

## ANNEXES: Description of the MMD

*Source: Bartelsman et al (2013) Cross-country analysis of ICT impact using firm-level data: Micro-Moments Database and Research Infrastructure,*  
<http://ec.europa.eu/eurostat/web/information-society/methodology>

### ANNEX 1. 2-digit industry definitions based on NACE Rev 1.1 (variable EUK)

EUK	NACE 1.1 sector
TOT	Total Economy
15t37	Manufacturing
15a6	Food, beverages and tobacco
17t9	Clothing
20	Wood and of wood and cork
21a2	Pulp, paper, publishing
21	Pulp, paper and paper
22	Publishing and printing
23t25	Refining, chemicals, and rubber
23a4	Refining and chemicals
25	Rubber and plastics
26	Other non-metallic mineral
27a8	Metals and machinery
27	Basic metals
28	Fabricated metal
29t33	Machinery and equipment
29	Machinery, nec
30t3	Equipment
30a3	Office, accounting and computing machinery; sc. eqpt.
31	Electrical equipment
32	Electronic equipment
34a5	Motor vehicles and transport equipment
34	Motor vehicles, trailers and semi-trailers
35	Transport equipment
36a7	Misc manufacturing
40a1	Electricity, gas and water supply
45	Construction
50t74	Market services
50t5	Trade, hotels, restaurants
50t2	Trade, hotels, restaurants
50	Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of fuel
51	Wholesale trade and commission trade, except of motor vehicles and motorcycles
52	Retail trade, except of motor vehicles and motorcycles; repair of household goods
55	Hotels and restaurants
60t4	Transport and communications
60t3	Transport
64	Post and telecommunications
65t7	Banking
70t4	Real estate and bus services
70	Real estate activities
71t4	Business services
71a4	Renting of machinery and equipment; oth. bus. svc.
72	Computer and related activities
73	Research and development
75t99	Social services
75	Public admin and defence; compulsory social security
80	Education
85	Health and social work
90t3	Personal services
90t3x	Personal services excl. media
921t2	Media activities

*ANNEX 2. Industry groups definitions (EUKLEMS 'alternate' sectors, variable ALT)*

<b>ALT</b>	<b>Description</b>
Elecom	ELECTRICAL MACHINERY, POST AND COMMUNICATION SERVICES
MexElec	TOTAL MANUFACTURING, EXCLUDING ELECTRICAL
ConsG	Consumer manufacturing
IntmdG	Intermediate manufacturing
InvesG	Investment goods, excluding hightech
OtherG	OTHER PRODUCTION
MServ	MARKET SERVICES, EXCLUDING POST AND TELECOMMUNICATIONS
Distr	DISTRIBUTION
FinBu	FINANCE AND BUSINESS, EXCEPT REAL ESTATE
Pers	PERSONAL SERVICES
NonMar	NON-MARKET SERVICES

### ANNEX 3. Description of MMD tables

MMD consist of a set of data files produced using a methodology called DMD, Distributed Microdata<sup>1</sup>. Under the DMD approach, computer code is distributed to each national statistical office to be run on their own meta-data and micro data files. The output files generated by each statistical office and combined into the MMD are described below. Variable names in *Italics* are the unique (combined) keys of the dataset.

#### OUTPUT Data Files

##### ❖ MetaData

Information on mapping NSI datasets/variables to ESS names.

<i>ESSname</i>	Variable name in ESS coding
<i>NSIname</i>	Variable name on NSI dataset
<i>Survey</i>	Source Dataset (in BR, PS, IS, EC)
<i>VarType</i>	char/num (not used or checked)

##### ❖ Coverage

Information on linked business register, production survey, E-commerce survey.

<i>YEAR</i>	Year to which data pertain
<i>EUK</i>	Industry classification (EU-KLEMS or ALT definitions, bottom nodes)
<i>SZ_CLS</i>	Size class (1-7, see below for mapping)
<i>N_BR</i>	Number of firms (from Business Register)
<i>N_PS</i>	Number of firms (from Production Survey)
<i>N_EC</i>	Number of firms (from E-commerce Survey)
<i>N_IS</i>	Number of firms (from CIS Survey)
<i>N_BRPS</i>	Number of firms (merged BR, PS)
<i>N_BREC</i>	Number of firms (merged BR, EC)
<i>N_PSEC</i>	Number of firms (merged PS, EC)
<i>N_BRIS</i>	Number of firms (merged BR,IS)
<i>N_PSIS</i>	Number of firms (merged PS,IS)
<i>N_PSECIS</i>	Number of firms (merged PS,EC,IS)
<i>Emp_BR</i>	Number of employees (from Business Register)
<i>Emp_PS</i>	Number of employees (from Production Survey)
<i>Emp_BRPS</i>	Number of employees (merged BR, PS)
<i>Emp_BREC</i>	Number of employees (merged BR, EC)
<i>Emp_PSEC</i>	Number of employees (merged PS, EC)
<i>Emp_BRIS</i>	Number of employees (merged BR,IS)

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<sup>1</sup> For a detailed description of the method see Bartelsman, Eric J., John Haltiwanger, and Stefano Scarpetta, "Measuring and analyzing cross-country differences in firm dynamics, in *Producer Dynamics*, Timothy Dunne, J. Bradford Jensen, and Mark Roberts, eds., NBER Studies in Income and Wealth, Volume 68, University of Chicago Press, 2009, pp. 15-82.

Emp\_P SIS Number of employees (merged PS,IS)  
Emp\_PSECIS Number of employees (merged PS,EC,IS)  
SRC Coding for different calls to *coverage.sas*

Dataset varies by industries (EUK) and industries  $\times$  size\_class (ALT)

Coding for SRC = tabulation by EUK, Year.

= tabulation by ALT, Year, SZ\_CLS.

#### ❖ DEMOGR

Firm demographics data from Business Register.

YEAR Year to which data pertain  
EUK Industry classification (EU-KLEMS ALT definition, bottom nodes)  
SZ\_CLS Size class  
STATUS Entrant, Exiter, Continuer, or One-year firm  
COUNT Number of firms  
EMP Employment  
POS Aggregate of positive firm-level employment change  
NEG Aggregate of negative firm-level employment change

Coding for STATUS:

CO if firm in year =  $t-1, t, t+1$ ; EN  
in  $t, t+1$ , not  $t-1$ ;  
EX in  $t-1, t$ , not  $t$ ; OY  
in  $t$ .

#### ❖ DEMOGRAGE\*

Firm demographics data from Business Register.

YEAR Year to which data pertain  
EUK Industry classification (EU-KLEMS ALT definition, bottom nodes)  
AGECAT Age Category  
STATUS Entrant, Exiter, Continuer, or One-year firm  
COUNT Number of firms  
EMP Employment  
POS Aggregate of positive firm-level employment change  
NEG Aggregate of negative firm-level employment change

Coding for STATUS:

CO if firm in year =  $t-1, t, t+1$ ; EN  
in  $t, t+1$ , not  $t-1$ ;  
EX in  $t-1, t$ , not  $t$ ; OY  
in  $t$ .

#### ❖ DEMOGRAGESZ\*

Firm demographics data from Business Register.

<i>YEAR</i>	Year to which data pertain
<i>EUK</i>	Industry classification (EU-KLEMS ALT definition, bottom nodes)
<i>AGESZ</i>	Combined Age/Size category
<i>STATUS</i>	Entrant, Exiter, Continuer, or One-year firm
<i>COUNT</i>	Number of firms
<i>EMP</i>	Employment
<i>POS</i>	Aggregate of positive firm-level employment change
<i>NEG</i>	Aggregate of negative firm-level employment change

Coding for STATUS:

CO if firm in year =  $t-1, t, t+1$ ; EN  
in  $t, t+1$ , not  $t-1$ ;  
EX in  $t-1, t$ , not  $t$ ; OY  
in  $t$ .

#### ❖ INDDYN

File with variables describing 'industry dynamics'.

<i>YEAR</i>	Year to which data pertain
<i>EUK</i>	Industry classification (EU-KLEMS or ALT definitions)
<i>SRC</i>	=1 for EUK industry hierarchy, =2 for ALT hierarchy
<i>CHURNQ/V</i>	Sum of absolute value of market share changes of firms (Q and/or V)
<i>OPtyp</i>	OP cross term: difference between aggregate (ie weighted average) and average productivity
<i>Ityp</i>	Aggregate 'inputs' for type
<i>Ptyp</i>	Average productivity
<i>Styp</i>	Standard deviation of productivity distribution
<i>Wtyp</i>	Aggregate, ie weighted average, productivity
<i>Nobs_op</i>	Number of firms used in above calculations
<i>Ptyp_xx</i>	Average productivity of firms xx (in CO, EX, EN)
<i>Ityp_xx</i>	Aggregate inputs of firms xx (in CO, EX, EN)
<i>Ctyp_xx</i>	Productivity contribution of firms xx
<i>Styp_xx</i>	Standard deviation of productivity of firms xx.

Coding for typ:

LPQ	Labor productivity based on deflated Sales
LPV	Labor productivity based on deflated Value Added
TFP	TFP (Value added with capital and labor)
MFP	MFP (Gross output, with cap, lab, and materials)

Coding for xx:

CO	Continuing firms
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EN	Entrants
EX	Exiters

❖ **PSSTAT**

Summary Statistics for PS variables

❖ **ECSTAT**

Summary Statistics for E-commerce variables

❖ **ISSTAT**

Summary Statistics for CIS-innovation variables

<i>YEAR</i>	Year to which data pertain
<i>EUK</i>	Industry classification (EUK or ALT definitions)
<i>SMPL</i>	Sample used (PS, EC, IS, PSIS, PSEC, PSECIS, ECIS)
<i>SUBVAL</i>	Value of Subname, to split industry, (see below for use)
<i>SUBNAME</i>	Variables used to split industry in tabulation (see below)
sumvars	Variables that can be aggregated through summation (see below)
avgvars	Variables that can be aggregated through averaging (see below)
UWT_Pct	For each 'avgvar' variable used: the weighted average value across firms, using firm size (employment) as weight.
RWT_Pct	For each 'sumvars' and 'avgvars' variable used from: the weighted average value across firms, using re-weight procedure to compute weight
RUWT_Bool	For each 'avgvar' variable used: the weighted average value across firms, using re-weight procedure to compute weight
NOBS	Number of observations in SMPL, EUK, YEAR, SUBVAL grouping

Organisation of **\_STAT**-files:

TABLE	SumVars; AvgVars	Industry	Samples	SUBNAMES
ECSTAT	---; EC Booleans, EC Pct	EUK	EC, PSEC	---
	---; EC Booleans, EC Pct	ALT	EC, PSEC, ECIS, PSECIS	---
“”	---; EC Booleans, EC Pct	ALT	EC	SZ_CLS
“”	---; EC Booleans, EC Pct	ALT	PSEC	MNC, FRGN_OWN, EXPORT, BUSORG, INTENS, HGE, GZL
“”	---; EC Booleans, EC Pct	ALT	ECIS	CO, INPD, INPS, ORGIN
ISSTAT	IS Numeric; IS Booleans, IS Pct	EUK	IS, PSIS	---
“”	IS Numeric; IS Booleans, IS Pct	ALT	IS, PSIS, ECIS, PSECIS	---
“”	IS Numeric; IS Booleans, IS Pct	ALT	IS	SZ_CLS
“”	IS Numeric; IS Booleans, IS Pct	ALT	PSIS	MNC, FRGN_OWN, EXPORT, HE, GZL
“”	IS Numeric; IS Booleans, IS Pct	ALT	ECIS	INTENS, BROADCAT, BUSORG, ITOUT, LINK
“”	IS Numeric; IS Booleans, IS Pct	ALT	IS	CO, INPD, INPS, ORGIN
PSSTAT	PS Numeric; Productivity vars, HK vars	EUK	PS	---
“”	PS Numeric; Productivity vars, HK vars	ALT	PS, PSEC, PSIS, PSECIS	---
“”	PS Numeric; Productivity vars, HK vars	ALT	PS	SZ_CLS, MNC, FRGN_OWN, EXPORT
“”	PS Numeric; Productivity vars, HK vars	ALT	PSEC	BROADCAT, INTENS, BUSORG, ITOUT, LINK
“”	PS Numeric; Productivity vars, HK vars	ALT	PSIC	CO, INPD, INPS, ORGIN, INNOV

### Coding for SUBNAMES:

SZ_CLS	Size class (see below for coding)
AGECAT	Age Category (see below for coding)
AGESZ	Age/Size category (see below for coding)
HGE	Dummy for 'High growth enterprise' from fast-grow filter (0,1;1=yes, see below)
GZL	Dummy for 'Gazelle' from fastgrow filter (0,1;1=yes, see below)
MNC	Multinational Dummy (0,1; 1=multinational firm)
FRGN_OW	Foreign Ownership Dummy (0,1; 1=owned by foreign firm)
EXPORT	Dummy for exporting firm (0,1; 1=yes)
BROADCAT	Broadband category (see below)
LINK	Number of Electronic Linkages with customers/suppliers (see below; 0, 1, 2, 3)
CO	Innovation cooperation (0,1;1=yes)
INPD	New goods or services (0,1;1=yes)
INPS	Process Innovation (0,1;1=yes)
ORGIN	Organizational Innovation (0,1;1=yes)

Coding for HGE:                   0 = Not a high growth enterprise  
  1 = More than 10 employees in t0, more than 10 pct annual growth for 3 years

Coding for GZL:                   Not a Gazelle  
  HGE=1 and younger than 5 years old in year 3

Coding for SZ\_CLS:               1 <=emp <20  
  20 <=emp <50  
  50 <=emp < 250  
  250 <=emp

Coding for AGECAT:              Age < 3  
  3 <= Age < 6  
  6 <= Age < 9  
  9 <= Age < 12  
  12 <= Age < 15  
  Age >= 15

Coding for AGESZ:               Age < 5 and Emp < 50  
  Age < 5 and Emp >= 50  
  Age >= 5 and Emp < 50  
  Age >= 5 and Emp >= 50

BROADCAT:                       0     if BROAD=0;  
  1     if BROAD=1 and BROADPCT<40  
  2     if BROAD=1 and BROADPCT>=40 and BROADPCT<=90  
  3     if BROAD=1 and BROADPCT>=90

Coding for LINK:  
          0     if max(of SISAINV SISAACC SISAPROD SISADIST SIPUINV SIPUACC)=0  
          1     if max(of SISAINV SIPUINV)=1



- 3 if LINK=1 and sum (of SISAACC SISAPROD SISADIST SIPUACC)=4  
 2 if (LINK=1 or LINK=3) and sum(of SISAACC SISAPROD SISADIST SIPUACC)<4

**IS Numerics:**

RRDINX	Expenditure in intramural R&D (in national currency)
RRDEXX	Purchase of extramural R&D (in national currency)
RMACX	Expenditure in acquisition of machinery (in national currency)
RTOT	Total of these four innovation expenditure categories (in national currency)

**PS Numerics:**

NV	Nominal value added (in national currency)
NQ	Nominal gross output (in national currency)
E	Full-time employment
PAY	Total wage bill (in national currency)
NM	Nominal expenditures on intermediates (in nominal currency)
K	Capital services measure

**EC Booleans:**

BROAD	Firm has broadband
AEBUY	Firm orders through computer networks (websites or EDI)
AESELL	Firm sells through computer networks (websites or EDI)
IACC	Firm has internet
WEB	Firm has website
MOB	Firm has mobile access to internet
ITERP	Enterprise Resource Planning
SISC	Sharing Electronic Data
CRM	Use of CRM
ADEGOV	Use of ADE for sending/receiving from Govt
ADENGOV	Other ADE uses (see below)
ADEINV	Other ADE uses <i>or</i> INVOICE
INVOICE	Electronic Invoicing
SISAPU	Combined Supply Chain (see below)
ECOM	Either AEBUY <i>or</i> AESEL

**IS Booleans:**

INPD	Introduced onto the market a new or significantly improved good /service
INPS	Introduced new or significantly improved process
MRKIN	Did the enterprise introduce a market innovation
RRDIN	Engagement in intramural R&D
EXPMKT	Enterprise sells in foreign market(s)
ENTGP	Enterprise is part of a group
NEWMKT	Did the enterprise introduce a product new to the market
FUND	Did enterprise receive external funding for R&D
CO	Cooperation arrangements on innovation activities
ORGIN	Innovative business practices
FUNNAT	National R&D Funding
FUNEU	EU R&D Funding

FUNRTD R&D Funding through RTD projects

**EC Pct:**

BROADPCT % of workers with acces to broadband  
AEBVALPCT % of orders through internet  
AESVALPCT % of sales through computer networks (websites or EDI)  
ECPCT % E-Commerce (buy+sell)  
EMPIUSEPCT % of workers with access to internet  
MOBPCT % of workers with mobile access to internet

**IS Pct:**

TURNMAR % of turnover in new or improved products that were new to the market

**Productivity variables:**

LPV value added based labour productivity  
LPQ gross output based labour productivity  
TFP gross output based productivity with inputs capital, labour and intermediates  
MFP value added based productivity with inputs capital and labour

**HK variables:**

HKPCT percentage of workers with higher formal education  
HKITPCT percentage of workers with higher formal education in ICT or related fields  
HKNITPCT 1 - HKITPCT

**Derived ECStat variable:**

ECPCT sum of e-sales and e-purchases shares (AESVALPCT + AEBVALPCT);  
CRM max(of CRMSTR CRMAN);  
SISC max(of SISU SICU);  
SISAPU max(of SISAINV SISACC SISAPROD SISADIST SIPUINV SIPUACC);  
LINK

0 = max(of SISAINV SISAACC SISAPROD SISADIST SIPUINV SIPUACC) = 0;

1 = max(of SISAINV SIPUINV) = 1;

3 = LINK=1 and sum(of SISAACC SISAPROD SISADIST SIPUACC) = 4;

2 = (LINK = 1 or LINK = 3) and sum (of SISAACC SISAPROD SISADIST SIPUACC) < 4;

**BROADCAT**

if BROAD=0 then BROADCAT=0;

if BROAD=1 and BROADPCT<.40 then BROADCAT=1;

if BROAD=1 and BROADPCT>=.40 and BROADPCT<=.90 then BROADCAT=2;

if BROAD=1 and BROADPCT>=.90 then BROADCAT=3;

ITOUT Combined 3-way for Boolean variables ITSP x ITSPT x XFSP, (1...8)

$$\text{ITOUT}=8 - (\text{ITSP}*4+\text{ITSPT}*2+\text{XFSP})$$

BUSORG Combined 3-way for Boolean variables ITERP, CRM, SISC, (1...8)  
 $\text{BUSORG}=8 - (\text{ITERP}*4+\text{CRM}*2+\text{SISC})$

**Derived EC variables:**

INTENS Boolean for computed ICT intensity (0, 1 if  $\text{ICT}_i > 0.6$ )  
 ICT<sub>i</sub> Geometric mean of latent probability estimates for CRM, ITERP, SISC, ADE (version 1), or MOB, ECOM, SISC, ADENGOV.

**Derived ISStat variables:**

INPD = max(of inpdgd inpdsv);  
 INPS = max(of inpspd inpslg inpsu);  
 MRKIN = max(of mktdgp mktpdp mktpdl mktpri mktmet);  
 ORGIN = max(of orgbup orgwkp orgexr);  
 EXPMKT = max(of mareur maroth);  
 FUND = max(of funloc fungmt funeu funrtd);  
 INNOV Combined 3-way for Boolean variable INDP x INPS x ORGIN, (1...8)  
 $\text{INNOV} = 8 - (\text{INPD}*4+\text{INPS}^2+\text{ORGIN})$

❖ **ECJOINT, ISJOINT, ECISJOINT**

Summary Statistics for combined EC Booleans, for combined IS Booleans, and for combined EC & IS Booleans respectively.

YEAR Year to which data pertain  
 EUK Industry classification (EUK or ALT definitions)  
 SMPL Sample used (EC, IS, ECIS)  
 SUBVAL Value of Subname, to split industry, (see below for use)  
 SUBNAME Variables used to split industry in tabulation (see below for variables used)  
 jointbool Two booleans that are combined (b1 and b2)  
 UWT\_Pct For each 'jointbool' variable used: the weighted average value across firms, using firm size (employment) as weight.  
 RWT\_Pct For each 'jointbool' variable used from: the weighted average value across firms, using re-weight procedure to compute weight  
 RUWT\_Bool For each 'jointbool' variable used: the weighted average value across firms, using re-weight procedure to compute weight  
 NOBS Number of observations in SMPL, EUK, YEAR, SUBVAL grouping

**ECJoint** uses combinations of EC Booleans plus derived EC Boolean variable INTENS; **ISJoint** uses combinations of IS Booleans; **ECISJoint** uses combinations of BROAD, SISAPU, ECOM, ADENGOV, INPD, INPS, MRKIN, ORGIN, RDENG, CO

❖ **PSst**

File with moments of distributions of variables in PS;

❖ **PSECst**

File with moments of distributions of variables in merged PS and EC;

❖ **PSISst**

File with moments of distributions of variables in merged PS and IS;

❖ **PSECISst**

File with moments of distributions of variables in merged PS, EC and IS;

<i>YEAR</i>	Year to which data pertain
<i>EUK</i>	Industry classification (EU-KLEMS or ALT definitions)
<i>VNAME</i>	Name of variable whose moments are computed (includes variables in first column of table 1, below)
<i>QRT</i>	Quartile of the distribution (1=lowest; 4=highest, 0=overall mean)
<i>MEAN</i>	Mean of variable <i>VNAME</i> in quartile= <i>QRT</i> of distribution
<i>STD</i>	Standard deviation of variable in quartile
<i>NOBS</i>	Number of firms in quartile

Coding of *VNAME*:

<i>PSst</i> :	{de, dq, dv,dw, dbq, dbv (firm growth rates), lagged productivity}
<i>PSECst</i> :	{de, dkl, dq, dv, dw, d(Prod), w, k/l, Prod, hkvars, broadpct, lagged broadpct}
<i>PSISst</i> :	{de, dkl, dq, dv, dw, d(Prod), w, k/l, Prod, hkvars, turnmar, lagged turnmar}
<i>PSECISst</i> :	{de, dkl, dq, dv, dw, d(Prod), w, k/l, Prod, hkvars, broadpct turnmar, lagged broadpct turnmar}

❖ **PScr**

File with moments of joint distribution of two variables in PS;

❖ **PSECcr**

File with moments of joint distribution of two variables in merged PS and EC;

❖ **PSIScr**

File with moments of joint distribution of two variables in merged PS and IS;

❖ **PSECIScr**

File with moments of joint distribution of two variables in merged PS, EC, and IS.

<i>YEAR</i>	Year to which data pertain
<i>EUK</i>	Industry classification (EU-KLEMS or ALT definitions)
<i>QNAME</i>	Name of variable used for quartile distribution
<i>VNAME</i>	Name of variable whose moments are computed. (see below for combinations of <i>Qname</i> and <i>Vname</i> included in analysis)
<i>QRT</i>	Quartile of the distribution (1=lowest; 4=highest)
<i>MEAN</i>	Mean of variable <i>VNAME</i> in quartile= <i>QRT</i> of distribution of <i>QNAME</i>
<i>STD</i>	Standard deviation of variable in quartile

PCC            Pearson correlation coefficient between VNAME and YNAME in quartile  
NOBS          Number of firms in quartile

VNAME  $\times$  QNAME:

PScr:            {de, dq, dv,dw, dbq, dbv}  $\times$  {lagged productivity}

PSECcr:        {de, dkl, dq, dv, dw, d(Prod)}  $\times$  {lagged broadpct} +  
                  {w, k/l, Prod, hkvars}  $\times$  {broadpct}

PSIScr:        {de, dkl, dq, dv, dw, d(Prod)}  $\times$  {lagged turnmar} +  
                  {w, k/l, Prod, hkvars}  $\times$  {turnmar}

PSECIScr:     {de, dkl, dq, dv, dw, d(Prod)}  $\times$  {lagged broadpct turnmar} +  
                  {w, k/l, Prod, hkvars}  $\times$  {broadpct turnmar}

ANNEX 4. Availability of PS data based on 2010 Metadata Survey and the final code run (version 4.2)  
(Y=yes, N=no)

MMD name	Description	AT	DE	DK	FI	FR	IE	IT	LU	NL	NO	PL	SE	SI	UK
NV	nominal value added (in national currency)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
NQ	nominal gross output (in national currency)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
E	full-time employment	N	Y	Y	Y	N	Y	Y	N	N	N	Y	Y	N	N
PAY	total wage bill (in national currency)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
NM	nominal expenditures on intermediates (in national currency)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
K	capital services measure (in national currency)	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Y	Y	N	Y
HKPCT	pct workers with post upper secondary education	Y	N	Y	Y	N	Y	N	N	N	Y	N	Y	Y	Y
HKITPCT	pct workers with post upper secondary IT education	Y	N	Y	Y	N	Y	N	N	N	Y	N	Y	N	Y
HKNITPCT	pct workers with post upper secondary non-IT education	Y	N	Y	Y	N	Y	N	N	N	Y	N	Y	N	Y
EXPORT	firm exports of goods and services	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
NX	firm exports of goods and services (in national currency)	Y*	N	Y	Y*	Y	Y	Y*	Y	Y*	Y	Y	Y	Y	Y
Wgt_PS	sample weight on business survey	Y	N	N	N	N	N	N	N	Y	N	N	N	N	Y
EMP_BR	number of employees given in Business Register	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
FRGN_OWN	dummy for foreign ownership	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y
MNC	dummy for multinational corporation	Y	N	Y	N	Y	N	N	N	Y	N	Y	Y	Y	N
AGE	age of firm in given year	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
BIRTH	year of birth (first year of activity)	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Link between Business Register and Employer-Employee Register	N	N	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	N
	Long panel data set (at least 16 years 1995-2010)	N	N	Y	Y	Y	N	N	N	Y	Y	N	Y	Y	N

Note: All the variables are available for 2001-2010 except in Germany and Ireland where the series start in 2002 and in Luxembourg and Slovenia where data are available from 2003. An asterisk (\*) denotes firms with information on exports of goods only.

ANNEX 5. Coverage for Community Innovation Survey (CIS), by country and year

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
AT	x				x		x		x		x
DE											
DK							x		x		x
FI	x		x		x		x		x		x
FR					x				x		x
IE							x		x		x
IT	x				x		x		x		x
LU	x		x		x		x		x		x
NL	x		x		x		x		x		x
NO			x		x		x		x		x
PL	x				x		x		x		x
SE					x		x		x		x
SI			x		x		x		x		x
UK	x				x		x		x		x

*Note:* In case a certain question was included in the R&D survey, it might be provided directly from that survey.