



U.S. Trade in Services

Expected Impact of Modernized Statistical Production System on Data Timeliness and Dissemination

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U.N. Regional Workshop on Statistics of International Trade in Services

Bogota, Colombia

December 11-14, 2012



Agenda

- Current production system
- Current data timeliness
- Modernization approach
- New production system
- Impact on data timeliness and detail



Current Production System

- Many sub-systems developed over many years
- Many applications/programming languages
- Mix of automated and manual processes
- Challenge to maintain detailed documentation



Current Production System

- Difficult to
 - Manage (operations and maintenance)
 - Move data from one sub-system to next
 - Implement upgrades to methodologies
 - Modify or add tables
- Concerns about
 - Data consistency
 - Turn-around times
 - Historical record keeping



Current Data Timeliness

- U.S. International Trade in Goods and Services
 - Monthly and annual data for 7 broad categories of services
 - Released 38-43 days after reference month
- U.S. International Transactions (BoP accounts)
 - Quarterly and annual data for same 7 broad categories with limited sub-detail by type and country
 - Released about 75 days after reference quarter in March, June, September, and December
 - June release includes historical revisions (“Annual revisions”)
- International Services
 - Annual data for 5 broad categories with expanded sub-detail by type and country; consistent with data released in June
 - Released in mid-October

The top banner features the BEA logo (Bureau of Economic Analysis, U.S. Department of Commerce) on the right. The background is a dark blue gradient with a faint bar chart and various numbers (e.g., 44,479, 1,698, 19,242, 2,799, 5,845, 46,757, 38,487) overlaid on a map of the United States.

Why the June – October Lag?

- Fragmented production system
- Manual processes for assembling data tables
- Data validation process is time consuming
- Suppression process is time consuming

The top banner features the BEA logo on the right, which includes the text 'BEA BUREAU OF ECONOMIC ANALYSIS U.S. DEPARTMENT OF COMMERCE'. The background of the banner is a blue gradient with a faint bar chart and various numbers. The main title 'Modernization Approach' is centered in a large, white, serif font.

Modernization Approach

- Bureau-wide effort
- Led by small team of contractors
- Significant participation by BEA economists
- Non-traditional development life cycle

Metadata

- Key concept
- Extract business logic from account-specific program code and express it as metadata in centralized system
- Metadata covers
 - Structures
 - Taxonomies
 - Formulas, etc.
- Supports increased granularity and consistency throughout accounts
- Used in data input, processing, output
- Maintained by economists using spreadsheets

The header features a blue background with a bar chart on the left showing data for various states like New Hampshire, Rhode Island, Vermont, Massachusetts, Delaware, District of Columbia, Maryland, and New Jersey. The chart has numerical values above the bars. On the right, the BEA logo is displayed, consisting of a stylized 'BEA' with 'BUREAU OF ECONOMIC ANALYSIS' and 'U.S. DEPARTMENT OF COMMERCE' underneath. The main title 'Development Approach' is centered in a large, white, serif font.

Development Approach

- Started with Contractors
 - Found experts in financial and time series relational databases
 - Discussed needs for functionality and usability
 - Provided examples of data and business processes
 - Contractors began developing an architecture and business rules language
 - Progressive prototyping – aka “prototype spiral”

The slide features a blue header with a background of a bar chart and various numbers. The BEA logo is in the top right corner. The title "Development Approach" is centered in white text.

Development Approach

- Expanded staff-led efforts
 - Early version of the system took shape
 - Contractors trained staff in new business rules language through academic program
 - Staff began converting legacy business processes to fit the new system
 - Loaded processed legacy data to test aggregation, tabling, and calculation results in new system

The slide features a blue header with the BEA logo in the top right corner. The logo consists of a stylized 'BEA' acronym above the text 'BUREAU OF ECONOMIC ANALYSIS' and 'U.S. DEPARTMENT OF COMMERCE'. The background of the header includes a bar chart with various numerical values and state names like 'New Hampshire', 'Rhode Island', 'Vermont', 'Massachusetts', 'Delaware', 'District of Columbia', 'Maryland', 'New Jersey', and 'New York'.

Development Approach

- Intensive testing
 - Prioritized and systematically converted segments of legacy systems to new system
 - Tested completed areas in new system
 - Ran new and legacy systems in tandem

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Development Approach

- Completing the modernization
 - Staff took on greater roles in managing aspects of the project and the system
 - Some staff emerged as experts and were able to train and/or assist other staff
 - Implement usable front-end
 - Develop tools for validation and analysis (outlier detection, revision bias, etc.)



New Production System

- Currently supported:
 - Internal web-based user interfaces
 - Export to Excel
 - Transfers to publication databases
- Coming later:
 - Analytical tools
 - Seasonal adjustment
 - Interpolation
 - Suppression
 - Public web-based interfaces
 - Inter-agency transfers (e.g. SDMX)

The top banner features a dark blue background with a light blue bar chart on the left. The chart has several bars of varying heights, with some labeled with numbers like 1,698, 19,271, and 724,210. To the right of the chart, the text 'User Interfaces' is written in a large, white, serif font. In the top right corner, the BEA logo is visible, consisting of a stylized 'BEA' acronym above the full name 'BUREAU OF ECONOMIC ANALYSIS' and 'U.S. DEPARTMENT OF COMMERCE'.

User Interfaces

- Standard Tabling
- Dynamic Tabling
- Data Drill-Down
- Audit of Calculations
- Processing Status and Queue

The header features a dark blue background with a light blue bar at the top. On the left, there is a stylized bar chart with various data points and state names like 'New Hampshire', 'Rhode Island', 'Vermont', 'Massachusetts', 'Delaware', 'District of Columbia', 'Maryland', 'New Jersey', and 'New York'. The BEA logo is in the top right corner. The title 'Standard Tabling' is centered in a large, white, serif font.

Standard Tabling

- Pre-defined table structures using metadata
- Consistency and centralization of tables
- Direct submission to publication systems
- Clickable data values linking to the data store

Standard Tabling

Pub Event/Period

Table Selection

Table

Table 2. Fair Value of Financial Derivatives by Type of Contract at Quarterend

(Millions of dollars)

	Line	2009				2010			
		I	II	III	IV	I	II	III	IV
Financial derivatives, net (line 20 less line 39) ..	1	151,111	156,297	146,150	134,749	113,234	99,212	104,511	110,421
Over-the-counter contracts	2	151,988	155,225	145,881	135,264	112,286	99,188	105,385	109,512
Single-currency interest rate contracts	3	84,644	87,855	72,230	64,213	57,040	57,513	59,880	56,946
Forwards	4	1,659	1,065	779	-293	-414	-251	32	-143
Swaps	5	54,839	64,314	48,832	46,466	39,740	35,041	35,101	39,426
Options	6	28,146	22,476	22,619	18,040	17,714	22,723	24,747	17,663
Foreign exchange contracts	7	6,227	17,576	28,775	32,319	20,411	-683	14,815	26,224
Forwards	8	-317	-772	2,232	3,524	-927	1,401	-90	2,850
Swaps	9	-1,391	12,622	21,319	25,592	17,916	-7,755	9,744	17,823
Options	10	7,935	5,726	5,224	3,203	3,422	5,671	5,161	5,551
Other contracts	11	61,117	49,794	44,876	38,732	34,835	42,358	30,690	26,342
Equity contracts	12	-28,245	-13,535	-5,075	-5,388	-3,251	-2,233	-928	4,974
Credit derivative contracts	13	74,541	54,350	41,146	40,848	37,510	41,345	35,612	28,505
Other contracts (including commodity contracts)	14	14,821	8,979	8,805	3,272	576	3,246	-3,994	-7,137
Exchange-traded contracts	15	-877	1,072	269	-515	948	24	-874	909
U.S. residents' contracts on foreign exchanges	16	-1,532	-1,263	-705	-404	-298	-1,003	-903	-431
Own contracts	17	-441	32	-153	236	285	-347	252	204
Customers' contracts	18	-1,091	-1,295	-552	-640	-583	-656	-1,155	-635
Foreign residents' contracts on U.S. exchanges	19	655	2,335	974	-111	1,246	1,027	29	1,340
Financial derivatives, gross positive fair value .	20	5,563,217	4,056,571	4,135,557	3,500,786	3,429,046	4,310,312	4,783,698	3,652,909
Over-the-counter contracts	21	5,526,367	4,022,588	4,099,829	3,471,703	3,386,131	4,279,105	4,754,629	3,622,415
Single-currency interest rate contracts	22	3,722,984	2,779,770	3,052,513	2,596,825	2,613,592	3,437,872	3,915,177	2,844,900
Forwards	23	7,873	7,475	7,011	5,440	8,969	6,403	9,257	6,541
Swaps	24	3,422,647	2,525,824	2,782,042	2,357,111	2,381,297	3,164,663	3,591,278	2,596,934
Options	25	292,464	246,471	263,460	234,274	223,326	266,806	314,642	241,425
Foreign exchange contracts	26	329,872	299,728	332,739	282,590	253,008	298,553	358,225	330,315
Forwards	27	103,874	79,760	87,887	71,203	70,327	94,487	127,118	113,373
Swaps	28	161,932	170,712	198,629	164,657	142,395	153,342	186,574	170,886
Options	29	64,066	49,256	46,223	46,730	40,286	50,724	44,533	46,056

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Dynamic Tabling

- User-defined tables on the fly
- Access to entire common data store (100,000,000+ records)
- Clickable cells allow for further drill-down

Dynamic Tabling

Options

Download Table in Excel

Modify Table

Value Type: Revision in Level Change

Locking Stubs ON: OFF:

Update

	World		Europe		Asia and Pacific	
	2010Q1	2010Q2	2010Q1	2010Q2	2010Q1	2010Q2
Gds Imp M Total	7,805	-49,482	3,860	-8,922	13,113	-24,113
Gds Imp M0 F F B	-502	-1,347	921	-666	407	-586
Gds Imp M1 I S M	-11,952	-16,132	-1,258	-4,678	-1,131	-3,905
Gds Imp M2 Capital Gds Except Auto	5,415	-14,493	1,237	-2,731	4,169	-9,388
Gds Imp M3 Auto Veh Parts And Engines	2,712	-6,515	2,009	-2,028	959	-1,530
Gds Imp M4 Consumer Gds Nonfood Excl Auto	13,400	-11,824	1,905	290	9,054	-8,718
Gds Imp M5 Imp N E C And Us Gds Returned	-1,268	829	-954	891	-345	13

Data Drill-Down

- Navigation by clicking on values
- Drill-down by 9 dimensions in the data store
 - service type, geography, affiliation, trade direction, nsa/sa, etc.
- Ability to “switch focus” by dimension
- Access to multiple charting and mapping tools

Data Drill-Down

Options

Display Selected Time Series

Collapse All Expand All

Change Sort: Graph

Drilldown Level: 3

Value Type: Levels

Past Periods: Revision in Levels

Future Periods: Level Change

Update

Revision in Level Change

Level Change (Year Over Year)

Revision in Level Change (Year Over Year)

Percent Change

Revision in Percent Change

Annualized Percent Change

Revision in Annualized Percent Change

Percent Change (Year Over Year)

Revision in Percent Change (Year Over Year)

Period: 2008Q1

Metric	+/-	CompType	2008Q1	2008Q2	2008Q3	2008Q4	2009Q1	2009Q2	2009Q3	2009Q4	2010Q1	2010Q2	2010Q3	2010Q4	APs
Cash	+	BpTop	319,453	344,994	342,407	300,645	249,402	254,973	267,309	297,807	299,461	317,945	320,991	350,302	
BpItem	+/-	CompType													
⊖XTTL: Exports of goods	+	BpTop	319,453	344,994	342,407	300,645	249,402	254,973	267,309	297,807	299,461	317,945	320,991	350,302	⊖APs
⊖X0: Food, feeds, & beverages	+	BpTop	28,464	26,499	27,158	26,228	22,119	21,450	21,569	28,770	26,673	22,298	23,949	34,785	
⊖X00: Food, feeds, & beverages -- Agricultural	+	BpTop	26,765	25,056	25,009	24,621	20,726	20,036	19,537	27,080	25,177	20,687	21,641	32,867	⊖APs
⊖X00: Food, feeds, & beverages -- Non-agricultural	+	BpTop	1,699	1,443	2,149	1,607	1,393	1,413	2,032	1,691	1,496	1,612	2,307	1,918	⊖APs
⊖X1: Industrial supplies & materials	+	BpTop	97,350	110,682	113,299	84,275	67,885	72,577	81,851	85,360	91,900	102,152	103,322	108,849	
⊖X10: Agricultural, ISM	+	BpTop	3,962	4,139	3,888	4,083	3,369	3,173	3,023	3,630	4,439	4,507	3,990	5,244	⊖APs
⊖X11: Energy products	+	BpTop	22,279	28,589	30,295	20,530	15,316	16,578	20,014	20,888	22,308	25,882	25,923	29,141	⊖APs
⊖X12: Nonagricultural, except fuels	+	BpTop	68,260	74,786	75,945	57,032	47,051	50,469	56,294	58,220	62,372	68,523	70,237	71,436	⊖APs
⊖X13: Building materials, except metals	+	BpTop	2,850	3,168	3,172	2,630	2,150	2,357	2,520	2,623	2,780	3,240	3,172	3,028	⊖APs
⊖X2: Capital goods, except automotive	+	BpTop	111,426	118,795	117,115	110,319	95,371	94,903	95,088	105,099	102,821	111,227	113,085	119,465	⊖APs
⊖X20: Electric generating machinery, apparatus, & parts	+	BpTop	10,349	11,220	10,836	10,555	8,868	8,736	9,108	9,647	10,233	11,479	11,340	11,417	⊖APs
⊖X21: Nonelectrical machinery, incl parts & attachments	+	BpTop	81,493	86,154	85,861	81,818	66,421	66,015	68,176	74,580	74,629	80,656	82,841	87,578	⊖APs
⊖X22: Transportation equipment, except automotive	+	BpTop	19,585	21,420	20,418	17,945	20,082	20,152	17,804	20,872	17,960	19,091	18,904	20,469	
⊖X3: Automotive vehicles, parts & engines	+	BpTop	29,673	33,234	30,727	27,817	16,735	17,732	21,175	26,073	26,062	29,005	27,041	29,882	⊖APs
⊖X30: Automotive vehicles, parts & engines	+	BpTop	29,673	33,234	30,727	27,817	16,735	17,732	21,175	26,073	26,062	29,005	27,041	29,882	
⊖X4: Consumer goods (nonfood), except automotive	+	BpTop	39,406	41,830	40,983	39,062	36,219	36,832	36,933	40,051	40,398	40,925	40,447	44,113	
⊖X40: Consumer nondurables, manufactured	+	BpTop	16,506	17,423	18,264	17,944	18,095	18,392	18,050	19,080	19,944	18,573	18,664	19,925	⊖APs
⊖X41: Consumer durables, manufactured	+	BpTop	18,904	19,806	18,711	18,029	15,829	15,935	15,911	17,855	17,001	18,374	17,895	20,221	⊖APs
⊖X42: Consumer durables & nondurables - unmanufactured	+	BpTop	3,995	4,602	4,008	3,090	2,295	2,506	2,972	3,117	3,453	3,978	3,889	3,967	
⊖X5: Special category (military-type goods)	+	BpTop	4,678	4,367	3,362	3,927	3,926	4,285	3,212	4,285	3,546	3,485	4,209	3,438	⊖APs
⊖X50: Special category (military-type goods)	+	BpTop	4,678	4,367	3,362	3,927	3,926	4,285	3,212	4,285	3,546	3,485	4,209	3,438	
⊖X6: Exports, nec & reexports	+	BpTop	8,455	9,588	9,763	9,016	7,147	7,193	7,482	8,168	8,061	8,852	8,939	9,771	⊖APs
⊖X60: Exports, nec & reexports	+	BpTop	8,455	9,588	9,763	9,016	7,147	7,193	7,482	8,168	8,061	8,852	8,939	9,771	



Audit of Calculations

- Display of each step of the mathematical formulas used to calculate data values
- Support for arithmetic, conditional logic, and special functions
- Establishes link between estimates in the data store and the source data used for calculation

Audit of Calculations

HTML				AUDIT XML				BPRL TEXT				BPRL XML			
Collapse All		Expand All		Display:		ID									
Item								Formula							
<input type="checkbox"/>	81.8422		c_Income_LC[MtPvt,0N9]	(c_AvgOs_LC[MtPvt,0N9] * c_Yield_L[MtPvt] / 4) IF (EXISTS c_AvgOs_LC[MtPvt,0N9])											
<input type="checkbox"/>	81.8422		Tmp_3[MtPvt,0N9]	c_AvgOs_LC[MtPvt,0N9] * c_Yield_L[MtPvt] / 4											
<input type="checkbox"/>	8227.41		c_AvgOs_LC[MtPvt,0N9]	(c_OsBop_LC[MtPvt,0N9] + c_OsEop_LC[MtPvt,0N9]) / 2											
<input type="checkbox"/>	16454.8		Tmp_2[MtPvt,0N9]	c_OsBop_LC[MtPvt,0N9] + c_OsEop_LC[MtPvt,0N9]											
<input type="checkbox"/>	8123.9		c_OsBop_LC[MtPvt,0N9]	c_Os_LQC[MtPvt,2007Q4,0N9]											
<input type="checkbox"/>	+ 8330.93		c_OsEop_LC[MtPvt,0N9]	c_Os_LQC[MtPvt,2008Q1,0N9]											
	/ 2														
<input type="checkbox"/>	* 0.03979		c_Yield_L[MtPvt]	g_IntRates_QCIidAeind[2008Q1,1R6,119,A]											
	/ 4														
<input type="checkbox"/>	TRUE		Tmp_4[MtPvt,0N9]	EXISTS c_AvgOs_LC[MtPvt,0N9]											
<input type="checkbox"/>	8227.41		c_AvgOs_LC[MtPvt,0N9]	(c_OsBop_LC[MtPvt,0N9] + c_OsEop_LC[MtPvt,0N9]) / 2											
<input type="checkbox"/>	16454.8		Tmp_2[MtPvt,0N9]	c_OsBop_LC[MtPvt,0N9] + c_OsEop_LC[MtPvt,0N9]											
<input type="checkbox"/>	8123.9		c_OsBop_LC[MtPvt,0N9]	c_Os_LQC[MtPvt,2007Q4,0N9]											
<input type="checkbox"/>	+ 8330.93		c_OsEop_LC[MtPvt,0N9]	c_Os_LQC[MtPvt,2008Q1,0N9]											
	/ 2														



Processing Status and Queue

- Centralized processing of all production components in one queue
- Tracking of how processing components depend on each other
- Synchronization status for each component
- Dashboard for setting up and monitoring the processing queue

Processing Status

▼ **Component**

- AgPrivateCapitalAssetsPrimary
- AgPrivateCapitalAssetsSecondary
- AgPrivateCapitalIncome
- AgServicesPrimary
- AgServicesSecondary
- AgTop

Top Down Bottom Up

	Compld	CompPrdName	SyncStatus
[-] AgTop		2008Q1	Out of Sync
[+] AgGoods		2008Q1	In Sync
[-] AgServicesSecondary		2008Q1	In Sync
[+] AgServicesPrimary		2008Q1	In Sync
[-] AgGgcSecondary		2008Q1	In Sync
[+] AgGgcPrimary		2008Q1	In Sync
[+] AgOtherNonFinancial		2008Q1	In Sync
[-] AgDirectInvestmentSecondary		2008Q1	In Sync
[+] AgDirectInvestmentPrimary		2008Q1	In Sync
[+] AgPrivateCapitalIncome		2008Q1	In Sync
[-] AgPrivateCapitalAssetsSecondary		2008Q1	Out of Sync
[+] AgPrivateCapitalAssetsPrimary		2008Q1	Out of Sync
[-] AgNonbankSecondary		2008Q1	In Sync
[+] AgNonbankPrimary		2008Q1	In Sync

Processing Queue

Sqldn ▼	PubEventIdn	Compld ▼	CompPrdName ▼	Status ▼
33132	2	AgServicesPrimary	2008Q1	Ignored
33133	2	AgDirectInvestmentSecondary	2008Q1	Success
33134	2	AgGgcSecondary	2008Q1	Success
33135	2	AgGoods	2008Q1	Success
33136	2	AgNonbankSecondary	2008Q1	Success
33137	2	AgOtherNonFinancial	2008Q1	Success
33138	2	AgPrivateCapitalAssetsSecondary	2008Q1	Success
33139	2	AgPrivateCapitalIncome	2008Q1	Success
33140	2	AgServicesSecondary	2008Q1	Ignored
33141	2	AgTop	2008Q1	Success
33142	2	L_Dde	2008Q3	Pending
33143	2	L_Edu	2008Q3	Pending
33144	2	L_FinServ	2008Q3	Pending
33145	2	L_Gms	2008Q3	Pending
33146	2	L_OpsFix	2008Q3	Pending
33147	2	L_PolarBear	2008Q3	Pending
33148	2	L_Templates	2008Q3	Pending
33149	2	AgServicesPrimary	2008Q3	Pending
33150	2	AgServicesSecondary	2008Q3	Pending



Expected Benefits of the New System

- Easier to
 - Manage (operations and maintenance)
 - Verify correctness
 - Adopt upgrades to methodologies
 - Change/add tables
 - Identify and manage suppressions
 - Provide data in different formats
- Improvements in
 - Data consistency
 - Data transfers
 - Turn-around times
 - Historical record keeping



Impact on Data Timeliness and Detail

- Improvements from new system may result in
 - Accelerated release of detailed annual statistics
 - Release of additional detail by type
 - Release of additional detail by country



Limitations New System Can't Solve

- Respondent burden limits detail BEA collects
- Non-disclosure laws limit detail BEA can publish
 - World aggregates usually ok
 - Constraint on country detail
- Data quality concerns limit detail BEA will publish
 - By type
 - By country
- Availability of source data limits timeliness

USBEA Conformance with EBOPS

1 Manufacturing services on physical inputs owned by others	BEA's International Transactions published detail (Q)
1.1 Goods for processing in reporting economy	BEA's International Services published detail (A)
1.2 Goods for processing abroad	Provided to OECD but not published by BEA (A)
2 Maintenance and repair services n.i.e.	Likely addition to categories published by BEA (Q)
3 Transport	
3.1 Sea transport	
3.1.1 Passenger	
Of which: 3.1.1.a Payable by border, seasonal, and other short-term workers	
3.1.2 Freight	
3.1.3 Other	
3.2 Air transport	
3.2.1 Passenger	
Of which: 3.2.1.a Payable by border, seasonal, and other short-term workers	
3.2.2 Freight	
3.2.3 Other	
3.3 Other modes of transport	
3.3.1 Passenger	
Of which: 3.3.1.a Payable by border, seasonal, and other short-term workers	
3.3.2 Freight	
3.3.3 Other	
3.4 Postal and courier services	
3.5 Space transport	
3.6 Rail transport	
3.6.1 Passenger	
3.6.2 Freight	
3.6.3 Other	
3.7 Road transport	
3.7.1 Passenger	
3.7.2 Freight	
3.7.3 Other	
3.8 Inland waterway transport	
3.8.1 Passenger	
3.8.2 Freight	
3.8.3 Other	
3.9 Pipeline transport	
3.10 Electricity transmission	
3.11 Other supporting and auxiliary services	

USBEA Conformance with EBOPS

4 Travel	BEA's International Transactions published detail (Q)
4.1 Business	BEA's International Services published detail (A)
4.1.1 Acquisition of goods and services by border, seasonal, and other sh	Provided to OECD but not published by BEA (A)
4.1.2 Other	Likely addition to categories published by BEA (Q)
4.2 Personal	
4.2.1 Health-related	
4.2.2 Education-related	
4.2.3 Other	
5 Construction	
5.1 Construction abroad	
5.2 Construction in the reporting economy	
6 Insurance and pension services	
6.1 Direct insurance	
6.1.1 Life insurance	
6.1.1 a Gross life insurance premiums receivable	
6.1.1 b Gross life insurance claims payable	
6.1.2 Freight insurance	
6.1.2 a Gross freight insurance premiums receivable	
6.1.2b Gross freight insurance claims payable	
6.1.3 Other direct insurance	
6.1.3 a Gross other direct insurance premiums receivable	
6.1.3 b Gross other direct insurance claims payable	
6.2 Reinsurance	
6.3 Auxiliary insurance services	
6.4 Pension and standardized guarantee services	
6.4.1 Pension services	
6.4.2 Standardized guarantee services	
7 Financial services	
7.1 Explicitly charged and other financial services	
7.2 Financial intermediation service charges indirectly measured (FISIM)	

USBEA Conformance with EBOPS

8 Charges for the use of intellectual property, n.i.e.

- 8.1 Franchises and trademarks licensing fees
- 8.2 Licenses for the use of outcomes of research and development
- 8.3 Licenses to reproduce and/or distribute computer software
- 8.4 Licenses to reproduce and/or distribute audiovisual and related products
 - 8.4.1 Licenses to reproduce and or distribute audiovisual products
 - 8.4.2 Licenses to reproduce and/or distribute other products

BEA's International Transactions published detail (Q)

BEA's International Services published detail (A)

Provided to OECD but not published by BEA (A)

Likely addition to categories published by BEA (Q)

9 Telecommunications, computer, and information services

9.1 Telecommunications services

9.2 Computer services

- 9.2.1 Computer software
 - of which: 9.2.1.a Software originals
- 9.2.2 Other computer services

9.3 Information services

- 9.3.1 News agency services
- 9.3.2 Other information services

10 Other business services

10.1 Research and development services

- 10.1.1 Work undertaken on a systematic basis to increase the stock of knowledge
 - 10.1.1.1 Provision of customised and non customised R&D services
 - 10.1.1.2 Sale of proprietary rights arising from R&D
 - 10.1.1.2.1 Patents
 - 10.1.1.2.2 Copyrights arising from R&D
 - 10.1.1.2.3 Industrial processes and designs
 - 10.1.1.2.4 Other
- 10.1.2 Other

USBEA Conformance with EBOPS

10.2 Professional and management consulting services	BEA's International Transactions published detail (Q)
10.2.1 Legal, accounting, management consulting, and public relations	BEA's International Services published detail (A)
10.2.1.1 Legal services	Provided to OECD but not published by BEA (A)
10.2.1.2 Accounting, auditing, bookkeeping, and tax consulting services	Likely addition to categories published by BEA (Q)
10.2.1.3 Business and management consulting and public relations services	
10.2.2 Advertising, market research, and public opinion polling	
of which: 10.2.2.1 Convention, trade-fair and exhibition organization services	
10.3 Technical, trade-related and other business services	
10.3.1 Architectural, engineering, scientific and other technical services	
10.3.1.1 Architectural services	
10.3.1.2 Engineering services	
10.3.1.3 Scientific and other technical services	
10.3.2 Waste treatment and de-pollution, agricultural and mining services	
10.3.2.1 Waste treatment and de-pollution	
10.3.2.2 Services incidental to agriculture, forestry and fishing	
10.3.2.3 Services incidental to mining, and oil and gas extraction	
10.3.3 Operating leasing services	
10.3.4 Trade-related services	
10.3.5 Other business services n.i.e.	
Of which: 10.3.5.1 Employment services i.e. search, placement and supply services of personnel	
11 Personal, cultural, and recreational services	
11.1 Audiovisual and related services	
11.1.1 Audiovisual services	
of which: 11.1.1.a Audiovisual originals	
11.1.2 Artistic related services	
11.2 Other personal, cultural, and recreational services	
11.2.1 Health services	
11.2.2 Education services	
11.2.3 Heritage and recreational services	
11.2.4 Other personal services	
12 Government goods and services n.i.e.	
12.1 Embassies and consulates	
12.2 Military units and agencies	
12.3 Other government goods and services n.i.e.	