

出國報告（出國類別：其他）

參加亞洲開發銀行「2021年回合國際比較計畫（ICP）」之2023年會議
綜合報告（視訊報告）

服務機關：行政院主計總處

姓名職稱：林研究員 冠宏

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派赴國家：泰國（受 COVID-19 疫情影響改以
派員於國內參加線上視訊會議）

出國期間：112年5月25日至7月4日

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摘 要

世界各國物價水準以及生活成本 (Cost of Living) 之比較一直是各跨國組織進行資源配置以及重要決策所不可或缺的參考資訊 (如貧窮線 [Poverty Line])。而以匯率換算各國國內生產毛額 (GDP, Gross Domestic Product)，因匯率波動較大時，恐無法真實反映一國貨幣之購買力。為能更客觀地比較各國物價及經濟概況，編算購買力平價 (PPP, Purchasing Power Parity) 以及購買力平價之國際比較計畫 (ICP, International Comparison Program) 逐漸受到重視。

聯合國自1968年發起ICP，並委由世界銀行 (World Bank，後簡稱世銀) 主持，從一開始單純的學術研究活動，逐步發展為常態性的全球統計計畫，目前全球分為8個區域，包括我國所屬之亞太，以及非洲、拉丁美洲、加勒比海地區、獨立國協、西亞、太平洋諸島與OECD/歐盟等共同執行，共約200個經濟體為參與成員，編算結果可用以換算各國之GDP，以比較與衡量區域內以及跨區域各國經濟相對發展狀況。

ICP前6個回合我國並未獲邀參加，自第7 (2005年) 回合開始，因亞洲開發銀行 (ADB, Asian Development Bank，後簡稱亞銀) 受主辦方世銀委託成為亞太地區的ICP統籌負責機構 (Regional Implementing Agency)，而我國以亞銀會員國參與此全球統計盛事，至今已邁入第4個基準年回合。

2020年初全球爆發COVID-19疫情，亞銀與參與國商討後決議，將原訂3年1期的2020年回合延後1年，改為2021年回合，並將2021~22年之所有實體會議改為線上視訊會議；後隨各國陸續解除邊境管制，今 (2023) 年下半年起恢復實體會議模式，本總處考量業務運作，僅出席部分場次實體會議，餘場次採線上會議方式。本報告係綜整我國參與2023年亞銀辦理2021年回合ICP第20、21次線上討論會議 (5/25~5/27, 6/29~7/4) 之重點。

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壹、參加緣由及目的

購買力平價（PPP, Purchasing Power Parity）可用以衡量不同貨幣的實質購買力，以進行各項重要經濟指標，如國內生產毛額（GDP, Gross Domestic Product）等之國際比較。而 PPP 國際比較計畫（ICP, International Comparison Program）係由聯合國統計委員會（United Nations Statistical Commission）統籌、世界銀行（World Bank，後簡稱世銀）主持、近 200 個經濟體¹ 在內之各地區（region）參與的常川性國際統計活動。

我國為亞太地區（Asia and Pacific Region）經濟體之一，自 2005 年回合起獲亞太地區 ICP 統籌負責機構亞洲開發銀行（ADB, Asian Development Bank，後簡稱亞銀）邀請參與 ICP，迄今已參與包括 2005、2011 及 2017 年 3 個基準年回合，以及 2009 與 2015-16 年亞太地區自行舉辦之 2 個非基準年回合。自 2017 年回合起，ICP 在亞太地區漸入軌道，同時也為了能跟其他地區如歐洲、美洲等已開發國家經濟體進行比較，世銀將亞太地區 ICP 舉辦間距由每 6 年一次縮短為每 3 年一次。本回合原定計畫於 2020 年舉行，惟 COVID-19 疫情因素，順延一年，改為 2021 年回合²。然全球疫情反覆，亞銀於 2020 年底召開第 1 次線上區域研討會時，決定 2021 年改採線上視訊研討會（virtual workshop），2022 年續以視訊方式辦理，2023 年則隨各國邊境管制解除，逐步恢復實體會議模式。

往年 ICP 會議若逢辦理物價統計之作業高峰時，我國僅派員參加日程較長或較為重要之研討會（如家庭消費財各季檢討），餘則以電子郵件或電聯等方式溝通。2021~22 年因 ICP 全數會議（2021 年為第 1~9 次會議，2022 年為第 10~19 次）改採線上視訊辦理，與會人員除可免去出入境所需之隔離檢疫規定，亦可兼顧日常公務，亞銀鼓勵各國派員出席，我國亦全程出席所有會議。隨疫情降溫，2023 年起亞銀改採實體及線上會議雙軌並行，因 2023 年適逢本總處 CPI 之 2021 年基期改編作業高峰，僅出席部分場次實體會議，其餘場次參加線上會議。本報告係綜整參與 2023 年線上視訊會議之重點。

¹ Uses and applications of ICP data, World Bank, <https://www.worldbank.org/en/programs/icp/uses>

² 2021 Dec, ICP Highlights, Issue 49, World Bank, <https://us10.campaign-archive.com/?u=743031b61a79359529362d6cc&id=1ad3c8ab70>；參與本回合亞太地區 ICP 共 21 個經濟體，包括我國、孟加拉、不丹、汶萊、柬埔寨、中國大陸、斐濟、香港、印度、印尼、寮國、馬來西亞、馬爾地夫、蒙古、尼泊爾、巴基斯坦、菲律賓、新加坡、斯里蘭卡、泰國及越南。

貳、ICP 簡要介紹

考量本回合期間長達 3 年之久，各國參與團隊偶有人員異動之情事，亞銀皆於每次區域訓練及技術檢核會議前段重新介紹 ICP 與其相關查價核心概念，以便加深各國參與人員在相關作業上的了解。本段落效法亞銀之精神，稍作簡要說明，為第一次閱讀接觸 ICP 之讀者揭露其神秘面紗。

ICP 最主要之目的為編製購買力平價，雖常以大麥克指數作為比較範例，但實務上非僅比較大麥克而已。因各國民俗風情、消費習慣不同，要建置一個可以互相比較的基準（查價籃子，item basket）著實困難。為此，ICP 將國內生產毛額（GDP）依照聯合國統計委員會所建置之中央產品分類（CPC）下的其他分類目錄如 COICOP（個人消費用途別分類）、COPNI（對家庭服務之非營利組織用途別分類）、COFOG（政府職能別分類）、CC（營建型態分類）等再細分為共計 155 項的基本分類（BH, Basic Heading），包含之 BH 計有家庭消費 110 項、非營利組織對家庭消費 5 項、政府個體消費（如醫療、教育等）21 項、政府集體消費（如國防等公共財）5 項、資本形成毛額 12 項及淨出口 2 項。上述基本分類係國際統計標準下之最細項分類。

各國依照各 BH 可查之項目蒐集國內價格資訊，最後以共同參考貨幣（Reference Currency，亞太地區以港幣為參考貨幣）產製該 BH 之價格並進行比價。劃分 BH 之目的係彌平各國查價項目之間的差異性，以「食用米類」這個 BH 為例，我國查台梗 9 號之短梗米、泰國查香米、印度查小米，分開來看這些項目無從比較，但彙整後，依照一價法則（The Law of One Price），各國作為食用米類的（港幣）價格應趨近相同。針對這些 BH 價格，ICP 會透過經濟體內（Intra-Economy）與跨經濟體（Inter-Economy）之價格檢核，來確保資料的品質。檢核方法有查價項目樣本中變異係數（應小於 30）以及最小/最大比值（MMR, Min/Max Ratio，應大於 0.33，意即該查價項目樣本中，最便宜與最昂貴的項目不應價差甚鉅）。價格經過檢核後，再以國家商品虛擬法³（Country Product Dummy Method）計算出各項基本分類之購買力平價。如果要計算 BH 更上層分類的購買力平價，則須配合國民經濟會計帳戶（National Accounts）之支出面（Expenditure）資料分配權重，方能計算該國之購買力平價。最後透過費雪指數法（Fisher Index）以配對方式將國與國之間的資料串接起來，計算出全球各國的購買力平價。

由此可見 ICP 工程浩大，實為須各國、各組織共同戮力合作之計畫；其編算結果用於換算各國之 GDP，比較與衡量區域內以及跨區域各國經濟相對發展狀況，亦可作為聯合國用於人道救援或經濟支援重要參考指標之一。

³ 更細部關於國家虛擬商品法解說，讀者可搜尋《Elementary Aggregate Using Country Product Dummy (CPD) Method》<https://thedocs.worldbank.org/en/doc/900561487094190462-0050022017/original/OGch23.pdf>

參、2023年亞太地區線上研討會議日程

第 20 次區域研討會（2023 年 5 月 25 日~5 月 27 日）

第 21 次區域研討會（2023 年 6 月 29 日~7 月 4 日）

肆、各會議過程摘要報告

一、第 20 次區域研討會（2023 年 5 月 25 日~5 月 27 日）

本次會議主題係營造工程及機械設備物價之跨經濟體檢討。營造工程物價方面，由 Kaushal Joshi 主席（後簡稱為主席）與 Aaron Wright 世銀專家共同主持，會中針對住宅、非住宅及土木工程等 3 類 BHs 之材料、工資及設備租金等提報資料進行檢視。Wright 專家提醒各經濟體務必留意查價項目的計價單位，避免報價錯誤；另部分查價項目之間的價格有關聯性，報價時也須留意，例如水泥為預拌混凝土的投入原料之一，其價格應低於預拌混泥土。與會中我國僅被提問「面磚」項目，主因我國價格相對其他亞太地區國家高，會中向亞銀說明我國報價單位、價格及單位換算等資訊，經與會專家評估，亞銀接受我國報價。

機械設備檢核過程由 Peter Tabor 世銀專家檢核各國提報資料差異較大之項目，逐一說明清單中定義易致疑義之處。針對各國報價差異大的項目，特別是「非指定品牌及型號」項目之報價，Tabor 專家也在會議中逐一建議各國可改查或替代之型號與品牌。本次會議中提問有關我國項目共計 2 項，說明如下：

（一）「小型履帶裝載機-黑貓（美國）-T590」（指定項目）

亞銀請我國說明報價低於其他經濟體之原因：我國於會議中說明報價型號與指定型號相同，惟重要規格(PDC⁴, Price Determining Characteristics) 6 項中僅符合 2 項，提供報價型錄資料供參，與會專家推論可能各國各地因方法規限制，導致品質規格異動，後經評估回復接受我國報價。

（二）「DC 焊接機-Esab（瑞典）-Origo Mig 4004i」（指定項目）

亞銀請我國確認報價是否包含冷卻裝置：經查未包含冷卻裝置。

本次會議的另一個重點為探討利用網路爬梳相關技術取代人工查價之可行性，主因係機械設備類項目相對專業，各國在查報時無法自行判斷該項目正確性或可比性，致每次檢核仍需投入大量時間逐一重新審查。而各大廠牌如黑貓、本田以

⁴ Price Determining Characteristics 直譯為「決定價格要素」，我方簡譯為「重要規格」，一般來說機械類查價項目規格繁雜，故將部分重要規格標明（如油罐的重要規格是容量、載具類重要規格為引擎排氣量等），方便查價人員辨識。

及 BMW 等會配合經銷商所在國家規範調整，且多有架設網頁供客戶查詢，故先前會議中有代表提案何不以各廠牌在各國官網所公布之資訊爬梳，既節時省力又可免去審查資料可比性，一石二鳥，亞銀對此方案表示認同。會場上亞銀展示內部人員自行開發的 APSS (Asia Pacific Software Suite) 報價軟體套件，擬新增網路爬梳功能，透過各國網路商城網址，自動抓取價格以及其他相關資訊。會議上有不少代表對網路爬梳之未來趨勢深感興趣，惟有代表對於爬梳之道德與合法性提出疑義。亞銀表示在爬梳方面，雖無法律強制性規範，但建議各國應先徵求受查企業之同意。此外，有部分代表認為爬梳之價格，因取得成本低，可更頻繁蒐集，但常發現價格波動大，價格代表性似待商榷，因此對於是否採用仍保持觀望態度。

二、第 21 次區域研討會（2023 年 6 月 29 日~7 月 4 日）

本次會議亞銀規劃 2 個時段（6 月 29~30 日及 7 月 3~4 日），首先 6 月 29~30 日會議依主題區分 2 個場次，分別為「檢核 2021 年回合跨經濟體房屋租金價格」及「政府受僱人員報酬」，其次 7 月 3~4 日會議著重於 GDP 方面資料檢核，各述如下：

（一）房屋租金價格檢核會議

1. 會議首先由澳洲昆士蘭大學教授 Prasada Rao 博士說明房屋租金對 ICP 之重要性。因居住類消費資料蒐集不易，且購屋屬投資，租屋屬消費，二者性質不同，房屋價格不適用於計算購買力平價，加上各國常因房東、租客資訊不對等，致租屋市場不透明且資訊參差不齊，故 ICP 參考各國居住類價格面向數據（如坪數、房間數、房型等與價格之關係），再配合房屋量指標（Housing Volume）提供品質（Quality，如水電、建材、可用空間等）資料，方能從國民所得資料中更客觀地剖析與衡量各國在居住面的實質購買力，以期計算居住類別的購買力平價時，更能貼近並反映現實。
2. 房屋租金資料檢核中，我國「公寓套房房型（無隔間）15-35^m」與「公寓 1 房型 20-40^m」每平方年租金平均價格與亞銀預期設算不同，主因我國所屬高所得組別中，僅有我國與香港報價；房屋量指標中，亞銀再次對我國一般可用居住面積提出偏高之疑義，雖已於前次資料檢核答復，會場上再次向亞銀表達我國資料已確認無誤。

（二）政府受僱人員報酬檢核會議

亞銀表示各經濟體之「法官」報價差異甚大，係因各國報價規格不同。本項職類應為一般法庭法官報酬，但有部分經濟體提交類比我國最高法院法官、高等法官及地方法官等，對此亞銀表示將會在未來查價清單中明文訂定。我國係報送一般普通法院法官之報酬，符合亞銀規範。

（三）GDP 與相關資料檢核

會議主要檢核各經濟體間、經濟體內 2017 及 2021 年回合 GDP 及其 155 項

BH 拆分結果之合理性。主席感謝與會者參加本回合首場 GDP 實體討論會議，並強調 GDP 估算與 155 項 BHs 拆分結果對 ICP 之重要性，隨後 Rao 博士講授 ICP 基本概念及原理，並說明以 GDP 支出面衡量最終產品及服務價格之優點等重要觀念；另亞銀 ICP 國民所得專家 Mr. Kar 則建議各國藉由簡報及文獻資料學習他國的經驗並掌握數據背後變動的原因，以瞭解疫情期間的估計結果與結構的變化，並簡述各國提報資料之完整性與一致性檢核結果。接著由各國簡報 GDP 編製所使用的資料來源、最新年度、推估方式，並說明 COVID-19 對 GDP 編算之挑戰與編算結果之影響。多數國家 2020、2021 年交通、娛樂與文化、餐廳及旅館等類別消費支出及占比均受疫情影響而大幅度衰退，少部分國家卻無此類變化，主因缺乏最新數據拆分，故亞銀建議或可借用其他生產面指標來估算，期能呈現 COVID-19 對經濟的影響，惟討論進度因時間限制，各年度之比較止於總體層面，無法就細項資料逐一檢視。

伍、心得及建議

因考量 2023 年下半年亞銀仍有召開線上會議之可能，本報告提交時已接近年末，雖今年度以視訊會議方式參與的會議僅為 2 場，為求完整一致性，仍撰擬本報告供後進參用。回顧過去，本回合多數是以視訊會議辦理（截至本報告撰寫時間，ICP 2021 年回合共計舉行了 22 場區域訓練及技術檢核會議，其中僅 2 場為實體會議）。過去 3 年間所有 ICP 舉辦之檢討會議皆全數出席，出席次數為我國參加 ICP 以來最多的一次。

在先前回合中，ICP 會議會期常與我國辦理物價統計作業之高峰期重疊，故僅派員參加日程較長或較為重要之研討會（如查價規劃、家庭消費財各季檢討或是初步結果檢討等），餘則以非即時性之電子郵件溝通，惟可能衍生時效落後，或通訊時間過於密集，郵件交疊導致錯失重要訊息回復時間等缺點。在回合尾聲，亞銀準備彙整資料提交給世界銀行之際，需要各國提供即時檢核的資料或說明，以視訊會議方式檢討相形之下較無效率，加以視訊會議常受亞太地區跨多時區之時差影響，每次視訊會議時間有限，遇到像是機械設備類等較費時的檢核作業時，往往會議無法如期結束或達成開會目的。綜上所述，視訊會議在疫情期間仍提供了較為彈性的參與方式，免去同仁出國相關手續，也可透過目前微軟視訊會議軟體 Teams 內建轉錄字幕方式，讓同仁可以更能理解會場上諸位代表之陳述內容，視訊會議仍具優勢，未來期盼亞銀在時效允許的情況下，對於部分小型會議如政府報酬、營造類等應盡可能採實體線上會議雙軌進行，可以讓更多對 ICP 有興趣的同仁以線上方式「實習」國際會議。

對於參與本回合整體 ICP 計畫之心得，在實際參與接觸後，發現各查價面向皆有其困難處，如每月彙整及檢核家庭消費財價格資料相對費時、調查機械設備類

時面臨不熟悉項目對價格較無概念，以及彙整政府受僱人員報酬資料須另外再調整（如加上政府負擔之健保、公保費及退休撫恤金等）或處理（計算國定假日數及各職類別不同年資之休假天數）等。經過一回合 ICP 洗禮後，相較於當初進來總處時接手 ICP 的認識更深、感觸良多，同時亦發現我國在統計資料品質方面著實較多數國家用心與嚴謹。

附錄 I、各研討會議程

附錄 A RW20: Technical Evaluation and Review Workshop for CNS, MEQ, HHC, and other data requirements



Regional Technical Evaluation and Review Workshops for Construction, Machinery and Equipment, and Household Consumption Prices
25 to 31 May, 9:00 to 5:30 PM (Bangkok Time)
Provisional Agenda

Session	Particulars
Thursday, 25 May 2023	
8:30 - 9:00	Registration and Reminders
Session 1.	<i>Opening Session</i>
9:00 - 10:30	Opening Remarks Introduction of the Participants Workshop Objectives and Agenda Global and Regional Updates
10:30 - 10:45	<i>AM Break</i>
<u>Construction Survey Workshop</u>	
Session 2.	<i>Construction Survey: Data Validation and Review of Observations</i>
10:45 - 12:30	Status of Data Submissions Observed Issues in Data Submissions Intra-economy Summary Statistics
12:30 - 1:30	<i>Lunch Break</i>
1:30 - 3:00	Intra-economy Validation Inter-economy Validation
3:00 - 3:15	<i>PM Break</i>
3:15 - 5:30	Inter-economy Validation (<i>cont'd</i>) Open Discussion
Friday, 26 May 2023	
Session 2.	<i>Construction Survey: Data Validation and Review of Observations (cont'd)</i>
9:00 - 10:30	Unweighted Preliminary PPPs/PLIs for Construction Subheadings Open Discussion
10:30 - 10:45	<i>AM Break</i>
10:45 - 12:30	PPPs for Construction Basic Headings - Data Review and Role of: Resource Mix Relevance Indicators GDP expenditures on Construction
12:30 - 1:30	<i>Lunch Break</i>

Machinery and Equipment Survey Workshop	
Session 3.	<i>Machinery and Equipment Survey: Data Validation and Review of Observations</i>
1:30 - 3:00	Status of Data Submissions Observed Issues in Data Submissions Intra-economy Summary Statistics Inter-economy Validation
3:00 - 3:15	<i>PM Break</i>
3:15 - 5:30	Inter-economy Validation (<i>cont'd</i>) Open Discussion
Saturday, 27 May 2023	
Session 3.	<i>Machinery and Equipment Survey: Data Validation and Review of Observations (cont'd)</i>
9:00 - 10:30	Inter-economy Validation (<i>cont'd</i>) Open Discussion
10:30 - 10:45	<i>PM Break</i>
10:45 - 12:30	Inter-economy Validation (<i>cont'd</i>) Open Discussion
12:30 - 1:30	<i>Lunch Break</i>
1:30 - 3:00	Inter-economy Validation (<i>cont'd</i>) Open Discussion
3:00 - 3:15	<i>PM Break</i>
3:15 - 5:30	Discussion on Preliminary PPPs/PLIs for Machinery and Equipment

附錄 B RW21: Technical Evaluation and Review Workshop for HOU, GOV, GDP, and other data requirements



Regional Technical Evaluation and Review Workshops for Housing Services, Government Compensation, and Gross Domestic Product Expenditures
29 June to 4 July 2023, 9:00 to 5:30 PM (local time)*
Provisional Agenda


Session	Particulars
Thursday, 29 June 2023	
8:30 - 9:00	Registration and Reminders
Session 1.	<i>Opening Session</i>
9:00 - 10:30	Opening Remarks Introduction of the Participants Workshop Objectives and Agenda
10:30 - 10:45	<i>AM Break</i>
<u>Housing Services Workshop</u>	
Session 2a.	<i>Housing Rental: Data Validation and Review of Observations</i>
10:45 - 12:30	Status of Data Submissions Observed Issues in Data Submissions
12:30 - 1:30	<i>Lunch Break</i>
Session 2a.	<i>Housing Rental: Data Validation and Review of Observations (cont'd)</i>
1:30 - 3:00	Inter-economy Validation Open Discussion
3:00 - 3:15	<i>PM Break</i>
Session 2b.	<i>Housing Volume: Data Validation and Review of Observations</i>
3:15 - 5:30	Status of Data Submissions Observed Issues in Data Submissions
Friday, 30 June 2023	
Session 2b.	<i>Housing Volume: Data Validation and Review of Observations (cont'd)</i>
9:00 - 10:30	Inter-economy Validation Open Discussion
10:30 - 10:45	<i>AM Break</i>
10:45 - 12:30	Discussion on Preliminary Housing PPPs/PLIs from the Quantity and Rental Housing Approaches GDP Expenditure for Housing Open Discussion
12:30 - 1:30	<i>Lunch Break</i>
<u>Government Compensation Workshop</u>	
Session 3.	<i>Government Compensation: Data Validation and Review of Observations</i>
1:30 - 3:00	Status of Data Submissions Observed Issues in Data Submissions
3:00 - 3:15	<i>PM Break</i>
3:15 - 5:30	Intra-economy validation Inter-economy Validation Open Discussion
Saturday, 1 July 2023	
Session 3.	<i>Government Compensation: Data Validation and Review of Observations (cont'd)</i>
9:00 - 10:30	Inter-economy Validation (<i>cont'd</i>) Open Discussion
10:30 - 10:45	<i>AM Break</i>
10:45 - 12:30	Economy base information (2017 vs 2021) Discussion of Preliminary PPPs

**Regional Technical Evaluation and Review Workshops for Housing Services, Government Compensation, and
Gross Domestic Product Expenditures**
29 June to 4 July 2023, 9:00 to 5:30 PM (local time)*
Provisional Agenda

Session	Particulars
12:30 - 1:30	<i>Lunch Break</i>
Session 3.	<i>Government Compensation: Data Validation and Review of Observations (cont'd)</i>
1:30 - 3:00	Discussion of Preliminary PPPs Consumption Expenditure by Government Open Discussion
3:00 - 3:15	<i>PM Break</i>
3:15 - 5:30	Productivity Adjustment Factors (PAF): Overview PAF Underlying Data and Other related Requirements Status of Other ICP Data Requirements <i>Population, Exchange Rates, Deflators (Constant & Current), CPI</i>
Gross Domestic Product Expenditures Workshop	
Monday, 3 July 2023	
Session 4.	<i>Gross Domestic Product Expenditures: Data Validation and Review of Observations (cont'd)</i>
9:00 - 10:30	Status of price data submission Discussion on the Computation and Validation of 155 Basic Heading GDP Weights Open Discussion
10:30 - 10:45	<i>AM Break</i>
10:45 - 12:30	Status of Intra-Economy Validation GDP PCT: Reporting and Validation
12:30 - 1:30	<i>Lunch Break</i>
Session 4.	<i>Gross Domestic Product Expenditures: Data Validation and Review of Observations (cont'd)</i>
1:30 - 3:00	Intra-economy validation
3:00 - 3:15	<i>PM Break</i>
3:15 - 5:30	Review and discussion on revised expenditures for 2017 and available data until 2021
Tuesday, 4 July 2023	
Session 4.	<i>Gross Domestic Product Expenditures: Data Validation and Review of Observations (cont'd)</i>
9:00 - 10:30	Inter-Economy Validation Open Discussion
10:30 - 10:45	<i>AM Break</i>
10:45 - 12:30	Inter-Economy Validation (cont'd) Open Discussion
12:30 - 1:30	<i>Lunch Break</i>
Session 4.	<i>Review and Validation: Gross Domestic Product Expenditures (cont'd)</i>
1:30 - 3:00	Review on Preliminary Results Open Discussion
3:00 - 3:15	<i>PM Break</i>
Session 5.	<i>Other Matters</i>
3:15 - 4:30	Conclusions, and Agreements Closing Remarks

* Local time of venue to be selected.

附錄 II、我國 GDP 在 COVID-19 影響下的彙編與挑戰





Session 4 :
Challenges, Compilation and Impact of COVID-19 on GDP - TAIPEI, CHINA

Regional Technical Evaluation and Review Workshop for Gross Domestic Product Expenditures
3-4 July 2023

Presenter
Position

The views expressed in this document do not necessarily reflect the views and policies of the ADB or its Board of Governors of the government they represent.



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Outline of Presentation

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- I. Introduction
- II. Current GDP Compilation
- III. GDP Compilation Challenges due to COVID-19
- IV. Impact of COVID-19 on GDP Estimates
- V. Response to Issues Raised by ADB on GDP Expenditure Estimates



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Introduction

Agency in-charge of NA Compilation:

Department of Statistics, DGBAS, Executive Yuan, R.O.C.(Taiwan)

Head of Agency, Designation:

Mr. Yu-Tai Tsai , Director

Name and Designation of Overall In-charge of NA compilation:

All members of National Accounts Section, Economic Forecast Section and Industry Input-Output Accounts Section

Key Members of the NA team for ICP:

Around 1/3 members engage in ICP-related matters



Current GDP Compilation [1]

Details	2017 ICP	2021 ICP
SNA Version	2008SNA	2008SNA
General Valuation	Purchaser's price	Purchaser's price
Base Year/ Reference Year	2011	2016
Approach/es used in estimating GDP	Production, Expenditure, Income	Production, Expenditure, Income
Approach where Official GDP is based	Expenditure	Expenditure



Current GDP Compilation [2]

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Available Linked Series	Reference period of annual estimates if not Calendar Year: Calendar Year Years available: 1981-2021 Latest Year, Quarter available: 2021, Q4 (Oct.-Dec.) Webpage: https://nstatdb.dgbas.gov.tw/dgbasall/webMain.aspx?k=engmain
Latest IOT	Reference year: 2016 Size: 487 commodities Webpage: https://eng.stat.gov.tw/News_Content.aspx?Create=1&n=2429&state=1327FD6AD8DCDA52&s=214760&ccms_cs=1&sms=10903
Latest SUT	Reference year: 2021 Size: 63 rows Webpage: https://eng.stat.gov.tw/News_Content.aspx?n=2429&s=230497
Latest Household Expenditure/Budget Survey	Reference year (and month): 2021 Survey of Family Income and Expenditure Publication year: 2022



Current GDP Compilation [3]

8

CLASSIFICATION (AND VERSION) USED FOR COMPILING GDP EXPENDITURES	
ICEH	COICOP 1999
NPISHS	NO CLASSIFICATION
GOVERNMENT	COFOP 2014
GCF	SNA 2008
EXPORTS-IMPORTS	HS(2017)



Current GDP Compilation [4]

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INDIVIDUAL CONSUMPTION EXPENDITURES BY HOUSEHOLDS

DATA SOURCE REFERENCE YEAR	LEVEL OF AVAILABLE DETAILS	METHODOLOGY
THE SURVEY OF FAMILY INCOME AND EXPENDITURE, 2016	FAMILY EXPENDITURE CLASSIFIED ACCORDING TO FOOD, CLOTHING, HOUSEHOLD APPLIANCE, MEDICAL CARE, AND ETC.	TO SPLIT THE CONSUMPTION EXPENDITURES INTO BHS ACCORDING THE SHARES OF DETAILED ITEMS.
SALES OF WHOLESALE, RETAIL AND FOOD SERVICES, 2021	SALES OF FOOD, CLOTHING, HOUSEHOLD APPLIANCE, MEDICAL CARE, AND ETC.	EXTRAPOLATED FROM A RECENT YEAR USING SALES INDICATORS
2021 SURVEY OF TRAVEL BY R.O.C CITIZENS	R.O.C(TAIWAN) CITIZENS' SPENDING BEHAVIOR	DIRECT ESTIMATION
2021 ANNUAL SURVEY REPORT ON VISITORS EXPENDITURE AND TRENDS IN TAIWAN	VISITOR'S EXPENDITURE ACCORDING TO MAIN PURPOSE	DIRECT ESTIMATION



Current GDP Compilation [5]

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INDIVIDUAL CONSUMPTION EXPENDITURES BY NPISHS

DATA SOURCE REFERENCE YEAR	LEVEL OF AVAILABLE DETAILS	METHODOLOGY
CIVIL ORGANIZATIONAL ACTIVITIES CONDITION SURVEY 2016	EXPENDITURES	ESTIMATED BY TOTAL PRODUCTION COSTS AND EXTRAPOLATED USING NUMBER OF REGISTERED NONPROFIT ORGANIZATIONS



Current GDP Compilation [6]

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INDIVIDUAL CONSUMPTION EXPENDITURES BY GOVERNMENT

DATA SOURCE REFERENCE YEAR	LEVEL OF AVAILABLE DETAILS	METHODOLOGY
FINAL ACCOUNTING REPORTS OF GOVERNMENT AT ALL LEVELS, 2021	WITH AVAILABLE DATA ON COMPENSATION OF EMPLOYEES, GOVERNMENT SALES AND PURCHASES, AND SO ON.	1.THE DATA IS BASED ON COFOG. 2.DIRECT ESTIMATION



Current GDP Compilation [7]

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COLLECTIVE CONSUMPTION EXPENDITURES BY GOVERNMENT

DATA SOURCE REFERENCE YEAR	LEVEL OF AVAILABLE DETAILS	METHODOLOGY
FINAL ACCOUNTING REPORTS OF GOVERNMENT AT ALL LEVELS, 2021	WITH AVAILABLE DATA ON COMPENSATION OF EMPLOYEES, GOVERNMENT SALES AND PURCHASES, AND SO ON.	1.THE DATA IS BASED ON COFOG. 2.DIRECT ESTIMATION



Current GDP Compilation [8]

11

GROSS CAPITAL FORMATION(1/2)

DATA SOURCE	REFERENCE YEAR	LEVEL OF AVAILABLE DETAILS	METHODOLOGY
MANUFACTURING INVESTMENT OPERATION OVERVIEW SURVEY, 2021		PURCHASE/SOLD OF FIXED ASSETS; PRODUCTS AND MATERIALS IN STOCK	EXTRAPOLATION, DIRECT ESTIMATION
EXTERNAL TRADE STATISTICS, 2021		STATISTICS OF EXPORTS AND IMPORTS	EXTRAPOLATION
Factory Operation Census, 2020		FIXED ASSETS INVESTED	EXTRAPOLATION



Current GDP Compilation [8]

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GROSS CAPITAL FORMATION(2/2)

DATA SOURCE	REFERENCE YEAR	LEVEL OF AVAILABLE DETAILS	METHODOLOGY
National Science and Technology Survey, 2021		R & D EXPENDITURE BY TAIWAN'S INDUSTRIAL CLASSIFICATION	EXTRAPOLATION
SALES OF WHOLESALE, RETAIL AND FOOD SERVICES, 2021		PRODUCTS AND MATERIALS IN STOCK	DIRECT ESTIMATION
FINAL ACCOUNTING REPORTS OF GOVERNMENT AT ALL LEVELS, 2021		GROSS FIXED CAPITAL FORMATION BY GOVERNMENT	DIRECT ESTIMATION



Current GDP Compilation [9]

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BALANCE OF EXPORTS AND IMPORTS

DATA SOURCE REFERENCE YEAR	LEVEL OF AVAILABLE DETAILS	METHODOLOGY
BALANCE OF PAYMENTS STATISTICS, 2021	IMPORTS AND EXPORTS OF GOODS AND SERVICES	DIRECT ESTIMATION



Current GDP Compilation [10]

14

EXHAUSTIVENESS

ARE ADJUSTMENTS MADE TO GDP ESTIMATES TO COVER THE FOLLOWING?	YES/NO
PRODUCER DELIBERATELY DOES NOT REGISTER (UNDERGROUND ACTIVITY) IN ORDER TO AVOID TAX AND SOCIAL SECURITY OBLIGATIONS OR TO AVOID LOSING SOME SOCIAL BENEFITS.	YES
PRODUCER DELIBERATELY DOES NOT REGISTER (ILLEGAL ACTIVITY) BECAUSE THE PRODUCER IS INVOLVED IN ILLEGAL ACTIVITIES SUCH AS PROSTITUTION, SALE OF STOLEN GOODS, DRUG DEALING, SMUGGLING, OR ILLEGAL GAMBLING.	NO
PRODUCER NOT REQUIRED TO REGISTER BECAUSE THE PRODUCER DOES NOT HAVE ANY MARKET OUTPUT OR THE PRODUCER'S MARKET OUTPUT IS BELOW A SET THRESHOLD.	YES



Current GDP Compilation [11]

15

EXHAUSTIVENESS

ARE ADJUSTMENTS MADE TO GDP ESTIMATES TO COVER THE FOLLOWING?	YES/NO
LEGAL PRODUCER NOT SURVEYED BECAUSE, ALTHOUGH REGISTERED, THE PRODUCER IS EXCLUDED FROM STATISTICAL SURVEYS.	YES
REGISTERED ENTREPRENEURS NOT SURVEYED.	YES
MISREPORTING BY PRODUCERS.	YES
OTHER STATISTICAL DEFICIENCIES. THIS CATEGORY CAN BE DIVIDED INTO TWO PARTS: I) DATA THAT ARE INCOMPLETE OR CANNOT BE DIRECTLY COLLECTED FROM SURVEYS, AND II) DATA THAT ARE INCORRECTLY COMPILED DURING SURVEY PROCESSING.	YES



Current GDP Compilation [12]

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REVISION POLICY

- FOR EVERY YEAR, AT THE END OF NOVEMBER, WE RELEASE AN ANNUAL REVISION WHICH WOULD REVISE THE GROSS DOMESTIC PRODUCT (GDP) FIGURES FOR PREVIOUS 2 YEARS.
- ONCE EVERY 5 YEARS, WE PRODUCE A "COMPREHENSIVE" REVISION TO THE GDP STATISTICS, AND THE UPDATED GDP NUMBERS WILL BE RELEASED AT THE END OF NOVEMBER FOR YEARS ENDING IN 4 AND 9.



Current GDP Compilation [13]

SCHEDULE OF RELEASE OF FINAL ANNUAL ESTIMATES, 2017-2021

YEAR	DATE OF RELEASE	REMARKS
2017	FEB. 2019(PRELIMINARY ESTIMATE)	REVISED IN MAY 2018, NOV. 2018 AND NOV. 2019
2018	FEB. 2019(PRELIMINARY ESTIMATE)	REVISED IN MAY 2019, NOV. 2019 AND NOV. 2020
2019	FEB. 2020(PRELIMINARY ESTIMATE)	REVISED IN MAY 2020, NOV. 2020 AND NOV. 2021
2020	FEB. 2021(PRELIMINARY ESTIMATE)	REVISED IN MAY 2021, NOV. 2021 AND NOV. 2022
2021	FEB. 2022(PRELIMINARY ESTIMATE)	REVISED IN MAY 2022, NOV. 2022 AND WILL BE REVISED IN NOV. 2023



GDP Compilation Challenges Due to COVID-19 [1]

INDIVIDUAL CONSUMPTION EXPENDITURES BY HOUSEHOLDS	ISSUE	ACTION TAKEN
DATA SOURCES		
METHODOLOGY		
QUALITY OF ESTIMATES		
OTHERS, SPECIFY		

THE COVID-19 PANDEMIC HAS BEEN CONTROLLED RELATIVELY WELL IN TAIWAN. THE SURVEYS AND STATISTICS FOR COMPILING GDP WERE NOT AFFECTED OR DELAYED.



GDP Compilation Challenges Due to COVID-19 [2]

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INDIVIDUAL CONSUMPTION EXPENDITURES BY NPISHS	ISSUE	ACTION TAKEN
DATA SOURCES	<p>THE COVID-19 PANDEMIC HAS BEEN CONTROLLED RELATIVELY WELL IN TAIWAN. THE SURVEYS AND STATISTICS FOR COMPILING GDP WERE NOT AFFECTED OR DELAYED.</p>	
METHODOLOGY		
QUALITY OF ESTIMATES		
OTHERS, SPECIFY		



GDP Compilation Challenges Due to COVID-19 [3]

20

INDIVIDUAL CONSUMPTION EXPENDITURES BY GOVERNMENT	ISSUE	ACTION TAKEN
DATA SOURCES	<p>THE COVID-19 PANDEMIC HAS BEEN CONTROLLED RELATIVELY WELL IN TAIWAN. THE SURVEYS AND STATISTICS FOR COMPILING GDP WERE NOT AFFECTED OR DELAYED.</p>	
METHODOLOGY		
QUALITY OF ESTIMATES		
OTHERS, SPECIFY		



GDP Compilation Challenges Due to COVID-19 [4]

21

COLLECTIVE CONSUMPTION EXPENDITURES BY GOVERNMENT	ISSUE	ACTION TAKEN
DATA SOURCES	<p>THE COVID-19 PANDEMIC HAS BEEN CONTROLLED RELATIVELY WELL IN TAIWAN. THE SURVEYS AND STATISTICS FOR COMPILING GDP WERE NOT AFFECTED OR DELAYED.</p>	
METHODOLOGY		
QUALITY OF ESTIMATES		
OTHERS, SPECIFY		



GDP Compilation Challenges Due to COVID-19 [5]

22

GROSS CAPITAL FORMATION	ISSUE	ACTION TAKEN
DATA SOURCES	<p>THE COVID-19 PANDEMIC HAS BEEN CONTROLLED RELATIVELY WELL IN TAIWAN. THE SURVEYS AND STATISTICS FOR COMPILING GDP WERE NOT AFFECTED OR DELAYED.</p>	
METHODOLOGY		
QUALITY OF ESTIMATES		
OTHERS, SPECIFY		



GDP Compilation Challenges Due to COVID-19 [6]

23

BALANCE OF EXPORTS AND IMPORTS	ISSUE	ACTION TAKEN
DATA SOURCES		
METHODOLOGY		
QUALITY OF ESTIMATES		
OTHERS, SPECIFY		

THE COVID-19 PANDEMIC HAS BEEN CONTROLLED RELATIVELY WELL IN TAIWAN. THE SURVEYS AND STATISTICS FOR COMPILING GDP WERE NOT AFFECTED OR DELAYED.



Impact of COVID-19 on GDP Estimates [1]

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Expenditure Share at the Main Aggregate Level

Code	Description		2017	2018	2019	2020	2021
1000000	GROSS DOMESTIC PRODUCT (billion \$NTD)	GDP	17,989	18,375	18,909	19,799	21,706
1100000	INDIVIDUAL CONSUMPTION EXPENDITURE BY HOUSEHOLDS (%)	Main Aggregate	51.2	51.5	51.6	51.8	51.9
1200000	INDIVIDUAL CONSUMPTION EXPENDITURE BY NPISHs (%)	Main Aggregate	0.6	0.8	0.7	0.6	0.6
1300000	INDIVIDUAL CONSUMPTION EXPENDITURE BY GOVERNMENT (%)	Main Aggregate	1.3	1.6	1.7	1.6	1.9
1400000	COLLECTIVE CONSUMPTION EXPENDITURE BY GOVERNMENT (%)	Main Aggregate	6.5	6.7	6.9	6.9	6.8
1500000	GROSS CAPITAL FORMATION (%)	Main Aggregate	21.0	22.2	23.8	24.2	26.8
1600000	BALANCE OF EXPORTS AND IMPORTS (%)	Main Aggregate	13.3	11.2	9.9	13.3	14.9

Impact of COVID-19 on GDP Estimates [2] 25

▪ Categories/Basic Headings Most Affected

CODE	CATEGORY/BASIC HEADING	EFFECT (UP OR DOWN)
1107000	TRANSPORT	-14.2 IN 2020 AND -3.7 IN 2021
1107311	PASSENGER TRANSPORT BY RAILWAY	-16.3 IN 2020 AND -23.2 IN 2021
1107321	PASSENGER TRANSPORT BY ROAD	-12.0 IN 2020 AND -12.9 IN 2021
1107331	PASSENGER TRANSPORT BY AIR	-72.6 IN 2020 AND -69.2 IN 2021

Impact of COVID-19 on GDP Estimates [3] 26

▪ Categories/Basic Headings Most Affected

CODE	CATEGORY/BASIC HEADING	EFFECT (UP OR DOWN)
1109000	RECREATION AND CULTURE	-10.0 IN 2020 AND -1.1 IN 2021
1109421	CULTURAL SERVICES	-25.7 IN 2020 AND -5.6 IN 2021
1109611	PACKAGE HOLIDAYS	-63.6 IN 2020 AND -21.4 IN 2021
1111000	RESTAURANTS AND HOTELS	-7.4 IN 2020 AND -5.3 IN 2021
1111111	CATERING SERVICES	-3.9 IN 2020 AND -5.9 IN 2021
1111211	ACCOMMODATION SERVICES	-30.3 IN 2020 AND +0.4 IN 2021



Impact of COVID-19 on GDP Estimates [4]

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▪ Categories/Basic Headings Most Affected

CODE	CATEGORY/BASIC HEADING	EFFECT (UP OR DOWN)
1113000	NET PURCHASES ABROAD	-81.0 IN 2020 AND -69.2 IN 2021
1113111	PURCHASES OF RESIDENTS ABROAD	-86.1 IN 2020 AND -64.2 IN 2021
1113112	PURCHASES ON NONRESIDENTS IN THE DOMESTIC ECONOMY	-86.9 IN 2020 AND -69.2 IN 2021



Response to Issues Raised by ADB on GDP Expenditure Estimates

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ISSUE	ACTION TAKEN

Thank You!

**National Accounts Section, Department of Statistics,
Directorate General of Budget, Accounting and Statistics (DGBAS),
Executive Yuan, R.O.C (Taiwan)**

**For more details, please visit website at:
*<https://eng.stat.gov.tw/>***