the teaching of macroeconomics at the intermediate level. Following a brief overview, the second section of the paper delves into the specifics of intermediate macroeconomics courses, outlining their objectives, and desired learning outcomes. The third section delves into the course content, highlighting the Islamic perspectives incorporated and the approach used. The fourth section addresses some of the challenges encountered when incorporating Islamic elements into the course and the final section concludes the paper.

2. Background of the Course

ECON 2310 Intermediate Macroeconomics I and ECON 2311 Intermediate Macroeconomics II are two intermediary macroeconomics courses which are core courses for Bachelor of Economics (Honours) (BECS) program offered by the Department of Economics, Kulliyyah of Economics and Management Sciences (KENMS). BECS students are expected to take these courses during their second year of study, where ECON 2310 is taken in the first semester while ECON 2311 is taken in the second semester since the former is the pre-requisite for the latter.

As the first intermediate macroeconomics course, students are required to complete ECON 1610 Principles of Macroeconomics before they can register for ECON 2310 Intermediate Macroeconomics I. Generally, ECON 1610 Principles of Macroeconomics is taken during first year of study to enable them to pursue ECON 2310 Intermediate Macroeconomics I in second year. It is important to note that ECON 1610 Principles of Macroeconomics is offered to first year students from other than BECS program too, especially accounting, business administration, and finance.

Since both ECON 2310 Intermediate Macroeconomics I and ECON 2311 Intermediate Macroeconomics II are core courses in the BECS program, they are offered in every regular semester (Semester 1 and Semester 2) during an academic year. This arrangement helps students to be able to graduate on time, especially since both courses are considered as pre-requisites for more advanced economic courses in the BECS program. Furthermore, these intermediate macroeconomics courses are pre-requisites for more advanced courses in the BECS program. The list of courses that require intermediate macroeconomics courses as pre-requisites is presented in Table 1 below.

TABLE 1
List of Courses that Require Intermediate Macroeconomics Courses as Pre-Requisites

No.	Course Code	Course Title	ECON 2310	ECON 2311	Other Pre-Requisites
Core Courses					
1.	ECON 2311	Intermediate Macroeconomics II	✓		
2.	ECON 3010	Malaysian Economy		✓	
3.	ECON 3010	Econometrics I	✓		ECON 2110 Intermediate Microeconomics I
Elective Courses					
4.	ECON 3150	Mathematical Economics	✓		ECON 1150 Business Mathematics, ECON 2110 Intermediate Microeconomics I
5.	ECON 3230	Economic Development		✓	ECON 2111 Intermediate Microeconomics II
6.	ECON 3710	International Economics		✓	ECON 2111 Intermediate Microeconomics II
7.	ECON 4020	Contemporary Economic Thought and Policy		✓	ECON 2111 Intermediate Microeconomics II

| 8. | ECON 4740 | International Trade and Development | | ✓ | ECON 2111 Intermediate Microeconomics II |
| 9. | ECON 4780 | ASEAN Economies | | ✓ | ECON 2111 Intermediate Microeconomics II |

Source: BECS Curriculum Structure, 26 October 2020, published by the Department of Economics, KENMS, IIUM.

From Table 1 above, ECON 2310 Intermediate Macroeconomics I is a pre-requisite for two core-courses and one elective course; while ECON 2311 Intermediate Macroeconomics II is a pre-requisite for only one core-course but five elective courses. The elective courses involved are from four specialization packages: development economics, international economics, Islamic economics, and other electives. The intermediate macroeconomics courses equip students with in-depth understanding, techniques, tools and resources of macroeconomics necessary to pursue higher level courses.

With regard to the credit value of ECON 2310 Intermediate Macroeconomics I and ECON 2311 Intermediate Macroeconomics II, each course carries three credit hours, so both would lead to a completion of six credit hours out of the total graduation requirement of 133 credit hours. The class sessions for both courses are conducted twice a week, where each meeting session lasts for 80 minutes.

3. COURSE CONTENT AND INCORPORATION OF ISLAMIC INPUTS

3.1 COURSE SYNOPSIS, LEARNING OUTCOMES, AND CONTENT

ECON 2310 Intermediate Macroeconomics I aims to give students a comprehensive understanding of the different macroeconomic theories, starting with the Classical and progressing to the Keynesian, Monetarist, New Classical and New Keynesian approaches. It explains the underlying assumptions of each model and how various policy measures affect the determination of prices and output in the economy. Additionally, students will gain insight into how Islamic economics can be used to analyze the above topics. There are 10 topics to be covered in ECON 2310 Intermediate Macroeconomics I as listed in Appendix 1 on pages 11-12. It is important to note that only closed economy models are analyzed in ECON 2310 Intermediate Macroeconomics I, while open economy models will be analyzed in ECON 2311 Intermediate Macroeconomics II.

The primary goal of ECON 2311 Intermediate Macroeconomics II is to provide students with an understanding of the theoretical and practical aspects of macroeconomic management in both developed and developing countries. The course aims to equip students with a comprehensive understanding of macroeconomic theories, to enable them to analyze the effects of monetary and fiscal policies, and to expose them to different schools of thought for solving economic problems, including the Islamic perspective. There are nine topics to be discussed in ECON 2311 Intermediate Macroeconomics II as listed in Appendix 2 on pages 12-13.

The learning outcomes for both courses are presented in Table 2 below:

TABLE 2
Course Learning Outcomes for ECON 2310 Intermediate Macroeconomics I and ECON 2311 Intermediate Macroeconomics II

ECON 2310 Intermediate Macroeconomics I	ECON 2311 Intermediate Macroeconomics II

CLO1	Differentiate various schools of thoughts in the study of macroeconomics.	CLO1	Demonstrate understanding of macroeconomics in an open economy framework (conventional and Islamic perspective).
CLO2	Manipulate and apply the theories studied for policy analysis using simple general equilibrium models.	CLO2	Apply the various macroeconomic models to analyze and criticize real world issues and policies.
CLO3	Solve problems under test conditions based on the materials taught in the course.	CLO3	Offer possible solutions on macroeconomic problems using macroeconomic tools.
CLO4	Work as part of a team to conduct and prepare a project on macroeconomic theories relating to current issues.	CLO4	Analyse official economic reports and provide constructive feedback from theoretical perspectives.
CLO5	Analyze some of the macroeconomic issues in relation to Islamic economic perspective.		

Source: ECON 2310 Course Outline for SEM 1, 2021/2022; ECON 2311 Course Outline for SEM 1, 2022/2023.

From Table 2 above, the incorporation of Islamic economics perspective is listed as one of the learning outcomes for both courses. Following the content coverage of the respective courses, the Islamic perspective for ECON 2310 Intermediate Macroeconomics I and ECON 2311 Intermediate Macroeconomics II focuses on macroeconomic issues related to a closed economy and an open economy, respectively.

The main textbook for both courses is Macroeconomics by Richard T. Froyen. The main criteria that made the book to be chosen as the main reference is due to its uniqueness in providing a comprehensive examination of all the major theories in macroeconomics, including classical, Keynesian, monetarist, neo-Keynesian, real business cycles, etc. It also includes an in-depth discussion of monetary policy, which sets it apart from other macroeconomics texts.

As per the information stated above, it can be observed that both intermediate macroeconomics courses have a bias towards the Keynesian school of thought, even though a multi-schools of thought comparative approach is used to introduce and evaluate macroeconomic models.

3.2 TEACHING APPROACH AND ISLAMIC INPUTS

3.2.1 Introduction

The first topic provides a brief introduction to the topic of macroeconomics. Macroeconomics is defined as the study of the whole economy. The main variables that are studied in macroeconomics are the total output of the economy, the aggregate price level, the levels of employment and unemployment, the levels of interest rates, wage rates and exchange rates. This is followed by a general overview of the macroeconomic performance of selected countries after World War II. The performance of real output growth, inflation rate, unemployment rate, federal budget deficit, and trade balance are examined. To raise the interest of students in Islamic economics, a special emphasize is given to the macroeconomic performance of Islamic countries. The selected Islamic countries should consist of both developed and developing economies in order to motivate the students to address the relationship output,

unemployment, and inflation in the short-run as well as the determinants of economic growth in the long-run.

Before analyzing macroeconomic models, the real-world counterparts of the variables that appear in the models are examined. Four main variables from the national income accounts are analyzed, along with their connections: Gross Domestic Product (GDP), National Income, Personal Income, and Disposable Income. In the discussion on the limitations of GDP, it can be pointed out that GDP does not account for productive non-market activities that include many voluntary economic activities in Islamic economics that are conducted simply to gain spiritual rewards from Allah. Additionally, while GDP is a valuable indicator of overall economic activity, it is not a measure of human well-being (*maslahah*) which is one of the primary goals of Islamic economics. This can also be linked to the concept of success (*falah*) in Islamic economics which is not limited to material wealth only.

3.2.2 Classical Macroeconomic Model

The discussion on macroeconomic models starts with the classical macroeconomic model and it is divided into two parts. The first part of the classical macroeconomic model focuses on the classical theory of output and employment that leads to the derivation of aggregate supply curve, followed by the role of money and determination of price level which leads to the derivation of aggregate demand curve in the second part.

Two key assumptions of the classical theory of output are: (1) Prices and wages are fully flexible and can adjust instantaneously to changes in the market; (2) All market participants have a complete and accurate information about the relevant market prices, in this case the real wage. The building blocks of the classical system, such as the aggregate production function, labor demand schedule, and labor supply schedule can be shown to be compatible with Islamic economics fundamentals. The second key assumption of the classical model, which is availability of full information to all market participants, is also parallel to the Islamic requirement of information disclosure to all parties engaged in a transaction. This is to remove any ambiguity and misinformation that may have misled a party into arriving at a wrong decision and adversely affect the consent required to allow the exchange between the parties to take place.

The quantity theory of money forms the basis of examining the role of money to derive the classical aggregate demand schedule. The Cambridge approach to money holds that the primary motivation for holding money is its usefulness in transactions. In other words, the demand for money is closely tied to the level of transactions, which tends to correlate with the level of real income or output. The money demand equation can be expressed as:

$$M^d = kPY$$

where M^d is money demand, k a proportion of nominal income, P the price level, and Y the level of real income. The relationship between the quantity of money and the price level is established in this approach when the proportion of nominal income that people desire to hold in the form of money remains constant and real income is stable. The income velocity of money, which is used in the Fisherian quantity of money, refers to the number of times an average dollar is used in a transaction involving current output:

$$V = \frac{PY}{M}$$

Classical economists believed that velocity was determined by the payment practices and technological advancements of a society. They assumed that velocity was stable in the short run. Here, it can be easily pointed out that these assumptions lead to a stable demand for money that consists of transaction demand and precautionary demand, but free from speculative demands. In this case, the influence of interest rates on money demand is somehow limited, which is closer to Islamic economics than the Keynesian macroeconomic model. The prohibition of interest (*riba*) in Islamic economics should limit the money demand components to be similar to the classical assumptions.

In classical theory, the equilibrium interest rate is the rate at which the amount of funds that individuals wish to lend (the supply of loanable funds) is exactly equal to the amount that others wish to borrow (the demand for loanable funds). The supply of loanable funds is made up of savings, while the demand for loanable funds is made up of the demand for funds for investment and the government's sale of bonds to finance a budget deficit. Since interest on loan is *riba* which is prohibited in Islam, savings of money in Islamic economics should not be treated as loanable funds that generate interest. Instead, investment funds should be regarded as the preferred alternative to money as the potential store of wealth in Islamic economics. The owner of capital can invest it by providing it to an entrepreneur with a viable economic project, idea, knowledge, and experience, which will be utilized for production activities. The capital owner and entrepreneur are permitted to divide the profits between them. As an alternative, the base rate used for Islamic financing can be used to determine the equilibrium between the demand and supply of investment funds. This base rate shall play the stabilizing role to support the full employment and a vertical aggregate supply curve arguments in the classical system. As an example, the Islamic rates of return developed by Yusoff (2016) can be used for a concrete illustration:

$$i_D : i_B : i_E = \rho = \frac{\Pi}{r_K K} \cdot 100$$

where ρ is the profit rate which is defined as a percentage of the nominal profit (Π) per rental value of capital ($r_K \cdot K$). i_D, i_B, and i_E refer to the Islamic deposit (*mudharabah*) rate, Islamic rate of return to the bank, and the Islamic return to the entrepreneur, respectively. Once the profit-sharing ratios between the three parties have been agreed, these Islamic rates of return are positively correlated with the profit rate. Consequently, to echo one of the classical system's main policy conclusions, fiscal policy can only impact the Islamic rates of return but no effect on output or the price level.

3.2.3 Keynesian Macroeconomic Model

The Keynesian model was developed in response to the persistent unemployment that Great Britain and other industrialized nations experienced starting in the mid-1920s and throughout the 1930s. According to Keynes, this unemployment was caused by a shortage of aggregate demand.

All Keynesian models share the idea that demand plays a critical role in determining income. In the Keynesian perspective, changes in autonomous elements of aggregate demand, particularly investment demand, are crucial factors that cause changes in the equilibrium level of income. Through the multiplier process, changes in autonomous spending can also lead to changes in consumption spending. The model highlights the role of fiscal stabilization policy in manipulating aggregate demand to buffer equilibrium output from fluctuations in unstable investment demand.

For instance, let's say that as a result of a negative shift in business outlook, autonomous investment decreases. Without any action from policymakers, aggregate demand will fall below the potential output.

To restore equilibrium at the potential output level, a suitable fiscal policy response would be to raise government spending by a suitable amount. An increase in government spending, or expansionary fiscal policy can be evaluated from the Islamic economic perspective through the Maqasid al-Shari'ah framework, which aims to promote the common interest (*maslahah*) of the society. Firstly, it creates employment opportunities and reduces unemployment. An increase in government spending can boost economic growth and lead to more job opportunities, which can help to improve the welfare of society by reducing poverty and providing a means of livelihood for citizens. Islamic economics emphasizes the importance of social justice, and some scholars argue that government intervention is necessary to correct market failures and promote the welfare of society. The government has a responsibility to ensure that the economic system serves the common good, and to correct market failures that result in poverty, unemployment and other social problems. Another way is by increasing access to goods and services. Government spending can be directed towards providing basic necessities such as food, housing, and healthcare to the poor and vulnerable, which is a key component of the *maslahah* of society. By increasing access to these goods and services, government spending can help to improve the living standards of the less fortunate members of society. Additionally, government spending can also be directed towards infrastructure development, education and training, research and development, and other areas that promote long-term economic growth and development. This can help to create a more sustainable and prosperous society, which is a key goal of the Maqasid al-Shari'ah.

A central idea in Keynes' theory of money is that changes in the money supply primarily affect income through changes in the interest rate. An increase in the money supply, for example, would decrease the interest rate, leading to an increase in aggregate demand and income. To better understand the role of money, a simultaneous analysis is conducted to link interest rate and aggregate demand, as well as the relationship between money and interest rate to show how the interest rate and income are jointly determined. The analysis includes an analysis of Keynes' theory of money demand and how it contributes to the understanding of the role of money in this framework.

In his theory, Keynes simplifies the concept of financial assets by dividing them into two categories: money, which is a short-term and risk-free asset that does not earn interest, and nonmoney assets or simply bonds, which are long-term, risky assets that earn interest. The preference for money over bonds is referred to as liquidity preference by Keynes. Equilibrium in the bonds market implies equilibrium in the money market. While money supply is determined exogenously by the central bank, money demand is inversely related to the interest rate. There are three motives for holding money according to Keynes, which are: transaction demand, precautionary demand, and speculative demand. All three demands are negatively related to interest rate, while both transaction demand and precautionary demand vary positively with income:

$$M^d = L(Y, r)$$

where M^d is total money demand, Y is income and r is the interest rate. A rise in income increases money demand, while a rise in interest rate decreases money demand.

Since interest rate is very dominant in the Keynesian money demand, there is a need to disengage interest rate in the demand for money in Islamic economics. Firstly, holding money for the purpose of transactions and as a precautionary measure is acceptable as long as it does not contravene Islamic principles and values. The demand for money should be based on genuine need for goods and services, and should not

be intended to cause harm or disadvantage to others. Furthermore, excessive trading for either the transaction or precautionary motives is not condoned.

According to the principles of Islamic economics, speculation on money through interest rate movement is not allowed. Money is considered to have value only as a medium of exchange for goods and services, and earning interest on it is not permissible. Additionally, hoarding money is also prohibited. The alternative for holding money as cash is to invest in profit-sharing mechanisms or shariah-compliant instruments that generate profit. The higher the returns from these investments, the less demand there will be for holding money as cash. This creates an inverse relationship between the total demand for money and the rate of return from investments:

$$M^d = L(Y, \pi)$$

where π is the rate of return from investment activities. It's worth noting that the return gained from actual investment activities is what differentiates money demand in the Islamic economic system (Abojeib, Haneef, and Mohammed, 2018). Consequently, the slopes of both the LM schedule and IS schedule are influenced by the elasticity of money demand with the rate of return from investments rather than interest rate. Due to the prohibition of interest (*riba*), money demand will be completely interest-insensitive and the LM schedule will be vertical in the income-interest rate (Y, r) plane. This is similar to the classical money demand function. However, to maintain consistency with the Keynesian IS-LM model, the construction of the IS-LM curve model within the Islamic economics framework shall replace interest rate with the rate of return from investment activities in solving for equilibrium in the money market as well and the equilibrium income in the product market. In this case, the IS-LM analysis shall be conducted using the (Y, π) plane.

3.2.4 Monetarist and New Classical Macroeconomic Models

In the monetarist perspective, a stable economy can be achieved by adhering to a rule-based monetary policy. Milton Friedman proposed a constant money growth rate rule. The key component of this view is that the level of economic activity is primarily determined by the money supply. Therefore, a stable economy requires a stable monetary policy. Friedman assumed money demand to depend on nominal income (), but also acknowledged the role of alternative assets by expressing k from the Cambridge's quantity theory of money as a function of the rates of return on these assets:

$$M^d = k(r_B, r_E, r_D)PY$$

where r_B, r_E, r_D are the nominal interest rate on bonds, nominal return on equities, and nominal return on durable goods, respectively. An increase in the rate of return on an alternative asset would lead to a decrease in k, reflecting the increased attractiveness of the alternative asset over money. In this way, Friedman incorporated the Keynesian analysis of money as an asset into the quantity theory. However, Friedman views the money demand function as stable and interest inelastic. This means that the LM schedule is nearly vertical and thus fiscal policies will have negligible impact on output. At the same time, aggregate demand is deemed sensitive to changes in interest rates.

From the Islamic perspective, the nominal interest rate on bonds in the monetarist money demand function can be replaced with any Shariah-compliant nominal rate of return, for instance, nominal return on *sukuk* (r_S). The nominal returns on equities and durable goods are in accordance with Islamic economics. It can be highlighted that these two components are based on the real economy sector and

are closer towards achieving Islamic economic goals. On the other hand, it is these rates of return and not interest rate that strongly influence aggregate demand. From here, the monetarists arguments on the slopes of the IS-LM schedules and further policy analysis onwards are generally acceptable.

3.3 ASSESSMENT

Since the intermediate macroeconomics courses adopt the comparative approach between different schools of thought, project paper on macroeconomic issues is the most relevant assessment method. Students are given the opportunity to critically evaluate macroeconomic issues from multiple perspectives since they have been exposed to several schools of thought. In doing so, they could weigh the strengths and weaknesses of different solutions that could address the chosen macroeconomic issues. Furthermore, selecting the latest macroeconomic issues would motivate the students to appreciate various macroeconomic theories and concepts, as well as creative in using macroeconomic tools to propose the best policy recommendations. The project paper assessment also enables Islamic elements of macroeconomics to be incorporated easily where the students are required to analyze the chosen macroeconomic issues from Islamic economics perspective.

4. ISSUES AND CHALLENGES TO INCORPORATE ISLAMIC PERSPECTIVE

A major challenge to incorporate Islamic perspective in the teaching of intermediate macroeconomics is the lack of proper Islamic macroeconomic model that has strong mathematical foundations to support the construction of an Islamic IS-LM model. At the moment, the best approach is to either revise or add the assumptions of the existing building blocks used to develop the IS-LM framework with Islamic inputs whenever the situation allows. While the equilibrium analysis on the labor market and the product market are generally acceptable from an Islamic point of view, the study of money market becomes complicated due to the prominent role of interest rate in determining its equilibrium. An easy way out is to simply replace the interest rate throughout the IS-LM framework analysis with a Shari'ah-compliant rate of return, but it may be perceived as a 'cosmetic' treatment that lacks a solid foundation to support the model. Additionally, the absence of real economic data to support the Islamic macroeconomic alternatives leave many of these attempts to incorporate Islamic inputs as hypothetical assumptions.

ECON 1710 Foundation of Islamic Economics, which is an introductory course for Islamic economics and a core course for all students at KENMS, is usually the first Islamic economics course that is taken by them. However, it is not a pre-requisite for the intermediate macroeconomics courses. Furthermore, the pre-requisite for ECON 1710 Foundation of Islamic Economics is ECON 1510 Principles of Microeconomics, which is a first-year course. Under this arrangement, BECS students have the flexibility to register ECON 1710 Foundation of Islamic Economics concurrent with ECON 2310 Intermediate Macroeconomics I, or even later. Consequently, BECS students who are taking ECON 1710 Foundation of Islamic Economics at the same time with ECON 2310 Intermediate Macroeconomics I or later may not have a proper exposure on Islamic macroeconomic issues when they are taking intermediate macroeconomic courses. This may impose additional challenges to instructors when they try to introduce the Islamic alternatives for macroeconomic models and analysis since the students are not yet well exposed to Islamic economics. In some cases, the instructor may need to spend additional time to explain the basic building blocks and components that lead to the development of Islamic macroeconomic models and analysis for the students to comprehend and appreciate them. This situation becomes worsen due to unavailability of suitable reference materials.

Given that both intermediate macroeconomics courses take on a more Keynesian or multi-schools of thought approach, it would be beneficial for their intermediate microeconomics counterparts to also adopt a similar method. Alternatively, the approach for intermediate macroeconomics courses could be shifted to focus more heavily on the neoclassical approach, in order to align the approaches used in both microeconomics and macroeconomics courses at the intermediate level. This consistency in approach should also be reflected in the postgraduate level courses, where currently macroeconomics continue to be heavily Keynesian while microeconomics remains purely neoclassical. There is a need to strive for consistency in the methodologies employed across all courses. strive for consistency in the methodologies employed across all courses.

5. CONCLUSION

This paper showed the attempts to integrate Islamic principles in the teaching of intermediate macroeconomics at IIUM, which are ECON 2310 Intermediate Macroeconomics I and ECON 2311 Intermediate Macroeconomics II. Incorporating an Islamic economics perspective is one of the stated objectives for both courses. A special focus is given on the Islamic inputs for the contents of ECON 2310 Intermediate Macroeconomics I, which is the first intermediate macroeconomics course in the BECS program. The usage of macroeconomic data observed from Islamic countries to motivate the general macroeconomic issues on economic growth, unemployment and inflation is encouraged. Most of the analysis related to the labor market and product market are generally acceptable in Islamic economics, except for the investment-savings behavior that is influenced by interest rate. A major complication arises from the examination of the money market due to the central role of interest rate in the equilibrium analysis. As an alternative, the interest rate can be replaced with any Shari'ah-compliant rate of return. The lack of a comprehensive Islamic macroeconomics model that is comparable to the conventional IS-LM model is a major challenge to incorporate Islamic inputs which is aggravated by the absent of real world data within the Islamic economic setting.

ACKNOWLEDGMENT

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APPENDIX 1

Course Content and Islamic Inputs for ECON 2310 Intermediate Macroeconomics I

Week	Topics
1	Introduction • What is macroeconomics • Key concepts • Major issues of macroeconomics • Measurement of macroeconomic variables • Evolution of macroeconomic theory: mercantilist, classical, Keynesian, Islamic
2-3	The Classical system (I): Equilibrium Output and Employment • The Classical revolution • Production function • Labour market: Labour demand and labour supply • Equilibrium output and employment
4	The Classical System (II): Money, Prices and Interest • The quantity theory of money • Money, aggregate demand and equilibrium output • The classical theory of interest rate • Policy implications of classical analysis
5	The Keynesian Revolution: The Role of Aggregate Demand and Expenditure (The Keynesian System I) • Role of aggregate demand and expenditure, and simple Keynesian model • Components of aggregate demand/expenditure • Determination of equilibrium Output • Changes in equilibrium income
6-7	The Keynesian System (II): Money, Interest and Income • Interest and aggregate demand • The Keynesian theory of interest rate • The Keynesian theory of money demand - liquidity preference, liquidity trap, its effects. • The IS-LM model, their construction, equilibrium income, Keynesian and Classical cases.
8-9	The Keynesian System (III): Policy Effects in the IS-LM Model • Effects of changes in money supply, government expenditure and investment • Relative effectiveness of monetary and fiscal policies

10	The Keynesian System (IV): Aggregate Supply and Aggregate Demand • Aggregate supply in the fixed-price Keynesian model • Aggregate demand schedule • Equilibrium income and output • Policy shocks and changes in equilibrium income • Labour market and classical supply assumptions, effects of fiscal policy • Keynes and labour market
11	The Monetarist Counter Revolution • Reformulation of the quantity theory of money • The Monetarist version of IS-LM model • The Monetarist view of aggregate demand and supply • Monetary and fiscal policies: The Monetarist and Keynesian views
12	Output, Inflation and Unemployment: Alternative Views • The natural rate theory and the Keynesian response • Inflation and unemployment in the Keynesian tradition (The Phillips Curve) • Inflation and unemployment in the Classical view: The short run and long run Phillips Curves
13-14	New Classical Economics • The rational expectation theory and equilibrium income • Policy conclusions of New Classical economics • Keynesian response to New Classical economics

APPENDIX 2

Course Content and Islamic Inputs for ECON 2311 Intermediate Macroeconomics II

Week	Course Content
1-2	Consumption Spending • The absolute income hypothesis • The life cycle hypothesis • The permanent income hypothesis
3-4	Investment Spending • The accelerator relationship • Flexible accelerator model • Investment and cost of capital
4-5	Money Demand • The definition of money • The theory of the transaction demand for money ▪ Demand for money as behavior toward risk • Instability of money demand

5-6	Money Supply • The tools of Central Bank control • Bank reserves and deposit creation • Who controls the money stock?
7	Monetary Policy • The monetary policy making process • Intermediate targeting on monetary aggregates • Interest rate targeting
8	Fiscal Policy • The goals of macroeconomics policy • Public choice view and partisan theory • Balanced budget rules and automatic fiscal stabilizers • Budget deficit
9-10	Long- and Intermediate-term Economic growth • Neoclassical growth model • Endogenous growth models • Supply side positions
11-12	Exchange Rates and the International Monetary System • The balance of payments accounts • Exchange rates and the market for foreign exchange • Fixed versus flexible exchange rates
13-14	Monetary and Fiscal Policies in an Open Economy • An open economy IS-LM-BP model • Policy effectiveness in an open economy