

## Chapter 19

### N.I.Kit: The National Income Kit

Dayang Hummida Abang Abdul Rahman<sup>1</sup>, Nuzaihan Majidi<sup>2</sup>, Ting Hie Ling<sup>3</sup>, Shafinaz Lyana Abu Talib<sup>4</sup>, Fatin Adilah Razali<sup>5</sup>, Saudi Narani<sup>6</sup>

*<sup>1,2,4,5,6</sup>Faculty of Business and Management, Universiti Teknologi MARA Sarawak Branch, Mukah Campus, Malaysia*

*<sup>3</sup>Academy of Language Studies, Universiti Teknologi MARA Sarawak Branch, Mukah Campus, Malaysia*

#### Abstract

National income calculation is a fundamental theory introduced in preliminary macroeconomics course and in fact has become the common question probed in all assessments including tests, quizzes and assignments on basic macroeconomics concepts. Hence, it is essential for students to be able to command this concept carefully without making substantial errors in attempting the question. However, unlike standard mathematics subjects, the calculation of national income requires thorough comprehension on both theoretical and numerical parts of the concept. Students often face difficulty in memorizing and applying the formulas to calculate national income. Additionally, it is also observed that students tend to lose substantial amount of marks due to incorrect information captured from the question. N.I.Kit or National Income Kit is a visual learning tool that is specifically designed to illustrate the calculation of national income effectively. It is inspired based on the idea of stamps and photo album where students would be required to write the specific components of national income and organize them according to the designated slots inside the album. The kit also serves as a compilation of tutorials that embodies the concept of collectible items, which makes it easy and convenient for students to do their revision efficiently. N.I.Kit aims to redefine the practice of national income calculation in an interesting and visually appealing manner. In terms of its potential for commercialization, it is planned be marketed as an affordable and handy tool for students to carry along during lecture, discussion and personal revision session.

#### Introduction

The national income theory is an essential topic in the preliminary macroeconomics course. This topic is taught predominantly to business students across all education institutions including high schools, colleges and universities. In order to test students' understanding on the topic, the question on national income calculation has been commonly probed in all assessments, such as tests, quizzes and assignments for the course. By definition, the father figure in economics, John Maynard Keynes described national income as the money value of all goods and services produced in a country during a year (Johnson, 2005). The process to derive national income involves a series of processes beginning with identification of components to be included in the calculation of Gross Domestic Product (GDP) based on three approaches namely expenditure, income and product approach. The subsequent procedures translate GDP into various macroeconomics indicators such as Gross National Product (GNP), national income, personal income and disposable personal income. The national income data are particularly important in measuring the economic performance of a country apart from a vital tool for policy makers to formulate national planning. Moreover, national income is a significant indicator that illustrates the overall condition of the various sectors in an economy (Vengedasalam &

Madhavan, 2013).

## Content

Unlike the standard mathematics subject, the calculation of national income requires students to have a solid understanding on the concept prior to translating the theory into problem solving practice based on actual data. As it involves a series of continuous processes to derive the national income, it is essential for students to be able to command this concept carefully without making substantial errors in attempting the question. Wilson and Dixon (2009) in their article state that economics students often face difficulty in developing effective learning strategies due to the abstract nature of most economics concepts and too little clarity in their practical implication. In this case, the most common problem faced by students is the inability to memorize and apply the formulas to calculate national income. Additionally, it is also observed that students tend to lose substantial amount of marks due to incorrect information captured from the question. These problems have been the main concern of economics lecturers and teachers in monitoring the learning progress of students in this topic. With the presence of such situations, Twomey (2009) therefore emphasizes the importance of learner-focused approach through the incorporation of explicit instruction combined with the elements of meaning-making, student control and acceptance of errors to assist students with learning difficulties. Her argument is further supported by Schoenfeld (2013) that describes a productive classroom environment through engaging participation could lead to better outcomes in problem-solving practice among students. Hence, there is a need to develop an innovative way to enhance the effectiveness of the national income lesson among students who are experiencing such issues.

As a noble attempt to address these problems, N.I.Kit or National Income Kit is specially designed as a visual learning tool to illustrate the calculation of national income effectively. The objectives of N.I.Kit include to guide students in applying all formulas in the national income calculation systematically, to compile all national income exercises in a single portfolio kit and to assist lecturers and teachers in monitoring students' learning progress on the topic efficiently. With distinct slots for question and answers with step-by-step calculation process dedicated for each national income component, N.I.Kit is an efficient aid that provides clear illustration of answers that could benefit both the student and lecturer or teacher. Created with an easy-to-use function, the colourful features of the kit also enhances the ability of students to recall all the formulas required in every calculation process. According to Yunus, Salehi and John (2013), the use of visual aids facilitate better engagement and interaction between teachers and students apart from generating creativity and critical thinking skills among students. Moreover, the effective utilization of visuals can significantly reduce learning time, improve comprehension, enhance retrieval and increase retention (Kouyoumdjian, 2012).

Figure 1 illustrates the content page of N.I.Kit. Each content page contains one question slot and one answer slot, with multiple dedicated slots for each component of national income. On the answer slot, each component is arranged according to the standard sequence to calculate national income. For instance, the first step requires students to calculate the Gross Domestic Product at market price (GDPmp). The subsequent step of deriving the Gross National Product at market price (GNPmp) involves the process of carrying down the value of GDPmp calculated earlier adjusted with additional formula to arrive at the value of GNPmp. To facilitate students in answering the question, the question paper can be placed into the designated question slot provided. Similar to the normal practice of answering question, students should first read the question carefully and understand each requirement of the question thoroughly. Based on the information given in the question, students would then identify each national income component into its category respectively. After all information are examined, on a piece of paper provided in each category on the answer slot, students would be required to write national income components and calculate their answer accordingly.

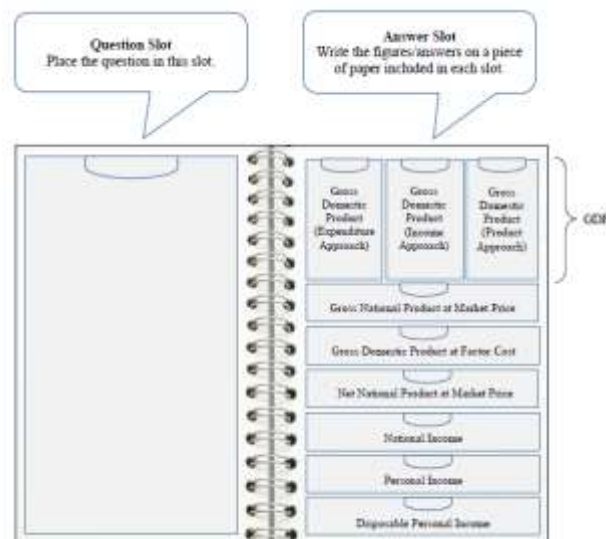


Figure 1. The illustration of the content page of N.I.Kit

N.I.Kit is one-of-a-kind visual learning tool that facilitates the learning process of the national income theory. While the standard method of teaching and learning the national income concept involves the process of understanding the theory and applying the formulas into the actual national income data, the calculation process becomes the crucial part in students' learning practice. It requires them to recall all the formulas and to identify each information provided in the question according to national income components. With its systematic and distinct slots that are distinguished by different colors, this is where N.I.Kit serves as a complementary aid that guides this process as a quick revision tool for students to practice the national income calculation. Furthermore, the design of N.I.Kit embodies the idea of collectible items in the most academically appealing manner, which is relatable among users who keep photos and stamps album. Moreover, the perfectly handy design of N.I.Kit is suitable to be used and carried along for classes, discussions and personal revision. Besides that, it offers convenience for lecturers or teachers to monitor students' learning progress on the topic as well as facilitates students to understand the flow of national income calculation effectively. As a whole, N.I.Kit initiates the new learning practice and redefines teaching and learning process by incorporating visual aids into complex theories such as national income. Additionally, it encourages the culture of teaching innovation in the most creative and engaging manner, which could be answer to all concerns among economics lecturers and teachers on the most effective way in delivering the national income lesson.

Designed while keeping in mind the practicality and convenience, N.I.Kit is a handy visual learning tool for both lecturers or teachers and students. Realizing its potential among target customers, N.I.Kit is aimed to be marketed as an affordable kit that is available across all bookstores and stationery shops. In terms of its long-term commercial prospect, N.I.Kit has the potential in becoming the standard tool used in the national income lesson and as the perfect companion that brings both lecturers or teachers and students together in discussing this topic. In addition to that, N.I.Kit has a promising commercial ability to attract users not only in Malaysia, but also at the global arena due to the nature of national income concept that is universal and widely applied across the world's economic system (Katz, 2017).

## Conclusion

As a tool that complements the teaching and learning process of the national income, N.I.Kit is an essential visual learning aid that offers benefits to both lecturers or teachers and students, apart from

the practicality and convenience in terms of understanding and applying the concept into practice. With its handy design and easy-to-use features, N.I.Kit is apt to be used by lecturers or teachers in their national income lesson as well as by students in their national income calculation routine. This noble initiative could potentially be extended into other economics theories such as the flow of money supply concept and balance of trade accounting.

### References

- Johnson, P. M. (2005). A glossary of political economy terms: Aggregate demand. Retrieved from [http://www.auburn.edu/~johnspm/gloss/aggregate\\_demand](http://www.auburn.edu/~johnspm/gloss/aggregate_demand)
- Katz, A. J. (2017). Making estimates of national income better reflect economic well-being: The U.S. experience. *Proceeding of IARIW-Bank of Korea Conference*.
- Kouyoumdjian, H. (2012). Learning through visuals: Visual imagery in the classroom. Retrieved from <https://www.psychologytoday.com/us/blog/get-psyched/201207/learning-through-visuals>
- Schoenfeld, A. H. (2013). Reflections on problem solving theory and practice. *Mathematics Enthusiast*, 10(1), pp. 9-34.
- Twomey, E. (2009). Linking learning theories and learning difficulties. *Australian Journal of Learning Disabilities*, 11(2), pp. 93-98, DOI: 10.1080/19404150609546812
- Vengedasalam, D., & Madhavan, K. (2013). Principles of economics (3<sup>rd</sup> Ed.). Malaysia: Oxford University Press.
- Wilson, D. & Dixon, W. (2009). Performing economics: A critique of 'teaching and learning. *International Review of Economic Education*, 8(2), 91-105.
- Yunus, M. M., Salehi, H. & John, D. S. (2013). Using visual aids as a motivational tool in enhancing students' interest in reading literary texts. *Recent Advances in Educational Technologies*, pp. 114-117, ISBN: 978-1-61804-155-5.