

CHAPTER 12

Second homes abroad

Introduction

12.1 For many years, tourism statistics and analyses have focused on visitors staying in hotels or other forms of collective accommodation. Use of private accommodation has been considered marginal, with little importance for policy and analysis. In recent years however the ownership of homes abroad by non-residents has increased substantially, especially in European countries. This phenomenon has a significant impact on the tourism industry and the wider economy of certain regions. Nevertheless, there is still little practical experience of measuring the phenomenon and recording it in the national accounts.

12.2 Since 1990 many more residents have acquired second homes abroad. Among the reasons are:

- a. General growth in household income.
- b. More leisure time and longer holidays.
- c. Liberalization of capital flows.
- d. Cheaper and more efficient transportation.
- e. Relaxation of border controls, making it easier for people to move between countries.

12.3 Stays in private accommodation, including the tourist's own vacation home, form an increasing share of overnight stays in European countries in all forms of tourism, and can no longer be ignored.

12.4 In addition, a growing share of the population has access to two or more dwellings in different countries for work reasons as a result of increasing labour movement. This situation is a challenge for the compilation of national accounts, as it can be difficult to determine the country of residence of these mobile workers (international labour movements is the subject of Chapter 10, and is not further discussed here).

12.5 There are many obstacles to the measurement of all aspects of second home ownership by non-residents. The difficulties are on both the supply and use sides, and affect flows and stocks in the balance of payments and international

investment position and in national accounts. This chapter discusses the main principles for consistent recording in the balance of payments/international investment position and national accounts, and describes the practical difficulties. It also suggests how estimation methods can be developed through close cooperation among statisticians working in these areas, and with specialists in tourism statistics. Annexes to the chapter present country studies which describe the measurement obstacles and how they are tackled.

Background

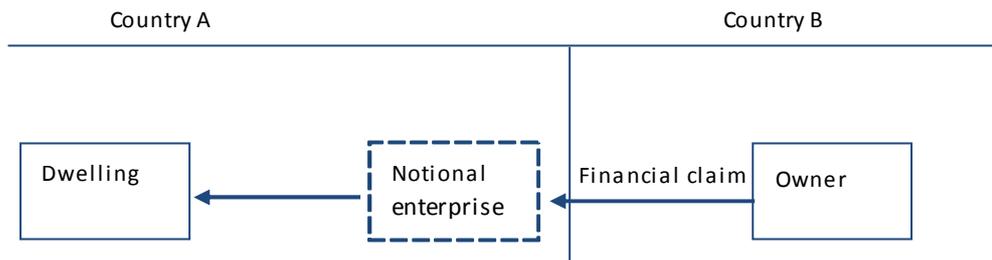
12.6 With regard to second homes abroad, three fundamental questions should be kept in mind when discussing the recording of stocks and flows in the national accounts and balance of payments/international investment position:

- a. What economic values are involved?
- b. What economic transactions are taking place, and what events or actions affect them?
- c. Who are the economic agents or transactors involved?

12.7 The economic value of interest is that of the dwelling and the subsequent provision and consumption of dwelling services. The transactions are the buying and selling of dwellings. The economic agents involved are the owner of the dwelling and the occupier, who are often the same.

12.8 Any dwelling is regarded as an economic asset or factor of production in its capacity of contributing to the production of dwelling services consumed by its occupiers. This output occurs in the country where the house is situated. In the national accounts, any occupied housing unit, whether owner-occupied or rented, is a non-financial asset producing such a flow of services. This convention enables economies with different ratios of home ownership to rented accommodation to be measured in a comparable way with respect to wealth and measures of output and income such as GDP and GNI. Although the ISIC does not recognize owner occupation as a productive activity, output from which contributes to own-account consumption, it is recognized as

Chart 12.1 Ownership of second homes abroad



such in macroeconomic statistics, and reflected in the weights of the consumer price index (CPI), and in measures of welfare and poverty.

12.9 Non-residents do not own homes located in another country directly. Rather they are deemed for statistical purposes to own a notional entity (a quasi-corporation) resident in the country where the property is located, which in turn owns the property. Production capital (the property, viewed as a producer of housing services) situated abroad is thus recorded in the national accounts of the owner's country of residence as a financial asset (equity in the quasi-corporation) representing a claim on the rest of the world. This is illustrated in chart 12.1.

12.10 Where the owner in country B sets up a legal entity (e.g. a property company) in country A to own the dwelling, an actual enterprise unit will replace the notional enterprise unit in chart 12.1.

12.11 The next question concerns the economic processes or transactions to which the dwelling is subject. The dwelling is a factor of production which generates income for its owner. If the owner is a non-resident, an income flow from the producing country A to the owner country B is recorded in the balance of payments and the national accounts as in chart 12.2.

12.12 Furthermore, the dwelling services supplied in country A must be matched by consumption of the same services, whoever the occupier is. If the occupier is a resident of country A, i.e. the dwelling is rented to a local tenant, the use is recorded as household final consumption expenditure in the national accounts of country A. If the dwelling is rented by a producing unit for subletting, the matching use will be intermediate consumption of the producing unit.

12.13 If on the other hand the occupier is a non-resident of country A, the matching use is not household final consumption of a resident in country A, but an export of travel services by country A, with a corresponding import of travel services by country B, matched by household final consumption in country B. This is regardless of whether the occupier is the owner resident in country B, or a tenant. This is illustrated in chart 12.3.

12.14 Finally, an important question is whether production or output (and consumption) of dwelling services takes place regardless of whether the dwelling is occupied or not. A second home by definition is not occupied full time by its owner, and may often not be occupied by tenants when the owner is not there. There are two aspects to consider in this matter: generation of income to

Chart 12.2 Generation and distribution of income from second homes abroad

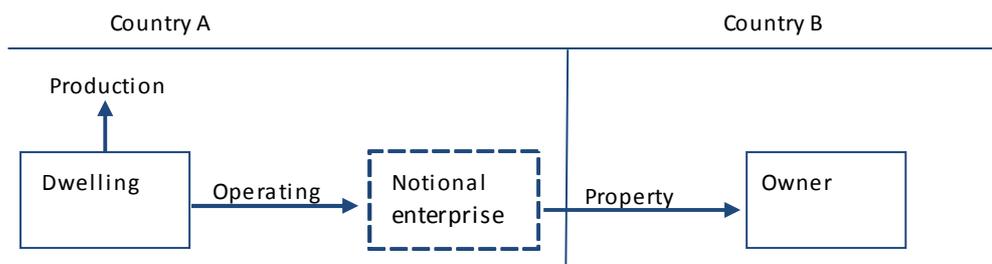
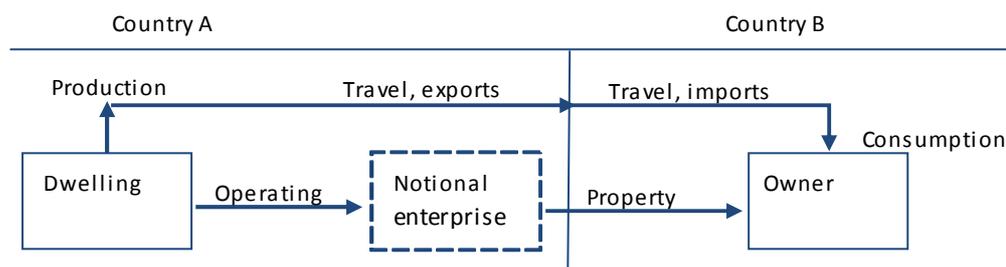


Chart 12.3 Generation, distribution and use of income from second homes abroad

the owner is possible only if production of dwelling services takes place; and there can be consumption of dwelling services only if production takes place.

12.15 These questions are relevant not only for the estimation of flows connected with second homes, but for output of and income from dwellings in general. The national accounts should follow the same principles for cross-border ownership of dwellings as for the production and consumption of housing services in general (2008 SNA, paragraph 24.52).

12.16 European Commission Regulation (EC) No 1722/2005 requires the output of holiday homes to be based on the annual average rental of similar facilities, the calculation of which takes into consideration the proportion of the year for which properties of this type are actually occupied (paragraph 1.4.2).

Statistical treatment

12.17 From the supply side, the measure of the stock of vacation homes and its change over time is estimated using administrative data or any other available source. This estimate should be complemented by an estimate of the imputed rental, which corresponds to imputed household final consumption of housing services (or, where the owner is not resident in the country where the vacation home is located, an export of travel services and a corresponding import by the country where the owner is resident, matched by household final consumption of housing services there - see paragraph 12.13 above). Assigning the flows relating to vacation homes requires additional data. Finally, timeshare dwellings – see the extracts from BPM6 in box 12.1.1 in annex 12.1 - represent a specific type of vacation home ownership requiring special treatment.

12.18 From the demand side, experience has shown that reliable information for the imputation of rental cannot be collected from a survey of visitors. It is difficult to distinguish between a

vacation home used long term and a main dwelling of a household. The declaration by a household of which is its main dwelling may be based more on tax considerations than on duration of stay. Additional difficulties arise from the growing ease of moving from one dwelling to another (due to the provision of cheap transportation by low-cost carriers), and the ease of cross-border capital movements.

12.19 These considerations underline the benefits to be gained from a joint approach by compilers of tourism statistics, balance of payments and national accounts, to compile an inventory of the underlying issues and the available information, and to identify satisfactory solutions which can be shared.

The treatment in the International Recommendations for Tourism Statistics

12.20 Tourism statistics consider visits to the second home for any purpose except as a base for local employment as tourism. Thus the new *International Recommendations for Tourism Statistics 2008* (IRTS 2008) state:

“Tourism is defined as the activity of visitors, that is, of individuals as they take trips outside their usual environment for less than a year for any main purpose (business, leisure, or other personal) other than to be employed by a resident entity in the place visited” (paragraph 2.8).

12.21 The determination of a person’s “usual environment” is crucial to the definition of tourism. For this reason, IRTS 2008 explains what the usual environment is, and that definition is related to that of vacation or holiday homes, as they are frequently visited by their owners or long-term renters. The definition used is the following:

“Each household has a principal dwelling (sometimes also designated as main or primary home), usually defined with reference to time spent there, whose location defines the country of

residence and place of usual residence of this household and of all its members. All other dwellings (owned or leased by the household) are considered as secondary dwellings.

A vacation home (sometimes also designated as a holiday home) is a secondary dwelling that is visited by the members of the household mostly for purposes of recreation, vacation or any other form of leisure. Trips should not be so frequent and the duration of the stay so large so as to turn the secondary dwelling into the principal dwelling of the visitor.

Trips to vacation homes are usually tourism trips... As the use of innovative types of vacation home ownership under timeshare arrangements presents additional challenges in terms of their classification, measurement and analysis, countries are encouraged to document the treatment of trips to vacation homes and include this description as part of the tourism statistics metadata ...” (paragraphs 2.26 – 2.28).

12.22 According to this description, not all secondary dwellings are vacation homes. Some households may own another residence than the one in which they usually live for other purposes, for example to rent it out for additional income, or to occupy it for work purposes. Only those dwellings intended to be seasonally occupied by their owner for vacation or recreational purposes are considered to be vacation or holiday homes and relevant to the present discussion. However, stocks and flows related to second homes abroad should be recorded irrespective of the purpose of the dwelling.

12.23 The treatment of vacation home ownership in the *Tourism Satellite Account: Recommended Methodological Framework, 2008* (TSA) is similar to that recommended in the IRTS 2008, as the TSA aims at consistency of tourism statistics with the national accounts generally. The treatment of vacation home ownership and the imputation of a rental that is generated by the dwelling and consumed by tourists are consistent with the treatment recommended in the 2008 SNA and BPM6.

Measurement issues

12.24 In order to measure the flow of services generated by vacation homes and to include them in domestic consumption and the export of travel services associated with inbound tourism, it is necessary to estimate the total number of dwellings used as vacation homes and the value of the imputed production and use of housing

services to which they give rise, and then to determine how far the vacation homes are owned by non-residents.

The number and characteristics of vacation homes, and identifying those owned by non-residents

12.25 Establishing the number of vacation homes, and the number owned by non-residents, requires a combination of different sources: censuses, surveys and administrative data.

Housing censuses

12.26 Housing censuses are not only used to establish the actual number and physical characteristics of housing units, but also the form of occupancy (here, specifically, use as a vacation home). Nevertheless, as censuses are usually held when people are present in their main residence, it is difficult to collect reliable information on properties used as vacation homes, in particular whether their owners are resident in the country or non-resident. Housing censuses must be supplemented by other statistical procedures (complementary surveys conducted at the time of the census, and on other occasions, to provide additional information and record changes over time). Administrative data can be used to further extend the period and coverage of the census and survey data.

12.27 In 2008, as many countries were preparing their population census, the World Tourism Organization (UNWTO) requested national statistical offices to use the census as an opportunity to collect information on vacation homes owned by households for purposes of tourism statistics.

Housing surveys

Surveys conducted at the same time as a census

12.28 Cost considerations may limit the scope of the main census. Surveys conducted simultaneously with or very shortly after a census (on a relatively large sample) are designed to collect additional information to complement census data. On vacation homes, however, it is doubtful whether more detailed information can be collected in this way, as many vacation homes are likely to be vacant when the survey is conducted, preventing the collection of useful information on the form of ownership and country of residence of the owner, and of other data relevant to the estimation of the value of the property and the imputed rental to which it gives rise. One possible source of this kind of information

is neighbours, or managers in the case of grouped housing units.

Other housing surveys

12.29 Other housing surveys are usually conducted outside census periods, in order to collect follow-up data on the stock of housing units and their characteristics.

12.30 Countries or regions where tourism is important, but also those experiencing a housing shortage alongside many vacant units, can develop special surveys to learn more about the characteristics of housing classified as vacant and identify the country of residence of the owner. The design of such surveys will allow for the fact that vacation homes are not uniformly spread over the territory.

Use of administrative data

12.31 In some countries, administrative data can be used to identify and reveal characteristics of second homes owned by non-residents. The experience of France is interesting in this respect.

12.32 In France, the *Fichier des Logements par Communes* (FILOCOM) file⁶² comprising all dwellings classified by municipality has been used to determine the number of dwellings that are not the main dwelling of a household, to identify the place of residence of the owners of such dwellings, and to provide an estimate of imputed rental. The FILOCOM file is constructed and managed by the Direction Générale des Impôts (National Tax Administration) by merging different files (the property tax, income tax, and the file of property owners). It is updated in line with the source files. Strict confidentiality of individual information is preserved. The file covers all housing units subject to the housing tax, and housing units which are rented out and subject to the professional tax instead.

12.33 The information covers the characteristics of the housing units, including variables relating to their rental value, the mode of occupancy, and the characteristics of the occupiers and owners. Changes of ownership are recorded.

12.34 Using FILOCOM, it is possible to determine those housing units that are not the main residence of their occupiers, and as the place of residence of the owner is known (the address that is declared for tax payment purposes), it is possible to establish those owned by non-residents

of France. Most of these secondary residences are vacation homes.

12.35 The benefit of using exhaustive sources is that there is no need to make the assumptions about the number and distribution of vacation homes in a region that would be necessitated by the need to design a survey, since the information is complete.

12.36 Making this source compatible with census data is a significant and important step towards producing reliable and consistent data.

Other types of sources

12.37 Other sources of information must be found for timeshares and other innovative forms of vacation properties. The sources will depend on the legal status of the properties, and in particular on whether they are considered dwellings, as in traditional types of timeshare arrangements providing private accommodation, or collective forms of accommodation such as condo hotels or private clubs. A separate registry of these types of unit may exist, or at least of the businesses that manage them, which can be used to provide the required information on the number of units, their characteristics, and their owners.

Imputed rental

12.38 The principle of valuation of the flow of imputed rentals is set out in the 2008 SNA:

"... the output of the housing services produced by owner occupiers is valued at the estimated rental that a tenant would pay for the same accommodation, taking into account factors such as location, neighbourhood amenities, etc. as well as the size and quality of the dwelling itself. ... In many instances, no well-organized markets exist and other means of estimating the value of housing services must be developed" (paragraph 6.117).

12.39 This principle is the same whether the owner is a resident or a non-resident of the country concerned.

Estimating the imputed rental

12.40 In national accounts, the usual approach to estimating services produced by owner-occupied dwellings has been self-assessment. Owners are asked to estimate a potential rental for their property. The major difficulty with self-assessment is subjectivity; and the growing importance of owner-occupied dwellings means that the significance of the possible error in national accounts estimates has increased.

⁶² The comments that follow are based on Direction des Affaires Economiques et Internationales, 2001.

12.41 Given the high and growing relevance of owner-occupied dwellings in some European countries, in 1985 the European Commission legislated for a stratification method as the best approach. A new version of the legal act making explicit reference to gross national income (GNI) followed implementation of the ESA 1995 (Commission Regulation (EC) No 1722/2005).

12.42 The stratification method uses information about actual rentals from rented dwellings to obtain an estimate of the rental value of the stock of dwellings. The broad aim is to impute to an owner-occupied property the same rental value that would be paid for a similar property in the market rental sector.

12.43 The method is based on two elements:

- a. A categorization or breakdown of the housing stock into various strata or types of dwelling.
- b. Information about actual rentals paid in each stratum.

12.44 A stratification of the housing stock is required because rentals can vary, and change over time, very differently across the market. The average actual rental per stratum is then applied to all dwellings in that stratum. How this is done in Spain is described in annex 12.1 to this chapter.

12.45 Of particular relevance to vacation homes, Eurostat recommends basing the estimate of the output of holiday homes on the annual average rental of similar facilities, adjusted for the proportion of the year the property is occupied. The Norwegian and Irish case studies in annexes 12.2 and 12.3 describe how this is done.

Tourism as an internationally traded service and the particular case of importing and exporting own account vacation home services

12.46 Data on UK ownership of second homes in Spain from UK sources and data available from Spanish sources are different, but give consistent messages: a significant increase of vacation home ownership by UK residents in Spain (UK sources) accompanied by an increased use of vacation homes owned by UK residents (Spanish sources). More detail is given in annex 12.1 to this chapter. As might be expected, more information is available from the country where the vacation home is located, because it is possible to combine data on stocks of vacation homes and information provided by the visitors themselves on their stay.

12.47 The national accounts, balance of payments/international investment position and TSA should reflect similar data: (i) an ownership of vacation homes in Spain, considered as direct investment of residents of the United Kingdom in Spain, equal to the value of these vacation homes (after deducting the corresponding capital consumption); and (ii) a flow of imputed accommodation services provided by these vacation homes and acquired by tourists. The imputed production of housing services contributes to GDP in Spain, but the imputed flow of property income to the UK owner of the vacation home (via a notional quasi-corporation in Spain, as described in paragraph 12.9 above) means that Spanish GNI is unchanged. The Spanish balance of payments shows an export of travel services matched by a debit in investment income. In the UK national accounts, by contrast, GDP is unchanged, but the notional receipt of property income raises GNI. In effect, the UK owner of the vacation home has spent the property income on housing services provided by the vacation home in Spain, a part of final consumption expenditure. The UK balance of payments shows an import of travel services matched by a credit in investment income.

12.48 All entries in the accounts are imputed. Accurate imputation of the relevant values is important for both countries, as it affects their GDP or GNI.

Moving the second homes agenda forward

12.49 The phenomenon of owner-occupied second homes owned by non-residents is growing. It is another sign of globalization and interrelationships among economies in the field of recreation and other household-related issues.

12.50 The estimation of the imputed rental corresponding to owner-occupied vacation homes in general, and in particular in the case of timeshare property, presents measurement difficulties for national accounts and tourism statistics. This difficulty is more relevant for tourism statistics, because of its bigger relative importance, but it is present in both frameworks. For the TSA, the phenomenon of owner-occupied vacation homes is so important that a specific tourism product and a tourism activity have been created in order to show the data separately.

12.51 When secondary dwellings have been identified, there are increasing difficulties in drawing a clear line between a vacation home and

dwellings owned for other purposes, such as for work or as an investment.

12.52 Given that the stock of dwellings used as vacation homes can be established, it is difficult to estimate the imputed rental using the so-called stratification and similar methods when no relevant and explicit rental market exists for dwellings of this kind. In certain regions, in particular rural areas, such markets seldom exist.

12.53 From the perspective of the country of origin of the owner, the difficulties are even greater as there is no stock to be observed, and the stratification method cannot be applied.

12.54 European authorities have been suggesting for some years as a practical solution to this lack of information an agreement about the number of non-resident owners between the member states concerned. However, progress is limited.

12.55 A more difficult issue relates to timeshare properties. Since for the same accounting period such a property may be “owned” by residents of different countries, a direct allocation to the country of origin is extremely difficult.

12.56 Going beyond tourism, the measurement of imputed rentals arising from secondary dwellings is difficult in the national accounts. At least two major difficulties concern measuring the stocks of second homes abroad, and the correction for average occupation time.

12.57 All these considerations show the urgent need for cooperation among tourism statisticians, and balance of payments/international investment position and national accounts compilers.

12.58 What should the future roadmap look like? Initiatives could focus on an inventory of available data, metadata and procedures in use in different countries, and proposals for a set of

common internationally accepted statistical methods.

12.59 The first stage would be the compilation of an inventory of the information (data and metadata) about the estimation of imputed rentals, and specifically those on dwellings owned by non-residents, from contributions by national statistical offices with help from central banks. In Europe, this initiative could use information on GNI methodologies periodically provided to Eurostat.

12.60 The second stage would be the elaboration of a reference guide listing methods and recommended statistical practices. Second homes owned by non-residents require a combination of efforts both in supply and use statistics. Estimating the stock of second homes by country can only be done by combining data sources: population and housing censuses, and different administrative data sources (fiscal, local, etc.). In this regard, the Spanish experience described in annex 12.1 can provide the basis for international recommendations.

12.61 Sources such as surveys of tenants, tourism surveys, etc. are also necessary to collect data on the period for which vacation homes are occupied, and on expenditures linked to them.

12.62 A more ambitious project would be to make bilateral comparisons between relevant countries. It should be possible to record and analyse asymmetries in TSA or national accounts data for non-resident dwellings. This would be an application of the mirror statistics procedure for dealing with asymmetries in international trade developed in the European Union.

12.63 Through common and improved sources and methods and the comparison of mirror data, more reliable and internationally comparable data can be achieved. The result can be not only better estimates of the tourism statistics, but also improvements in the quality and reliability of national accounts data as a whole.

Annex 12.1

Vacation homes owned by non-residents in Europe

12.1.1 Ownership of second homes by non-residents of the country in which the property is located has grown in importance. In Europe, many such properties are in France and Spain, and the owners are often resident in the United Kingdom.

Overall results

12.1.2 Following the concern raised in the IRTS 2008 about the importance of private accommodation for tourists,⁶³ Eurostat, using data from EU member states, investigated the relative importance of different forms of accommodation used by tourists in two recent years.

12.1.3 The aggregated results show that the use of vacation homes represented 13 per cent of overnight stays for domestic tourists,⁶⁴ and 3 per cent of overnight stays for those taking holidays abroad (see table 12.1.1) – in this case, residents of European Union countries staying in their own vacation home abroad.⁶⁵ It would be useful to extend the study to cover more years so that the phenomenon can be better understood and the results perhaps be used

Table 12.1.1 Holidays trips (4 nights or more), broken down by type of accommodation (per cent)

	Total	Domestic	Outbound
Collective tourism establishments	45	32	69
Hotels and similar establishments	31	18	53
Tourist campsites	6	6	6
Holiday dwellings	6	5	7
Other collective accommodation	2	1	2
Specialised establishments	1	2	1
Private tourism accommodation	55	68	31
Rented accommodation	14	16	10
Second homes	9	13	3
Other(*)	32	40	18

Note: aggregate data are based on 19 EU member states (plus Croatia) for which full data are available for 2007 or 2008.

(*) This item refers to people staying with relatives and friends: it is not possible to know if these are principal or secondary dwellings.

Table 12.1.2 Geographical distribution of second homes owned by non-residents in France, 2003

	Number of non-resident owners		Share of the four main countries of origin (per cent)			
	Number	Share* (per cent)	United Kingdom	Switzerland	Italy	Germany
Mediterranean region	100,300	12.8	1.7	1.6	3.4	1.7
Centre East	30,100	7.2	1.4	2.6	0.6	0.4
South West	26,400	7.3	2.7	0.2	-	0.9
West	24,600	5.2	3.2	0.2	-	0.7
Paris region	17,900	4.3	1.7	0.6	-	0.3
Ile de France	10,800	5.1	0.5	0.5	0.8	0.3
East	10,300	10.4	2.7	2.7	0.1	5.7
North	2,700	5.3	-	-	-	0.2
Total (Metropolitan France)	223,100	7.9	1.9	1.1	1.1	1.0

* Share in the total number of second homes.

Source: Tourisme d'Aquitaine - Etudes et Tendances, *Les résidences secondaires appartenant à des étrangers en France et en Aquitaine*.

⁶³ See IRTS 2008, paragraphs 3.35-3.38.

⁶⁴ "Domestic tourism...comprises the activities of a resident visitor within the country of reference, either as part of a domestic [tourism] trip or as part of an outbound [tourism] trip" (IRTS 2008, paragraph 2.39).

⁶⁵ "Outbound tourism...comprises the activities of a resident visitor outside the country of residence, either as part of an outbound [tourism] trip or as part of a domestic [tourism] trip" (IRTS 2008, paragraph 2.39).

Table 12.1.3 Growth of the total housing stock and the number of secondary dwellings in Spain

	1. Total dwellings		2. Secondary dwellings		3. Secondary dwellings increase/total increase (per cent)
	Stock (in thousands)	Annual growth rate (per cent)	Stock (in thousands)	Annual growth rate (per cent)	
2001	21,033.7	-	6,849.7	-	-
2002	21,551.6	2.5	7,019.8	2.5	32.8
2003	22,059.3	2.4	7,108.3	1.3	17.4
2004	22,623.4	2.6	7,232.8	1.8	22.1
2005	23,210.5	2.6	7,393.2	2.2	27.3
2006	23,859.0	2.8	7,590.0	2.7	30.3
2007	24,495.9	2.7	7,909.9	4.2	50.2
2008	25,129.1	2.6	8,382.0	6.0	74.6
Total	-	-	-	-	37.4

Source: based on Ministry of Housing data.

for modelling behaviour, and also to permit the situation in different countries (as destinations and as sources of tourists) to be compared.

The case of France

12.1.4 Many non-residents own second homes in France. Thus *"in 2005, of the 2.9 million vacation homes within the territory of continental France, around 260,000 are owned by non-residents, that is, about 9 per cent. This share increased by 3 points between 1997 and 2005"* (Direction du Tourisme, 2008).

12.1.5 Table 12.1.2 shows the share of vacation homes owned by non-residents in France in the total number of vacation homes, by regions and main countries of residence of the non-resident owners. In the Mediterranean region, for instance, 12.8 per cent of vacation homes belonged to non-residents in 2003. For the whole country the share was 7.9 per cent. In most regions residents of the United Kingdom were the main foreign owners of vacation homes.

12.1.6 In France, the information is derived at the level of municipalities, merging data extracted from the housing census with administrative data on the taxes levied at local level on the ownership of land and buildings and on usage of such assets.

The case of Spain

12.1.7 Similar developments are also found in

Spain, where increasingly non-residents, mainly from the United Kingdom, purchase vacation homes.

12.1.8 While French estimates come from administrative information on the place of residence of owners of secondary residences, data for Spain are based mainly on combining census information with data from a survey of inbound visitors, FRONTUR.

12.1.9 Table 12.1.3 shows some data on second homes (called secondary dwellings) from the Ministry of Housing.

12.1.10 Secondary dwellings accounted for 1.5 million, more than 37 per cent, of the large increase of 4 million in the total housing stock between 2001 and 2008.

12.1.11 It is not possible to know how much of this increase was for speculative investment and how much for tourism use. Probably both were important. The geographical location of these dwellings may give some indication of intended use for tourism.

12.1.12 Table 12.1.4 shows that about 58 per cent of the 1.5 million new secondary dwellings (or second homes) built during 2001-08 were located in the more specialized tourist areas (the Mediterranean coast and the Balearic and Canary islands).

Table 12.1.4 Distribution of new secondary dwellings between tourism areas and elsewhere (per cent)

	2001	2002	2003	2004	2005	2006	2007	2008
Tourist regions (*)	57.5	57.8	58.1	58.0	58.0	57.9	57.7	57.4
Other	42.5	42.2	41.9	42.0	42.0	42.1	42.3	42.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Source: Based on Ministry of Housing data.

12.1.13 There are no statistics for the early years on how many of these new second homes were acquired by non-residents.⁶⁶ Available information (see 12.1.5⁶⁷) however shows the proportion of visitors to Spain staying in vacation homes which they own (8.4 per cent), and the proportion of overnight stays which they accounted for (around 15.5 per cent), and indicates that, as expected, the average length of stay in owner-occupied vacation homes is high (around 18 days - only stays in rented dwellings were comparably long).

12.1.14 Data collected by the border survey (FRONTUR) concerning visitors staying in their own vacation home confirm the role of non-resident tourism in the Spanish housing boom. The

geographical distribution of data from this source mirrors the concentration in the Mediterranean and island regions of new secondary dwellings shown in table 12.1.4.

12.1.15 Table 12.1.6 shows that 97 per cent of visitors to Spain staying in their own vacation homes come from other European countries. The proportion of visitors from European countries who stay in their own vacation homes is mostly more than 7 per cent. Exceptions are Portugal and Italy, countries similar to Spain for whose residents owning a property in Spain may not be so attractive. The proportion of visitors from countries

Table 12.1.5 Visitors to Spain and overnight stays by type of accommodation

Visitors

Number of visitors (thousands)							
	<i>Hotels and similar</i>	<i>Homes of friends or relatives</i>	<i>Owned vacation homes</i>	<i>Time-share</i>	<i>Rented dwellings</i>	<i>Other accommodation.</i>	
2005	35,168.9	7,282.9	4,658.5	501.5	4,397.1	3,672.7	55,681.6
2009	30,317.1	7,064.3	4,243.0	201.5	4,462.3	4,378.5	50,666.7
Shares (per cent)							
2005	63.2	13.1	8.4	0.9	7.9	6.6	100.0
2009	59.8	13.9	8.4	0.4	8.8	8.6	100.0

Overnight stays

Number (number of visitors multiplied by average number of nights stayed) (millions)								
	<i>Hotels and similar</i>	<i>Homes of friends or relatives</i>	<i>Owned vacation homes</i>	<i>Time-share</i>	<i>Rented dwellings</i>	<i>Other accommodation</i>	<i>Total</i>	
2005	261.6	76.8	77.0	3.8	78.8	38.5	536.5	
2009	226.6	80.5	82.5	2.0	73.6	35.1	500.3	
Shares (per cent)								
2005	48.8	14.3	14.4	0.7	14.7	7.2	100.0	
2009	45.3	16.1	16.5	0.4	14.7	7.0	100.0	
Average length of stay (nights)								
2005	7.4	10.5	16.5	7.6	17.9	10.5	9.6	
2009	7.5	11.4	19.4	9.9	16.5	8.0	9.9	

2009 data relate to January to November.

Source: based on FRONTUR data.

⁶⁶ In 2006, the Ministry of Housing started collecting statistics of housing construction including a breakdown of owners between residents and non-residents. The short period covered makes it difficult to use the data for the moment.

⁶⁷ Arrivals figures measure the flows of international visitors to the country of reference: each arrival corresponds to one overseas trip. Overnight stays (or "guest nights") refer to the number of nights spent by non-resident guests (inbound tourists) in those establishments providing accommodation services for visitors.

Table 12.1.6 Inbound tourism: visitors staying in their own vacation home (2009*)

	<i>Visitors (thousands)</i>	<i>Per cent</i>	<i>Visitors staying in their own vacation home</i>	<i>Per cent</i>
United Kingdom	1,469.7	34.5	Ireland	11.8
Germany	822.9	19.4	United Kingdom	11.5
France	566.8	13.4	Switzerland	11.4
Nordic countries	266.0	6.3	Germany	9.7
Ireland	166.2	3.9	Nordic countries	8.6
Netherlands	145.8	3.4	Belgium	8.4
Belgium	127.0	3.0	France	7.6
Italy	123.8	2.9	Netherlands	7.4
Portugal	75.8	1.8	Italy	2.6
Switzerland	44.3	1.0	Portugal	2.4
Rest of Europe	311.2	7.3	Rest of Europe	10.9
USA	23.1	0.5	USA	2.2
Rest of America	45.0	1.1	Rest of America	3.1
Rest of the world	65.2	1.5	Rest of the world	5.1
Total	4.243.0	100.0	Total	8.6

* January to November.

Source: based on data from FRONTUR.

outside Europe who stay in their own vacation homes is very low.

The case of the United Kingdom

12.1.16 As shown in table 12.1.6, UK residents account for over one-third of all tourist visitors to Spain, and are among the most likely to stay in their own vacation home. Although other FRONTUR

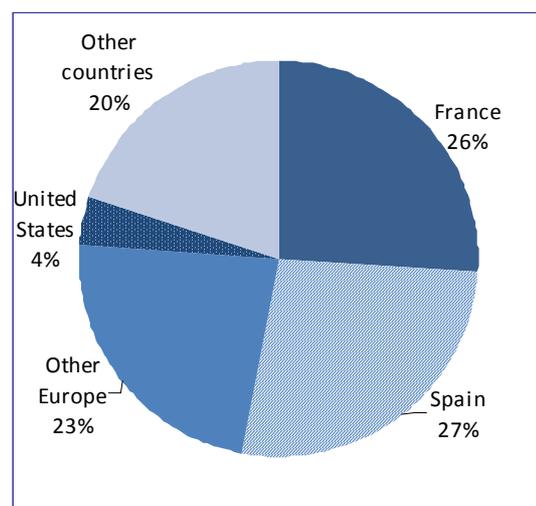
12.1.17 information suggests that hotel or similar accommodation continues to take the largest share (in terms both of number of visitors – 57 per cent - and overnight stays - 44 per cent), it has declined in importance, while the proportion of UK visitors staying in their own vacation home has increased from 8 per cent in 2001 (or 11.5 per cent of overnight stays) to 11.5 per cent of visitors and 19 per cent of overnight stays in 2009 (January-November).

12.1.18 According to *Housing in England* (an annual report from the UK Office for National Statistics with data from the English Housing Survey (EHS)), the number of households in England with a second home abroad grew continuously for some years, more than doubling from 125,000 in 1997/1998 to 270,000 in 2007/2008, mostly since 2003.

12.1.19 Recent data on the location of second homes abroad acquired by households resident in England reveal the popularity of France and Spain. The chart 12.1.1 shows that 27 per cent of households with a second home abroad have one in Spain.

12.1.20 While some of the reasons for choosing Spain to buy a second home may have been low

Chart 12.1.1 Location of second homes abroad, 2005-06 to 2007-08 (households with a second home outside Great Britain)



Source: *Housing in England 2007-2008*

interest rates and tax inducements, in recent decades the United Kingdom has in any case been the main country of origin of inbound tourism to Spain.⁶⁸

12.1.21 Timeshare arrangements are of marginal importance in total tourism accommodation in Spain, but the United Kingdom is again, by some way, the largest source of visitors using this type of

⁶⁸ From the different perspective of the number of households, 1999-2004 data show similar patterns and the importance of Spain as a location for UK residents' investment in second homes abroad (see Aspden, 2005). (Great Britain comprises England, Scotland and Wales; the United Kingdom consists of Great Britain and Northern Ireland.)

accommodation, accounting for about 60 per cent of the total in 2009.

12.1.22 It might be added that UK tourists often stay in hotels during their early visits; many later stay in their own vacation home; finally they retire and become resident in Spain. It is difficult to identify statistically the moment when they change their status, which introduces additional difficulties for the measurement of tourism.

Estimating imputed rent: the Spanish methodology

12.1.23 Following EU legislation (Commission Regulation No 1722/2005), for national accounts purposes the stock of dwellings in Spain is stratified according to:

- a. Geographical area.
- b. Size of municipality.
- c. Construction year.
- d. Dwelling size (in square metres).

12.1.24 The main difficulty is the lack of data about rents in some strata, solved by applying regression techniques using average prices from

the Household Budget Survey and the consumer price index (CPI).

12.1.25 The 2001 census information for vacation homes is less complete than for main homes, and the detail on location (region, province, municipality, etc.) and on characteristics of the building (number of floors, rooms, when built, facilities, etc.) is limited.

12.1.26 The estimation procedure is similar to that used for principal dwellings, with some additional specifications.

12.1.27 Apart from the size criterion (with similar strata as for the principal dwellings), an additional stratification was considered, distinguishing between coastal and inland areas given the differences between them in the rent of holiday dwellings.

12.1.28 The prices were taken from data on rentals of vacation homes used in compiling the CPI (with a simplifying assumption about floor area).

12.1.29 The occupancy rate was estimated based on data from the census and the border survey (FRONTUR).

Box 12.1.1 Timeshare arrangements in BPM6

The following extract from BPM6 sets out the recommended treatment of timeshares.

“10.100 The term time-share covers a wide range of arrangements. They can be classified in the [following] three categories [as in table 10.3 in BPM6]:

- (a) *The acquisition of deeded ownership, or a similar arrangement, is equivalent to the acquisition of a notional direct investment enterprise. In this case, after deeded ownership is acquired, accommodation services provided to the owner should be imputed based on market prices, which in turn gives rise to direct investment income on equity. (An example of a similar arrangement is a long-term lease that is of such duration that it represents an effective change in ownership.)*
- (b) *Payments for rights to use a property under a membership system time-sharing arrangement, where the right to use the time-share is not transferable (the third category shown in the table), is equivalent to prepaying for accommodation services (recorded in trade credit and advances). After initial acquisition, the prepayment is drawn down, and imputed accommodation services should be recorded in travel.*
- (c) *A “right to use” time-share arrangement that carries a transferable right should be accounted for as prepaying for accommodation services (recorded in trade credit and advances), identical to the recording of a membership system time-sharing arrangement discussed above. However, if the right is resold, the difference between the selling price and the amount remaining in trade credit and advances (reflecting the value of the remaining prepaid accommodation services) should be recorded as a transaction in a non-produced non-financial asset, in the capital account.”*

Box 12.1.2 Tourism statistics and the 2010 census of population

The following text was disseminated to the national statistical offices of UNWTO member countries in July 2008.

1. *Persons and households may own or rent a secondary place of residence and use it for holidays, leisure and recreation purposes. It is also useful to know whether the property is owned or leased. (This refers to properties leased on a longer term basis and used for leisure or vacation purposes. It is different from accommodation services purchased from hotels and similar types of establishments).*
2. *It must be understood that the term vacation or holiday homes covers the ownership and lease of homes, cottages, apartments, flats and condominiums [under] time-share arrangements that allow the use of space for limited periods of time each year, under legal arrangements that vary from outright ownership to the purchase of points that provide access to accommodation located in different places within a country or in different countries of the world, as well as other new modalities (as deeded interests or other types of contractual arrangements including those operating like a club in which the membership gives the right to use any of the properties of the club, or of any other affiliated system, abiding by the rules that have been established, [and] also new modalities such as condo hotels, fractionals and private residence clubs, hotel residences, etc.). (See Tourism Satellite Account: Recommended Methodological Framework, 2008, paragraphs 3.18 and 3.20.)*
3. *Each country must decide what questions, if any, it can ask in [its] Population Census in 2010.*
4. *Ideally an answer to the following question would be useful.*
5. *Does this household use another dwelling or dwellings, (owned, rented or for free) as a secondary residence for purposes of holidays, leisure and recreation?*

Supplementary questions

- *If yes, how many such dwellings does it use?*
- *Where are these dwellings located? Within the same municipality, within another municipality in the country, in another country.*
- *How many days within a year, approximately, are spent in the secondary residences used for holidays, leisure and recreation?*
- *Does the person or household own or lease the secondary residence used for holidays, leisure and recreation?”*

The text acknowledged the initiative by Spain to capture such information in the 2001 population census.

Annex 12.2

Vacation homes in the balance of payments and national accounts of Norway

12.2.1 In this annex, the sources and methods employed in Norwegian national accounts and balance of payments statistics to estimate the stocks and flows related to second homes are discussed. The annex first gives a short resumé of the development of these statistics in Norway.

The development of Norwegian balance of payments statistics

12.2.2 In Norway the balance of payments has been compiled and published as part of the national accounts almost from the start. When strict exchange control was introduced just after the Second World War, information on payments was collected by Norges Bank (the central bank), as bank settlements statistics. The data were used for statistical purposes by Statistics Norway and published under the heading “Betalingbalansestatistikk” (balance of payments statistics). From the mid-1950s the name was changed to “Utenriksregnskap”, or “rest of the world account” - integrating the balance of payments with national accounts statistics was highly unusual at that time.

12.2.3 The bank settlements statistics of Norges Bank evolved over time into the International Transactions Reporting System (ITRS), and formed, together with customs-based external trade statistics and statistics on freight income and operating costs of the Norwegian merchant fleet, the basis for the compilation of the Norwegian balance of payments statistics. Together with the annual census of assets and liabilities with non-residents, established as early as 1919, users were supplied with a macro dataset giving a broad picture of residents’ transactions and positions with non-residents of Norway.

12.2.4 Over time Norway experienced a substantial growth in the number and complexity of payment transactions with the rest of the world. Both the costs of collecting the data, but also their quality and consequently the quality of the settlements statistics, were questioned. The ITRS was accordingly discontinued from 2005. At the same time Statistics Norway was assigned the task of designing and running a new data collection system, initially covering all domestic sectors except banking institutions. Eventually banking institutions were also included.

12.2.5 For the household sector a new data collection system had to be established, using various sources and reporting channels. The collection of data on stocks and flows relating to second homes abroad was widened.

12.2.6 The former ITRS of Norges Bank and the balance of payments statistics of Statistics Norway had put no real effort into estimating stocks of dwellings abroad, nor into imputing flows of property income relating to the ownership of such dwellings. As the ITRS was essentially based on payments or movements on bank accounts, the expenditures stemming from purchases of dwellings abroad were in principle included. There was however a real danger of including them indistinguishably with transactions recorded under the travel item.

12.2.7 Norges Bank started in the second half of the 1990s to collect data on and estimate the value of stocks of second homes abroad for inclusion in the institutional sector financial accounts. This information was used in the new balance of payments statistics both as part of the international investment position and as a basis for estimating related income and expenditure flows in the non-financial part of the institutional sector accounts. The next sections show how these stocks and flows are estimated in the current balance of payments and national accounts statistics.

Estimating the value of the stock of second homes abroad

The value of the stock of dwellings owned by Norwegians abroad

Number and location of second homes abroad

12.2.8 The number of foreign properties owned by Norwegian resident households is based on yearly data collected by Statistics Norway, and an interview survey conducted in the second half of 2002 (Sentio, 2002). The interview survey found that 2 per cent of Norwegian households had holiday homes abroad.

12.2.9 The number of Norwegian households owning a second home abroad in 2002 is used as a benchmark. Data for more recent years are projected by extrapolating the benchmark estimate with a volume index derived from data recorded in the tax return statistics (Statistics Norway), in which the number of persons who report

ownership of property abroad is registered each year. Hence, the benchmark estimate from 2002 is extrapolated using the annual growth in persons reporting that they own property abroad.

12.2.10 Chart 12.2.1 illustrates the growth in the number of households owning second homes abroad, estimated to be 32,900 households in 2002, increasing to 81,172 in 2008. It might be added that the tax return statistics show far fewer persons reporting ownership abroad, 14,045 and 34,670 respectively. The main source for the tax return statistics is the Directorate of Taxes' Register for Personal Tax Payers, which covers all individuals subject to tax assessment in Norway in the relevant fiscal year. By Norwegian law, ownership of foreign property is taxed. Some respondents may withhold information which would trigger a tax claim. The number of persons owning property abroad is therefore probably understated in the tax data. Data from the tax return statistics are accordingly used only as the basis for the volume index.

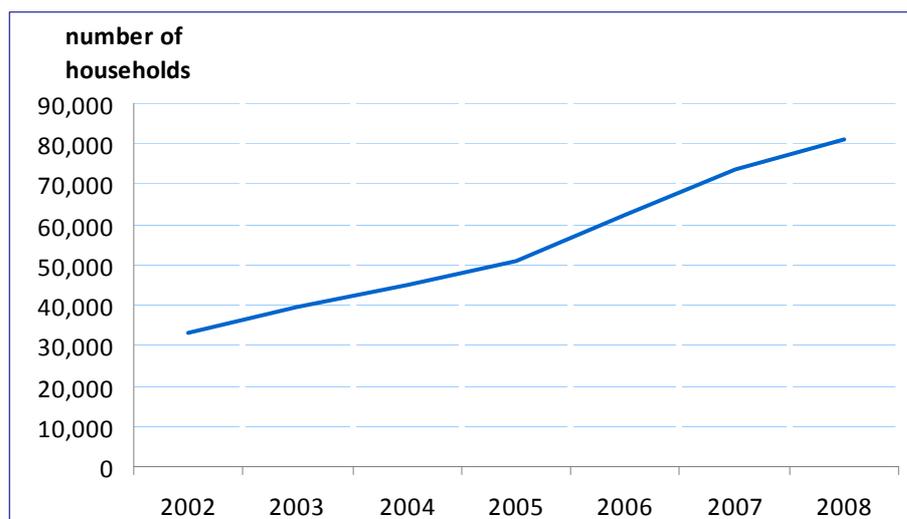
12.2.11 In order to locate the countries in which investments take place, balance of payments data based on the former ITRS are used.⁶⁹ Second homes are categorized into those located in Spain, Sweden, France, Denmark and other countries.⁷⁰ On the basis of these categories a frequency distribution is recorded: Spain contributes 50 per cent, Sweden 20 per cent, France 10 per cent, Denmark 7 per cent and other countries 13 per cent of total investment by Norwegian households.

Average prices of second homes abroad

12.2.12 The stock value of foreign property is derived by applying average dwelling prices to the number of second homes abroad. Official average dwelling prices are used as a proxy for prices of holiday homes. The property market is split into the categories identified above from the ITRS. The average dwelling prices in Spain, France, Italy, the United States and the United Kingdom are derived from Reuters EcoWin (Thomson Reuters), while dwelling prices in Sweden and Denmark are obtained from Statistics Sweden and Statistics Denmark. The figures are then converted into Norwegian kroner (NOK) at end-period exchange rates. Based on the frequency distribution deduced from the ITRS, the estimated number of households owning a second home abroad is allocated across countries. For each country, the estimated number of homes is then multiplied by the respective dwelling price calculated in NOK. The total stock value of foreign property owned by Norwegian households is then the sum of stock values in each country.

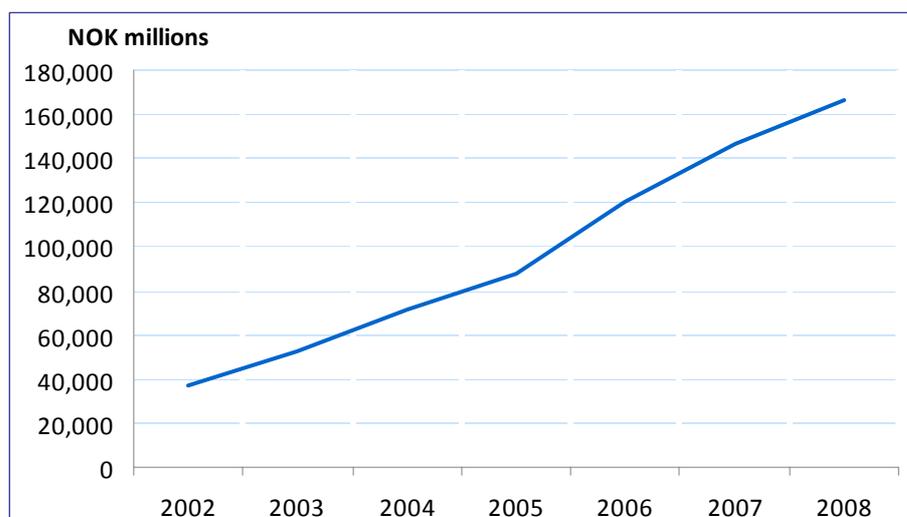
12.2.13 Chart 12.2.2 shows that from 2002 to 2008 total ownership of foreign property by Norwegian households increased by nearly NOK 130 billion. The stock is estimated at about NOK 166 billion in 2008. From 2005 to 2008 the value of Norwegian household property abroad more than doubled.

Chart 12.2.1 Estimated number of Norwegian households owning second homes abroad



⁶⁹ The data series were not continued after year 2004.

⁷⁰ The category "other countries" consists of the USA, Italy and the UK.

Chart 12.2.2 Stock value of Norwegian households' investment in foreign property (second homes)

Norwegian household investment in foreign property (transactions)

12.2.14 The flow of investment in foreign property is derived from the change in the estimated stock of property owned abroad. The difference between the current and previous stock is equal to the sum of transactions and revaluation effects. Revaluation effects reflect changes in the market value of property resulting from movements in exchange rates and prices.

$$(1) \quad E = X + Y,$$

$$(2) \quad Y = E - X$$

where

E = difference between the current and previous stock

X = foreign property investment transactions

Y = revaluation effects.

12.2.15 Foreign property investment transactions are calculated by subtracting the number of Norwegian households that own foreign property for the previous period ($N_{t-1, \text{country A}}$) from the estimate for the current period ($N_{t, \text{country A}}$) for each country. This change is then multiplied by the average price of second homes for the current period P_t , country A.

$$(3) \quad X_{\text{country A}} = (N_{t, \text{country A}} - N_{t-1, \text{country A}}) \times P_{t, \text{country A}}$$

12.2.16 The transactions are calculated for each country, and their sum is then total foreign property investment transactions.

$$(4) \quad X = X_{\text{Spain}} + X_{\text{Sweden}} + X_{\text{France}} + X_{\text{Denmark}} + X_{\text{others}}$$

12.2.17 The transactions are subtracted from the change in stock level between the current and previous periods to derive the revaluation effects.

Stock value of dwellings in Norway owned by non-residents

12.2.18 The number of non-residents who own property in Norway is registered each year in the tax return statistics. Average purchase prices for second homes are registered quarterly in data on the transfer of properties (Statistics Norway).

12.2.19 The stock value of dwellings owned by foreigners is calculated as the product of the average price of second homes and the number of foreigners owning property in Norway. In order to estimate the value of transactions, the difference between the current and previous number of foreigners who own property in Norway is first derived. This is then multiplied by the current average price to estimate the value of transactions. The revaluation effect is then the difference between transactions and the change in the value of the stock in the current period.

Estimating cross-border income flows

Property income from abroad

12.2.20 The imputed property income generated by second homes abroad is estimated by employing the same rate of return to the dwelling stock abroad as is applied to the total dwelling stock in Norway⁷¹ for national accounts purposes.

⁷¹ A better solution would be to use the rate of return on the dwelling stock in the various host countries, but this information is not available.

$$(5) \quad \frac{O_A}{S_A} = \frac{O_N}{S_N}, \text{ where}$$

O_A = operating surplus of Norwegian-owned dwellings abroad

S_A = stock value of the Norwegian-owned dwelling stock abroad

O_N = operating surplus of the dwelling “industry” in Norway according to national accounts

S_N = stock value of dwellings in Norway estimated for national accounts purposes.

12.2.21 For example, for the year 2002 operating surplus in the Norwegian dwelling “industry” was NOK 49 billion, while the value of the total dwelling stock was NOK 1,180 billion, giving an annual rate of return of $49/1180 = 4.2$ per cent.

12.2.22 It must, however, be kept in mind that operating surplus is generated only when production of dwelling services takes place, which is only when the dwelling is occupied. The owner of a dwelling abroad must stay there less than half of the year, because otherwise the person could be regarded as a resident of the country where the second dwelling is situated. In the absence of information on time spent in the second home abroad, the owner is assumed to stay there one month a year. In addition it must be taken into account that the dwelling can be used by others

than the owner. The average occupier rate or occupation time is assumed to be 25 per cent of the year, and consequently operating surplus is generated 25 per cent of the year.

12.2.23 Given the estimated stock value of second homes abroad (see chart 12.2.2) and applying the rate of return and occupier rate derived above, the estimated operating surplus (dividends) from abroad in 2002 is estimated at $\text{NOK } 37 \text{ billion} \times 0.042 \times 0.25 = \text{NOK } 388 \text{ million}$.

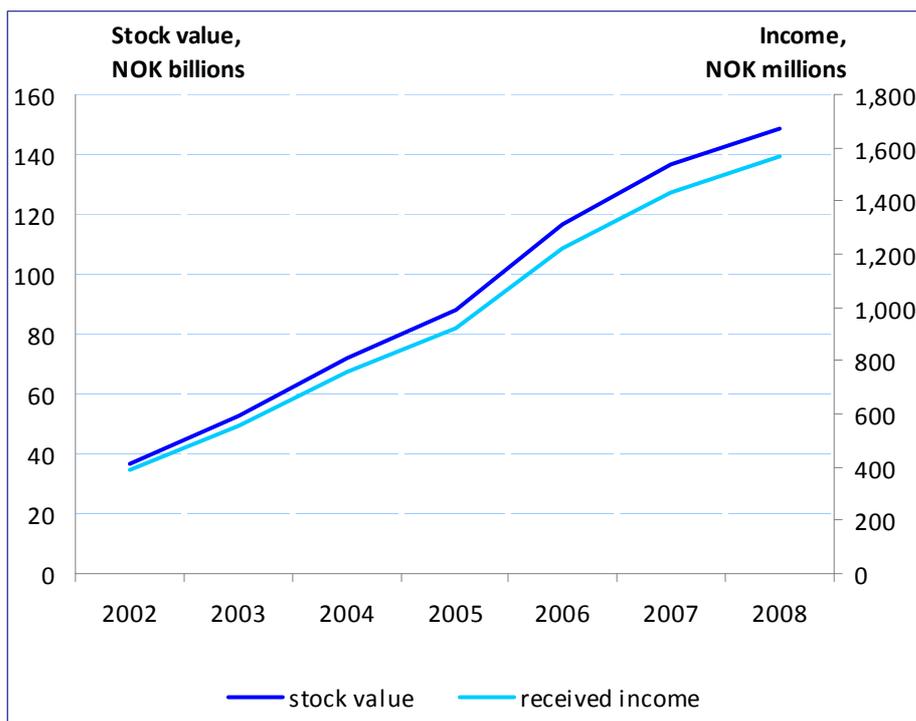
12.2.24 The financing of a dwelling abroad must often give raise to interest costs, at least partly payable abroad. Ideally these flows should be estimated and recorded in the balance of payments and national accounts. Here however they are ignored; NOK 388 million is recorded as property income, i.e. dividends, from abroad.

12.2.25 Chart 12.2.3 shows estimated stock values of and income flows from Norwegian owned second homes abroad for the period 2002–08. Stock values are given in NOK billion, while income is given in NOK million.

Property income to abroad

12.2.26 Previous paragraphs explained how income generated by Norwegian-owned second homes abroad is estimated. Dwellings located in Norway owned by non-residents will in a similar way generate flows of imputed property income from Norway to the rest of the world. The

Chart 12.2.3 Estimated stock values of and received income from Norwegian second homes abroad



estimation of these flows follows the same principles as described above.

12.2.27 Operating surplus is estimated using the same rate of return on dwellings owned by non-residents as is applied to the total dwelling stock in Norway.

$$(6) \quad \frac{O_B}{S_B} = \frac{O_N}{S_N}, \text{ where}$$

O_B = operating surplus of dwellings in Norway owned by non-residents

S_B = stock value of dwellings in Norway owned by non-residents

O_N = operating surplus of the dwelling "industry" in Norway according to national accounts

S_N = stock value of dwellings in Norway estimated for national accounts purposes.

12.2.28 Taking 2002 as an example, the stock value of dwellings owned by non-residents is estimated at NOK 21 billion. A rate of return of 4.2 per cent and an occupier rate of 25 per cent gives estimated income or dividend to the rest of the world of NOK 217 million.

Estimating consumption expenditures abroad

Non-residents' consumption of dwelling services in Norway

12.2.29 The Norwegian Tourism Satellite Account System (NTSA) is the framework used for calculating non-residents' consumption of own-account dwelling services in Norway. Within this framework non-residents' consumption expenditures in Norway, represented in total by the travel item in the balance of payments, are distributed over detailed consumption groups and then over detailed categories of goods and services, among them the item "Imputed dwelling services from holiday homes". These data are included in the core supply and use tables in the national accounts.

12.2.30 The final figure for this service category stems from assessments and calculations based on data from two different sources: the imputed services from owner-occupied dwellings as part of the estimation of the dwelling industry in national accounts, and information from budget surveys on non-residents visiting Norway.

12.2.31 In the Norwegian national accounts, output of owner-occupied dwellings is estimated according to the stratification method where actual

observed rents for dwellings in the various strata are used to estimate output in each stratum. For secondary dwellings or holiday homes a separate estimation procedure is employed. A benchmark estimate for output from secondary dwellings is calculated by taking the same output ratio to total output from dwellings as the ratio applied to the corresponding stocks,⁷² i.e.

$$(7) \quad \frac{Q_S}{Q_N} = \frac{S_S}{S_N} \implies \frac{Q_S}{S_S} = \frac{Q_N}{S_N}, \text{ where}$$

Q_S = output of secondary dwellings in Norway

Q_N = output in total dwelling "industry" in Norway

S_S = stock value of secondary dwellings in Norway

S_N = stock value of total dwellings in Norway.

12.2.32 The stock value of secondary dwellings is estimated based on information from the 1991 Survey of Living Standards, which asked for a self-assessment of the value of respondents' secondary dwelling(s) or holiday home(s), taking into account the possibility that a household may own more than one holiday home.

12.2.33 The total output of dwelling services from second homes in Norway must then be allocated to consumption by residents and consumption by non-residents, using information on visitors to Norway from various sources. Among the most important is a five-yearly sample survey conducted by a private research institute. Information from these sources suggested a ratio of 80/20 in allocating total output of dwelling services from second homes in Norway to final consumption by residents and final consumption by non-residents.

$$(8) \quad Q_S = C_R + C_N = 0.8 Q_S + 0.2 Q_S, \text{ where}$$

Q_S = output of secondary dwellings in Norway

C_R = consumption of dwelling services by residents from second homes in Norway

C_N = consumption of dwelling services by non-residents from second homes in Norway.

12.2.34 A benchmark value for imputed dwelling services from holiday homes consumed by non-residents in 1992 has since been extrapolated in line with the growth of the stock of second homes. For 2002 this method resulted in an estimate of services from owner-occupied secondary dwellings

⁷² This approach may seem inconsistent with the way income is estimated, as no direct assumption is made on the average occupation time. This may be an issue for improvement.

in Norway consumed by non-residents of NOK 270 million.

Norwegians' consumption of dwelling services abroad

12.2.35 To estimate final consumption of dwelling services by Norwegians from owner-occupied dwellings abroad, the ratio of services consumed to the stock value of dwellings is assumed to be the same as for owner-occupied dwellings in Norway owned by non-residents.

$$(9) \quad \frac{C_A}{S_A} = \frac{C_N}{S_N}, \text{ where}$$

C_A = consumption of dwelling services from second homes abroad

S_A = stock value of secondary dwellings abroad

C_N = consumption of dwelling services from dwellings in Norway owned by non-residents

S_N = stock value of dwellings in Norway owned by non-residents.

12.2.36 Consumption expenditure on dwelling services from second homes owned by Norwegians in other countries in 2002 is estimated at NOK 483 million.

Conclusions

12.2.37 The growth in ownership of second homes abroad has made it necessary to estimate stock values as well as income and consumption flows in the balance of payments and the rest of the world account of the national accounts. Table 12.2.1 summarizes the results in the Norwegian national accounts and balance of payments for 2002.

12.2.38 Table 12.2.1 shows that the ratio between the stock value of dwellings owned by Norwegians abroad and by non-residents in Norway, and the ratio between the related economic flows, was almost 2:1 in 2002. This result seems plausible taking into account both Norway's position in the rankings for income per capita in different countries and the size of travel debits relative to travel credits in the Norwegian balance of payments.⁷³ However, it must be admitted that more relevant and accurate information is desirable to improve these results. In particular, improvements could be made if national accounts data from partner countries on dwelling activities could be obtained and used in the calculations.

Table 12.2.1 Stocks, income and consumption of second homes, 2002

	<i>NOK million</i>	
	<i>Norwegian-owned dwellings abroad</i>	<i>Dwellings in Norway owned by non-residents</i>
Stock value	36,936	20,629
Annual investment	10,985	988
Property income	388	217
Consumption of dwelling services	483	270

⁷³ In 2002 exports of travel services were NOK 18 billion, and corresponding imports NOK 41 billion.

Annex 12.3

The use of administrative data to identify and compile statistics on foreign owners of second homes in Ireland

Background

12.3.1 In macroeconomic statistics the treatment of second homes is difficult. In general statistics relating to households, ownership and borrowing to finance second homes can either be obtained directly through household surveys or indirectly through money and banking statistics. However, there are limitations on the number of questions that can be included in a household survey, and it is difficult to add questions on topics like second homes. Money and banking statistics have the weakness (for the purpose of data on second homes abroad) that it is generally unclear whether the funding has been obtained from a bank where the household is normally resident or in the country where the property is located. Moreover, the property can be financed by additional borrowing against the security of the normal residence of the owner. For these reasons, until recently, estimates relating to the purchase of second homes in Ireland by non-residents have been very difficult to make.

12.3.2 The solution for some compilers has been to rely on mirror statistics, e.g. Spanish data on the purchase of properties in Spain by Irish residents. Although this may work for second homes purchased abroad by Irish residents, it does not help in compiling estimates on second homes in Ireland owned by non-residents.

The non-principal private residence tax

12.3.3 However, a recent development in local authority finance in Ireland is the introduction of a tax in 2009 on second homes (the non-principal private residence tax), which is levied by local authorities on all second homes. The Irish Central Statistics Office (CSO) has found that the information is detailed enough to allow the necessary analysis and estimation of ownership of

second homes in Ireland and related flow statistics.

12.3.4 The tax is levied locally and collected by each of the 35 local authorities. However, the processing system for the records and management of these tax receipts has been developed centrally by the Local Government Computer Services Board.

12.3.5 The CSO made an approach to the Local Government Computer Services Board, and after a number of clarifications about the relevant sections of the Statistics Act (1993) that allow the CSO access to public records for statistical purposes, access was given to this dataset. The CSO identified the critical metadata that would be needed to make the best possible estimates. The data supplied to the CSO are described below.

Statistical estimations

Stock of properties

12.3.6 This tax has been in place only since 2009. Nevertheless, the owners of second homes were quick to comply, perhaps reflecting the methods used by the local councils to identify these second homes and their owners. Consequently the table obtained from the authorities contains over 300,000 individual records (including both resident- and foreign-owned second properties) and relates to the first quarter of 2010. Foreign ownership can be readily identified and allocated to each foreign country. Some 14,000 properties were identified as being owned by non-residents, mainly from the United Kingdom. The total figure is close to a separate census of population estimate of 325,000 second homes in Ireland.

12.3.7 The next step was to estimate the market value of these properties. This was achieved by using a commercial property website

Table 12.3.1 The metadata supplied to the Central Statistics Office

<i>Local authority</i>	<i>Country</i>	<i>Reference code for the property</i>	<i>Property type</i>	<i>Ownership category</i>	<i>Total tax</i>
Identity of local authority	Country of the owner of the property	Code	Apartment, terraced, semi-detached or detached property	Individual (household) or corporation	Amount of tax levied

Table 12.3.2 Property values

		<i>€ thousands</i>				
<i>County</i>		<i>1bed</i>	<i>2bed</i>	<i>3bed</i>	<i>4bed</i>	<i>5bed</i>
Dublin	City Centre	201	316	306	*	*
	North City	197	248	313	472	607
	South City	201	276	353	554	763
	North County	177	239	293	463	869
	South County	210	329	337	626	1,076
	West County	155	216	259	331	723
Leinster	Meath	120	185	224	305	470
	Kildare	134	181	233	351	493
	Wicklow	173	256	309	397	546

which provides property values for each county and city council, sufficient to allow a correspondence with the more detailed local authority data. Table 12.3.2 is an extract from this website.

12.3.8 Applying the market values to the units for each local authority area provided an estimate of the market value of these properties of almost €3 billion for the first quarter of 2010. Once a time series is established it will be possible to estimate transactions. BPM5 and the *Balance of Payments Textbook* (paragraphs 550-551) were understood to mean that this €3 billion should be offset by any liability that might have been incurred to acquire or build the house, and which would be imputed to the notional FDI enterprise deemed to be set up in Ireland to own the property (the methodology is discussed in Chapter 12 of this guide, paragraph 12.9). However, BPM6 has clarified the treatment of second properties:

“The notional resident unit should also be treated as incurring expenses and taxes; payments by the nonresident owner to meet a loss arising from these costs therefore would be recorded as direct investment flows from the owner to the notional resident unit. Other transactions of the owner would not be attributed to the notional resident unit, for example, any borrowing or debt service. As a result of the limited nature of notional resident units, making acceptable estimates for their operations is generally feasible when they are significant. It follows that when compilers are estimating these flows on second homes all the relevant flows are taken into consideration and recorded under the appropriate headings” (paragraph 4.36).

Accordingly any funding raised in Ireland is treated as lending to the non-resident owner rather than to

the imputed direct investment enterprise, and recorded in the balance of payments financial account and international investment position in the category “other investment”.

12.3.9 The CSO assumes that 80 per cent of the mortgages are raised in the country of the owner of the property and as such do not need be taken into consideration for balance of payments purposes. The basis for this assumption is that second homes in Ireland are not generally marketed as holiday homes including financing packages unlike, for example, in countries with major tourist destinations on the Mediterranean coast. The CSO also makes the critical assumption that the houses are vacant when the owner is not in residence. This assumption is based on the relatively short summer season in Ireland (June-August).

Imputed rent

12.3.10 EU member states must comply with Commission Decision 95/309/EC when making imputed rent estimations for holiday homes. Section 1.4.2 of the Decision says: *“Principle 9 ...To estimate the output of holiday homes the annual average rents of similar facilities shall preferably be used. The annual rent implicitly reflects the average occupation time...”*.

12.3.11 Imputed rent should therefore be calculated only for the period when the owner is in residence. Accordingly the following calculation was made:

Average period in residence: 6 weeks

Average rental for homes in Ireland: €760 per month

Annual imputed rent = (760/30) x 44 = €1,115.

When this estimate is applied to all these residences, the total amounts to €15.6 million.

Conclusions

12.3.12 Estimations relating to second homes will always be tentative due to the lack of detailed data on the stock of these properties, the time the owners are in occupation, and the financing arrangements. This case study illustrates how the use of administrative data can resolve the fundamental question relating to the number of

foreign-owned properties in Ireland. However, there remains the task of estimating the stock and flows relating to the imputed FDI enterprises. The assumptions used in the case of Ireland have been discussed and the basis for the resulting tentative estimates explained. Current account flows present similar problems regarding estimation of imputed rents and interest flows and other service costs.

Annex 12.4

Vacation homes and tourism in Mexico

Introduction

12.4.1 Tourism is an activity of some importance in Mexico. It comprises various activities such as transport, accommodation, restaurants and bars, travel agencies, cultural services, sports and other recreational services. Included in accommodation are the housing services provided by second homes, either owned by the tourist staying in them (in which case the services are imputed) or rented (in which case the rental paid measures the value of the housing services). The tourist may be a resident of Mexico, or a visitor from abroad.

12.4.2 To determine the contribution of tourism to the domestic economy it is necessary to have a system of integrated statistics in the form of a TSA, as envisaged by the UN World Tourism Organization (UNWTO). The methodology described here for estimating the contribution of second homes for tourism purposes is principally based on the *Tourism Satellite Account: Recommended Methodological Framework* (TSA:RMF) prepared by the UNWTO and other international organizations.

12.4.3 At present the Instituto Nacional de Estadística y Geografía (INEGI) of Mexico is developing a system of the TSA in accordance with the structure and principles of the 1993 SNA. The TSA is the statistical instrument for measuring the goods and services related to tourism, according to international standards, on matters of concepts, classifications and definitions, allowing comparisons with other branches of the economy and indeed between countries and groups of countries. Thus far the work has focused on the estimate of second homes for tourist purposes in Mexico by domestic and inbound visitors. A survey on the ownership and use of vacation homes abroad by Mexican residents, and related expenditures, is still pending. This annex explains briefly how estimates of the value of housing services provided by second (or vacation) homes are compiled in Mexico.

The approach

12.4.4 The 1993 SNA (Chapter IX, *The use of income account*) indicates that the owners of occupied private housing should be treated as owners of unincorporated firms producing accommodation services which are consumed by

the same household. Thus the value generated for such services should be considered *“equal to the rentals that should have been paid in the market for accommodation of the same size, quality and type. The imputed value of the housing services is registered as final consumption expenditure of the owners”* (paragraph 9.58).

12.4.5 In the case of imputed expenditure, it is important to stress that *“Since the buyers do not pay cash, or expect to pay cash, values have to be imputed for the expenditures using the appropriate prices of similar goods and services sold for cash on the market”* (paragraph 9.28). In short, the imputation, strictly speaking, refers to the *“value of the goods or services involved and not to the expenditure itself”* (paragraph 9.30).

12.4.6 Following the framework of the 1993 SNA, the TSA:RMF manual offers two approaches for imputing the housing services provided by vacation homes (these extracts are taken from the 2001 version; a revised version was released in 2008):

From the demand side: *“For the sake of the homogeneity of treatment between rented dwellings and those occupied on own account, the 1993 SNA recommends imputing a housing service on own account for all dwellings occupied by their owners. When this occurs, the housing services are estimated, based either on the characteristics of the dwelling or, when an active rental market exists for similar units, on the effective average market rental for similar units.*

This recommendation not only applies to the main housing unit of a household but to all the housing units owned by households; thus, it also applies to second homes and in the case of the TSA to those used for tourism purposes on own account or provided free of charge to visitors. A housing service has to be imputed, both as a production activity for the owner and as a consumption activity of the visitor. A visitor could be either a member of the household or a member of another household who receives the service free of charge. The service is part of tourism supply and of visitor consumption. Note, however, that the consumption of these services must take place outside the usual environment, as defined in paragraphs 2.14 to 2.17 above. For conceptual reasons, own production of housing services within the primary home that are

provided to visitors are excluded from visitor consumption" (paragraphs 2.71-2.72).

From the supply side: "The specific activity is of a peculiar kind, because the sole ownership of a second home for tourism purpose on own account generates a tourism service and an equivalent consumption: no visit by any individual to this housing unit is necessary to generate the service, because, as for any housing unit on own account, the flow of the service provided depends only on the existence of the housing unit and its inherent qualities, such as location, configuration, type of construction, size and equipment installed, and not on any quality of the visitor" (paragraph 3.36).

Application of the approach in the case of Mexico

12.4.7 INEGI reviewed the experience of other countries in estimating housing services from second homes and decided to use as a starting point the method applied by New Zealand:

- The total number of holiday homes is calculated using data from the population census.
- The price of the imputed rental is calculated using data from the census and changes in the index of producer prices.
- The number of holiday homes is multiplied by the "price" of the imputed rental to calculate the total value of the service of the housing rental.⁷⁴

12.4.8 For Mexico, INEGI analyzed the research work that the Center of Higher Studies in Tourism (CESTUR, Spanish acronym) and the Autonomous Metropolitan University (UAM, Spanish acronym) carried out in 2004. Among other things the CESTUR-UAM study computed the market value of vacation homes used for domestic tourism or by foreign visitors. Using the study INEGI computed the demand for second homes, distinguishing

between those owned by Mexican residents and by non-residents.

Number of second homes in Mexico

12.4.9 For domestic tourism, an earlier *Urban Survey of Domestic Tourism of Households* provided the percentage of households that reported vacation trips (39.4 per cent) and the percentage of these reporting that they stayed in a vacation home (owned or rented) (8.5 per cent). This information and projections for 2005 gave an estimate of 617,500 family stays at vacation homes in 2005. The study further suggests that only 8 per cent of these stays were in rented homes.

12.4.10 INEGI developed the estimates for second homes using the information provided by the CESTUR-UAM study. The numbers for population, urban population and households were based on the results of the *2000 Census of Population and Housing* and the *2005 Count of Population and Housing*. The data for the intervening years were projected. Taking into account that 39.4 per cent of households had vacation trips and 8.5 percent of them stayed in private housing, the following estimates for the number of second homes were calculated: 606,600 in 2003, 631,700 in 2004 and 642,200 in 2005.

12.4.11 The CESTUR-UAM study also provided information on the percentages of inbound tourists by country of origin and place of stay. The information on stays in private housing, both owned and rented, is presented in table 12.4.1.

12.4.12 The study suggested that 7.6 per cent of non-residents visiting Mexico on vacation stayed in second homes (owned by them, or rented) in 2003. Applying this ratio to the total number of tourists who visited Mexico provided the estimate of non-resident family stays in vacation homes. In order to estimate the number of second homes it was assumed that on average two people stay in the

Table 12.4.1 Percentage of travellers who stay in private housing, by origin

<i>Region or country of origin</i>	<i>House or apartment owned</i>	<i>House or apartment rented</i>	<i>Total housing tourism</i>
USA	2.7	3.8	6.5
Canada	2.1	7.9	10.0
Europe	1.4	5.1	8.5
Latin America	11.1	2.7	13.8
Others	1.9	3.9	5.8
Global	3.5	4.1	7.6

Source: *Study of Profile and Degree of Tourists' Satisfaction*, CESTUR. The survey covered 74,718 cases.

⁷⁴ Statistics New Zealand: *Tourism Satellite Account*, 1995 (published in 1999), page 44.

same accommodation. In total, it seemed that 5-7 per cent of all residences in Mexico were vacation homes.

Valuation

12.4.13 INEGI estimated the number of properties in "temporary" use (i.e., not occupied the whole time) from the *Count of Population and Housing*, 2005. This figure was broken down into occupancy by domestic and foreign tourists on the basis of the information on the number of household stays described in the previous section. According to this source about 1.4 million homes were used for tourist purposes in 2005, of which 589,000 by domestic tourists and 833,000 by foreign tourists.

12.4.14 After analysis of available price information, INEGI decided to use the *National*

Survey of Income and Expenses of Households, which includes estimates of housing rentals for 2004 and 2005. The "price" of the rental for the previous and for more recent years was projected with relevant information from the consumer price index. Thus the average monthly rent for 2005 was estimated at 1,418 Mexican pesos, or 17,016 pesos for the year.

12.4.15 Based on this later information, and the results of the earlier CESTUR-UAM research, INEGI estimates that the imputed rental of second homes in 2007 is 26.6 billion pesos, amounting to about 7.5 per cent of the total value of housing services estimated for Mexico. More detailed information is presented in table 12.4.2.

Table 12.4.2 Value of housing services provided by second homes

	2003	2004	2005	2006	2007
Physical units					
Second homes	1,399,225	1,414,616	1,421,689	1,414,581	1,414,581
Domestic tourism	689,225	630,616	588,689	602,581	602,581
Inbound tourism	710,000	784,000	833,000	812,000	812,000
Rent <i>(Mexican pesos)</i>					
Estimated rent per month	1,315	1,367	1,418	1,516	1,565
% increase		4.0	3.7	6.9	3.2
Estimated rent per year	15,780	16,404	17,016	18,192	18,780
Value of housing services <i>(Mexican pesos billions)</i>					
Second homes	22.10	23.24	24.19	25.73	26.56
Domestic tourism	10.87	10.34	10.01	10.96	11.31
Inbound tourism	11.20	12.86	14.17	14.77	15.24

Annex 12.5

Imputing the rental for owner-occupied vacation homes in the United States

12.5.1 Housing services provided by owner-occupied dwellings have always been included within the production boundary of national accounts, and an imputation has been needed to measure their value (2008 SNA, paragraph 6.34). When well organized rental housing markets exist, the imputation is generally based on the estimated rental that a tenant would pay for an equivalent housing unit, taking into account such factors as the unit's location, size, and quality (2008 SNA, paragraph 6.117). These same principles apply to imputing the rental for second homes, such as vacation homes, which are held for seasonal or occasional use (2008 SNA, paragraph 24.56).

12.5.2 Vacation homes, however, may present some special measurement challenges. First, in imputing a rental for owners of vacation homes, account must be taken of the seasonal or infrequent use of these homes. Second, sometimes standard data sources, such as surveys or censuses of housing and population, provide less information for second homes than they provide for primary homes. For example, in the United States, the main housing surveys do not provide the same types of financial data for second homes as for primary residences. Third, vacation homes may be owned by non-residents, which will require the imputation of an external flow.

12.5.3 This note provides examples to illustrate how statistical offices might address the first and second challenges in preparing estimates of the imputed rental for owner-occupied vacation homes. The third challenge - vacation homes owned by non-residents - is not addressed in these examples, but the 2008 SNA provides guidance on the treatment of these homes (see paragraphs 24.56-24.57 and 26.33).

Seasonal or occasional use of vacation homes

12.5.4 The European Commission has given more specific guidance on imputing rent for secondary dwellings in its directives on how dwelling services should be measured in preparing estimates of GNI.⁷⁵ Zero rentals are to be recorded only for "empty dwellings," i.e., those secondary dwellings which are neither rented out nor used by the owner. Furnished owner-occupied dwellings are treated as being occupied because the

existence of furniture in them is evidence that they are not empty. Imputed and actual rentals for holiday homes are supposed to reflect the average amount of time that the dwellings are occupied.

12.5.5 In some places, vacation homes are available for short-term lease. If data are available on these leased homes, then it may be possible to use the actual rentals paid for leased vacation homes for imputing the value of owner-occupied vacation homes. It is important, however, to recognize that vacation homes may not be leased for the entire year, and consequently the rental charged during the holiday season may be higher than for similar homes that are rented for the full year. Suppose, for example, that an investor can purchase for the same price either a home to lease for full-year use or a home to lease for holiday use. If the investor expects to lease the full-year home for twelve months at an average monthly rental of \$1,200 and expects to lease the vacation home for only six months a year, then for the investor to be indifferent between purchasing the two properties, the holiday home must have an expected monthly rental of \$2,400 during the half year when it is occupied. If average holiday home rentals are observed to be \$2,400 a month, then the proper annual rental value must recognize that this home will only be leased for six months a year. For an owner who uses a home only for part of the year, the imputation should be based on the higher rental that must be charged during the portion of the year for which such homes are usually leased.

Filling gaps in the data on valuation of vacation homes

12.5.6 In the United States, major surveys of population and housing, such as the American Housing Survey, do not provide the same type of financial information for vacation and other second homes that they provide for primary residences. As a result, if these data sources are used for imputing the rental value of vacation homes, it may be necessary to use a different approach than would be used for primary residences. In particular, care must be taken to adjust for differences in location, size, and other characteristics of these units.

⁷⁵ See European Commission, 2005.

12.5.7 According to the 2007 American Housing Survey,⁷⁶ about 5.7 per cent of housing units in the United States, or 7.34 million homes, are classified as “seasonal,” “for occasional use,” or as temporarily occupied by someone with “usual residence elsewhere” (see the categories shown in bold in Table 12.5.1). The Census Bureau refers to these units as “extra units,” and they include the units described here as vacation homes. In contrast to year-round units, however, the American Housing Survey does not provide financial data such as median value or monthly housing costs for extra units.

Table 12.5.1 Housing units in the United States by occupancy, 2007

Characteristics	Number of units (thousands)	Per cent
Total housing units	128,203	100.0
Year-round	123,801	96.6
Occupied	110,692	86.3
Owner	75,647	59.0
Renter	35,045	27.3
Vacant	13,109	10.2
For rent	3,852	3.0
For sale	2,017	1.6
Rented or sold	1,080	0.8
Occasional use or usual residence elsewhere	2,938	2.3
Other vacant	3,222	2.5
Seasonal	4,402	3.4

Source: US Bureau of the Census, *American Housing Survey for the United States, 2007*.

12.5.8 The following steps illustrate how data such as these might be used for imputing rental value for owner-occupied vacation homes. First, the portion of these extra units that are used as vacation homes by their owners must be estimated, as compared to the units that are held for investment purposes and are leased on a short-term basis. Second, it is necessary to adjust the average imputed rentals for year-round owner-occupied homes for the different characteristics of vacation homes. This example includes an adjustment for size, because vacation homes are smaller, on average, than year-round homes. In practice, it may be necessary to adjust for other important characteristics such as location of the units. In the third step, the adjusted average

rentals are used to infer the total value of these rentals for all vacation homes.

Step one

12.5.9 While the American Housing Survey identifies extra homes that are vacant or are occupied by someone whose usual residence is elsewhere, it does not clearly distinguish between owner-occupied extra homes and those held by investors for short-term leasing. In part, this lack of distinction reflects the fact that some homes serve both functions; thus some owners may use an extra home themselves for holidays, and lease it out when not using it themselves. Nevertheless, for the national accounts it is important to distinguish between leased homes, which should be valued based on an estimate of the actual rentals, and owner-occupied vacation homes, which will need to be imputed. (Homes that are held for both purposes may need to be apportioned between owner occupancy and tenant occupancy.)

12.5.10 The survey asks several questions which may help to identify leased units. For example, when asked why the extra unit is owned, 52.8 per cent of respondents said they use it for recreational purposes, while 12.9 per cent said they held it for investment purposes. The other responses to this question, however, include answers such as “inherited the property” that leave it unclear whether the owner primarily uses the property or leases it to others. A more informative question asks for the number of nights during the year that the extra unit was leased. Of those who responded to this question, 16.9 per cent reported that it was leased for eight or more nights. Using this as an estimate of the share of extra homes that are primarily leased out, the remainder (83.1 per cent of 7.34 million, or 6.1 million) provides an estimate of the number of owner-occupied vacation homes.

Step two

12.5.11 According to unpublished data underlying the US national accounts, the average annual imputed rental for an owner-occupied home in 2007 (including manufactured homes, but excluding farm homes) was \$14,977. It would be inappropriate, though, simply to apply this value to vacation homes. According to the 2008 SNA, compilers of national accounts should taking into account “*factors such as location, neighbourhood amenities, etc. as well as the size and quality of the dwelling itself*” (6.117). In the United States, vacation homes tend to be smaller than year-round owner-occupied homes. For example, according to the 2007 American Housing Survey, 47 per cent of vacation homes had four rooms or less, compared

⁷⁶ See US Census Bureau, *American Housing Survey for the United States, 2007*, www.census.gov/hhes/www/housing/ahs/ahs07/ahs07.html

to 10 per cent of year-round owner-occupied homes. For detached homes, the median size of an extra home was about 1,293 square feet (120 square meters), which was 69 per cent of the median size (1,876 square feet or 174 square meters) of a year-round owner-occupied home. Assuming that this difference in size is applicable to all vacation homes, \$14,977 multiplied by $(1,293/1,876)$ gives \$10,325 as an estimate of the size-adjusted imputed rental for vacation homes.

12.5.12 More generally, this approach of adjusting the imputed rental of owner-occupied year-round homes for differences in characteristics of vacation homes could be applied to several strata, thereby taking account of differences in several characteristics. (For example, in the case of the United States, an analysis of the public release microdata files from the *American Housing Survey*

would permit strata to be formed on the basis of characteristics such as region, whether the location is urban or rural, and more detailed dwelling characteristics such as the presence of a full kitchen.) If estimates of imputed rentals for owner-occupied year-round homes are not available for all strata, differences between strata in home values could be used as a proxy for the variations in imputed rentals across strata.

Step three

12.5.13 The average imputed rental for a vacation home is multiplied by the number of vacation homes (\$10,325 by 6.1 million homes) to obtain an estimate (\$63 billion) of the imputed rental of vacation homes. If adjustments for characteristics were applied to several strata, the estimates could be applied to each stratum and then added up to obtain the national total.