

Annex 2: Asset categories

Country	Asset categories in use/breakdown by industry	Notes
Armenia	Fixed assets used in the main production activity: total <ul style="list-style-type: none"> - Buildings, of which dwellings - Structures - Machinery and equipment - Transmission devices - Transport equipment - Furniture - Cattle –working - Reproductive cattle - Perennial plants - Others Fixed assets used in other industries producing goods: <ul style="list-style-type: none"> - manufacturing - agriculture Fixed assets used in other industries providing services <ul style="list-style-type: none"> - Services to the households - Housing 	
Australia	<p>1. Dwellings, broken down by type:</p> <ul style="list-style-type: none"> private brick homes; private timber, fibro and other houses; private non-house dwellings (units, flats, etc) private alterations and additions public dwellings <p>2. Other buildings and structures, broken down by industry Division level and sector (Private corporations, Public corporations and General government).</p> <p>3. Ownership transfer costs</p> <p>4. Machinery and equipment, broken down by industry Division level, and into six major</p>	<p>It is known that brick dwellings have longer service lives than timber dwellings so it is therefore felt important to capture the changing composition of dwellings over time. Current price GFCF by type of dwelling is available from ABS survey data.</p> <p>Current price GFCF data by type of construction activity by industry are available from survey data. This information is used to weight the service lives of each activity in each industry so that in aggregate the service lives in each industry are different.</p> <p>Assumed to be used up instantaneously (zero asset life).</p>

	<p>classes namely:</p> <ul style="list-style-type: none"> computers and peripherals; electrical and electronic equipment; industrial machinery and equipment; road vehicles; other transport equipment; and other plant and equipment. <p>5. Computer software, broken down in two groups</p> <ul style="list-style-type: none"> in-house and customised software; and purchased (off-the-shelf) software <p>6. Mineral and petroleum exploration</p> <p>7. Artistic originals, broken down into three groups:</p> <ul style="list-style-type: none"> music; literary; and film and TV <p>8. Livestock, broken down into three groups:</p> <ul style="list-style-type: none"> beef breeding cattle; dairy cattle; and sheep 	<p>This categorisation attempts to capture the effect of changes in the composition of capital formation, especially the increasing use of computers and the increasing service lives of motor vehicles. The industry breakdown attempts to capture both the different levels of use of particular assets and the different intensities of use of these assets over different industries.</p> <p>Different types of software are known to have different service lives and an attempt is made here to allow for this.</p> <p>Separate GFCF data and price indices are available for these three types of artistic originals. In aggregate, the service life of artistic originals will reflect compositional shifts between the three components over time.</p> <p>Separate GFCF data and price indices are available for these three types of reproducible livestock. In aggregate, the service life of livestock will reflect compositional shifts between the three components over time.</p>
<p>Austria</p>	<p>1. Dwellings</p> <p>2. Other buildings and structures</p> <p>3. Transport equipment</p>	<p><i>Austria uses a PIM with a geometric depreciation pattern that is similar to the approach used by BEA (described in Annex 2 of the OECD Manual). This approach makes no explicit assumptions about service lives and mortality</i></p>

	4. Other machinery and equipment 5. Cultivated assets 6. Computer software 7. Entertainment, literary or artistic originals	<i>functions. Instead different types of assets differ by the geometric depreciation rates used.</i> Availability of investment data by industry & sector determined the choice of categories.
Azerbaijan	N/A	<i>Azerbaijan does not use information about the service lives of capital assets for estimating capital stocks.</i>
Belarus	Fixed assets: - Buildings - Structures, including the transmission devices and equipment - Machinery and equipment - Measuring appliances - Computing equipment, business equipment - Information systems - transport equipment - instruments and tools - cultivated assets (cattle and plants) - others Intangible assets - Property rights - Royalties	
Belgium	1. products of agriculture, forestry, fisheries and aquaculture 2. metal products and machinery 3. transport equipment	The Belgian classification follows the Pi6-classification of ESA 95 to which 'software' is added, as there is a large demand for that information.

	<p>4. dwellings</p> <p>5. other constructions</p> <p>6. software</p> <p>7. other products</p>	
<p>Canada</p>	<p>1001 Plants for MFG</p> <p>1004 Laboratories, Research & Development centres</p> <p>1006 Warehouses, refrigerated storage, freight terminals</p> <p>1007 Grain Elevator and Terminals</p> <p>1008 Maintenance Garages, Workshops, Equipment Storage Facilities</p> <p>1009 Railway Shops, Engine Houses</p> <p>1010 Aircraft Hangars</p> <p>1011 Service Stations (including self-serve & car washes)</p> <p>1012 Automotive Dealerships</p> <p>1013 Office buildings</p> <p>1014 Hotels, Motels, Convention Centres</p> <p>1015 Restaurants, Fast Food Outlets, Bars, Nightclubs</p> <p>1016 Shopping Centres, Plazas, Malls, stores</p> <p>1018 Theatres, Performing Arts & Cultural Centres</p> <p>1019 Indoor Recreational Buildings (i.e. sport comp., clubhouse, covered stadiums)</p> <p>1021 Farm Building</p> <p>1022 Bunkhouses, Dormitories, Camp cookeries, Camps</p> <p>1099 Other Industrial & Commercial</p> <p>1201 Schools (Incl. Tech.. Vocational) Colleges, Universities & Other Educational</p>	<p>Note that Canada's own coding system is shown.</p> <p>Canada's regular series on Fixed Capital Flows and Stocks by industry and by province uses the following asset categories (asset component): building construction, engineering construction and machinery and equipment. These categories of assets are consistent with those found in other major series such as G.D.P., Private and Public Investment, Investment in Non Residential Building Construction.</p> <p>They also produce estimates of Fixed Capital Flows and Stocks at a much more detailed level, i.e. by type of asset. These measures are fully integrated with the above industry by asset component measures and cover over 150 types of assets (see left). These detailed estimates enable them to produce real-cost estimates or "physical-volume" type estimates (Fisher real-cost).</p>

	<p>buildings</p> <p>1202 Student Residence (Excel. residential Construction)</p> <p>1203 Churches & Other Religious Building</p> <p>1204 Hospitals, Health Centres, Clinic & Other Health care(excl.resident.const)</p> <p>1205 Nursing Homes, Homes for the Aged</p> <p>1206 Day Care Centres</p> <p>1207 Libraries</p> <p>1208 Historical Sites</p> <p>1209 Penitentiaries, Detention Centres & Courthouses</p> <p>1210 Museums, Science Centres, Public Archives</p> <p>1211 Fire Stations, Halls</p> <p>1212 Post Offices</p> <p>1214 Armouries, Barracks, Drill Halls & Other Military Type Structures</p> <p>1299 Other Institutional Governmental</p> <p>1999 Other Building Construction</p> <p>2201 Passenger Terminals – Air, Boat, Bus, Rail, and Other</p> <p>3001 Broadcasting and Communication Buildings</p> <p>3401 Mine buildings including headframes, ore bins, ventilation structures, backfill plants and other surface buildings</p> <p>3402 Mine buildings for beneficiation treatment of minerals (excluding smelters and refineries)</p> <p>1002 Oil Refineries</p> <p>1003 Natural Gas Processing Plants</p> <p>1005 pollution, abatement & control</p>	
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1017	Parking lots & Parking Garages	
1020	Outdoor Recreational (i.e. parks, open stadiums, golf courses, ski resorts)	
1213	Waste Disposal Facilities	
2001	Docks, Wharves, Piers, Terminals (coal,oil,natural gas,containers,gen. cargo)	
2002	Dredging and Pile Driving	
2003	Breakwaters	
2004	Canals and Waterways	
2005	Irrigation & Land Reclamation Projects	
2099	Other Marine Construction	
2202	Highways,roads,streets,incl.:Logging road,signs,guardrail,lighting,etc.	
2203	Runways including Lighting	
2204	Rail Track and Roadbeds incl.: Signals and Interlockers	
2205	Bridges, Trestles, Overpasses	
2206	Tunnels	
2299	Other Transportation	
2401	Reservoirs(including Dams)	
2402	Trunk and Distribution Mains	
2412	Water pumping stations and filtrations plants	
2413	Water storage tanks	
2499	Other Waterworks Construction	
2601	Sewage Treatment and disposal Plants Incl.: Pumping Stations	
2602	Sanitary & Storm Sewers,Trunk & Collection Lines,Open Storm Ditches	
2603	Lagoons	
2699	Other Sewage system Construction	

2801	Electric Power Construction	
2811	Production plant – steam	
2812	Production plant – nuclear	
2813	Production plant – hydraulic	
2814	Overhead cables and lines including poles, towers and all related parts and costs capitalized to this account	
2815	Underground cables and lines including trenching, tunnels and all related parts and costs capitalized to this account	
2816	Overhead cables and lines including poles, towers and all related parts and costs capitalized to this account	
2817	Underground cables and lines including trenching, tunnels and all related parts and costs capitalized to this account	
2899	Other construction (not specified else where)	
3002	Telephone & Cablevision lines, Underground & Marine Cables	
3003	Communication Towers, Antennae, Earth Stns. incl. Dishes for State. etc.	
3099	Other Communication	
3201	Gas Mains and Services	
3202	Pumping Stations, Oil	
3203	Pumping Stations, Gas	
3204	Bulk Storage	
3205	Oil Pipelines	
3206	Gas Pipelines	
3216	Exploration Drilling	
3217	Development Drilling	

3218	Production Facilities in Oil and Gas Engineering	
3219	Enhanced Recovery Projects	
3220	Drilling Expenditures, pr-mining, research and other costs	
3221	Geological and Geophysical Expenditures	
3299	Other Oil & Gas Facilities	
3403	Mine shafts, drifts, raises, adits and other below surface workings (e.g., declines, ramps)	
3404	Tailing disposal systems, settling ponds	
3411	Minesite exploration	
3412	Minesite development	
3413	Exploration and Deposit Appraisal- Off mine sites	
4999	Other Engineering Construction	
5999	Other Construction (1999/ Other buildings)	
6001	Office furniture, furnishing (e.g.desks, chairs)	
6002	Computers, Associated Hardware & Word Processors	
6003	Non-Office furniture, furnishings & fixtures (e.g. recreational equip.etc)	
6004	Scientific, Professional & Medical Devices (Incl. measuring,controlling,lab eqp.)	
6005	Heating, Electrical, Plumbing, Air Conditioning & Refrigeration Equipment	
6006	Pollution Abatement & Control Equipment	
6007	Safety & Security Equipment (Incl. Firearms)	
6008	Sanitation Equipment	
6009	Motors Generators, Transformers, Turbines, Compressors & Pumps of all types	
6010	Heavy Construction Equip. (e.g. loading, hauling mixing, paving, grating)	
6011	Tractors of all types & Other Field Equip. (truck tractors - see 6203)	

<p>6012 Capitalized Tooling & Other Tools (hand, power, industrial)</p> <p>6013 Drilling and Blasting Equipment</p> <p>6014 Salvage Equipment</p> <p>6015 Industrial Containers (transportable types used for tramps. materials,liquids,gases)</p> <p>6016 Navigational aids and weather measurement equipment</p> <p>6021 Software, own-account</p> <p>6022 Software, pre-package</p> <p>6023 Software, custom-design</p> <p>6027 Raise borers, raise climbers</p> <p>6028 Underground load, haulage and dump equipment (e.g., slusher, muck cars)</p> <p>6029 Mine hoists, cages, ropes and skips</p> <p>6201 Automobiles and Major Replacement Parts</p> <p>6202 Buses (all types) & Major Replacement Parts</p> <p>6203 Trucks, Vans, Truck Tractors, Truck Trailers & Major Replacement Parts</p> <p>6204 All - Terrain Vehicles & Major Replacement Parts</p> <p>6205 Locomotives, Rolling Stock, Street & Subway Cars, Other Rapid Transit & Maj.Parts</p> <p>6206 Ships & boats & Major Replacement Parts</p> <p>6207 Aircraft, Helicopters, Aircraft Engines & Other Major Replacement Parts</p> <p>6299 Other Transportation Equipment</p> <p>6401 Computer-assisted process for material handling</p> <p>6402 Computer-assisted process for production process</p> <p>6403 Computer-assisted process for communication and related equipment</p>	
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6410	Production process – Crushers, grinders	
6411	Production process – Flotation, cyanidation	
6412	Production process – Gravitational concentrating devices	
6413	Production process – other	
6499	Other computer-assisted process machinery and equipment	
6601	Non-computer assisted process for material handling	
6602	Non-computer assisted process for production process	
6603	Non-computer assisted process for communication and related equipment	
6610	Production process – Crushers, grinders	
6611	Production process – Flotation, cyanidation	
6612	Production process – Gravitational concentrating devices	
6613	Production process – other	
8999	Other Machinery and Equipment (not specified elsewhere)	
9001	Gas Generators and turbines	
9002	Steam and vapour turbines	
9010	Electric motors and generators	
9011	Electric transformers, static converters and inductors	
9012	Electric switchgear and switching apparatus	
9013	Electric control and protective equipment	
9015	Measuring, checking or automatically controlling instruments and apparatus	
9091	Electricity meters	
9092	Electric water heaters	
9093	Nuclear reactor parts and fuel elements and heavy water	
9094	Hydraulic turbines	

9095	Boilers	
9099	Other machinery and equipment	
	<i>Special Groupings</i>	
4001	Industrial Building construction (1001+1006+1007+1008+1009)	
4002	Commercial Building (1011+1012+1013+1014+1015+1016+1018+1019)	
4003	Institutional Building	
	(1201+1202+1203+1204+1205+1206+1207+1209+1210+1211+1212+1299)	
4004	Other Non-residential Building	
	(1004+1010+1021+1022+1099+1208+1214+1999+2201+3001+3401+3402)	
4090	Total Building construction	
5001	Marine Engineering (2001+2002+2003+2004+2099)	
5002	Transportation Engineering (2202+2203+2204+2205+2206+2299)	
5003	Waterworks Engineering construction (2401+2402+2412+2413+2499)	
5004	Sewage Engineering construction (2601+2602+2603+2699)	
5005	Electric Power Engineering construction	
	(2801+2811+2812+2813+2814+2815+2816+2817+2899)	
5006	Communication Engineering construction (3002+3003+3099)	
5007	Oil and Gas Engineering construction	
	(1002+1003+3201+3202+3203+3204+3205+3206+3216+3217+3218+3219+3220+3221+3299)	
5008	Mining Engineering construction (3403+3404+3411+3412+3413)	
5009	Other Engineering construction (1005+1017+1020+1213+2005+4999+5999)	
5090	Total Engineering construction	
5099	Total construction	
7001	Other Transportation Equipment (6015+6202+6204+6205+6206+6207+6299)	

	<p>7002 Processing Equipment (6402+6602) 7003 Communication Equipment (6403 + 6603) 7004 Furniture (6001+6003) 7005 Software (6021 + 6022 + 6023) 7006 Other Machinery and Equipment (rest of the codes) 7090 Total Machinery & Equipment 7099 Total all components</p>	
<p>Croatia</p>	<p>TANGIBLE ASSETS</p> <ol style="list-style-type: none"> 1. Residential building and dwellings, 2. Non-residential buildings, 3. Roads and railways, 4. Other objects of transport infrastructure, 5. Pipelines, telecommunication and electrical gridlines, 6. Power plants and complex industrial constructions, 7. Other civil engineering work, 8. Land improvement, 9. Transport equipment, 10. Machinery and equipment, 11. Cultivated assets, 12. Other tangible assets. <p>INTANGIBLE ASSETS</p> <ol style="list-style-type: none"> 13. Software, 	<p>These categories represent those used during a pilot survey on the 100 largest reporting units (with the largest value of fixed assets) in 2002.</p> <p>The categories represent those which Croatia would theoretically be able to produce price indices for. At the moment they are trying to introduce a commodity flow approach reconciled with the European Comparison Programme.</p>

	<p>14. Mineral exploration, 15. Entertainment, literary and artistic originals, 16. Other intangible assets.</p>	
Czech Republic	<p>1. Dwellings 2. Non-residential buildings 3. Other structures – public communications, railways 4. Transport equipment 5. Other machinery and equipment 6. Software</p>	<p>For the time being service lives of non-financial assets have been surveyed using these asset categories. Surveys of service lives have not been carried out for mineral exploration, entertainment, literary and artistic originals, other intangible fixed assets and non-produced assets.</p>
Denmark	<p>1. Machinery and equipment, 2. Transport equipment, 3. Buildings and structures, further broken down into: Dwellings Non-residential buildings Other structures 4. Livestock, 5. Software, 6. Mineral Exploration, 7. Entertainment, literary or artistic originals</p>	<p>There is an additional breakdown into 53 industries at the most detailed level as well as a breakdown by institutional sectors.</p> <p>Each type of asset categories are calculated on a more detailed level, consisting of a varying number of products, for instance Machinery and equipment has a breakdown on 400 different products and Transport equipment has a breakdown on 4 products. Each product has a service life that could vary between industries and different years. For instance service lives for computers is 8 years before 1987 and 5 years after 1987. From 1993 and onwards the service life on product level has only been changed for Transport equipment.</p>
Estonia		<p>Categories vary by institutional sector and are determined</p>

	<p>Financial corporations sector:</p> <ul style="list-style-type: none">Buildings and structuresSoftware for computersHardware for computersOther fixed assets <p>Government sector:</p> <ul style="list-style-type: none">DwellingsNon-residential buildingsStructuresTools, inventoryOther inventories <p>Non-financial corporations:</p> <ul style="list-style-type: none">Buildings and structuresMachinery and equipmentComputersTransport equipmentOther fixed assets <p>Non-profit institutions sector:</p> <ul style="list-style-type: none">Buildings and structuresMachinery and equipmentComputersTransport equipmentOther fixed assets	<p>according to the asset breakdown used in questionnaires.</p>
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	Households sector: Dwellings	
Finland	<ol style="list-style-type: none"> 1. Non-residential buildings 2. Civil engineering and other construction 3. Transport equipment 4. Other machinery and equipment 5. Dwellings 6. Mineral exploration 7. Computer software 8. Originals 9. Improvement of Land; <ul style="list-style-type: none"> Agriculture Forestry Other industries 	<p>The service lives for categories 1 to 4 vary for 31 different types of industry.</p> <p>The classifications in detail are the same as used in the present Finnish national accounts in the production and generation of income accounts and in gross fixed capital formation: sector, type of producer, industry, type of asset.</p>
France	The classification is exactly the same as that recommended by SNA 93, except that computer equipment and communications equipment are shown separately.	A breakdown into 41 different industry types ('branches') is used.
Germany	<ol style="list-style-type: none"> 1. Buildings and structures, of which: <ul style="list-style-type: none"> Dwellings 	There are no special service lives for costs of ownership transfer on land. They are written down together with the different kinds of buildings, e.g. they have the service lives of the latter. Major improvements to land are part of

	<p>Roads, including paths, squares, bridges and tunnels: by type of road/motorway differentiated for earthwork, surface and other structures (bridges, tunnels)</p> <p>Other structures of general government:</p> <ul style="list-style-type: none"> Waterways and ports Water courses, hydraulic structures (dams etc.) Sewage networks Water supply networks Street lighting Sports grounds, swimming pools and other sports and recreational facilities Civil engineering works attached to schools, nurseries, etc. Other civil engineering works <p>Non-residential buildings of general government including military schools, military hospitals etc.</p> <p>Other buildings and structures differentiated by industry</p> <p>2. Machinery and equipment</p> <p>Transport equipment</p> <ul style="list-style-type: none"> - Motor Vehicles, trailers and semi-trailers - Other transport equipment <p>Other machinery and equipment</p> <ul style="list-style-type: none"> - Fabricated metal products - Machinery and equipment n.e.c. 	<p>other structures (not separated).</p> <p>Variations by industry result first and foremost from variations in the structure of different kinds of assets used (cross classification of types of machinery and equipment by industry (P60:A60) to specify the service lives for industries is used). For a few assets we use also different service lives depending on the industry, for instance for trucks (shorter, if they are used in construction and longer for instance in trade).</p> <p>3 reasons were given for the categorisation:</p> <ol style="list-style-type: none"> 1. SNA/ESA classification of fixed assets. 2. Level of detail of GFCF series in National Accounts (for instance according to commodity flow method for machinery and equipment). 3. Level of detail of service life information or at least on necessary differentiation of service lives for types of assets.
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	<ul style="list-style-type: none"> - Office machinery and computers - Electrical machinery and apparatus n.e.c. - Radio, television and communication equipment and apparatus - Medical, precision and optical instruments, watches and clocks - Furniture, other manufactured goods n.e.c. - Other machinery and equipment (Part of CPA 17-27) <p>Service lives are estimated and used within PIM calculations for <u>about 200 groups of machinery and equipment</u> on the basis of more detailed information (some thousands) on tax- lives for different types of machinery and equipment by industry.</p> <p>3. Cultivated assets</p> <ul style="list-style-type: none"> • Vineyards • Hop fields • Asparagus fields • Fruit trees plantations <p>4. Intangible assets</p> <ul style="list-style-type: none"> • Software, differentiated for mainframe and PC • Mineral exploration • Entertainment, literary and artistic originals 	
<p>Greece</p>	<p>1. Buildings</p> <p>2. Machinery</p>	<p>The reason for this categorisation is the availability of statistical data. The service lives estimated for each category are varied by 14 different industries.</p>

	3. Civil Engineering Works 4. Transport Equipment and other goods	
Hungary	1. Buildings 2. Vehicles 3. Fast Machine/longer expected lifetime 4. Slow Machine/shorter expected lifetime	Variation occurs across 9 different main industrial headings (which are further sub-divided).
Republic of Ireland	N/A (see notes)	Economy wide estimates of the capital stock are not currently made. Estimates of capital consumption are calculated using tax based depreciation amounts adjusted to disallow certain accelerated capital allowances. There are plans to compile capital stock estimates in the future.
Israel	1. Structures 2. Machinery 3. Orchards 4. Roads 5. Ships 6. Aircraft 7. Vehicles 8. Housing	The service life estimates for each category vary by 9 different industries.
Italy	1. Machinery and equipment 2. Transport equipment	The service lives for each category vary by 29 different industries.

	3. Construction 4. Other	A working group of experts determined the breakdown of categories when Istat first began to estimate capital stocks.
Japan	<p><u>'Social capital'</u>* assets are categorised as follows:</p> <ol style="list-style-type: none"> 1. Roads 2. Ports 3. Aviation 4. Sewerage 5. Waste disposal 6. Natural Parks 7. School facilities 8. Social and educational facilities 9. Flood control 10. Agriculture 11. Forestry 12. City Parks 13. Fisheries 	<p>*Asset categories are only used for those assets defined as 'Social Capital' i.e. owned by general government, which are inputted into a PIM. The rest of the capital stock is estimated using the 'Benchmark Year Method' (see capital stock estimation method section for further details).</p>
Republic of Korea	<ol style="list-style-type: none"> 1. Residential buildings 2. Non-residential buildings 3. Other structures 4. Transportation equipment 5. Other machinery and equipment 	<p>Service lives for very detailed asset sub-categories and usage were available at the time of the National Wealth Surveys (in 1968, 1977, 1987 & 1997). The asset categories shown are those of capital stock statistics published. The service lives of each category are weighted average of service lives of each unit asset in the category.</p>

Kyrgyzstan	<ol style="list-style-type: none"> 1. Buildings 2. Structures 3. Machines and equipment 4. Transmitting devices 5. Transport equipment 6. Tools and implements 7. Furniture 8. Livestock and permanent crops 	<p>These asset types comply with the coverage of aggregate 'fixed capital' as defined by the SNA and as agreed by the CIS countries.</p> <p>Up to 2001 these assets were classified by industries according to the <i>General Republican Classification of the Branches of the National Economy</i> and since the beginning of 2002 according to the activities of the <i>State Classification of Economic Activities</i>.</p>
Latvia	<ol style="list-style-type: none"> 1. Dwellings 2. Other buildings and structures 3. Machinery and equipment 4. Other tangible fixed assets 5. Intangible fixed assets 	<p><i>Service life estimates are not used: information about depreciation is collected from surveys. Assets for which data on depreciation is collected are categorised according ESA 1995 requirements and accounting rules of enterprises for all NACE Rev 1.1.</i></p>
Lithuania	<ol style="list-style-type: none"> 1. Residential buildings (Dwellings) 2. Industrial buildings 3. Administrative buildings 4. Educational buildings 5. Health buildings 6. Other buildings 7. Hydro technical constructions 	<p>Before 2002 Lithuania did not have any data on service estimates - capital stock estimation is performed by surveys rather than PIM. The categories shown are those used in the 2002 survey which for the first time asked questions concerning the service lives of assets, albeit in the government sector and public corporations only.</p>

	<ul style="list-style-type: none"> 8. Bridges, viaducts 9. Railways 10. Roads with concrete cover 11. Roads with blacktop 12. Gravelled roads 13. Other roads 14. Constructions for sports and recreation 15. Pipelines, communication and Electricity lines 16. Other construction 17. Transport equipment <ul style="list-style-type: none"> of which personal cars 18. Machinery for production of steam 19. Other machinery and equipment of power (engines, turbines, electric motors, generators and etc) 20. Machinery and equipment of labour (machine-tools, special purpose machinery and etc) 21. Other machinery and equipment <ul style="list-style-type: none"> of which computers 	
<p>Mexico</p>	<ul style="list-style-type: none"> 1. Dwellings made from bricks 2. Dwellings made from adobe (bricks made from dried clay) 3. Dwellings made from another materials 4. Own account construction 5. Non residential construction 	<p>The service lives vary according to the nature of the assets, either by the service they provide during a period or the certain quantity of product they produce; according to these parameters, the goods can be depreciated in a time period</p>

	<p>6. Permanent crops</p> <p>7. National and imported machinery and equipment</p>	
<p>Moldova</p>	<p>Tangible assets:</p> <ol style="list-style-type: none"> 1. Buildings 2. Special structures 3. Transferring devices 4. Machinery and equipment 5. Transport equipment 6. Tools 7. Animals 8. Permanent crops 9. Other fixed assets <p>Intangible assets:</p> <ol style="list-style-type: none"> 1. Mineral exploration 2. Computer software 3. Entertainment, literary and artistic originals 4. Hi-tech industrial technologies 5. Other intangible assets 	
<p>Netherlands</p>	<ol style="list-style-type: none"> 1. Dwellings 2. Non-residential buildings 3. Other Structures 4. Railway trains and carriages 5. Ships 6. Aircrafts 7. Other transport equipment (including cars) 	<p>Service lives vary for: Non-residential buildings, Other transport equipment, Computers, Machinery and equipment, and Other fixed assets. This variance is applied because it is assumed that for different industries different types of assets of the same category will be used, leading to different service lives.</p>

	<ul style="list-style-type: none"> 8. Computers 9. Machinery and equipment 10. Conveyancing costs on land 11. Other fixed assets 12. Mineral exploration 13. Computer software 14. Entertainment, literary and artistic originals 15. Conveyancing costs on non-produced assets 	
<p>New Zealand</p>	<ul style="list-style-type: none"> 1. Residential buildings 2. Non-residential buildings 3. Non-building construction: <ul style="list-style-type: none"> Power generation construction Central government roading Railway construction Non-building construction nec 4. Transport Equipment: <ul style="list-style-type: none"> Buses Road vehicles other than buses Ships Aircraft Rail equipment 5. Plant & Machinery: <ul style="list-style-type: none"> Heavy plant and machinery 	<p>The higher level groupings (6 asset-type) are based on "Capital Formation: definition and classification in integrated economic statistics of New Zealand, December 1980". The categories below this are based on a combination of data availability and homogeneity of asset lives.</p> <p>The service lives vary by 28 different industries in some of the categories: Non-residential buildings, Non-building construction nec, all Transport equipment categories, and all Plant and Machinery categories.</p>

	<p>General purpose plant and machinery Electrical plant and machinery Electronic plant and machinery Computers Furniture and fittings 6. Intangible fixed assets: Mineral exploration Computer software</p>	
<p>Norway</p>	<p>0810 Dwellings 0820 Other buildings 0831 Constructions 0837 Production wells of oil and gas extraction 0838 Oil production platforms, drilling rigs and modules 0839 Pipelines for oil and gas 0841 Ships and boats 0842 Aircraft and helicopters 0843 Passenger cars and station wagons 0844 Buses, lorries etc. 0845 Engine, passenger- and goods wagons 0851 Machinery and equipment 0856 Computers equipment and office machinery 0860 Change in breeding stock, dairy cattle, fruit trees etc. 0871 Oil, gas and mineral exploration</p>	<p>The codes given are those provided by Statistics Norway.</p> <p>These categories are cross-classified by about 170 industries (the most detailed level in the Use table).</p> <p>The asset categories in the capital stock model are an aggregated version of the categories used for GFCF in the Use table. The classification has been made based on relevant differences in asset lives and user needs for data on particular asset types.</p>

	0879 Intangible fixed assets 0890 Antiques and other art objects 0941 Used ships 0942 Used aircraft	
Poland	1. Residential buildings, 2. Other buildings and constructions, of which: <ul style="list-style-type: none"> ❖ melioration, ❖ roads, ❖ water construction, ❖ non-residential buildings, 3. Machinery, technical equipment and tools, 4. Transport equipment, 5. Other fixed assets	
Russian Federation	Average service lives are estimated for machinery and equipment in manufacturing .	
Serbia and Montenegro	N/A	At present no service lives are estimated in Serbia and Montenegro as they are in the process of transferring to the SNA and are currently focussing on the improvement of GDP calculations.
Slovakia	1. Buildings and constructions of which dwellings	There is at present no variation of service lives by industry. This issue is one of those under consideration by the 'Phare Project 2000: Capital Stock and Consumption

	<p>2. Transport equipment</p> <p>3. Other machinery and equipment</p>	<p>of Fixed Assets.</p> <p>(to be further clarified)</p>
<p>Slovenia</p>	<p><i>Tangible Fixed Assets:</i></p> <p>1. RESIDENTIAL BUILDINGS</p> <p>One-dwelling buildings (premises)</p> <p>Two- and more dwelling buildings (premises)</p> <p>Residences for communities (collectives)</p> <p>2. NON-RESIDENTIAL BUILDINGS AND PREMISES</p> <p>Hotels and similar buildings and premises and wholesale and retail trade buildings</p> <p>Office buildings and premises (general government sector)</p> <p>Office buildings and premises (private sector)</p> <p>Traffic and communication buildings and premises</p> <p>Industrial buildings and warehouses (premises)</p> <p>Buildings (premises) for public entertainment, education or hospital and institutional care</p> <p>Other non-residential buildings and premises</p> <p>3. ROADS AND RAILWAYS</p> <p>Roads – upper structure</p> <p>Roads – lower structure</p> <p>Railways – upper structure</p> <p>Railways – lower structure</p>	<p>The Service lives do not vary by industry.</p> <p>These categories were implemented in the 1999 census of fixed assets.</p> <p>(to be further clarified)</p>

	<p>4. OTHER TRANSPORT INFRASTRUCTURE</p> <ul style="list-style-type: none">Airfield runwaysBridges and elevated highwaysTunnels and subwaysHarbours and navigable canalsDamsOther hydrotechnical constructions <p>5. PIPELINES, COMMUNICATION AND ELECTRICITY LINES</p> <ul style="list-style-type: none">PipelinesCommunication and electricity lines <p>6. COMPLEX CONSTRUCTIONS ON INDUSTRIAL SITES</p> <ul style="list-style-type: none">Power plant constructionsOther complex constructions on industrial sites <p>7. OTHER CIVIL ENGINEERING WORKS</p> <ul style="list-style-type: none">Sport and recreation constructionsOther civil engineering works <p>8. LAND IMPROVEMENT</p> <p>9. TRANSPORT EQUIPMENT</p> <ul style="list-style-type: none">Personal carsTrucks and trailersBusesOther <p>10. MACHINERY AND EQUIPMENT</p> <ul style="list-style-type: none">Computers	
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	<p>Other high technology Low technology (general government sector) Low technology (private sector) Other machinery and equipment</p> <p>11. CULTIVATED ASSETS Livestock for breeding Plantations and other</p> <p>12. OTHER TANGIBLE ASSETS Paintings Books Films Renovations</p> <p><i>Intangible Assets:</i> 13. COMPUTER SOFTWARE (own developed and purchased) 14. MINERAL EXPLORATION 15. ENTERTAINMENT, LITERARY OR ARTISTIC ORIGINALS</p>	
<p>Spain</p>	<p>1. Products of agriculture, forestry, fisheries and aquaculture 2. Metal products and machinery 3. Transport equipment 4. Residential buildings 5. Other construction</p>	<p>The Service lives do not vary by industry.</p> <p>The principal reason for this categorisation is the availability of price indices for the particular types of products concerned.</p>

	<p>5.1 Non-residential buildings</p> <p>5.2 Engineering construction</p> <p>6. Other products</p> <p>6.1 Software</p> <p>6.2 Legal services</p> <p>6.3 Other services</p> <p>6.4 Other products</p>	
Sweden	N/A - under review	At the moment Statistics Sweden does not compile detailed statistics on capital stocks. New time series are being prepared according to the SNA 93/ESA 95 guidelines. The main part of the new stock data will be available at the end of 2003. The revision includes changes of methods, service lives and depreciation profile (geometric instead of linear). It is also intended to integrate quarterly and yearly stocks and consumption of fixed capital data in one common database.
Switzerland	<p>Current categories:</p> <p>1. Construction</p> <p>2. Machinery and equipment</p> <p>Planned categories:</p>	<p>At the moment, the Swiss national accounts are being revised with the aim to implement ESA 1995 at the end of 2003. They do not have non-financial balance sheets yet, but the elaboration of a capital stock is planned and first analytical work has been made. The categorisations shown are a result of the on-going revision process.</p> <p>In either the current or future categorisations service lives do not vary by industry.</p>

	<ol style="list-style-type: none"> 1. Machinery and equipment 2. Metal products 3. Office machinery and computers 4. Electrical machinery and apparatus 5. Radio, television, communication equipment and apparatus 6. Medical, precision, optical instruments, watches and clocks 7. Motors vehicles, trailers and semi-trailers 8. Other transport equipment 9. Software 10. Civil engineering 11. Building construction 	<p>Further categories like cultivated assets or valuables will also be added and will have specific service lives. As yet, no service lives were fixed for those categories.</p>
<p>The former Yugoslav Republic of Macedonia</p>	<ol style="list-style-type: none"> *1. Construction infrastructure, <ol style="list-style-type: none"> 1.1. Construction work in buildings and Civil engineering works 1.2 Civil engineering on roads, railways and others 1.3 Civil engineering of buildings 1.4 Other buildings 2. Equipment <ol style="list-style-type: none"> 2.1 Equipment for oil distribution, heating, water supply 2.2 Machines, transport equipment 2.3 Furniture, office furniture 2.4 Computers and software products, cars and vehicles, 2.5 Other equipment 	

	<p>3.Cultivated assets</p> <p>4.Livestock for breeding, dairy, draught etc</p> <p>5.Intangible assets</p> <p>6.Other tangible assets</p>	
Turkey	<p>1. Construction</p> <p>2. Machinery and equipment</p>	Service lives do not vary by industry due to lack of available information.
United Kingdom	<p>1. Buildings</p> <p>2. Plant and Machinery</p> <p>3. Vehicles</p> <p>4. Intangible Assets</p> <p>5. Computer software</p>	<p>There is some variation by industry.</p> <p>This categorisation was found to be the most practical given the computer systems used.</p> <p>Capital stock estimation is under review and a different breakdown may be forthcoming.</p>
United States of America	<p>1. Equipment and software</p> <p style="padding-left: 40px;">Non-residential equipment and software</p> <p style="padding-left: 80px;">Information equipment and software</p> <p style="padding-left: 120px;">Computers and peripheral equipment</p> <p style="padding-left: 120px;">Software</p> <p style="padding-left: 120px;">Communication equipment</p> <p style="padding-left: 120px;">Instruments</p> <p style="padding-left: 120px;">Photocopy and related equipment</p> <p style="padding-left: 120px;">Office and accounting equipment</p>	<p>The asset categories used for the USA's private and government fixed asset accounts are the same as those used for the National Income and Production Accounts (NIPA) investment categories. The NIPA investment categories are aggregations of asset types that appear on the US's input-output table. For private fixed assets, by-industry estimates are also produced. These fixed asset categories are consistent across private industries, but different asset categories are used for government fixed assets.</p> <p><i>NB: Military weapon systems are treated as a fixed asset for the published NIPA, fixed asset, and input-output estimates, but for data submissions to international organizations such as the OECD, weapon systems are</i></p>

	<p>Industrial equipment</p> <ul style="list-style-type: none"> Fabricated metal products Engines and turbines <ul style="list-style-type: none"> Steam engines Internal combustion engines Metalworking machinery Special industry machinery General industrial machinery Elect. transmission & distribution <p>Transportation equipment</p> <ul style="list-style-type: none"> Trucks, buses, and truck trailers Autos Aircraft Ships and boats Railroad equipment <p>Other equipment</p> <ul style="list-style-type: none"> Furniture and fixtures <ul style="list-style-type: none"> Household furniture Other furniture Tractors <ul style="list-style-type: none"> Farm tractors 	<p><i>treated as intermediate consumption to conform with SNA93 guidelines.</i></p>
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	<p style="text-align: center;">Construction tractors</p> <p style="text-align: center;">Agricultural machinery, except tractors</p> <p style="text-align: center;">Construction machinery, except tractors</p> <p style="text-align: center;">Mining and oilfield machinery</p> <p style="text-align: center;">Service industry machinery</p> <p style="text-align: center;">Electrical equipment, n.e.c.</p> <p style="text-align: center;">Household appliances</p> <p style="text-align: center;">Other</p> <p style="text-align: center;">Other non-residential equipment</p> <p style="text-align: center;">Residential equipment</p> <p>2. Structures</p> <p style="text-align: center;">Non-residential structures</p> <p style="text-align: center;">Non-residential buildings, excluding farm</p> <p style="text-align: center;">Industrial buildings</p> <p style="text-align: center;">Office buildings</p> <p style="text-align: center;">Commercial structures</p> <p style="text-align: center;">Mobile structures</p> <p style="text-align: center;">Commercial buildings</p> <p style="text-align: center;">Religious buildings</p> <p style="text-align: center;">Educational buildings</p> <p style="text-align: center;">Hospital & institutional buildings</p>	
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	<p>Other</p> <ul style="list-style-type: none">Hotels and motelsAmusement & recreational buildingsOther non-farm buildings <p>Utilities</p> <ul style="list-style-type: none">RailroadTelecommunicationsElectric light and powerGasPetroleum pipelines <p>Farm related buildings & structures</p> <ul style="list-style-type: none">Mining exploration, shafts, & wellsPetroleum and natural gasOther mining <p>Other non-farm structures</p> <p>Residential structures</p> <ul style="list-style-type: none">Housing unitsPermanent site1-to-4-unitFarm	
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	<p>Non-farm</p> <p>5-or-more-unit</p> <p>Manufactured homes</p> <p>Farm</p> <p>Non-farm</p> <p>Improvements</p> <p>Other residential</p> <p>3. Federal government</p> <p><i>National defence</i></p> <p><i>Equipment and software</i></p> <p><i>Aircraft</i></p> <p><i>Missiles</i></p> <p><i>Ships</i></p> <p><i>Vehicles</i></p> <p><i>Electronics and software</i></p> <p><i>Other equipment</i></p> <p><i>Structures</i></p> <p><i>Buildings</i></p> <p><i>Residential</i></p> <p><i>Industrial</i></p> <p><i>Military facilities</i></p> <p>Non-defence</p>	
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	<p>Equipment and software</p> <p>Structures</p> <p> Buildings</p> <p> Industrial</p> <p> Educational</p> <p> Hospital</p> <p> Other</p> <p> Highways and streets</p> <p> Conservation and development</p> <p> Other structures</p> <p>4. State and local government</p> <p> Equipment and software</p> <p> Structures</p> <p> Buildings</p> <p> Residential</p> <p> Educational</p> <p> Hospital</p> <p> Other</p> <p> Highways and streets</p> <p> Conservation and development</p> <p> Sewer systems structures</p> <p> Water supply facilities</p>	
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Annex 3: Methods of capital stock estimation

Country	Method of Capital Stock Estimation	Notes
Armenia	Capital stocks are not currently measured	<p>Since 1994 Armenia does not compile the Balance of Fixed Assets since it is impossible to ensure the required coverage due to changes in the forms of property but also to changes in the rules and regulations governing the collection of information.</p> <p>The form that was used until 1994 for collecting data on the stock and flows of fixed assets (Form-11) has been revised in 2000. In 2001 it was introduced for collecting the necessary information for compiling the Balance of Fixed Assets. However, some difficulties have been identified in summarising the collected information for different economic industries. The Statistical Office is considering the possibility for implementing the PIM method for estimating capital stock in future.</p>
Australia	PIM	
Austria	PIM	PIM is used with a geometric depreciation pattern that is similar to the approach used by USA (described in Annex 2 of the OECD Manual). This approach makes no explicit assumptions about service lives and mortality functions. Instead different types of assets differ by the geometric depreciation rates used.
Azerbaijan	Survey of financial accounts of enterprises.	Information about the service lives of capital assets is not used.
Belarus	PIM	Fixed assets are valued at initial (balance) value and remaining value (after CFC is deducted). The assets are re-valued at the beginning of each year to account for the rate of inflation.
Belgium	PIM	
Canada	PIM	The Canadian Capital and Repair Expenditures Survey (CES) asks a question on the value of

		fixed assets. This information plus enterprise data on fixed assets enables them to monitor the quality of derived measures of capital stocks.
Croatia	<p>PIM,</p> <p>+Administrative records (State sector),</p> <p>+Survey (business sector).</p>	
Czech Republic	<p>PIM (for transport equipment, other machinery and equipment, and software),</p> <p>+Quantity x price method (for dwellings and non-residential buildings).</p>	For dwellings, a census of flats and houses together with information obtained from building organisations and estate agencies provide input data. For non-residential buildings there are three main data sources: the tax register for real estates, the cadastre register and the business register.
Denmark	<p>PIM (for machinery and equipment, other structures, software, mineral exploration, and entertainment, literary and artistic originals.</p> <p>+Administrative records (for, transport equipment, dwellings, non-residential buildings, and livestock).</p>	
Estonia	<p>Administrative records (general government sector),</p> <p>+ Survey (non-financial and financial corporations, NPISH),</p> <p>+ Census (households - planned improvements),</p> <p>+ Other sources/methods*</p>	* At present extrapolation is used in the household sector for dwellings, agricultural buildings, and agricultural machinery and equipment.

Finland	PIM	
France	PIM	For dwellings, the PIM method is "re-benchmarked" every 5 years with a detailed survey.
Germany	PIM (except for cultivated assets)	<p>Cultivated assets stocks are calculated by multiplying data on the surface area for each of the four kinds of plantations (from agricultural surveys on land use) with cost estimations by agricultural experts (used also in the Economic Accounts for Agriculture).</p> <p>Information on the stocks of East Germany for 1990 was derived from information of the balance of fixed assets of the former GDR. This was then re-valuated into DM taking into consideration the value of assets no longer used under market conditions.</p>
Greece	PIM	
Hungary	PIM (inverted)	<p>PIM was adopted in 2002.</p> <p>In order to estimate the starting capital stock of the government sector a Treasury database was used.</p>
Republic of Ireland	N/A	Economy wide estimates of the capital stock are not currently made. Estimates of capital consumption are calculated using tax based depreciation amounts adjusted to disallow certain accelerated capital allowances. There are plans to compile capital stock estimates in the future.
Israel	PIM	

Italy	PIM	
Japan	PIM (for 'Social Capital' only, i.e. general government), + Other sources/method (for all other assets) - see note.	The 'Benchmark Year Method' uses the results of the 'National Wealth Survey of Japan' (1970) as a benchmark (the institutional sectors used in the survey have been reclassified to be consistent with those in the SNA93). The formula given is as follows: <i>Closing stock (net) = Opening stock (net) + Net fixed capital formation + Reconciliation (???)</i>
Republic of Korea	Survey*	*Four national wealth surveys have been conducted, in 1968, 1977, 1987 and 1997. In the surveys, the gross capital stock was measured by multiplying the acquisition price and the price ratio of the acquisition year to the base year. The net capital stock was then calculated by applying the declining balance rate to the gross capital stock of each asset. However, because of the importance of the national wealth data to economic analyses, it is now felt necessary to estimate annual capital stocks and it has been decided not to repeat the survey anymore. Instead, it is planned to implement the PIM using one of the national wealth surveys as a benchmark.
Kyrgyzstan	Survey	The statistical survey of fixed capital of enterprises is carried once a year based on the report/annex 11 "Report on the stock and changes of fixed tangible and intangible assets".
Latvia	Survey	Information is collected from all central and local government enterprises, institutions and companies that employ more than 50 persons and where the turnover in the preceding year exceeded 300 thsd lats. Data on other companies are obtained by simple random sampling. NB. Latvia is involved in the <i>Eurostat led co-operation Project "Capital Stock and Consumption of Fixed Capita."</i> . This involves improving statistics on consumption of fixed capital, making assessments of service lives and introducing the PIM method.

Lithuania	Survey	It is planned to introduce the PIM. A pilot project will start in 2004
Mexico	PIM	
Moldova	Survey	<p>The Catalogue of the fixed tangible and intangible assets is approved by a special law/regulation of the Government of Republic of Moldova. The Catalogue provides a classification of all tangible and intangible assets, and also the service lives of each group of fixed assets.</p> <p>The main purposes of the Catalogue are the following:</p> <ul style="list-style-type: none"> ◆ to establish a common/unified classification of the fixed tangible and intangible assets and a method for calculation their service lives that will assist the enterprises and institutions to report/record the tangible and intangible assets and to account depreciation; ◆ to establish unified rules for grouping of tangible and intangible fixed assets by ownership type that will ensure comparable accounting of depreciation of fixed assets.
Netherlands	PIM*	<p>*For conveyancing costs on lands the service life is estimated at 1 year, so these investments are depreciated immediately. For all other asset categories the PIM is used, although extra corrections are made to compensate for early retired assets.</p> <p>For fixed assets, estimates for gross capital stock are also available from direct surveys of the manufacturing industries. These surveys are conducted every 5 years. The results are used to verify (and adjust) the mortality functions.</p>
New Zealand	PIM	
Norway	PIM*	*For ships PIM is used in combination with administrative records.

<p>Poland</p>	<p>Surveys</p> <p>+ Administrative records</p> <p><i>inputted to a simplified PIM model (see note).</i></p>	<ul style="list-style-type: none"> ◆ <u>Market producers</u> are covered by surveys: <ol style="list-style-type: none"> 1) complete for the range of: <ul style="list-style-type: none"> ❖ non-financial enterprises with number of employees exceeding 9 persons (questionnaire SP – annual report of enterprise), ❖ financial and insurance enterprises (questionnaire F-03 – report on state and flows of fixed assets); 2) sample (5%) in range of enterprises with number of employees up to 9 persons (questionnaire SP-3 – report on economic activity of enterprise); 3) estimates for the range of construction objects, machinery, technical equipment and tools owned by individual farmers. ◆ For <u>non-market producers</u> values regarding fixed assets are elaborated on the basis of: <ol style="list-style-type: none"> 1) reporting data: <ol style="list-style-type: none"> a) annual covering: <ul style="list-style-type: none"> ❖ government sector units – questionnaire F-03 – report on state and flows of fixed assets, ❖ local-government sector units – questionnaire SG-01 – statistics of municipality part 4: fixed assets, b) periodic cycle (every 2 – 3 years) covering foundations, associations, political parties, trade unions, social organisations, employers’ organisations economic and trade self-governments – questionnaire SOF; 2) estimates for: <ol style="list-style-type: none"> a) infrastructure for which central government is responsible and values which are not covered by book-keeping evidence, i.e.:
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		<ul style="list-style-type: none"> ❖ public roads together with bridges and viaducts as well as roads, squares and bridges together with engineering objects of urban roads' construction (Ministry of Infrastructure), ❖ basic melioration (Ministry of Agriculture and Rural Development), ❖ water construction objects (Environmental Ministry); <p>b) Ministry of National Defence for fixed assets not covered by the reports of units subordinated to this department, i.e., military schools, military hospitals as well as residential buildings used by workers of this department.</p> <p>Estimated data were established during the bringing up to date of the valuation of fixed assets according to the state as of the 1 January 1995, and prices levels from September 1994, as well as reported yearly information on investments and liquidations.</p> <p>This information allows for, in every surveyed year, estimated gross value as of the end of the year according to the following equation (simplified permanent inventory method – PIM):</p> ${}^V\text{GFA}_{t-1} + I - L = {}^V\text{GFA}_t$ <p>where:</p> <ul style="list-style-type: none"> ${}^V\text{GFA}_{t-1}$ - gross value of fixed assets at the end of the previous year, I - investment outlays, L - liquidations, ${}^V\text{GFA}_t$ - gross value of fixed assets at the end of the surveyed year.
<p>Russian Federation</p>	<p>Combination of the BFA approach (Survey) and a perpetual inventory of the age structure of machinery and equipment.</p>	<p>The annual questionnaire, called Form-11, is used to collect information, based on book-keeping data, about the stocks and flows of fixed assets and other non-financial assets. The form is submitted by all big and medium-sized enterprises. The questionnaire collects information about the value of fixed assets. The assets that have been re-valued are valued at replacement cost and those that were no are valued at acquisition cost. The questionnaire also contains information on the remaining value of the fixed assets (by deducting the accumulated value of capital consumption) and the flow of fixed assets in the course of the year.</p>

		<p>Information on the fixed assets of non-market institutions is collected with the help of a shorter version of the questionnaire Form-11.</p> <p>Fixed assets of entrepreneurial enterprises are estimated on the basis of an exhaustive survey carried out in 2000 that covers all units classified in this group and some book-keeping data. The value of fixed assets of the households is estimated on the basis of information about the units of assets and their prices.</p> <p>All information that is collected as explained above is used to compile the Balance of Fixed Assets.</p>
Serbia and Montenegro	N/A	At present no service lives are estimated in Serbia and Montenegro as they are in the process of transferring to the SNA and are currently focussing on the improvement of GDP calculations.
Slovakia	Administrative records	
Slovenia	<p>Census for 1999</p> <p>For other years:</p> <p>+ PIM (For General Government sector only)</p> <p>+ Administrative records</p>	<i>Need clarification of how these three fit together.</i>
Spain	PIM	
Sweden	PIM*	<i>*except for a range of assets (for which no other method is given)</i>

Switzerland	PIM	
The former Yugoslav Republic of Macedonia	Administrative Records	
Turkey	PIM	
United Kingdom	PIM	<p>Administrative records are being investigated for use in estimating Public Sector capital stocks as a new reporting system is being introduced which claims to directly measure capital stock and consumption on a definition easily transformed into the National Accounts definition.</p> <p>A Survey of capital stock has been conducted, but the results have not yet been fully assessed.</p>
United States of America	<p>PIM</p> <p>+Administrative records (for private motor vehicles)</p>	Detailed stock data is available for private motor vehicles from a private industry source which gives the number of vehicles broken down by age.

Annex 4: Sources for service life estimates
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Country	Source used for estimating service lives	Notes
Armenia	N/A	Capital stocks are not measured at present
Australia	<p>Dwellings: Other countries' estimates & expert advice</p> <p>Other Buildings and structures: <i>Private Corporations -</i></p> <p>Machinery and equipment: Implicit tax lives & supplementary sources^o</p> <p>Computer Software: Expert advice</p> <p>Artistic Originals: Expert advice</p>	<p>Estimates are based on those given in <i>Walters and Dippelsman, 'Estimates of Depreciation and Capital Stock', (1985)</i> - which based its estimates on other countries' estimates and Butlin 'Australian Domestic Product , Investment and foreign borrowing, 1861- 1938/39' (1962).</p> <p>Tax lives are industry based and comprehensive in coverage, but in general have been found to be shorter than economic lives. Additional sources, such as technical data and information collected from industry sources, have therefore been used to derive the actual economic lives. Where no new information on economic lives has been available then estimates developed by Walters and Dippelsman have been adopted.</p> <p>Information obtained from academic papers and 'Gartner' research has been combined with an assumption of shorter service lives due to greater incidence of outsourcing software development and technological change. This meant that mean service lives were shortened after 1988-89 - from 8 years to 6 for in-house and customised software, and from 6 years to 4 for purchased software.</p> <p>Information is obtained from Australian Record Industry Association (ARIA), the Australian Film Commission, and the Australian Publisher's Association (APA). For Film and TV information was</p>

	Livestock: Expert advice	<p>also obtained from Dale 'The Movie Game - the film business in Britain, Europe and America.</p> <p>Obtained from several industry bodies, including; Bureau of Rural Sciences, Woolmark Company, Dairy Farmers Corporation, and Meat and Livestock Association.</p>
Austria	Expert advice and other countries' estimates	
Azerbaijan	N/A	Information about the service lives of capital assets is not used in capital stock estimation.
Belarus	Expert advice and tax lives	<p>The average service lives are estimated according the Rules for defining the depreciation rates for tangible and intangible assets that were enforced on 1 January 2002. The definition of the average service lives of fixed assets is similar to the method described in the OECD Manual, para. 6.21 and 6.22. However, tax authorities do not determine the service lives and the tax payment is not the main purpose in deciding on the length of service lives of assets. The main objective in determining the service lives of assets is the creation of the necessary conditions for regulating the process of replacement of fixed assets by calculating the amortization within the defined period and implanting the established rules and methods.</p> <p>The process of defining the service lives of fixed assets follows two stages: (i) define the norms of service lives; and (ii) define the actual service lives of the assets (the period during which the assets have been used, or their “useful life”).</p> <p>Firstly, the Ministry of Economics sets norms of service lives for all kinds of fixed assets. This is done on the basis of expert knowledge, specialised surveys of the fixed assets in some manufacturing industries. The defined norms are presented in a systematic way in a document called the Classification of fixed assets and the norms for their service lives.</p> <p>Secondly, a special Commission composed of representatives of various entrepreneurial enterprises defines the length of the use of the different fixed assets. The Commission has the right to define the useful life of each asset within a range of years. For example, the useful life for machinery and equipment is set at 5-30 years. The length of the “useful life” could coincide with the norms or differ from them.</p>

Belgium	Tax lives and other countries' estimates	Initial service life estimates are based on tax-authorities data. These are compared with international data on service lives (average service lives from 13 OECD-countries). When there are big differences between tax data and OECD data, the mean of the two estimates is taken as an estimate for the Belgian service lives.
Canada	Statistical surveys	Statistical surveys are used to collect information on estimated useful life and age of assets being disposed of. We started collecting this information in 1985, and first introduced it in our calculation of capital stocks in 1987.
Croatia	Expert advice	For the construction industry this advice comes from the Institute for construction, elsewhere from production engineers.
Czech Republic	Expert advice + Statistical surveys	For dwellings and non-residential buildings, service lives were estimated by specialists from the Czech Technical University according to the time of construction and types of walls and ceilings of various buildings. For public communications by the Central Czech Road Administration and for railways by the Ministry of Transport of the Czech Republic. <i>How is MoT doing this?</i> Information on service lives of transport equipment and other machinery and equipment are available, according to 3-digit CPA and 3-digit NACE, from annual statistical surveys carried out by all sectors, except the household sector. One special statistical survey was carried out by enterprises at the beginning of 2003 to ascertain the average service life and expected service life of computer software.
Denmark	Machinery & equipment: Expert advice + other countries' estimates. Transport equipment: Administrative records Dwellings, Non-residential buildings and other	

	<p>structures: University studies (Administrative records)</p> <p>Software: Expert Advice</p> <p>Mineral Exploration: Other countries' estimates</p> <p>Entertainment, literary or artistic originals: Expert advice</p>	
Estonia	<p>Government sector: Government stipulated service lives</p> <p>Expert advice (all other sectors)</p>	<p>In most cases expert advice is used as neither bookkeeping or tax legislation covers this field. For the government sector the Ministry of Finance has stipulated intervals of service lives for 5 groups of assets (buildings, structures, machinery and equipment, office appliances, computers).</p>
Finland	<p>Statistical surveys*</p> <p>Administrative sources</p> <p>Expert Advice</p> <p>Other countries estimates</p>	<p>*Statistical surveys are carried out on capital assets in the Mining and Quarrying, Manufacturing, and Electricity, gas and water supply industries. These inquire about replacement value, average and expected service lives of capital assets and expected service lives of main new acquisitions. Up to now such surveys have taken place occasionally (1990, 2002), but they will take place regularly every fifth year from 2005.</p> <p>Average service lives of public infrastructures are based on data obtained from Finnish Road Administration, Finnish Rail Administration, and Finnish Maritime Administration.</p>
France	Expert advice/information	
Germany	Main source: Tax lives + Expert advice	<p>Information on tax lives is combined with information supplied by enterprises and business associations for most types of machinery and equipment, for cultivated assets and some types of buildings. Tax lives are increased by 20% to 100% because tax lives are perceived to be shorter than the actual service lives - avoiding the risk that assets have to be scrapped before they are</p>

	<p>Road vehicles: Administrative records</p> <p>Statistical surveys</p>	<p>written off completely.</p> <p>The German Institute of Economic Research (DIW) publishes information on the service lives of roads, waterways and ports. For municipal hydraulic structures, some indication of service lives can be obtained from "Cost comparison methods: guidelines" drafted by the Working group on cost/benefit studies for water management.</p> <p>Data on the technical service life of outdoor facilities and of parts of buildings (e.g. stonework, roof framework, windows) is available in the official guidelines for ascertaining the current market value of land from the Collection of official texts on the valuation of land in the old and new Länder.</p> <p>For road vehicles statistics by the Federal Office for Motor Traffic – where all cars are registered in Germany – show in detail stocks and retirements of cars by age structure.</p> <p>Surveys have been used to determine the age structure and destruction of ship stocks and dwellings. A statistical survey by the IFO Economics Research Institute on the service lives of municipal infrastructure has also been used.</p>
Greece	Non given	
Hungary	<p>PIM inverted</p> <p>+ Census</p>	<p>A census of the non financial sector was carried out in 2000. Data was collected on gross capital stock broken down by years of activation, estimated condition and average lifetime.</p>
Ireland	N/A (see notes)	<p>Economy wide estimates of the capital stock are not currently made. Estimates of capital consumption are calculated using tax based depreciation amounts adjusted to disallow certain</p>

		accelerated capital allowances. There are plans to compile capital stock estimates in the future.
Israel	Other countries estimates	U.S. Department of Commerce
Italy	Expert advice	When Istat began to estimate capital stock a working group of experts decided the service lives for each industry and for each asset.
Japan	Tax lives	
Republic of Korea	Tax lives	
Kyrgyzstan	<i>N/A</i>	Estimates of service lives have not been done up to now by the Kyrgyz Statistical Office due to the lack of a legal basis and corresponding methodology.
Latvia	<i>Currently N/A</i>	Service lives are not estimated - information on capital stocks and depreciation is obtained from surveys. NB: The estimation of service lives is in progress as part of the work to implement PIM in the future. All available sources are planned to be used (tax law, current information from surveys, advise of experts and other countries' experience) to estimate qualitative service lives. Service live assessment of dwellings and roads are planned for 2003.
Lithuania	(Statistical surveys)	Before 2002 Lithuania did not have any data on service estimates - capital stock estimation is performed by surveys rather than PIM. The 2002 survey for the first time asked questions

		concerning the service lives of assets, albeit in the government sector and public corporations only. A pilot project to introduce PIM will begin in 2004.
Mexico	Tax lives	
Moldova	Statistical surveys	<p>The Catalogue of fixed tangible and intangible assets provides service lives of fixed assets for normal exploitation regime and conditions. The service lives of assets or groups of assets are separately identified for newly acquired, produced on own account assets and for assets that have undergone major repair. The service life is defined at the moment when the assets enter into the production process.</p> <p>The service life of fixed assets can be increased or decreased up to 25 per cent of the one that is defined by the Catalogue. This decision is taken by the corresponding enterprise or organisation on the base of intensity and conditions of exploitation of the asset, major repairs, and obsolescence.</p>
Netherlands	Statistical Surveys	The exact methodology used is described in paragraphs 6.26 and 6.27 of the OECD Manual on Measuring Capital.
New Zealand	<p>Plant, machinery & equipment and transport equipment: Statistical Surveys</p> <p>Other assets: combination of other countries' estimates + company accounts + tax lives +</p>	<p>A depreciation survey was conducted by Statistics New Zealand (SNZ) on behalf of the Inland Revenue Department (IRD) in 1992. The objective of the survey was to provide estimates of the mean depreciation rates, useful life, and residual value for a specified list of assets held by a selected group of industries. It was expected that the depreciation rates to be derived from the survey would be close to the true economic life of an asset. As the survey was focused on taxpayers the following institutions were excluded from the survey:</p> <p>Private non-profit organisations Central Government Local Government (excluding trading subsidiaries)</p>

	administrative data	
Norway	<p>Other countries' estimates*</p> <p>Expert advice[°]</p>	<p>*For countries similar to Norway. The countries looked at were Sweden, Germany, UK, USA and Canada. The criteria was something like "advanced industrial countries with a relatively cold climate and data on asset lives readily available" (although the USA has a very varied climate it is deemed to have good data on asset lives, and was included for that reason).</p> <p>[°] This refers to informal contacts between the person responsible for the NA calculations for output etc. of a particular industry, and experts in the area. For electricity production, the point is that Norway's electricity production is all hydro-electric, so asset lives from other countries which use mainly other technologies are less relevant. In this case the asset lives are based on discussions with researchers in energy economics in Statistics Norway and in the authority that regulates the electricity producers.</p>
Poland	Statistical Surveys	The surveys also collect information on completely depreciated assets which allow verification of depreciation rates.
Russian Federation	Statistical Surveys	
Serbia and Montenegro	N/A	At present no service lives are estimated in Serbia and Montenegro as they are in the process of transferring to the SNA and are currently focussing on the improvement of GDP calculations.
Slovakia	Statistical Surveys	A statistical survey on capital stocks was carried out in 1998. Capital stock was surveyed by the NACE breakdown of industries. 10 age groups of assets were created, the first group including assets acquired before the year 1944 with the other 9 covering the period since 1944 up to the 1998. Service life calculation is based on age structure data on assets discards from the exhaustive survey in 1998. For the time being, this is done within the framework of the Phare Project 2000: Capital Stock and Consumption of Fixed Capital.
Slovenia	'Service lives reported by units'	(needs further clarification)

	Company Accounts Administrative records Other countries' estimates Expert advice	
Spain	Tax Lives*	*Tax lives point to minimum and maximum service lives for particular assets. The actual values of service lives inside this intervals are based on a variety of sources of differing reliability including company accounts and expert opinion.
Sweden	N/A - under review	<i>Previously used</i> : Expert advice and other countries' estimates (preferably from the USA and Canada).
Switzerland	Other countries' estimates	Estimates are 'based on comparisons with other countries estimates'.
The former Yugoslav Republic of Macedonia	Need further clarification	
Turkey	Machinery & Equipment: Other countries' estimates* Construction: Expert advice	*An average of OECD countries' estimates are used.
United Kingdom	Unkown*	*The sources for historical service life estimates are unkown. Currently under review.

<p>United States of America</p>	<p>Academic studies</p> <p>Expert advice/administrative records</p> <p>Administrative records</p> <p>Statistical Surveys</p>	<p>Many service lives come from a series of studies by the U.S. Department of Treasury (summarised in Brazell, Dworin, and Walsh), others from studies undertaken elsewhere.</p> <p>Motor vehicles, mobile homes, and major residential replacements industry sources are used.</p> <p>For defence equipment, administrative records from the U.S. Department of Defense are used. Service lives for farm, utility, and railway structures come from U.S. Dept. of Agriculture studies, data from regulatory agencies, and information from the U.S. Interstate Commerce Commission 1983 Annual Report, respectively.</p> <p>Service lives for petroleum and natural gas exploration, shafts, and wells are based on U.S. Census Bureau annual surveys for oil and gas 1979-82.</p>
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Annex 5: Service life continuity

The following countries do not assume that asset lives vary over time:

Assumed to be fixed: Austria, Belarus, Croatia, Denmark, France, Greece, Israel, Italy, Japan, Korea, Mexico, New Zealand, Switzerland, Turkey.

Service lives not used: Armenia, Azerbaijan, Ireland, Kyrgyzstan, Latvia, Lithuania, Moldova, , Poland (except gen. Government sector where they are considered fixed), Serbia & Montenegro, Slovakia, Slovenia (except gen. Government sector where they are considered fixed), The FYR of Macedonia, Russian Federation.

Other: Hungary - inverted PIM.

Country	How are asset lives assumed to change?	How is the continuity of the series maintained?	Are Service lives for past periods revised?
Australia	<p><i>Road vehicles:</i> Over the period 1950 to 1979 motor vehicle lives increased from 13 years to 18.5 years. The method of calculation involves using the median life because it is not possible to precisely calculate mean lives (as a proportion of vehicles have lives exceeding the range covered by the data available). Data are available from 'New Motor Vehicle Registrations, Australia: Preliminary' and 'Motor Vehicle Census, Australia'. However, it is not possible to measure the median lives of vehicles manufactured until half of them have actually lived out their lifespan and so for recent years this method is un-applicable. For recent years a combination of data for the average age of the vehicle fleet and trends in the age profile of the fleet are used to project trends in vehicle lives. It is estimated that the median life of motor vehicles manufactured in 1997 is</p>	<p>Mean service lives are stored as a time series for each asset type in our system, so they are free to vary over time (although most are fixed). The system has been programmed to apply the service life for a particular year from that year on for the associated GFCF data. So for any particular year, the capital stock may represent GFCF of different vintages and different lives.</p>	<p>On rare occasions, we may revise asset lives for all periods for a particular asset type when new information becomes available. This will cause a level shift in the capital stock for the full time period and full historical revisions to COFC.</p>

	<p>20.5 years.</p> <p><i>Computers:</i> The average life of computer equipment is assumed to have gradually declined from 8 years in 1960 to 5 years in 1997-98. This change is attributed to the decline in the proportion of mainframe computers relative to PCs and the longer lives of the former.</p> <p><i>Computer software:</i> In-house and customised software - information has been obtained from academic papers and Gartner research, although empirical evidence is quite weak. For years up to 1988-89, a mean life of 8 years (maximum 12 years) has been chosen. From 1989-90, the greater incidence of outsourcing software development, combined with increased technological change, is believed to result in shorter lives, and so a mean life of 6 years (maximum 8 years) has been used.</p> <p>Purchased (packaged) software - for years up to 1988-89, a mean life of 6 years has been chosen. From 1989-90, average and maximum lives fall by two years to reflect the impact of greater technological change. Thus average lives fall from 6 years to 4 years in 1989-90.</p>		
<p>Belgium</p>	<p>Periodically service lives can be revised to reflect better technological changes. In such a case, service lives are adapted gradually (e.g. every year service lives are shortened or extended with one year).</p>	<p>Since service lives are adapted gradually, the impact of those new service lives on capital stock estimates is spread over a longer period. Consequently, there are no big discontinuities in the series.</p>	<p>Recently service lives of asset category 'metal products and machinery' in some industries have been revised downwards for the period 1985 - 2001 since the old ones were not longer in line with the current practice in these industries.</p>

Canada	The information on service lives and the age-price profiles of discarded assets gathered by the Canadian Capital and Repair Expenditure Survey (CES) were used to establish estimated mean service lives. These survey-based service lives (investment weighted) introduced in the 1987 data year, are generally shorter than the assumed service lives that had been in use in the calculation of the capital stock estimates prior to the availability of the survey-based lives. Periodic re-evaluation of the survey-based lives has revealed that they are stable at their current levels. They are comparable with the lives used by most other OECD countries and better reflect the changing composition of investment.	A geometric interpolation was used to introduce the surveyed lives over the years prior to 1987. A detailed description of the technique used to introduce the surveyed lives is contained in "Investment Flows and Capital Stocks, Methodology", Technical Box 1.	
Czech Republic	Changes in service lives of assets over time are assumed. For instance service lives of dwellings and non-residential buildings are determined by changes in materials used by their construction.	Time series of capital stocks of non-financial assets at replacement prices will be published in 2004 for the first time.	
Estonia	(Comparing the current regulations stipulating service lives in the general government sector and the new one which will be introduced since 2004 the service lives have been found to be shorter for some groups of assets (e.g. office appliances, computers). For other institutional sectors no such information is available, but the general assumption is that service lives are becoming shorter.)		
Finland	For other machinery and equipment for the Mining and Quarrying, Manufacturing, and Electricity, gas and	The series have been recalculated backwards.	No, because no new information is available on past service lives.

	water supply industries service lives are expected to decrease yearly by 0.5 - 1.0 % before 1990, and by 0.4 - 0.5% since 1990.		
Germany	Service lives are assumed to change for selected assets. For instance the assumed average service lives for the three main parts of roads - earthwork, surfaces and structures (bridges, tunnels)- are constant over time, but because of their different share in GFCF of different kinds of roads over time the average service lives for roads vary over time (structural effects).	No special problem with maintaining the continuity of the series is experienced, because <ul style="list-style-type: none"> · Changes of service lives are gradually, but discrete (not interpolated), · They are used for vintages of investment starting from a certain point in time, that means that service lives of the assets building up the stock until this point in time remain as before. 	Only for the last 10 to 15 years in the process of revising the National Accounts.
Netherlands	Generally assumed to be constant over time but are changed during revisions.	Time series are revised for previous years.	When changing the service lives, they are always revised for past periods.
Norway	Generally assumed to be constant over time but may be revised during major revisions of the National Accounts. For example, during the last major revision in 2002, some changes were made to the service lives of computers, software and equipment for electricity generation, from 1991 onwards.	The resulting discontinuities from the changes made in 2002 were considered to be relatively small and therefore no special adjustments were made for these changes.	
Spain	Service lives are adjusted to the economic situation when the benchmark year is changed.	COFC is calculated every year with the service lives in force for that particular year.	Yes.
Sweden	There is no explicit assumption of changing service lives, but because asset categories are in general quite broad then the composition of the category might change and give rise to a different average service life for the entire group.	If the service life changes it will affect all the ages of assets making up the aggregate stock.	Yes.

<p>U.K.</p>	<p>There is no general assumption of changes in service lives but they have been changed in the past .</p>	<p>When they have been changed in the past, the change has been smoothed in over a number of years.</p>	<p>The current review of assets lives in the UK will probably lead to a revision of asset lives for past periods, but asset lives would otherwise not be expected to be revised for past periods.</p>
<p>U.S.A.</p>	<p>Generally assumed to be constant over time but may be revised during major revisions of the National Accounts. Comprehensive revisions of National Accounts data take place roughly every 5 years. Any changes to service lives cover specific time periods and are based on empirical studies.</p>	<p>When the Bea changes the life of an asset, for most assets, this will mean also changing the accompanying geometric depreciation rate for that asset. However, changes in service lives affect depreciation, which, in turn, affects net stocks. That is, changes in service lives lead to changes in stocks through depreciation. So unless the change in service lives is drastic, any changes in the continuity of net stocks is not expected to be large.</p>	<p>Yes, during comprehensive revisions for the National Accounts.</p>

Annex 6: Additional questions on mortality and depreciation
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Country	Mortality function used?	Depreciation function used?
Australia	<p>Bell-Shaped.</p> <p>Winfrey S3</p> <p>Except for: Alterations and additions, where a Winfrey S0 is used, And for some intangibles which are decided on ad hoc basis depending on the evidence available.</p>	<p>The depreciation function is endogenous. Hyperbolic age-efficiency functions are firstly specified and then a real discount rate is used to derive age-price functions (for net capital stock). The difference in the age-price function is the depreciation function. Prior to this, the straight line method was used. The new method based on age-efficiency functions was implemented in 1998, retrospectively, for the whole time series.</p>
Austria	<p>No explicit assumptions about mortality functions are made.</p>	<p>Geometric.</p>
Belarus	<p>In Belarus, the fixed assets are written off only after their 100% depreciation or when destroyed due to environmental disasters, etc,</p>	<p>According to the rules the enterprise could choose to apply one of three depreciation functions: Linear, non-linear and the production method (<i>further clarification required</i>).</p> <p>The depreciation functions that are used could be reviewed at the beginning of each calendar year until the end of the use of the fixed assets.</p>
Belgium	<p>Bell-shaped: log-normal.</p>	<p>Straight-line.</p>
Canada	<p>Bell-shaped: Truncated.</p> <p>The function has been truncated so that all retirements occur between 50% and 150% of the mean useful life.</p>	<p>Geometric, hyperbolic and straight-line.</p>
Croatia	<p>Plans to use bell-shaped function (Gauss function)</p>	<p>Linear.</p>

Czech Republic	<p>Bell-shaped:</p> <p>Transport equipment + Other machinery and equipment - based on log-normal distribution.</p> <p>Computer software - based on normal distribution.</p>	Straight-line.
Denmark	<p>Bell-shaped:</p> <p>Other structures and some selected industries: Winfrey L3</p> <p>All other cases: Winfrey S3</p>	Linear.
Estonia	N/A	Linear.
Finland	Bell-shaped: Weibull	Straight-line.
France	Bell-shaped: Log-normal.	Linear.
Germany	Bell-shaped: Gamma.	Linear.
Greece	N/A	Linear.
Hungary	Bell-shaped: Truncated normal + Poisson	Linear.

Israel	Delayed linear (assets retired over a period + or - 20% around the average service lives)	Straight-line.
Italy	<p>Bell-shaped: Truncated normal</p> <p>Truncation limits are -40% and +40% of the average service life. The distribution variance is such that 90% of the group of assets installed in a given year are retired in the interval [-25%, +25%] of the average service life.</p> <p>The current hypothesis about the retirement pattern and the available data allows for calculations of capital stock starting from 1980.</p>	Straight-line.
Korea	<p>Bell-shaped: Winfrey curves.</p> <p>Residential buildings R3 Non-residential buildings R3 Other structures R3 Transportation equipment L2 Machines L2</p>	Geometric: the declining balance rate (R) is set to ensure that the asset's initial value will have been reduced to 10% of that value at the end of its expected service life.
Latvia	N/A (yet to be decided)	Linear.
Lithuania	N/A	Linear.
Mexico	Linear.	(need further clarification)
Moldova	(need further clarification)	New bookkeeping standards recommend the following methods for calculation of depreciation of fixed assets:

		<ol style="list-style-type: none"> 1. linear (straight line) 2. as a proportion to the volume of production/output (production method) <p>According to that approach the value of depreciation is determined on the base of the volume of work done (output), items, details, distance travelled for transport equipment, etc.</p> <ol style="list-style-type: none"> 3. sum of numbers 4. declining residual
Netherlands	<p>Bell-shaped: Weibull (most assets)</p> <p>Simultaneous exit for some other assets.</p>	Straight-line depreciation (with an extra correction for early retired assets based on the mortality function).
New Zealand	<p>Bell-shaped: Winfrey</p> <p>Residential and non-Residential buildings R2</p> <p>Other assets: Winfrey L4</p>	as USA/Australia
Norway	Explicit mortality functions are not used. Net capital stocks and depreciation are estimated directly using the geometric depreciation function.	Geometric. Depreciation rates are calculated from the service lives using the double declining balance model, i.e. $\text{rate} = 2/\text{service life}$
Slovakia	N/A (Not used yet).	Straight-line.
Slovenia	N/A	Straight-line.
Spain	Delayed linear.	Straight-line.
Sweden	N/A	Geometric.

Switzerland	Linear.	Linear.
UK	A standard deviation is used and the function applied.	Straight-line, with adjustments for premature scrapping.
USA	<p>Bell-shaped: Winfrey S3 for computers, motor vehicles, missiles and nuclear fuel rods.</p> <p>All other assets: no explicit considerations for retirements (their assumed service lives only help to determine appropriate depreciation rates).</p>	<p>Geometric.</p> <p>Except motor vehicles and computers, for which extensive information is available, follow explicit depreciation schedules. Missiles and nuclear fuel rods follow a straight-line method.</p>

Annex 7: Service lives of fixed assets in use
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Australia:

Notes:

1. As of 2004, the ABS plans to change the asset lives for ownership transfer costs as a result of a report by Peter van de Ven which concluded that the SNA93 has got it right.
2. Updates to asset lives are planned by a combination of making small scale inquiries and the use of tax data. The Australian Taxation Office is undertaking a rolling programme of surveying service lives by industry and asset type. Asset lives will be progressively updated as these data become available following an assessment and any necessary adjustments.

MEAN ASSET LIVES (YEARS)
Equipment Lives by Type of Equipment and Industry - as at 1996-97

Industry	Equipment type						Weighted average
	Computers & peripherals	Electrical & electronic equipment	Industrial machinery & equipment	Motor vehicles	Other transport equipment	Other plant & equipment	
Agriculture, forestry & fishing	4.9	16.0	21.2	19.4	16.0	17.3	18.8
Mining	4.9	17.3	17.3	19.4	17.3	16.0	18.7
Manufacturing	4.9	13.4	15.1	19.4	13.4	12.1	14.4
Electricity, gas & water	4.9	30.4	20.1	19.4	18.2	17.3	15.9
Construction	4.9	13.4	15.1	19.4	13.4	12.1	21.5
Wholesale trade	4.9	18.2	15.1	19.4	18.2	17.3	17.1
Retail trade	4.9	18.2	20.1	19.4	18.2	17.3	17.4
Transport and storage	4.9	18.2	20.1	19.4	18.2	17.3	18.0
Communication services	4.9	15.1	17.3	19.4	15.1	14.4	14.6
Accommodation, cafes & restaurants	4.9	18.2	20.1	19.4	18.2	17.3	17.2
Finance and insurance services	4.9	15.1	17.3	19.4	15.1	14.4	11.9
Property and business services	4.9	15.1	17.3	19.4	15.1	14.4	15.2
Government administration and defence	4.9	15.1	17.3	19.4	15.1	14.4	12.9
Education	4.9	17.3	19.4	19.4	17.3	16.0	17.5
Health and community services	4.9	15.1	17.3	19.4	15.1	14.4	16.9
Cultural and recreational services	4.9	17.3	19.4	19.4	17.3	16.0	16.4
Personal and other services	4.9	17.3	19.4	19.4	17.3	16.0	17.3

MEAN ASSET LIVES (YEARS)
Other Buildings and Structures, Dwellings, and Ownership Transfer Costs by Industry and Institutional sector

	Financial and non financial corporations	Public trading enterprises and general government
OTHER BUILDINGS AND STRUCTURES		
Agriculture, forestry and fishing	41	41
Mining	29	29
Manufacturing	38	38
Electricity, gas and water	55	n.a.

Electricity and gas	n.a.	37
Water, sewerage and drainage	n.a.	71
Construction	44	44
Wholesale trade	50	38
Retail trade	50	38
Transport and storage	40	n.a.
Urban transport	n.a.	51
Rail transport	n.a.	67
Sea transport	n.a.	47
Air transport	n.a.	30
Other transport and storage	n.a.	49
Communication	40	49
Accommodation, cafes and restaurants	50	41
Finance and insurance	58	n.a.
Property and business services	57	57
Government administration and defence	n.a.	54
General government roads	n.a.	33
Education	50	50
Health and community services	50	50
Cultural and recreational services	50	50
Personal and other services	50	50
DWELLINGS		
Private brick homes	88	n.a.
Private timber, fibro and other houses	58	n.a.
Private non-house dwellings (units, flats, etc)	58	n.a.
Private alterations and additions	39	n.a.
Public	n.a.	58
OWNERSHIP TRANSFER COSTS		
Dwellings	0	n.a.
Non-dwelling construction	0	n.a.

MEAN ASSET LIVES**Cultivated Assets and Intangible Fixed Assets - as at 1996-97**

	Mean life (years)
Livestock	
Sheep (wool)	6
Dairy	10
Bulls (breeding)	7
Computer software	
In-house & customised (a)	6
Purchased (b)	4
Artistic originals	
Film & TV	3
Music	1.7
Literary	1.7

Exploration

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- (a) Prior to 1989-90, the mean life is 8 years.
 (b) Prior to 1989-90, the mean life is 6 years.

Austria

Notes: PIM is used with a geometric depreciation pattern that is similar to the approach used by BEA (described in Annex 2 of the OECD Manual). This approach makes no explicit assumptions about service lives and mortality functions. Instead different types of assets differ by the geometric depreciation rates used, shown below:

Dwellings	0,020
Other buildings and structures	0,020 / 0,024 / 0,030
Transport equipment	0,200
Other machinery and equipment	0,059 – 0,200
Cultivated assets:	0,100
Computer software:	0,300
Entertainment, literary or artistic originals:	0,300

Belarus:

Group of fixed assets	Service lives (years)
Buildings	5-125
with 'special' capital content	80-125
with 'high' capital content	50-80
with 'medium' capital content	15-50
with 'low' capital content	5-15
Structures and transmission devices	5-125
with 'special' capital content	80-125
with 'high' capital content	50-80
with 'medium' capital content	15-50
with 'low' capital content	5-15
Machinery and equipment, including communication equipment, measuring and regulation appliances, working animals	5-30
Data processing equipment, business equipment, production tools and instruments, weapons, perennial plants, other fixed assets	3-14
Transport equipment, excluding air transportation equipment (without engines) and the civil aviation	
- air transport	3-40
- water transport	4-15
- rail transport	3-37
- other transport	10- 40
Air transport equipment without engines and civil aviation	3-40
Fixed assets used in mining and quarrying	5-35

	Taking into account the time of processing the mineral resources Natural gas: about 12 Petrol: about 15
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Belgium:

Industries	Pi1	Pi2	Pi3	Pi4	Pi5	Pi6	Pi7
Agriculture, hunting and forestry	3	15	12		37	8	3
Fishing	3	15	25		39	7	3
Mining and quarrying except energy producing materials	3	20	10		33	14	3
Manufacture of food products; beverages and tobacco	3	20	10		34	15	3
Manufacture of textiles and textile products	3	19	10		38	22	3
Manufacture of leather and leather products	3	18	10		38	22	3
Manufacture of wood and wood products	3	18	10		45	20	3
Manufacture of pulp, paper and paper products; publishing and printing	3	19	10		45	20	3
Manufacture of coke, refined petroleum products and nuclear fuel	3	18	10		38	21	3
Manufacture of chemicals, chemical products and man-made fibres	3	18	10		34	21	3
Manufacture of rubber and plastic products	3	17	10		34	21	3
Manufacture of other non-metallic mineral products	3	19	10		30	19	3
Manufacture of basic metals and fabricated metal products	3	21	10		35	19	3
Manufacture of machinery and equipment n.e.c.	3	19	10		35	19	3
Manufacture of electrical and optical equipment	3	19	10		35	19	3
Manufacture of transport equipment	3	18	10		35	19	3
Manufacturing n.e.c.	3	18	10		35	19	3
Electricity, gas and water supply	3	25	10		42	19	3
Construction	3	20	10		42	19	3
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	3	15	8		40	7	3
Hotels and restaurants	3	15	8		40	7	3
Transport, storage and communication	3	15	15		40	7	3
Financial intermediation	3	15	8	60	40	7	3
Real estate, renting and business activities	3	15	8	60	40	7	3
Public administration and defence; compulsory social security	3	15	8		(a)	7	3
Education	3	15	8		(a)	7	3
Health and social work	3	15	8		40	7	3
Other community, social and personal service activities	3	15	8		40	7	3
Private households with employed persons	3	15	8		40	7	3

with:

Pi1: products of agriculture, forestry, fisheries and aquaculture

Pi2: metal products and machinery

Pi3: transport equipment

Pi4: dwellings

Pi5: other constructions

Pi6: software

Pi7: other products

(a): 60 years for self-constructed buildings, 65 years for roads,
70 years for hydraulic engineering and 60 years for other constructions

Canada:

Notes: Service lives are planned to be surveyed on a regular basis, the most up-to-date lives are shown against their predecessors.

Asset code	Types of asset	Service Lives	
		Old life	New life
	Building Construction		
1001	Plants for MFG	44	30
1004	Laboratories, Research & Development centers	50	36
1006	Warehouses, refrigerated storage, freight terminals	49	36
1007	Grain Elevator and Terminals	69	30
1008	Maintenance Garages, Workshops, Equipment Storage Facilities	40	30
1009	Railway Shops, Engine Houses	49	30
1010	Aircraft Hangars	48	31
1011	Service Stations (including self-serve & car washes)	50	22
1012	Automotive Dealerships	48	28
1013	Office buildings	49	41
1014	Hotels, Motels, Convention Centers	50	41
1015	Restaurants, Fast Food Outlets, Bars, Nightclubs	50	27
1016	Shopping Centers, Plazas, Malls, stores	50	38
1018	Theaters, Performing Arts & Cultural Centers	50	37
1019	Indoor Recreational Buildings (i.e. sport comp., clubhouse, covered stadiums)	50	36
1021	Farm Building	40	37
1022	Bunkhouses, Dormitories, Camp cookeries, Camps	25	17
1099	Other Industrial & Commercial	43	26
1201	Schools (Incl. Tech.. Vocational) Colleges, Universities & Other Educational buildings	50	41
1202	Student Residence (Excel. residential Construction)	50	44
1203	Churches & Other Religious Building	72	47
1204	Hospitals, Health Centres, Clinic & Other Health care (excl. resident. const)	50	40
1205	Nursing Homes, Homes for the Aged	50	37
1206	Day Care Centers	50	42
1207	Libraries	50	35
1208	Historical Sites	50	20
1209	Penitentiaries, Detention Centers & Courthouses	50	41
1210	Museums, Science Centers, Public Archives	50	49
1211	Fire Stations, Halls	50	28
1212	Post Offices	50	23
1214	Armouries, Barracks, Drill Halls & Other Military Type Structures	50	18
1299	Other Institutional Governmental	50	36

1999	Other Building Construction	50	36
2201	Passenger Terminals - Air, Boat, Bus, Rail, and Other	48	33
3001	Broadcasting and Communication Buildings	50	33
3401	Mine buildings including headframes, ore bins, ventilation structures, backfill plants and other surface buildings	25	17
3402	Mine buildings for beneficiation treatment of minerals (excluding smelters and refineries)	25	17
	Engineering Construction		
1002	Oil Refineries	40	21
1003	Natural Gas Processing Plants	30	21
1005	pollution, abatement & control	52	24
1017	Parking lots & Parking Garages	53	32
1020	Outdoor Recreational (i.e. parks, open stadi. golf courses, ski resorts)	55	25
1213	Waste Disposal Facilities	56	19
2001	Docks,Wharfes,Piers,Terminals(coal,oil,natural gas,containers,gen. cargo)	50	31
2002	Dredging and Pile Driving	51	29
2003	Breakwaters	55	34
2004	Canals and Waterways	55	48
2005	Irrigation & Land Reclamation Projects	48	48
2099	Other Marine Construction	53	37
2202	Highways,roads,streets,incl.:Logging road,signs,guardrail,lighting,etc.	54	28
2203	Runways including Lighting	55	20
2204	Rail Track and Roadbeds incl.: Signals and Interlockers	54	40
2205	Bridges, Trestles, Overpasses	55	46
2206	Tunnels	60	60
2299	Other Transportation	55	18
2401	Reservoirs(including Dams)	66	39
2402	Trunk and Distribution Mains	62	33
2412	Water pumping stations and filtrations plants	63	43
2413	Water storage tanks	61	47
2499	Other Waterworks Construction	56	33
2601	Sewage Treatment and disposal Plants Incl.: Pumping Stations	55	29
2602	Sanitary & Storm Sewers,Trunk & Collection Lines,Open Storm Ditches	55	34
2603	Lagoons	55	24
2699	Other Sewage system Construction	55	24
2801	Electric Power Construction	48	28
2811	Production plant - steam	55	47
2812	Production plant - nuclear	55	47
2813	Production plant - hydraulic	55	47
2814	Overhead cables and lines including poles, towers	55	47
2815	Underground cables and lines including trenching, tunnels	55	47
2816	Overhead cables and lines including poles, towers	55	47
2817	Underground cables and lines including trenching, tunnels	54	45
2899	Other construction (not specified else where)	55	47
3002	Telephone & Cablevision lines, Underground & Marine Cables	52	28
3003	Communication Towers,Antennae,Earth Stns.incl. Dishes for State. etc.	53	16

3099	Other Communication	53	19
3201	Gas Mains and Services	55	36
3202	Pumping Stations, Oil	42	31
3203	Pumping Stations, Gas	52	34
3204	Bulk Storage	52	24
3205	Oil Pipelines	50	20
3206	Gas Pipelines	50	36
3216	Exploration Drilling	30	16
3217	Development Drilling	30	16
3218	Production Facilities in Oil and Gas Engineering	30	16
3219	Enhanced Recovery Projects	30	16
3220	Drilling Expenditures, pr-mining, research and other costs	16	16
3221	Geological and Geophysical Expenditures	16	16
3299	Other Oil & Gas Facilities	52	34
	Mine shafts, drifts, raises, adits and other below surface workings		
3403	(e.g., declines, ramps)	30	16
3404	Tailing disposal systems, settling ponds	30	16
3411	Minesite exploration	30	16
3412	Minesite development	30	16
3413	Exploration and Deposit Appraisal - Off mine sites	16	16
4999	Other Engineering Construction	55	26
5999	Other Construction (1999/ Other buildings)	47	28
	Machinery and Equipment		
6001	Office furniture, furnishing (e.g. desks, chairs)	15	8
6002	Computers, Associated Hardware & Word Processors	11	6
	Non-Office furniture, furnishings & fixtures (e.g. recreational equip. etc)		
6003		16	12
	Scientific, Professional & Medical Devices (Incl. measuring, controlling, lab eqp.)		
6004		18	11
	Heating, Electrical, Plumbing, Air Conditioning & Refrigeration Equipment		
6005		21	14
6006	Pollution Abatement & Control Equipment	20	18
6007	Safety & Security Equipment (Incl. Firearms)	19	12
6008	Sanitation Equipment	22	12
	Motors, Generators, Transformers, Turbines, Compressors & Pumps of all types		
6009		19	16
	Heavy Construction Equip. (e.g. loading, hauling mixing, paving, grating)		
6010		14	6
	Tractors of all types & Other Field Equip. (truck tractors - see 6203)		
6011		13	7
6012	Capitalized Tooling & Other Tools (hand, power, industrial)	24	9
6013	Drilling and Blasting Equipment	18	11
6014	Salvage Equipment	21	21
	Industrial Containers (transportable types used for transp. materials, liquids, gases)		
6015		22	14
6016	Navigational aids and weather measurement equipment	20	9
6021	Software, own-account	5	5
6022	Software, pre-package	3	3
6023	Software, custom-design	5	5
6027	Raise borers, raise climbers	20	9
	Underground load, haulage and dump equipment (e.g., slusher, muck cars)		
6028		20	9
6029	Mine hoists, cages, ropes and skips	20	9

6201	Automobiles and Major Replacement Parts	12	4
6202	Buses (all types) & Major Replacement Parts	15	11
6203	Trucks, Vans, Truck Tractors, Truck Trailers & Major Replacement Parts	15	7
6204	All - Terrain Vehicles & Major Replacement Parts	18	10
6205	Locomotives, Rolling Stock, Street & Subway Cars, Other Rapid Transit & Maj. Parts	30	30
6206	Ships & boats & Major Replacement Parts	21	21
6207	Aircraft, Helicopters, Aircraft Engines & Other Major Replacement Parts	17	17
6299	Other Transportation Equipment	15	9
6401	Computer-assisted process for material handling	21	14
6402	Computer-assisted process for production process	21	15
6403	Computer-assisted process for communication and related equipment	24	17
6410	Production process - Crushers, grinders	20	9
6411	Production process - Flotation, cyanidation	20	9
6412	Production process - Gravitational concentrating devices	20	9
6413	Production process - other	20	9
6499	Other computer-assisted process machinery and equipment	18	10
6601	Non-computer assisted process for material handling	20	12
6602	Non-computer assisted process for production process	21	17
6603	Non-computer assisted process for communication and related equipment	27	13
6610	Production process - Crushers, grinders	20	11
6611	Production process - Flotation, cyanidation	20	9
6612	Production process - Gravitational concentrating devices	20	9
6613	Production process - other	20	9
8999	Other Machinery and Equipment (not specified elsewhere)	20	11
9001	Gas Generators and turbines	35	31
9002	Steam and vapor turbines	35	31
9010	Electric motors and generators	35	31
9011	Electric transformers, static converters and inductors	35	31
9012	Electric switchgear and switching apparatus	35	31
9013	Electric control and protective equipment	35	31
9015	Measuring, checking or automatically controlling instruments and apparatus	31	31
9091	Electricity meters	35	31
9092	Electric water heaters	35	31
9093	Nuclear reactor parts and fuel elements and heavy water	32	31
9094	Hydraulic turbines	35	31
9095	Boilers	35	31
9099	Other machinery and equipment	35	31

Croatia:

Notes: Precise service lives were yet to be defined at the time of the survey, but were expected in 2003.

Czech Republic: Note: Information on service lives of other types of assets (not yet surveyed) is being pursued.

Average service life of dwellings = 86,03 years

Non-residential buildings

<u>Average service lives of non-residential buildings</u>	
Type of non-residential building	Average service life
School houses	90,00
Hospitals	95,71
Amenities	90,00
Hotels	87,50
Billets	77,50
Restaurants	87,50
Sokol houses	83,75
Swimming, Ice –pool	60,00
Dealings, Stores	65,00
Commercial offices	89,16
Court house, State prison	89,16
Assembly halls - (heavy industry)	70,00
Assembly halls - (light industry)	66,66
Stock rooms	50,00
Cow – shed	45,00
Sheeps,horses –shed	40,00
Piggery	44,60
Poultry farms	43,25
Others of animals – shed	40,00
Haylofts	40,00
Stock of potatos	40,00
Other stock of farms	40,00

Public communications

<u>Average service lives of public communications</u>	
Type of public communication	Average service life
Village ways	50
Roads	50
Motorways	50

Average service life of railways (trackage) = 40 years

Transport equipment and Other machinery and equipment (p = partially):

CPA code	Name	1995-97	1996-98	1997-99	1998-2000	1995-2000	Live time by law
175	Other textiles	10.8	10.6	10.8	10.5	10.5	6
281	Structural metal products	13.5	13.7	14.5	14.5	14.3	12/6p
282	Tanks, reservoirs and containers of metal; radiators and boilers	17.4	17.4	17.3	16.8	17.0	12
283	Steam generators (except central heating hot water boilers)	21.3	22.2	21.7	22.3	21.9	12
287	Other fabricated metal products	16.7	15.7	14.8	13.5	14.3	12/6p
291	Machinery for the production and use of mechanical power, except aircraft	16.6	17.1	17.1	16.8	16.7	12/6p
292	Other general purpose machinery	16.1	16.2	16.0	15.8	15.9	12/6p
293	Agricultural and forestry machinery	14.9	15.3	15.7	15.9	15.5	6/4p
294	Machine-tools and parts thereof	18.0	17.9	17.6	17.1	17.5	6/4p

295	Other special purpose machinery	15.5	15.3	15.0	14.7	15.0	12/6p
296	Weapons and ammunition	7.9	8.9	9.2	10.4	9.4	6
297	Domestic appliances n.e.c.	14.2	14.0	13.6	13.1	13.4	6
300	Office machinery and computers	9.5	9.0	8.7	8.6	8.9	4
311	Electric motors, generators and transformers	19.1	19.6	19.5	19.1	19.1	12/6p
312	Electricity distribution and control apparatus	19.0	18.7	18.9	18.7	18.8	12/6p
314	Accumulators, primary cells and primary batteries	13.7	15.7	14.5	14.1	14.0	6
315	Lighting equipment and electric lamps	13.3	11.2	10.5	10.5	11.1	6
316	Electrical equipment n.e.c.	13.0	12.8	12.3	12.3	12.6	6/4p
322	Television and radio transmitters, apparatus for line telephony and telegraphy	10.5	9.6	8.7	8.3	8.9	4/6p
323	Television and radio receivers, sound or video recor or reprod apparatus	12.6	12.6	12.5	12.7	12.7	6/4p
331	Medical and surgical equipment and orthopaedic appliances	14.2	14.4	14.2	14.2	14.2	6
332	Instruments and appliances for measuring, checking, testing, navigating	14.7	14.6	14.5	14.2	14.4	6/4p
333	Industrial process control equipment	14.4	14.5	13.6	13.4	13.7	4
334	Optical instruments and photographic equipment	17.2	17.5	17.6	17.9	17.6	6
341	Motor vehicles	12.8	13.4	13.8	13.9	13.5	6/4p
342	Bodies (coachwork) for motor vehicles; trailers and semi-trailers; parts	16.1	16.3	16.8	16.9	16.6	6
351	Ships and boats	15.9	14.6	15.7	15.2	15.4	6
352	Railway and tramway locomotives and rolling stock	23.0	23.7	25.1	25.3	24.4	12/6p
353	Aircraft and spacecraft	7.9	9.2	11.7	12.7	11.1	6
354	Motorcycles and bicycles	16.3	13.6	13.2	12.4	13.3	6/4p
355	Other transport equipment n.e.c.	15.7	15.5	14.5	14.1	14.8	6
361	Furniture	15.2	15.0	14.2	14.2	14.5	6
363	Musical instruments	18.4	19.5	21.2	21.4	20.4	6
364	Sports goods	12.6	12.5	12.2	12.1	12.2	6
365	Games and toys	10.2	11.5	10.4	10.8	10.6	6
366	Miscellaneous manufactured goods n.e.c.	14.0	13.6	10.7	10.2	11.8	6/4p
AN.11131 Transport equipment		13.8	14.3	14.6	14.6	14.3	
AN.11132 Other machinery and equipment		14.2	14.0	13.6	13.2	13.6	

Average service life of computer software = 4 years

Denmark:

Average service lives by asset categories (1993):

Machinery and equipment: 13,4 years

Transport equipment: 13,7 years

 Aeroplanes: 16,0 years

 Ships: 26,0 years

 Trains: 12,9 years

 Automobiles: 11,7 years

Dwellings: 75 years

Non-residential buildings: 59 years

Other structures: 50,2 years

Livestock: No consumption of fixed capital by definition.

Software: 4,7 years

Mineral Exploration: 30 years

Exploration and Entertainment, literary or artistic originals: 5 years

Estonia: (need further clarification)

Finland:

Service lives of capital assets (4 types by industry)	Non-residential buildings	Civil engineering and other construction	Transport equipment	Other machinery and equipment*
A Agriculture, hunting and forestry	35-40	30-50	9	5-12
B Fishing			10	15
C Mining and quarrying	30	25	7	18
DA Manufacture of food, beverages and tobacco	40	25	7	17-19
DB Manufacture of textiles and textile products	35	40	7	14
DC Manufacture of leather and leather products	35	40	7	14
DD Manufacture of wood and wood products	35	25	10	16
DE Manufacture of pulp, paper, paper products publishing and printing	40	35	6-10	15-18
DF Manufacture of refined petroleum products, coke and nuclear fuel	35	40	10	23
DG Manufacture of chemicals and chemical products.	40	35	10	18
DH Manufacture of rubber and plastic products	45	40	7	18
DI Manufacture of other non-metallic mineral products	40	40	10	19
DJ Manufacture of basic metals and fabricated metal products	40	30-40	8-12	16-23
DK Manufacture of machinery and equipment n.e.c.	40	30	8	13
DL Manufacture of electrical and optical equipment	40	30	7	11
DM Manufacture of transport equipment	45	40	9	15
DN Manufacture n.e.c and recycling	35	35	8	14
E Electricity, gas and water supply	45-50	35-40	8-10	24-27
F Construction	40	30	10	10
G Trade, repair of motor vehicles and household goods	40	30	10	15
H Hotels and restaurants	40		10	15
I Transport, storage and communication excluding. Railway, road and water way development	20-50	20-70	7-25	5-25
6301 Railway development	50	40	10	15
6302 Road development	50	52	10	15
6309 Subindustry: Waterway development	50	35	10	15
J Financial intermediate and insurance	40			10
K Real estate, renting, research and business activities	50	70	10	15
L Administration, compulsory and social security	50	70	10	15
M Education	50	70	10	10-15
N Health and social work	40-50	70	8-10	10-15
O Other community, social and personal service activities	50	40-70	8-10	10-15
* = C,D and E industries: service lives diminishing yearly by 0.4 - 0.5 % per year since 1990 (before 1990, 0.5 - 1 %)				

Service lives of other asset types are as follows:

Dwellings	50
Mineral exploration	10
Computer software	5
Originals	10
Improvement of land	30-70
- Agriculture	50
- Forestry	30
- Other industries	70 (non-market producers of industries 73, 751, and 9131)

France:

<i>Branches</i>	Matériel informatique et logiciels	Matériels de transport	Matériel de communication	Autres matériels	Actifs cultivés (APU)	Actifs artistiques	Prospection pétrolière	Bâtiments non résidentiels	Infrastructures
FB0 - Industries agricoles et alim.	5	7	10	15	20	3	2	25	60
FC1 - Habillement, cuir	5	7	10	15	20	3	2	30	60
FC2 - Edition, imprimerie, reprod.	5	7	10	15	20	3	2	30	60
FC3 - Pharmacie, parfumerie et entret.	5	7	10	15	20	3	2	30	60
FC4 - Industries des équipts du foyer	5	7	10	11	20	3	2	30	60
FD0 - Industrie automobile	5	7	10	15	20	3	2	25	60
FE1 - Constr. navale, aéron. et ferrov.	5	7	10	17	20	3	2	25	60
FE2 - Ind. des équipements mécaniques	5	7	10	15	20	3	2	25	60
FE3 - Ind. des équipts élect. et électron.	5	7	10	11	20	3	2	25	60
FF1 - Industries des produits minéraux	5	11	10	17	20	3	2	30	60
FF2 - Industrie textile	5	7	10	17	20	3	2	30	60
FF3 - Industries du bois et du papier	5	9	10	19	20	3	2	30	60
FF4 - Chimie, caoutchouc, plastique	5	9	10	17	20	3	2	30	60
FF5 - Métallurgie et transf. des métaux	5	9	10	21	20	3	2	30	60
FF6 - Ind. des composants él. et électron.	5	7	10	15	20	3	2	30	60
FG1 - Prod. de combust. et de carbur.	5	9	10	21	20	3	2	30	60
FG2 - Eau, gaz, électricité	5	9	10	21	20	3	2	30	60
FH0 - Construction	5	7	10	9	20	3	2	25	60
FJ1 - Commerce et réparations automob.	5	7	10	13	20	3	2	25	60
FJ2 - Commerce de gros	5	7	10	13	20	3	2	25	60
FJ3 - Commerce de détail, réparations	5	7	10	13	20	3	2	25	60
FK0 - Transports	5	15	10	13	20	3	2	25	60
FL0 - Activités financières	5	7	10	13	20	3	2	25	60
FM0 - Activités immobilières	5	7	10	13	20	3	2	25	60
FN1 - Postes et télécommunications	5	7	10	13	20	3	2	25	60
FN2 - Conseils et assistance	5	7	10	11	20	3	2	25	60
FN3 - Services opérationnels	5	7	10	11	20	3	2	25	60
FN4 - Recherche et développement	5	7	10	13	20	3	2	25	60
FP1 - Hôtels et restaurants	5	7	10	11	20	3	2	25	60
FP2 - Activités récréat., cultur. et sport.	5	7	10	13	20	3	2	25	60
FP3 - Services personnels et domestiques	5	7	10	13	20	3	2	25	60
FQ1 - Education	5	7	10	13	20	3	2	25	60
FQ2 - Santé, action sociale	5	7	10	13	20	3	2	25	60

FR1 - Administration publique	5	7	10	13	20	3	2	25	60
FR2 - Act. associatives et extra-territor.	5	7	10	13	20	3	2	25	60

Germany:

Type of asset	Average service life	Range of different service lives
Buildings and structures	63	15-150
- Dwellings	74	40-95
- Roads	57	35-116
- Other structures of general government	46	25-150
- Non-residential buildings of general government	68	25-68
- Other buildings and structures	52	15-100
Machinery and equipment (according to CPA)	12	5-30
- Transport equipment	11	8-25
Motor Vehicles, trailers and semi-trailers (34)	9	8-15
Other transport equipment (35)	21	12-25
- Other machinery and equipment	13	5-30
Fabricated metal products (28)	18	14-22
Machinery and equipment n.e.c. (29)	13	8-30
Office machinery and computers (30)	6	5-9
Electrical machinery and apparatus n.e.c. (31)	18	8-22
Radio, television and communication equipment and apparatus (32)	10	5-17
Medical, precision and optical instruments, watches and clocks (33)	15	10-22
Furniture, other manufactured goods n.e.c. (36)	17	8-30
Other machinery and equipment (Part of 17 - 27)	13	7-20
Cultivated assets		
- Vineyards	20	
- Hop fields	15	
- Asparagus fields	8	
- Fruit trees plantations	10	
Intangible assets	6	5-30

Greece:

	Percentages of annual depreatiation of assets			
	Buildings	Machinery	Civil engineering Works	Transport equipmen and other go
Agriculture, forestry and fishing	1,0	10,0	1,0	10,0
Irrigation Works	-	6,3	0,5	-
Mines, public administration, health, Social – other Services	1,0	6,6	1,0	5,0
Manufacturing, Telecommunications	1,5	6,9	1,0	5,0
Energy	1,5	5,0	1,0	5,0
Water supply, Sewage	-	5,5	1,0	-
Railways	1,0	7,0	1,0	3,0
Motor vehicles, bicycles	-	-	-	10,0
Merchandise ships	-	-	-	4,0

Civil Airways	1,5	7,0	1,0	25,0
Roads, Harbors	-	6,3	1,0	5,0
Dwellings, shops	1,0	-	-	.
Tourism, Education	1,0	-	-	.
Miscellaneous services	1,0	7,0	1,0	5,0

Hungary:**Service lives of fixed assets owned by corporations by industry, 2000**

NACE code	Industries	Service life of			
		Building	Machinery		Transport equipment
			long life	ICT	
Years					
Minimum-maximum of service life in the survey of corporations					
C	<i>Mining and quarrying</i>	32-50	19-30	7-12	7-12
D	<i>Manufacturing</i>	33-88	8-25	4-14	5-14
15-16	<i>food products and beverages, tobacco products</i>	37-52	11-17	5-10	7-11
17-19	<i>textiles, wearing apparel, tanning of leather</i>	48-65	16-25	5-10	6-10
20-22	<i>wood, paper, publishing, printing</i>	38-58	13-19	4-8	6-10
23-25	<i>refined petroleum products, chemicals rubber and plastic products</i>	34-52	16-21	4-7	5-8
26	<i>non-metallic mineral products</i>	33-51	14-20	6-11	6-12
27-28	<i>basic metals, fabricated metal products</i>	42-62	17-25	5-10	7-14
29	<i>machinery and equipment n.e.c.</i>	47-88	11-18	4-9	5-10
30-33	<i>computing machinery, electrical, radio, tv. And communication equipment, instruments, clocks</i>	40-60	12-18	7-12	6-11
34-35	<i>motor-vehicles, other transport equipment</i>	37-47	8-12	5-8	7-11
36-37	<i>furniture; manufacturing n.e.c., recycling</i>	55-68	11-17	9-14	7-11
E	<i>Electricity, gas, steam and water supply</i>	36-52	17-31	6-11	8-11
F	<i>Construction</i>	60-82	11-17	5-9	8-12
G	<i>Wholesale and retail trade; repair of motor-vehicles, motorcycles and personal and household goods</i>	47-73	8-16	5-9	6-17
50	<i>motor-vehicles, sale of automotive fuel</i>	47-57	11-16	5-8	7-11
51	<i>wholesale trade and commission trade</i>	55-73	8-12	6-9	11-17
52	<i>retail trade, repair of personal & hh. Goods</i>	51-67	10-14	5-9	6-11
H	<i>Hotels and restaurants</i>	58-77	8-12	6-9	6-11
I	<i>Transport, storage and communication</i>	39-103	8-28	4-11	5-44

60	<i>land transport; transport via pipeline</i>	71-86	16-22	5-9	15-34
61	<i>water transport</i>	88-103	20-28	7-11	22-44
62	<i>air transport</i>	39-51	11-16	7-11	17-24
63	<i>auxiliary transport activities, travel agencies</i>	42-58	11-16	4-8	11-17
64	<i>post and telecommunications</i>	33-47	8-13	4-7	5-9
J	<i>Financial intermediation</i>	58-77	6-13	4-9	5-11
65	<i>financial intermediation</i>	59-71	8-13	4-9	5-11
66	<i>insurance and pension funding</i>	62-77	8-11	6-9	6-9
67	<i>auxiliary to financial intermediation</i>	58-69	6-9	5-8	5-9
K	<i>Real estate, renting and business activities</i>	56-91	5-18	4-11	5-11
70	<i>real estate activities</i>	69-88	6-9	5-11	5-9
71	<i>renting of machinery & equipment without operator</i>	71-91	5-14	5-9	5-8
72	<i>computer and related activities</i>	70-90	8-16	4-9	5-11
73	<i>research and development</i>	56-66	11-18	5-9	8-11
74	<i>other business activities</i>	56-68	8-11	4-8	6-11

Source: Preliminary results of the survey in Hungary.

The expected **average service lives** of the main asset categories depend on their age structure (share of vintages) and the actual possibilities of replacing them.

Israel:

Industry	Asset	Service life (years)
Agriculture	Orchards	33
	Structures	33
	Livestock	0
	Machinery	8
Water Supply	Structures	40
	Machinery	28
Manufacturing	Structures	25
	Machinery	14
Construction	Machinery	10
Electricity	Structures	25
	Machinery	18
Transport and Communication	Roads	50
	Structures	40
	Machinery	10
	Ships	20
	Aircraft	10
	Vehicles	8
Private services	Structures	40
	Machinery	8
Public services	Structures	40
	Machinery	8
Housing	Housing	40
	Software : Pre-packaged	3

	Others	5
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Italy:

	industry	machinary equipment	transport equipment	construction	other
1	Agriculture, hunting and forestry	18	10	51	27
2	Fishing	18	10	35	17
3	Mining and quarrying	18	10	35	13
4	Mining and quarrying except energy producing materials	18	10	35	19
5	Manufacture of food products, beverages and tobacco	18	10	35	17
6	Manufacture of textiles and textile products	18	10	35	18
7	Manufacture of leather and leather products	18	10	35	18
8	Manufacture of wood and wood products	18	10	35	19
9	Manufacture of pulp, paper and paper products; publishing and printing	18	10	35	18
10	Manufacture of coke, refined petroleum products and nuclear fuel	18	10	35	15
11	Manufacture of chemicals, chemical products and man-made fibres	18	10	35	17
12	Manufacture of rubber and plastic products	18	10	35	17
13	Manufacture of other non-metallic mineral products	18	10	35	18
14	Manufacture of basic metals and fabricated metal products	18	10	35	18
15	Manufacture of machinery and equipment n.e.c.	18	10	35	17
16	Manufacture of electrical and optical equipment	18	10	35	16
17	Manufacture of transport equipment	18	10	35	17
18	Manufacturing n.e.c.	18	10	35	20
19	Electricity, gas and water supply	18	10	40	31
20	Construction	18	10	35	16
21	Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	18	10	65	19
22	Hotels and restaurants	18	10	65	23
23	Transport, storage and communication	18	10	80	20
24	Financial intermediation	18	10	65	30
25	Real estate, renting and business activities	18	10	80	34
26	Public administration and defence; compulsory social security	28	15	80	40
27	Education	18	10	57	32
28	Health and social work	18	10	35	23

Table 1 – Service lives for industry and for asset

Japan:

Asset Categories and Service Lives about social capital

Asset Categories	Service Lives (Year)
Road	47
Port	49
Aviation	17
Sewerage	15
Waste disposal	15
Natural Park	24
School facilities, etc.	24
Social and educational facilities, etc.	29
Flood control	49
Agriculture	49
Forestry	32
City park	15
Fisheries	50

(Note) Cabinet Office (1998) "Social Asset in Japan"

Korea:

(unit: year)

	Residential Buildings	Non- residential Buildings	Other structures	Trans. equipment	Other machinery , equipment
All	48.8	47.2	34.2	9.5	7.5
Agriculture, Forestry, Fishing	43.5	31.8	34.2	10.0	7.6
Mining & Quarrying	47.7	38.1	20.9	8.6	6.4
Manufacturing	49.1	44.0	37.0	7.3	8.1
Electricity, gas & water supply	49.8	48.9	33.7	5.3	14.8
Construction	50.0	52.0	29.7	6.1	5.3
Wholesale & retail, Hotels & Restaurants	47.5	49.1	27.4	5.3	5.4
Transport, storage, communication	47.1	49.9	24.0	13.3	6.5
Financial, Real estate, rental & business services	49.7	53.7	29.3	4.8	5.3
Other service activities	49.2	52.2	31.7	5.2	5.7
General government	47.4	52.3	35.1	11.3	5.5

<Source: 1997 National Wealth Survey>

Latvia:

Service life of dwellings

	<i>Residential buildings</i>			<i>Service life</i>
	Foundation	Walls	Ceiling	
I	Stone concrete, concrete, iron concrete with cement mortars	Specially thick walls of bricks, big blocks with cement mortars	Iron concrete	150
II	Stone concrete, concrete, iron concrete with cement mortars	Normal walls of bricks and big blocks	Bricks vault or metal beam with concrete	125
III	Stone concrete, concrete, iron concrete with cement mortars	Simple construction, brick wall, big panels, slag concrete and small blocks	Wood in metal beam	100
IV	Stone concrete with lime mortars	Wood beam and mixed (wood and bricks)	Wood	50
V	Stone concrete and concrete	Wood buildings	Wood	30
VI	Wood	Simplified construction wood buildings	Wood	15

Lithuania:

Service lives of Fixed Capital in the public corporations and in the units of general government

	Public corporations	General government
	Expected service live (years)	Expected service live (years)
Residential buildings (Dwellings)	84	83
Industrial buildings	71	75
Administrative buildings	66	70
Educational buildings		85
Health buildings		64
Other buildings	44	64
Hydro technical constructions	42	47
Bridges, viaducts	78	84
Railways	57	
Roads with concrete cover	94	
Roads with blacktop	53	47
Gravelled roads	12	14
Other roads	43	51
Constructions for sports and recreation		25
Pipelines, communication and electricity lines	30	36
Other construction	28	29
Transport equipment	8	8
From which personal cars	6	7
Machinery for production of steam	21	19

Other machinery and equipment of power (engines, turbines, electric motors, generators and etc)	16	13
Machinery and equipment of labour (machine-tools, special purpose machinery and etc)	9	12
Other machinery and equipment	6	10
From which computers	4	7

Mexico:

Asset Category	Service Live
Dwellings made from bricks	70
Dwellings made from adobe (bricks made from dried clay)	50
Dwellings made from another materials	40
Own account construction	40
Non residential construction	60
Permanent crops	25
National and imported machinery and equipment	1 – 50 according to the good type

Netherlands:

The following service lives are used:

Dwellings	75 years
Non-residential buildings	39-60 years
Other Structures	35 years
Railway trains and carriages	25 years
Ships	25 years
Aircrafts	25 years
Other transport equipment (including cars)	8-25 years
Computers	5-16 years
Machinery and equipment	10-45 years
Conveyancing costs on land	1 year
Other fixed assets	10-40 years
Mineral exploration	40 years
Computer software	3 years
Entertainment, literary and artistic originals	5 years
Conveyancing costs on non-produced assets	3 years

Service lives vary for:

- Non-residential buildings. For manufacturing, the service lives varies between 39 and 55 years, depending on the specific industry, whereas for all other industries, the service life is estimated at 60 years. This categorisation is made because for different industries, different kind of non-residential buildings are used, which results in different service lives.

- Other transport equipment. The manufacturing industries and the transport branch use service lives of 10 years, agriculture of 12 and fishery of 25 years, whereas all other industries use a service life of 8 years. The difference is made because different industries use different kind of transport equipment, which results in different service lives.
- Computers. The manufacturing industries use service lives of 10 to 16 years, whereas the other industries use a service life of 5 years. This is once more caused by the differences in use of the assets.
- Machinery and equipment. On the same grounds as above, the manufacturing industry use service lives varying from 20 to 49 years, whereas all other industries use a service life of 10 years.
- Other fixed assets. The manufacturing industries use service lives of 19 to 40 years, whereas the other industries use a service life of 10 years.

New Zealand:

- Non-residential buildings and other construction asset lives

Industry	PIM lives	
	Non-residential buildings	Non-building construction nec
Agriculture	50	40
Forestry and logging	50	40
Fishing	50	40
Mining	65	25
Food, beverages and tobacco manufacturing	45	45
Textile and apparel manufacturing	45	45
Wood and paper products manufacturing	45	45
Printing, publishing and recorded media	45	45
Petroleum, chemical, plastic and rubber manufacturing	45	45
Non-metallic mineral products manufacturing	45	45
Metal product manufacturing	45	45
Machinery and equipment manufacturing	45	45
Furniture and other manufacturing	45	45
Electricity, gas and water supply	50	60
Construction	50	45
Wholesale trade	60	55
Retail trade	60	55
Accommodation, restaurant and bars	60	55
Transport and storage	45	55
Communication	65	50
Finance and insurance	50	58
Property and business services	50	58
Central government administration and defence	50	58
Local government administration	50	58
Education	50	58
Health and community services	50	58
Cultural and recreational services	50	58
Personal and other community services	50	58

- **Non-building construction: Railways**
55 years
- **Non-building construction: Power generation**
60 years
- **Non-building construction: Local government roading**
58 years
- **Non-building construction: Central government roading**
110 years
- **Non-building construction: nec**
As per above table

- Transport equipment asset lives

Industry	Rail	Buses	Road vehicles	Ships	Air-craft
Agriculture			7	20	10
Forestry and logging			7		
Fishing			7	21	
Mining			7	20	
Food, beverage and tobacco manufacturing			7		
Textile and apparel manufacturing			7		
Wood and paper product manufacturing			8		
Printing, publishing and recorded media			8		
Petroleum, chemical, plastic and rubber manufacturing			8		
Non-metallic mineral product manufacturing			7		
Metal product manufacturing			7		
Machinery and equipment manufacturing			7		
Furniture and other manufacturing			8		
Electricity, gas and water			7		
Construction			7		
Wholesale trade			9	25	
Retail trade			9		
Accommodation, restaurants and bars			9		
Transport and storage	25	18	8	25	20
Communication			7		
Finance and insurance		18	7		
Property and business services			7	25	20
Central government administration and defence			7	25	20
Local government administration		18	7		
Education			7		
Health and community services			7		
Cultural and recreational services			7	25	20
Personal and other community services			7	25	20

- Plant, machinery and equipment asset lives

Industry	Plant, machinery and equipment					
	Heavy	General purpose	Electronic	Electrical	Computers	Furniture /Fittings
Agriculture	17	16	16	11	4	9
Forestry and logging	17	14	16	10	4	9
Fishing	17	12	16	11	4	9
Mining	16	13	16	11	4	9

Food, beverage and tobacco manufacturing	19	14	16	8	4	9
Textile and apparel manufacturing	20	15	16	11	4	9
Wood and paper product manufacturing	20	16	16	11	4	9
Printing, publishing and recorded media	20	17	16	11	4	9
Petroleum, chemical, plastic and rubber manufacturing	19	14	16	11	4	9
Non-metallic mineral product manufacturing	20	13	16	11	4	9
Metal product manufacturing	19	14	16	11	4	9
Machinery and equipment manufacturing	19	13	16	11	4	9
Furniture and other manufacturing	20	13	16	11	4	9
Electricity, gas and water	25	13	16	11	4	9
Construction	17	14	16	8	4	9
Wholesale trade	14	11	16	11	4	10
Retail trade	14	11	16	11	4	10
Accommodation, restaurants and bars	14	11	16	11	4	10
Transport and storage	18	11	16	11	4	9
Communication	14	11	16	12	4	9
Finance and insurance	14	10	16	9	4	12
Property and business services	14	11	16	11	4	9
Central government administration and defence	14	11	16	8	4	9
Local government administration	14	11	16	8	4	9
Education	14	11	16	8	4	9
Health and community services	14	11	16	8	4	9
Cultural and recreational services	14	11	16	8	4	9
Personal and other community services	14	11	16	8	4	9

Norway:

	Asset categories	Service lives (years)
0810	Dwellings	80
0820	Other buildings	50-60
0831	Constructions	10-70, mostly 50-60
0837	Production wells of oil and gas extraction	20
0838	Oil production platforms, drilling rigs and modules	20
0839	Pipelines for oil and gas	40
0841	Ships and boats	20-30
0842	Aircraft and helicopters	20
0843	Passenger cars and station wagons	10
0844	Buses, lorries etc.	10
0845	Engine, passenger- and goods wagons	35
0851	Machinery and equipment	10-25
0856	Computers equipment and office machinery	5 (8 until 1990)
0860	Change in breeding stock, dairy cattle, fruit trees etc.	No CFC calculated
0871	Oil, gas and mineral exploration	20
0879	Intangible fixed assets	4 (3 until 1990)
0890	Antiques and other art objects	No CFC calculated
0941	Used ships	20

0942	Used aircraft	20
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Poland:

Services lives of fixed assets in the general government sector bb NACE Rev.1 sections and groups of fixed assets;

<i>Specification</i>	Service lives (in years)
Average service lives	36
Residential buildings	68
Other buildings and constructions	41
Basic melioration	45
Roads	33
Water construction	39
Non-residential buildings	53
Machinery, technical equipment and tools	12
Transport equipment	8
Other	33
A	
Basic melioration	45
Non-residential buildings	38
Machinery, technical equipment and tools	14
Transport equipment	10
Other	33
B	
Non-residential buildings	42
Machinery, technical equipment and tools	14
Transport equipment	13
Other	33
C	
Non-residential buildings	35
Machinery, technical equipment and tools	17
Transport equipment	10
Other	33
D	
Non-residential buildings	39
Machinery, technical equipment and tools	17
Transport equipment	10
Other	33
E	
Non-residential buildings	43
Machinery, technical equipment and tools	12
Transport equipme nt	10

Other	33
F	
Non-residential buildings	39
Machinery, technical equipment and tools	12
Transport equipment	10
Other	33
G	
Non-residential buildings	44
Machinery, technical equipment and tools	14
Transport equipment	10
Other	33
H	
Non-residential buildings	44
Machinery, technical equipment and tools	14
Transport equipment	10
Other	33
I	
Roads	33
Water construction	39
Non-residential buildings	43
Machinery, technical equipment and tools	14
Transport equipment	9
Other	33
J	
Non-residential buildings	47
Machinery, technical equipment and tools	10
Transport equipment	8
Other	33
K	
Residential buildings	68
Non-residential buildings	63
Machinery, technical equipment and tools	10
Transport equipment	8
Other	33
L	
Non-residential buildings	63
Machinery, technical equipment and tools	10
Transport equipment	8
Other	33
M	
Non-residential buildings	50
Machinery, technical equipment and tools	14

Transport equipment	9
Other	33
N	
Non-residential buildings	53
Machinery, technical equipment and tools	12
Transport equipment	8
Other	33
O	
Non-residential buildings	40
Machinery, technical equipment and tools	14
Transport equipment	9
Other	33

Slovakia:

<i>Kind of assets</i>	<i>S.11</i>	<i>S.12</i>	<i>S.13</i>	<i>S.14</i>	<i>S.15</i>
<i>Buildings and constructions</i>	<i>38</i>	<i>26</i>	<i>41</i>	<i>41</i>	<i>37</i>
<i>Of which: dwellings</i>	<i>62</i>	<i>62</i>	<i>62</i>	<i>62</i>	<i>62</i>
<i>Other machinery and equipment</i>	<i>22</i>	<i>6</i>	<i>17</i>	<i>23</i>	<i>20</i>
<i>Transport equipment</i>	<i>22</i>	<i>3</i>	<i>12</i>	<i>23</i>	<i>14</i>
<i>Other tangible fixed assets</i>	<i>22</i>	<i>6</i>	<i>17</i>	<i>23</i>	<i>20</i>
<i>Intangible fixed assets</i>	<i>5</i>	<i>5</i>	<i>5</i>	<i>5</i>	<i>5</i>

Slovenia:

TYPES OF FIXED ASSETS	EXPECTED SERVICE LIFE (years)				
	FCS	SRS*	UL 86/99 PU from 1.1. 2000	N. ZEL.	YEARS USED
TANGIBLE FIXED ASSETS					
RESIDENTIAL BUILDINGS		20			
One-dwelling buildings (premises)	39,75		77		77
Two- and more dwelling buildings (premises)	59,96		77		77
Residences for communities (collectives)	58,93		77		77
NON-RESIDENTIAL BUILDINGS AND PREMISES		20			
Hotels and similar buildings and premises and wholesale and retail trade buildings	42,28		55		55
Office buildings and premises (general government sector)	43,47		77		77
Office buildings and premises (private sector)					55
Traffic and communication buildings and premises	44,32		77		55
Industrial buildings and warehouses (premises)	37,44		40		40
Buildings (premises) for public entertainment, education or hospital and institutional care	57,21		66		66
Other non-residential buildings and premises	49,20		55		50
ROADS AND RAILWAYS		7			
Roads – upper structure	31,46		25		50
Roads – lower structure	26,50				50
Railways – upper structure	26,93		30		30
Railways – lower structure	49,35				50
OTHER TRANSPORT INFRASTRUCTURE		10			
Airfield runways	26,30		40		40
Bridges and elevated highways	30,00		60		60

Tunnels and subways	30,00		60		75
Harbours and navigable canals	77,67		55		75
Dams	55,53		66		66
Other hydrotechnical constructions	66,71		66		66
PIPELINES, COMMUNICATION AND ELECTRICITY LINES		7			
Pipelines	34,46		45		35
Communication and electricity lines	27,52		33		33
COMPLEX CONSTRUCTIONS ON INDUSTRIAL SITES		10			
Power plant constructions	44,51		20		50
Other complex constructions on industrial sites	29,95		20		50
OTHER CIVIL ENGINEERING WORKS		10			
Sport and recreation constructions	44,43		40		50
Other civil engineering works	28,07		40		40
LAND IMPROVEMENT	30,84				50
TRANSPORT EQUIPMENT		3		19	
Personal cars	4,94		5	10	10
Trucks and trailers	7,17		7	18	15
Buses	10,56		7	18	15
Other	9,61		7	23-29	30
MACHINERY AND EQUIPMENT		3-5		14-16	
Computers	3,92	2	4	8	7
Other high technology	7,20		4	10	10
Low technology (general government sector)	10,58		8	15-18	20
Low technology (private sector)					15
Other machinery and equipment	7,59		8	12	12
CULTIVATED ASSETS					
Livestock for breeding	6,60	2			5
Plantations and other	19,90	3-7			20
OTHER TANGIBLE ASSETS					
paintings	100,00		5		100
books	80,14		5		80
films	3,00		5		30
renovations	10,34				25
INTANGIBLE ASSETS		3-5			
COMPUTER SOFTWARE (own developed and purchased)	4,13	3-5			7
MINERAL EXPLORATION	17,89	3-5			20
ENTERTAINMENT, LITERARY OR ARTISTIC ORIGINALS	86,80				100

List of abbreviations used:

FCS – Average service lives as reported by units in FCS questionnaire.

SRS – These years are calculated on the basis of the highest depreciation rates which are, in accordance with the Corporate Profit Tax Act, allowed as outlays in the tax statement. In Slovenian Accounting Standards (SRS) there are no provisions on the depreciation rates or years.

UL 86/99 – Service lives as laid down for individual groups of fixed assets for all budget users in the Official Gazette of the Republic of Slovenia, No. 86/99 applicable since 1 January 2000.

N. ZEL. - Service lives which were used for transport equipment and machinery in New Zealand in the 1992 survey.

YEARS USED – The service lives used for the calculation of the consumption of fixed capital in years.

Spain:

Asset Categories		Average service life (years)
Products of agriculture, forestry, fisheries aquaculture		15
Metal products and machinery		17
Transport Equipment		10
Residential Buildings		38
Other Construction	Non-residential Buildings	40
	Engineering Construction	65
Other products	Software	4
	Legal services	1
	Other services	38
	Other products	10

United States:**BEA Fixed Asset Service Lives**

- a. For this service life, see Oliner (1993).
- b. For these service lives, see Oliner (1992), Table 6.
- c. For state and local government, computers and peripheral equipment is a composite of mainframes, PC's, storage devices, peripherals, and displays.

Type of asset	Service life (years)
Private non-residential equipment	
Computers and peripheral equipment:	
Mainframes	a
PC's	2.8
Storage devices	b
Peripherals	b
Displays	b
Software:	
Pre-packaged	3
Custom	5
Own account	5
Office and accounting equipment:	
All industries:	
Years before 1978	8
1978 and later years	7
Communication equipment:	
Business services	11
Other industries	15
Instruments	12
Photocopy and related equipment	9
Nuclear fuel rods	4
Other fabricated metal equipment	18
Steam engines and turbines	32
Internal combustion engines	8
Metalworking machinery	16
Special industry machinery, n.e.c.	16
General industrial, including materials handling equipment	16
Electrical transmission, distribution and industrial apparatus	33
Trucks, buses, and truck trailers:	
Local and interurban passenger transit	14
Trucking and warehousing; and auto repair, services, and parking	10
Other industries	9
Autos	-----

Table 2.—BEA Fixed Asset Service Lives--Continued

Type of asset	Service life (years)
Aircraft:	
Transportation by air, depository institutions, and business services:	
Years before 1960	16
1960 and later years	20
Other industries:	
Years before 1960	12
1960 and later years	15
Ships and boats	27
Railroad equipment	28
Household furniture and fixtures	12
Other furniture	14
Farm tractors	9
Construction tractors	8
Agricultural machinery, except tractors	14
Construction machinery, except tractors	10
Mining and oilfield machinery	11
Service industry machinery:	
Wholesale and retail trade	10
Other industries	11
Household appliances	10
Other electrical equipment	9
Other equipment	11
 Private nonresidential structures	
Industrial buildings	31
Mobile offices	16
Office buildings	36
Commercial warehouses	40
Other commercial buildings	34
Religious buildings	48
Educational buildings	48
Hospital and institutional buildings	48
Hotels and motels	32
Amusement and recreational buildings	30
All other nonfarm buildings	38
Railroad replacement track	38
Other railroad structures	54
Telecommunications	40
Electrical light and power:	
Years before 1946	40
1946 and later years	45
Gas	40

Petroleum pipelines	40
Farm	38

Mining exploration, shafts, and wells:

Petroleum and natural gas:	
Years before 1973	16
1973 and later years	12
Other mining	20
Local transit	38
Other nonresidential structures	40

Private residential structures (private and government)

1-to-4 unit structures – new	80
1-to-4 unit additions and alterations	40
1-to-4 unit major replacements	25
5-or-more unit structures – new	65
5-or-more unit additions and alterations	32
5-or-more unit major replacements	20
Mobile homes	20
Other residential structures	40
Residential equipment	11

Government nonresidential equipment and structures

Federal:

National defence:

Aircraft:

Airframes:

Bombers	25
F-14 type	19
Attack, F-15 and F-16 type	20
F-18 type	15
Electronic warfare	23
Cargo and trainers	25
Helicopters	20
Engines	6

Other:

Years before 1982	14
1982 and later years	10
Missiles:	
Strategic	20
Tactical	15
Torpedoes	15
Fire control equipment	10
Space programs	20

Ships:	
Surface ships	30
Submarines	25
Government furnished equipment:	
Electrical	9
Propulsion	20
Hull, mechanical	25
Ordnance	10
Other	10
Vehicles:	
Tanks, armoured personnel carriers, and other combat vehicles	20
Noncombat vehicles:	
Trucks	6
Autos	---
Other	7
Electronics equipment and software:	
Computers and peripheral equipment:	
Mainframes	a
PC's	2.8
Storage devices	b
Peripherals	b
Displays	b
Software:	
Prepackaged	3
Custom	5
Own account	5
Electronic countermeasures	7
Other	10
Other equipment:	
Medical	9
Construction	10
Industrial	18
Ammunition plant	19
Atomic energy	12
Weapons and fire control	12
General	10
Other	12
Non-defence:	
General government:	
Computers and peripheral equipment:	
Mainframes	a
PC's	2.8
Storage devices	b
Peripherals	b
Displays	b
Software:	

Prepackaged	3
Custom	5
Own account	5
Aerospace equipment	15
Vehicles	5
Other	10
Enterprises:	
US Postal Service:	
Computers and peripheral equipment:	
Mainframes	a
PC's	2.8
Storage devices	b
Peripherals	b
Displays	b
Software:	
Prepackaged	3
Custom	5
Own account	5
Vehicles	7
Other	15
Tennessee Valley Power Authority	33
Bonneville Valley Power Authority	33
Other	25
State and local:	
Power tools, lawn and garden equipment	10
Miscellaneous metal products	18
Agricultural machinery and equipment	9
Construction machinery and equipment	10
Metalworking machinery and equipment	16
General purpose machinery and equipment	11
Special industry machinery and equipment	11
Integrating and measuring instruments	12
Motors, generators, motor generator sets	32
Switchgear and switchboard equipment	33
Electronic components and accessories	9
Calculating and accounting machines	7
Typewriters	7
Computers and peripheral equipment	c
Software:	
Prepackaged	3
Custom	5
Own account	5

Type of asset	Service life (years)
Machine shop products	8
Wood commercial furniture	14
Metal commercial furniture	14
Household appliances	11
Home electronic equipment	11
Motor vehicles	10
Motorcycles	10
Aircraft	15
Railroad equipment	28
Sporting and athletic goods	10
Photographic and photocopying equipment	10
Mobil classrooms, mobile offices, etc	10
Musical instruments	9
Other equipment	12

Government nonresidential structures

Federal, State, and Local:

Buildings:

Industrial	32
Educational	50
Hospital	50
Other	50

Nonbuildings:

Highways and streets	45
Conservation and development	60
Sewer systems	60
Water systems	60
Military facilities	50
Other structures	60

Sources: Unpublished information and Katz (1999), p. M-29.