



**Analyse des données de systèmes éducatifs**

# Sommaire

## 1. Objectifs

## 2. Données

- a. Source

- b. Données disponibles

- c. Données pertinentes

- c. Qualité des données

## 3. Analyse des Données

## 4. Pays retenus

## 5. Evolution sur la période 1990-2016

## 6. Prévision 2030

# Source



## EdStats All Indicator Query

---

## Données disponibles

Table	Nb lignes	Nb colonnes	Indicateur	Data	Remarque
EdStatsCountry	241	32			
EdStatsCountrySeries	613	4	X		21 indicateurs sur 3665
EdStatsSeries	3665	21	X		définition & source des indicateurs
EdStatsFootNote	643638	5	X		1558 indicateurs sur 3665
EdStatsData	886930	70	X	X	3665 indicateurs(lignes) par pays

# Données pertinentes

## **Caractéristiques des Pays cibles :**

- Bon PIB
- Population jeune
- Population éduquée
- Pays disposant d'une bonne infrastructure internet
- Taux d'usage internet élevé

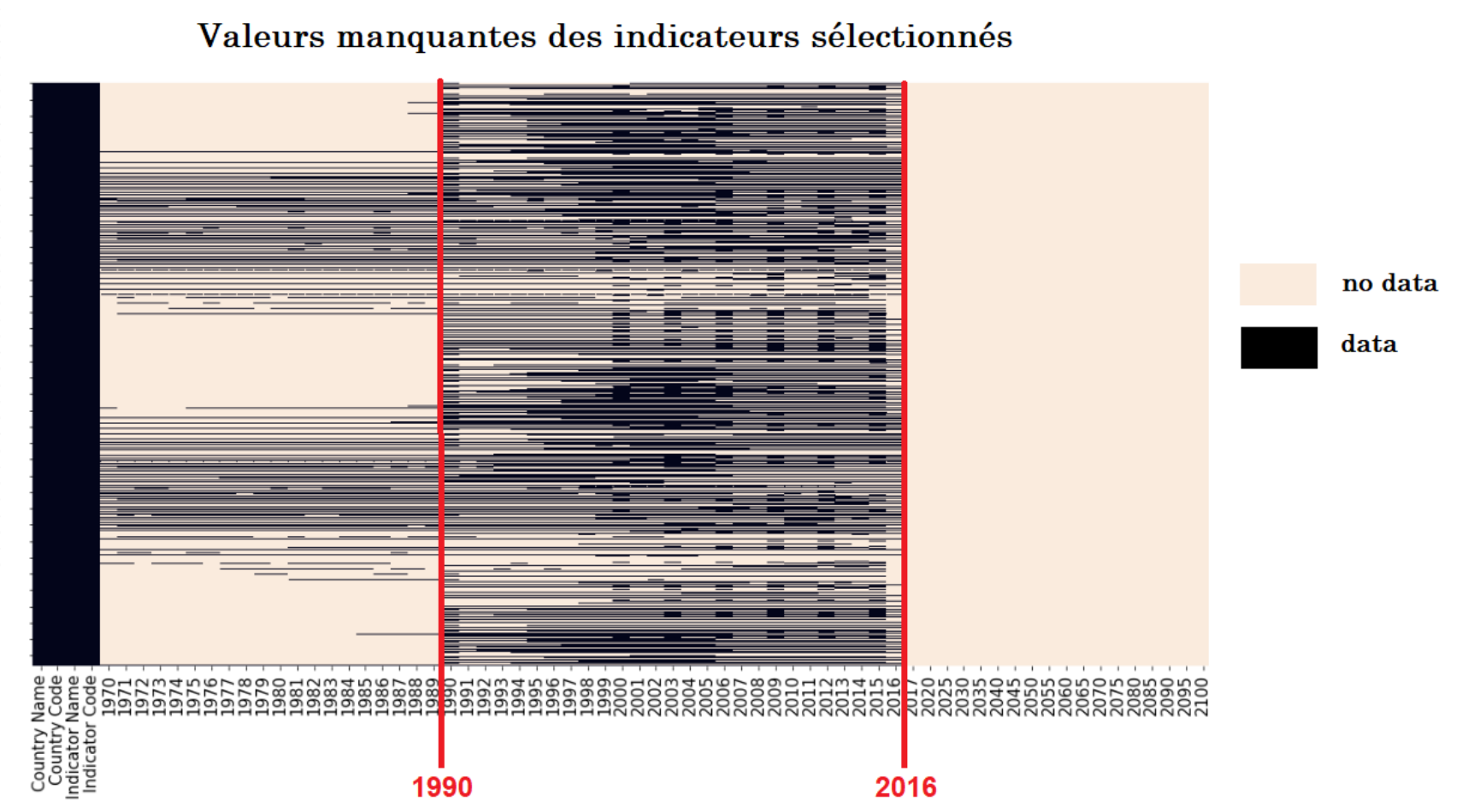
## **Contraintes dans le choix de l'année de référence :**

- Année la plus récente
- Une proportion minimale de données manquantes

# Indicateurs pertinents

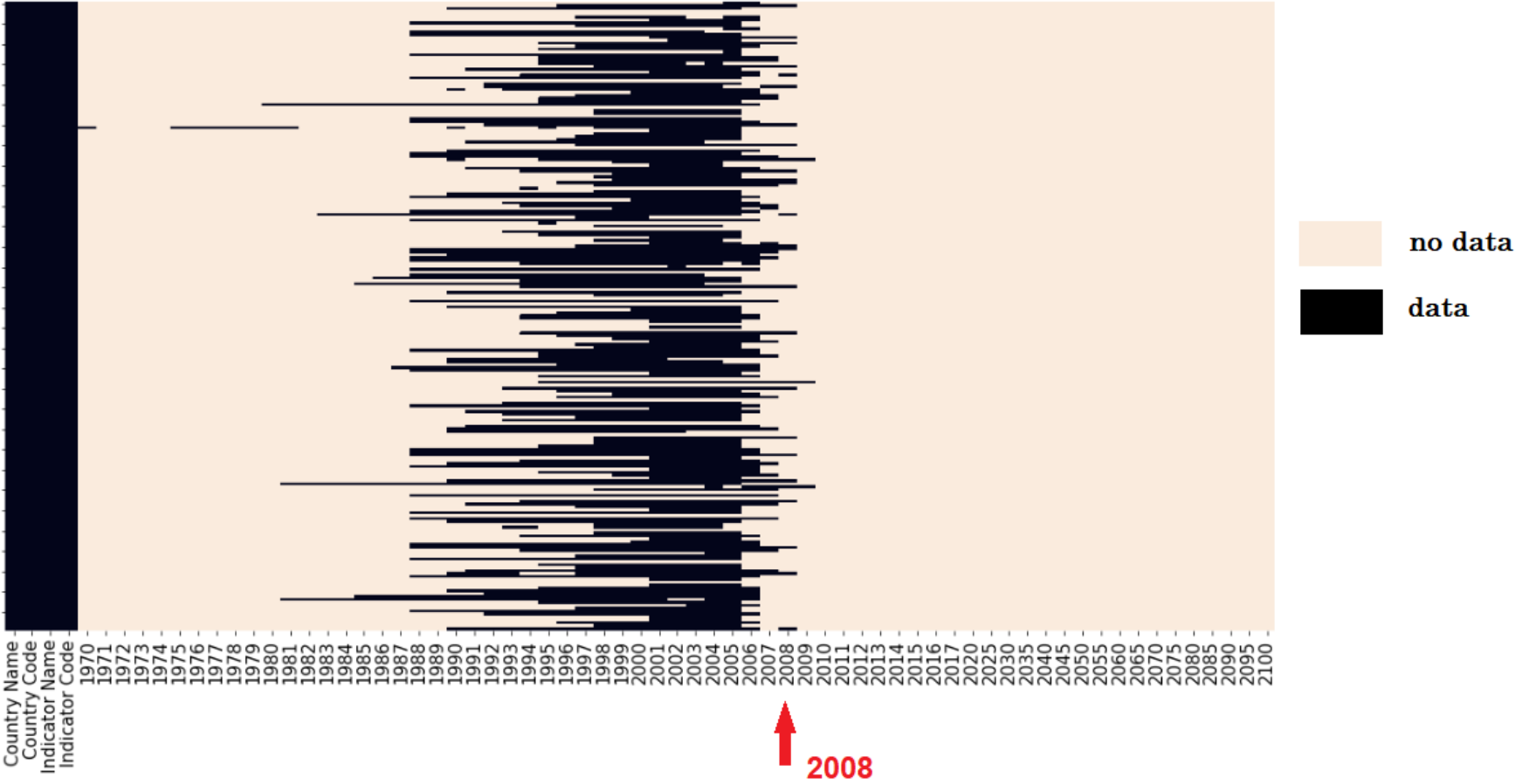
Indicateur	libellé
NY.GDP.MKTP.PP.CD	GDP, PPP (current international \$)
SP.POP.GROW	Population growth (annual %)
SP.POP.1524.TO.UN	Population, ages 15-24, total
SP.POP.TOTL	Population, total
IT.NET.USER.P2	Internet users (per 100 people)
IT.CMP.PCMP.P2	Personal computers (per 100 people)
UIS.NER.3	Net enrolment rate, upper secondary, both sexes (%)
SE.TER.ENRR	Gross enrolment ratio, tertiary, both sexes (%)
LO.PISA.MAT	PISA: Mean performance on the mathematics scale
LO.PISA.REA	PISA: Mean performance on the reading scale
LO.PISA.SCI	PISA: Mean performance on the science scale

# Qualité des données (1)



# Qualité des données (2)

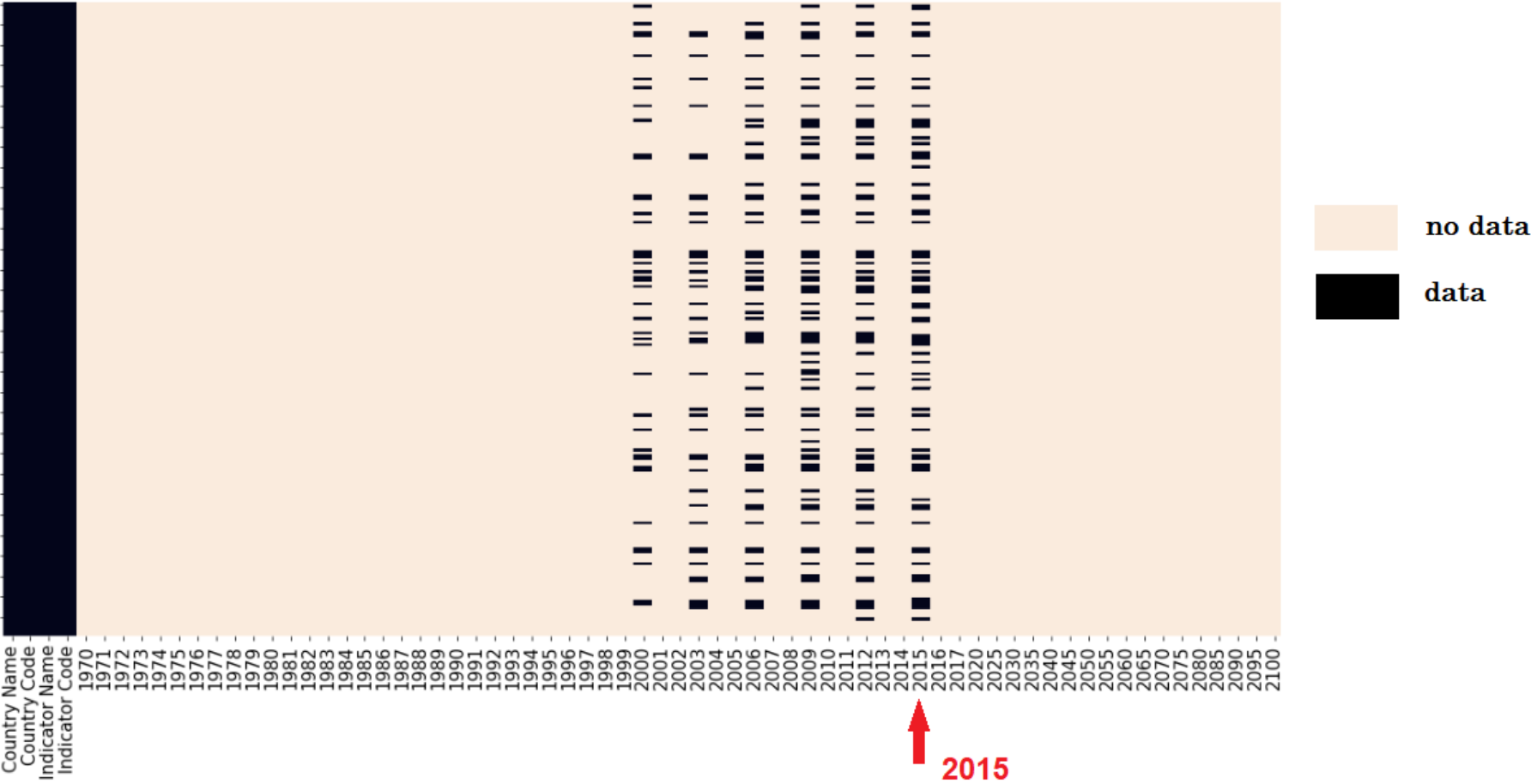
Valeurs manquantes pour l'indicateur IT.CMP.PCMP.P2





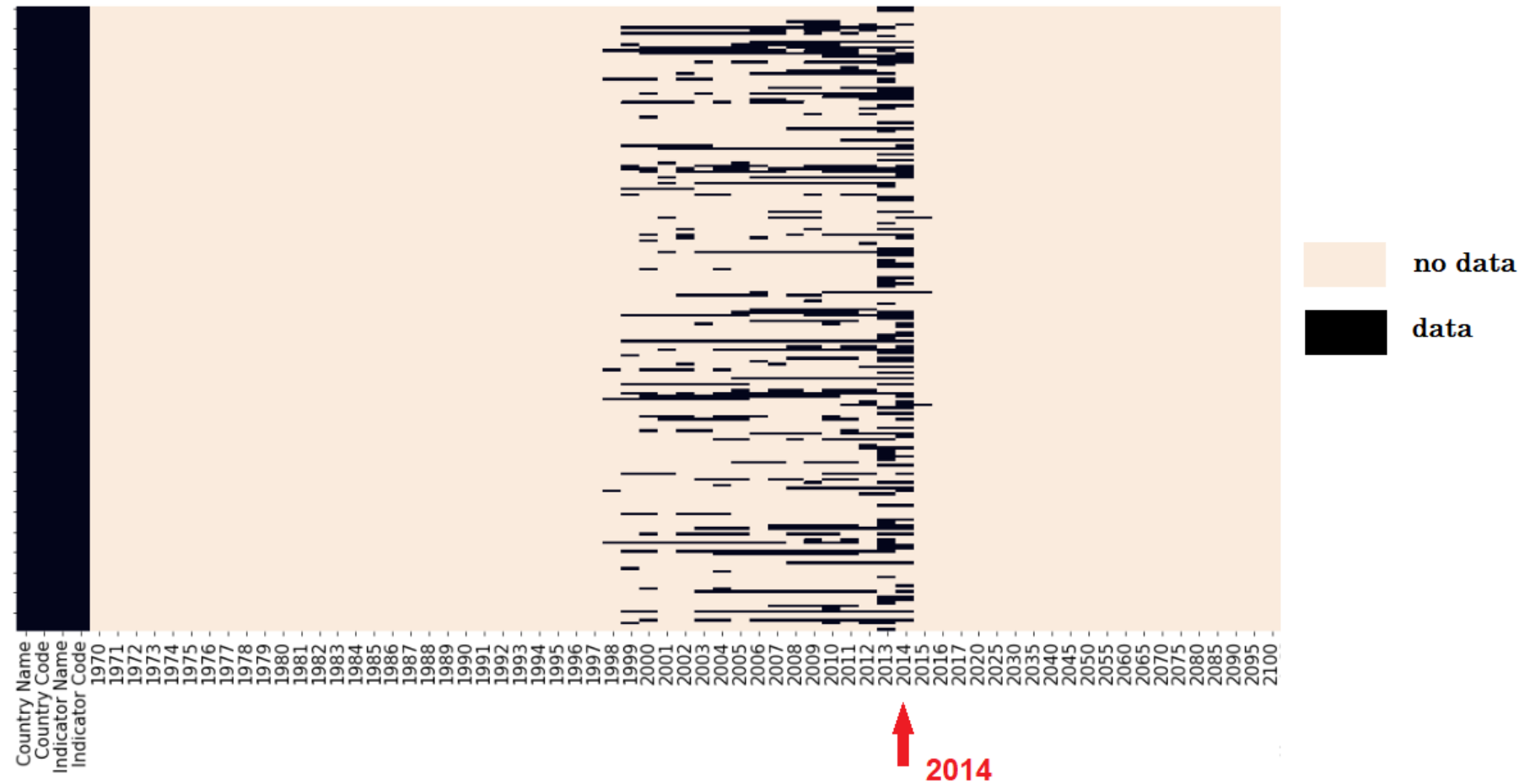
# Qualité des données (3)

Valeurs manquantes pour les indicateurs LO.PISA.\*



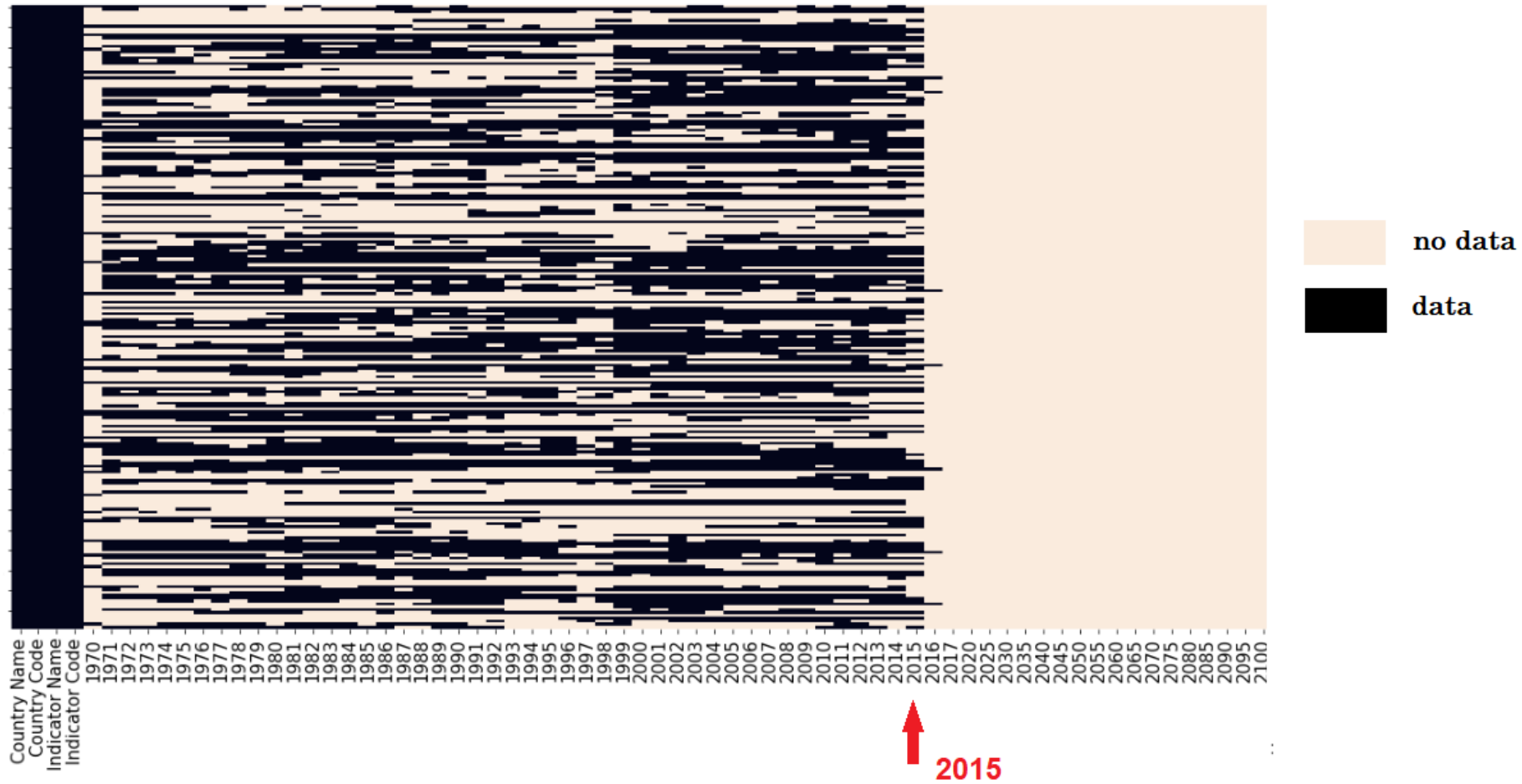
# Qualité des données (4)

Valeurs manquantes pour l'indicateur UIS.NER.3

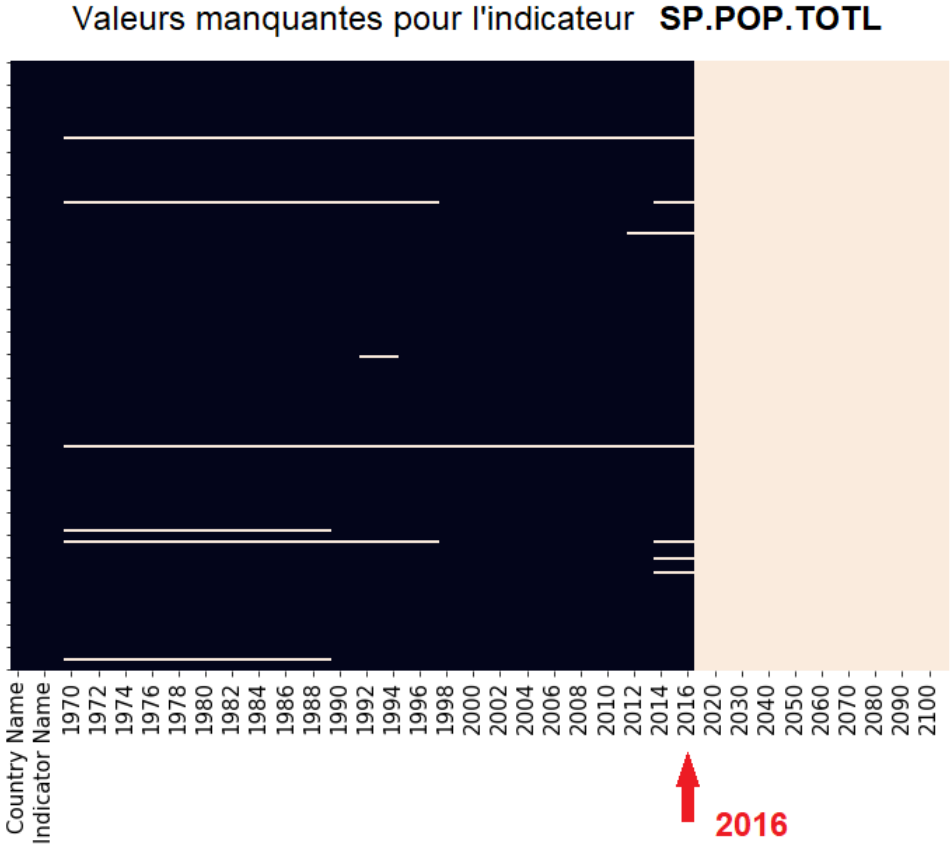
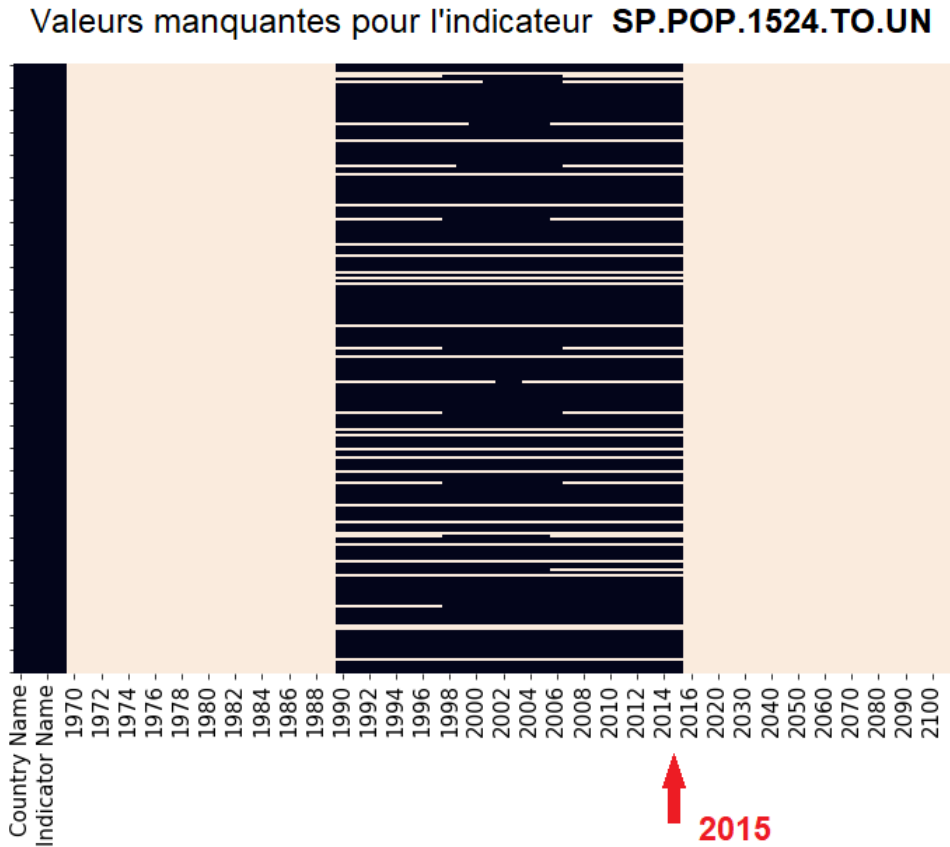


# Qualité des données (5)

Valeurs manquantes pour l'indicateur SE.TER.ENRR



# Qualité des données (6)

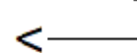


no data

data

## Année de Référence

Année	% valeurs manquantes
2009	34.90
2012	36.00
2015	37.26
2006	37.78
2003	39.97
2000	40.55
2011	46.42
2002	46.65
2004	46.88
2010	46.94
2005	47.11
2008	47.29
2007	47.46
2001	47.46
1999	47.52
2013	47.63
2014	48.38
.....	.....
2016	65.49



2015 : année de référence

## %Valeurs manquantes pour les indicateurs retenus en l'an 2015

Indicateur	Libellé	%valeur manquante
GDP	GDP, PPP (current international \$)	13.20
POP.CIBLE	% Population ages 15-24	15.09
NET.USER	Internet users (per 100 people)	5.18
TER.ENROL	Gross enrolment ratio, tertiary (%)	52.83
PISA	Mean performance (mathematics/reading/science )	66.50

# Statistiques Pays / Zones Géographiques

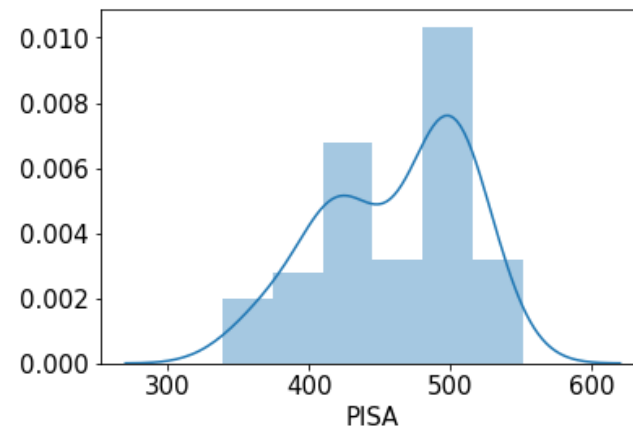
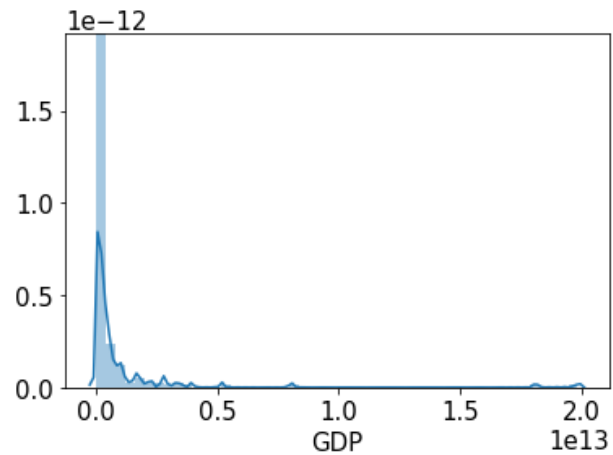
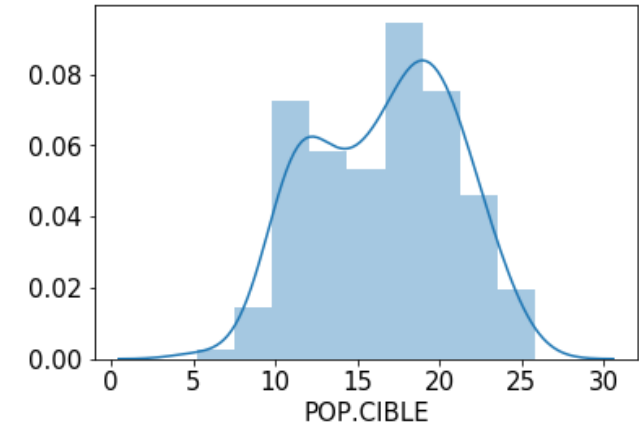
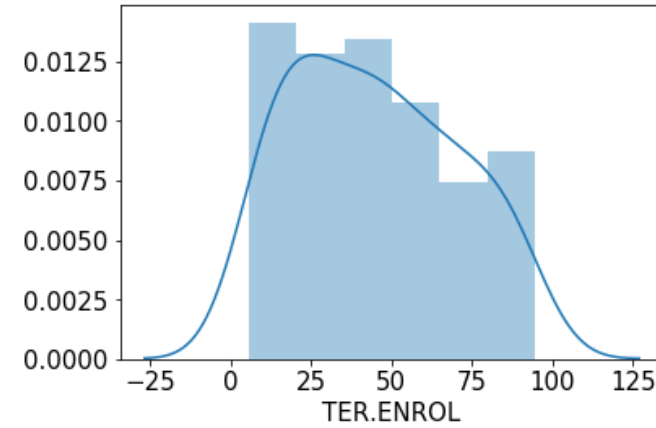
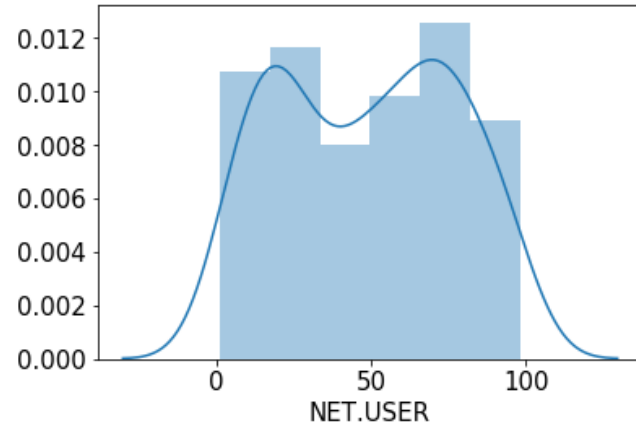
## Pays en 2015

	% NET.USER	GDP	% TER.ENROL	PISA	% POP.CIBLE
mean	48.785759	6.158367e+11	44.863470	461.059427	16.681811
median	50.30	6.85e+10	43.40	475.39	17.23
std	28.542027	2.152289e+12	25.503212	50.781211	4.228912
min	1.083733	3.901246e+07	5.621730	339.026167	5.213619
max	98.323610	1.985273e+13	94.732300	551.621533	25.845099

## Zones Géographiques en 2014

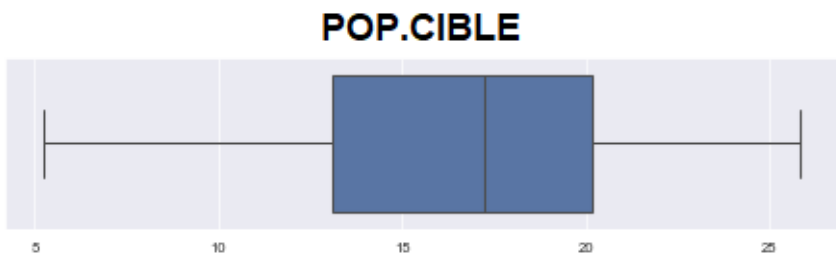
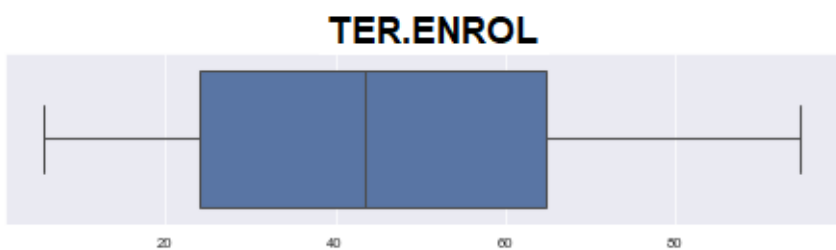
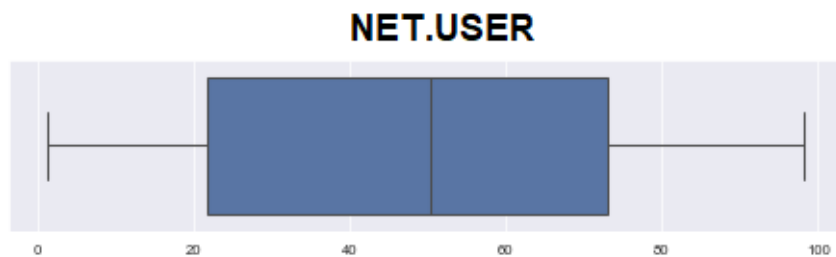
	% NET.USER	GDP	% TER.ENROL
mean	44.701409	1.584336e+13	44.018090
median	46.81	9.60e+12	39.14
std	22.600324	1.149703e+13	24.266417
min	14.769942	3.582687e+12	8.593480
max	74.404815	3.461161e+13	84.032318

# Analyse univariée - avant traitement

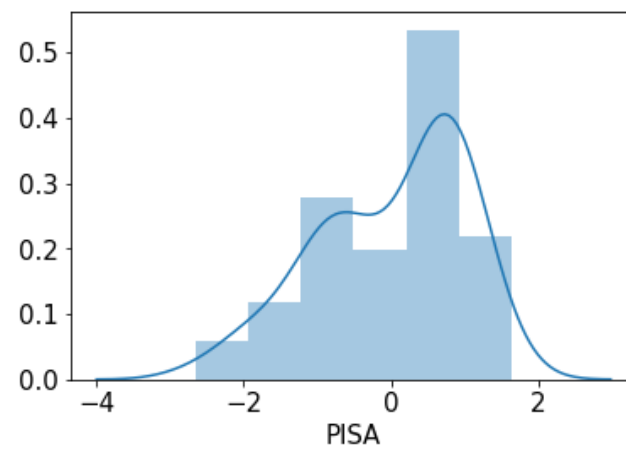
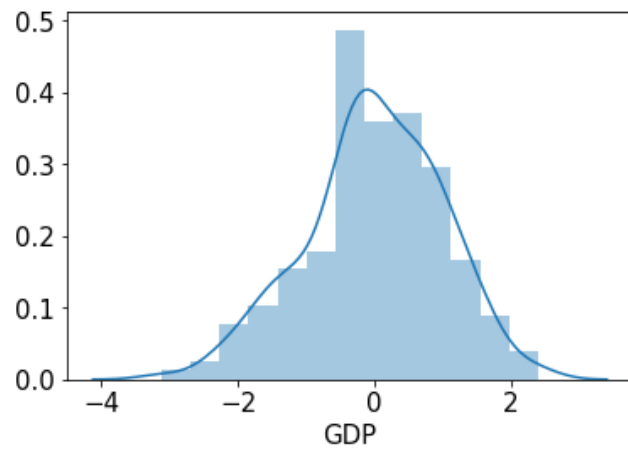
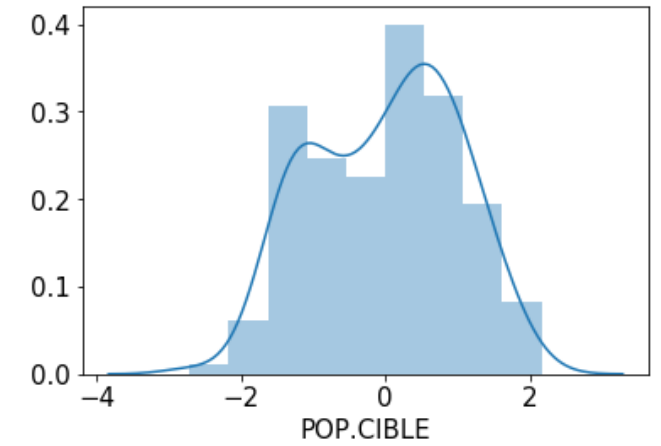
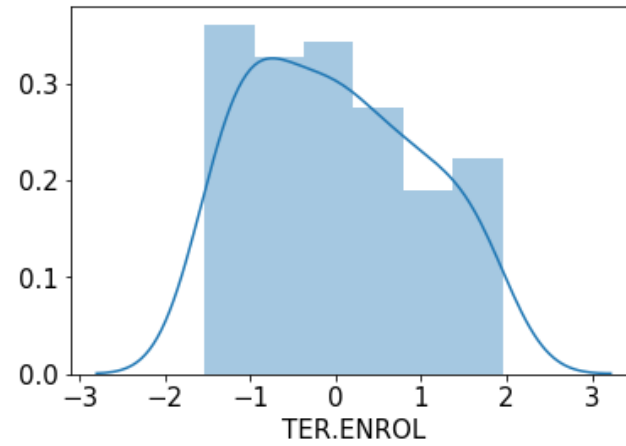
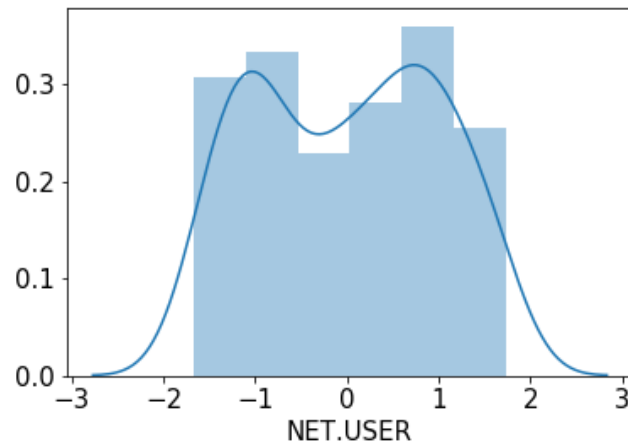




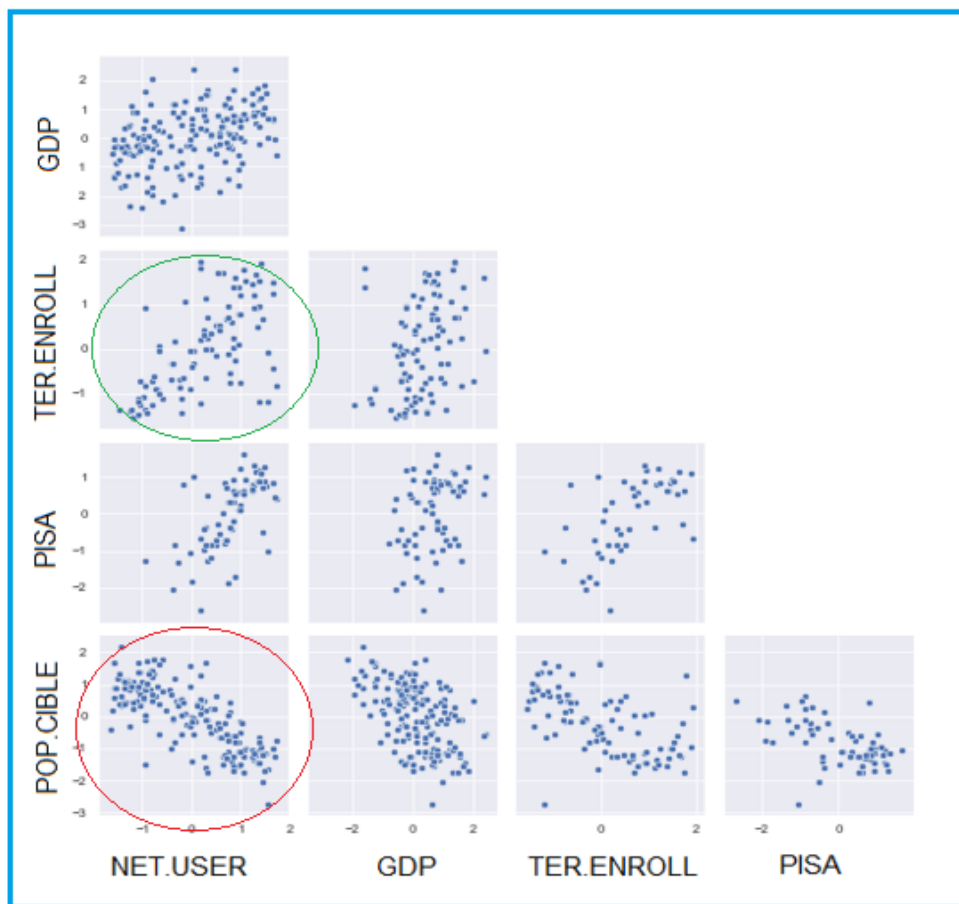
## Analyse univariée (2)



# Analyse univariée - après traitement

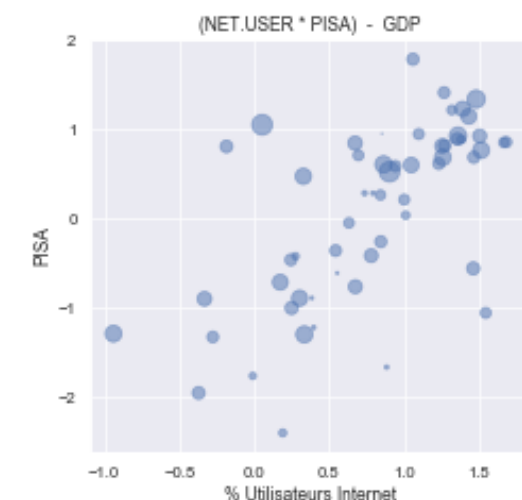
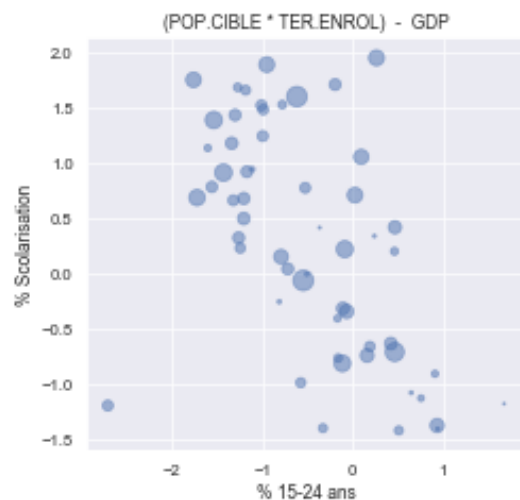
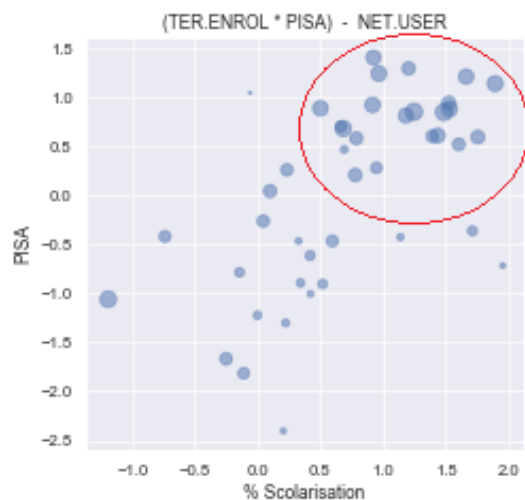
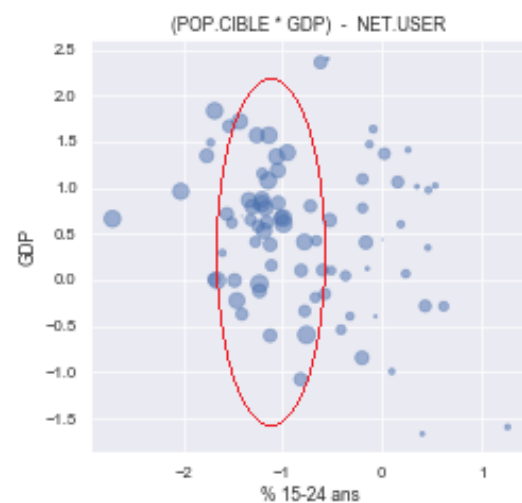
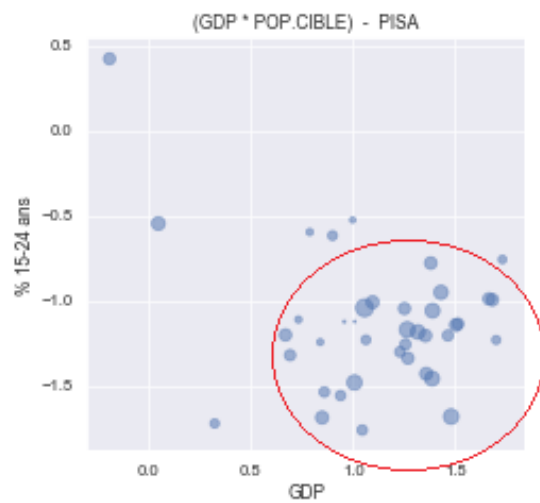
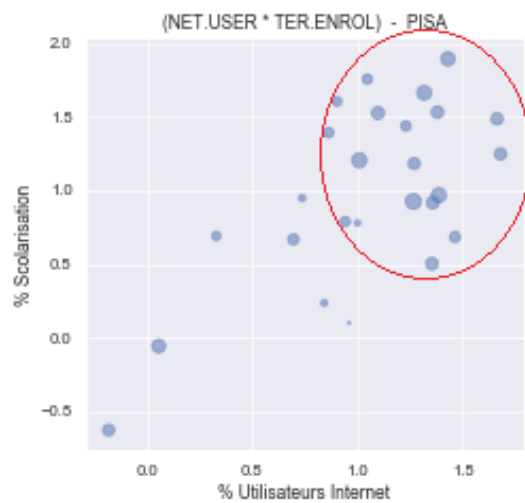


# Analyse bivariée



indicateur_1	indicateur_2	Coefficient corrélation
NET.USER	TER.ENROL	0,64
NET.USER	PISA	0,63
TER.ENROL	PISA	0,59
.....	.....	.....
POP.CIBLE	GDP	-0,51
POP.CIBLE	TER.ENROL	-0,56
POP.CIBLE	NET.USER	-0,77

# Analyse multivariée



# Pays retenus

Country	NET.USER	GDP	TER.ENROL	PISA	POP.CIBLE	MOY
KOR	1.431674	1.380371	1.894493	1.094986	-0.951923	0.969920
USA	0.902825	2.359375	1.604986	0.545739	-0.617803	0.959025
DNK	1.665780	0.607807	1.487009	0.840674	-0.990574	0.722139
FIN	1.318630	0.530877	1.663564	1.155648	-1.185433	0.696657
DEU	1.359540	1.718797	0.917614	0.906376	-1.431315	0.694203
NOR	1.682590	0.668928	1.248192	0.843937	-0.996222	0.689485
NZL	1.381721	0.411669	1.531880	0.869370	-0.779771	0.682974
IRL	1.097912	0.673586	1.525859	0.923022	-1.010226	0.642031
TUR	0.173751	1.409803	1.955394	-0.664254	0.263781	0.627695
HKG	1.266995	0.777252	0.925844	1.320299	-1.171640	0.623750
RUS	0.862736	1.666092	1.393182	0.620435	-1.538628	0.600763
ESP	1.047713	1.346061	1.756903	0.613816	-1.762813	0.600336
CHN	0.053053	2.397665	-0.057706	1.013884	-0.546971	0.571985
BEL	1.270657	0.865395	1.183120	0.809718	-1.339821	0.557814
AUT	1.231671	0.792545	1.438134	0.628317	-1.302531	0.557627
CHL	0.543172	0.779160	1.714052	-0.300815	-0.194434	0.508227
SWE	1.465363	0.828157	0.683730	0.692522	-1.206255	0.492703
CHE	1.355660	0.873288	0.502240	0.876052	-1.206696	0.480109
ISR	1.000851	0.647402	0.779639	0.255486	-0.525847	0.431506
MAC	1.009542	-0.005891	1.205157	1.227410	-1.483082	0.390627
EST	1.388340	-0.224648	0.967994	1.181908	-1.459815	0.370756
CZE	0.941877	0.714586	0.788263	0.603101	-1.559698	0.297626

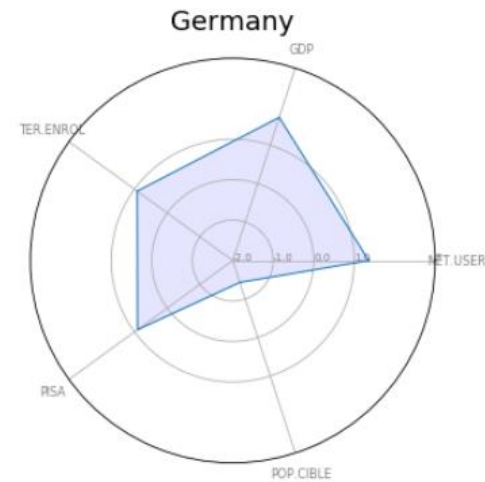
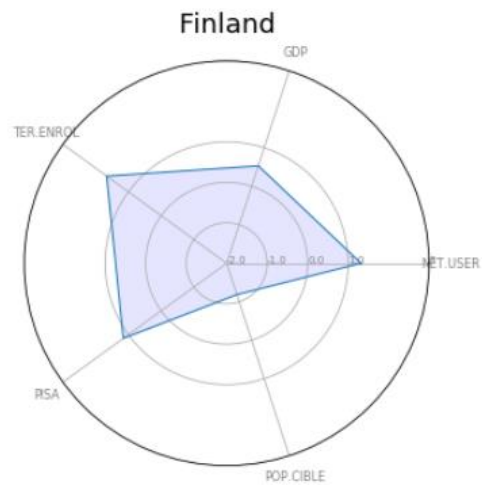
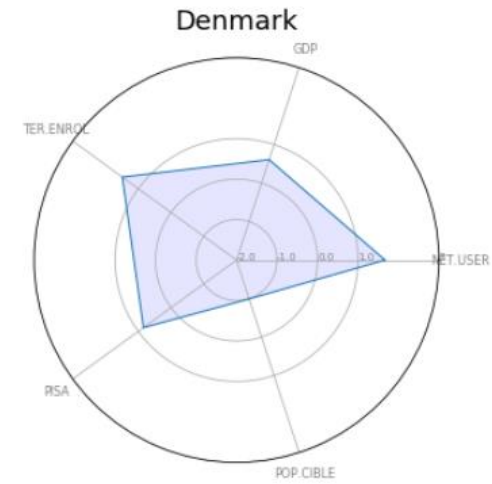
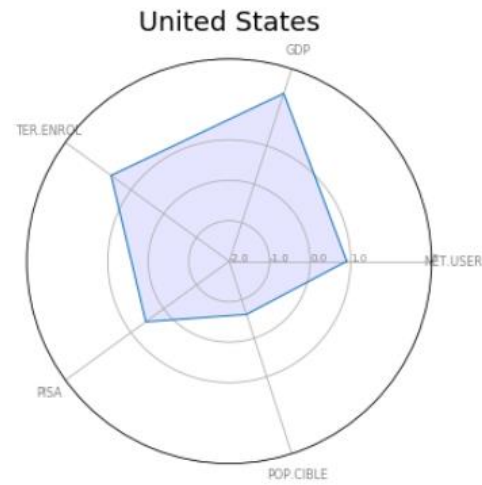
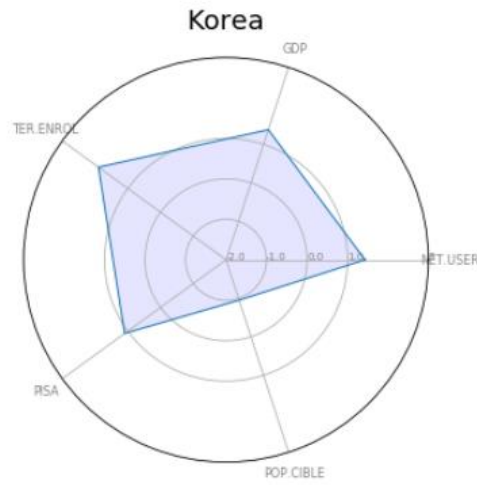


**Meilleurs scores :**

Korea  
United States  
Denmark  
Finland  
Germany

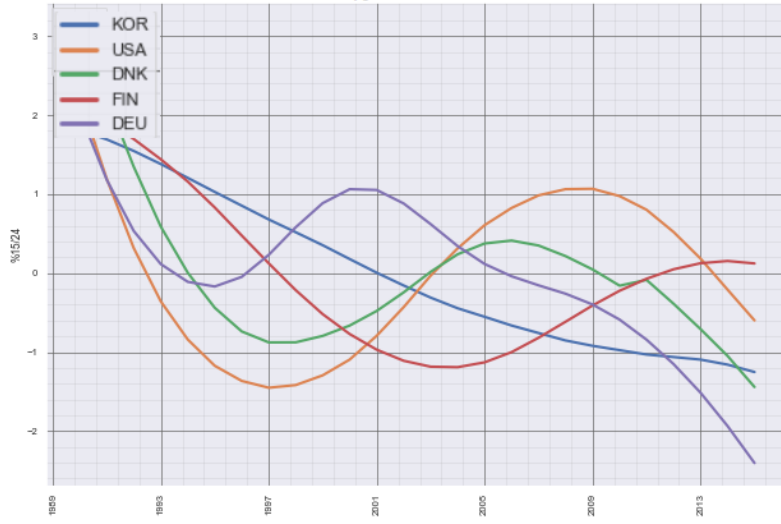
**Critère :** Moyenne Arithmétique des 5 indicateurs

# Analyse multivariée des pays retenus

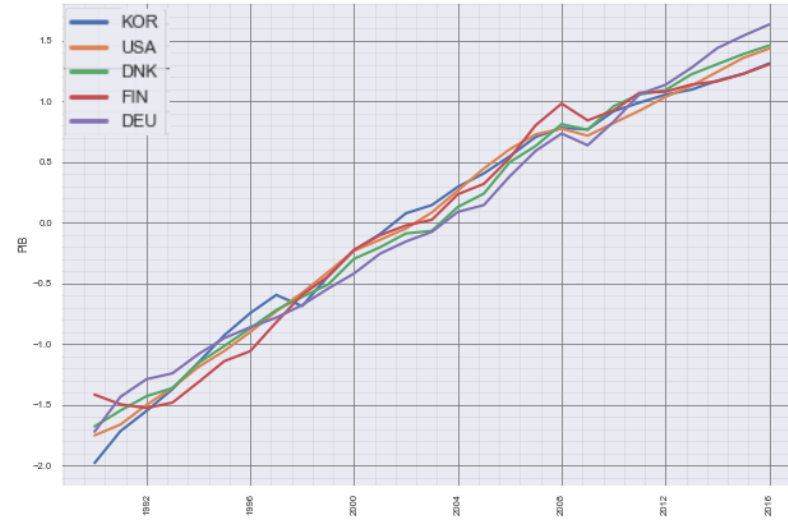


# Evolution des indicateurs sur la période 1990-2016

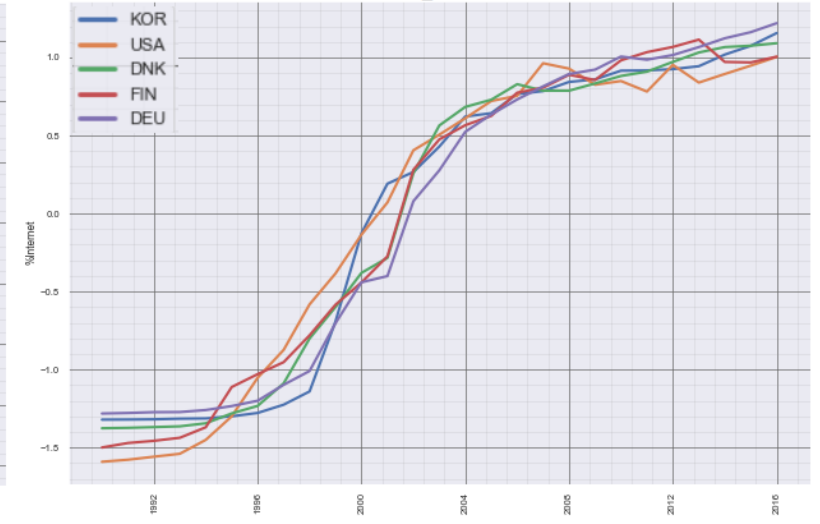
% 15-24 ans



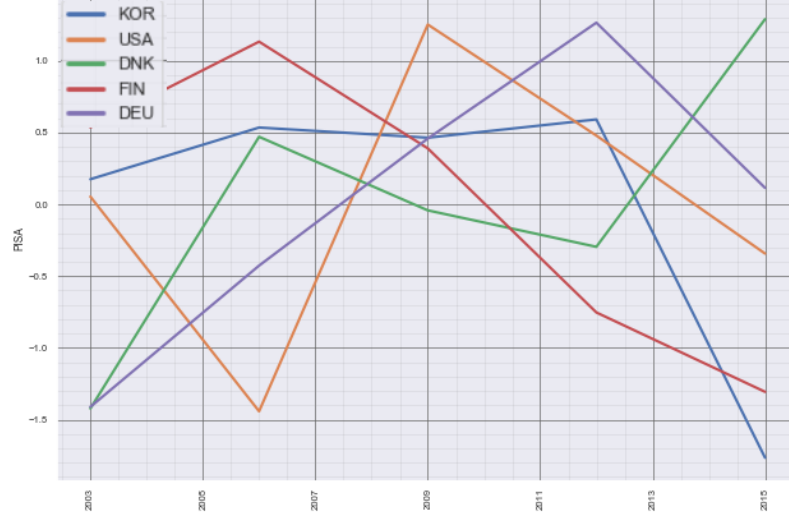
GDP



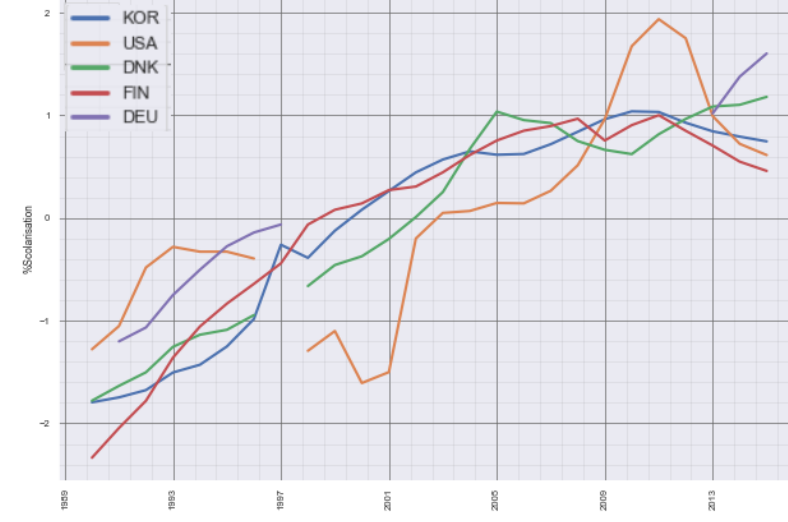
Usage Internet



PISA

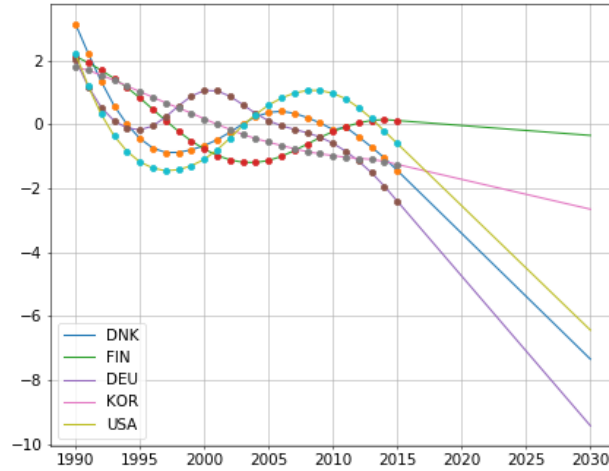


% Scolarisation

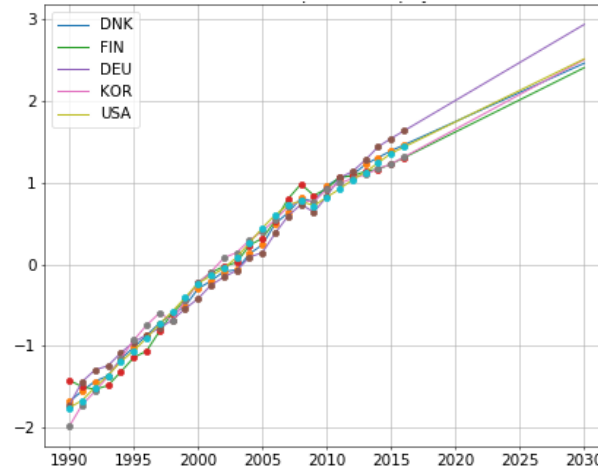


# Prévision 2016-2030

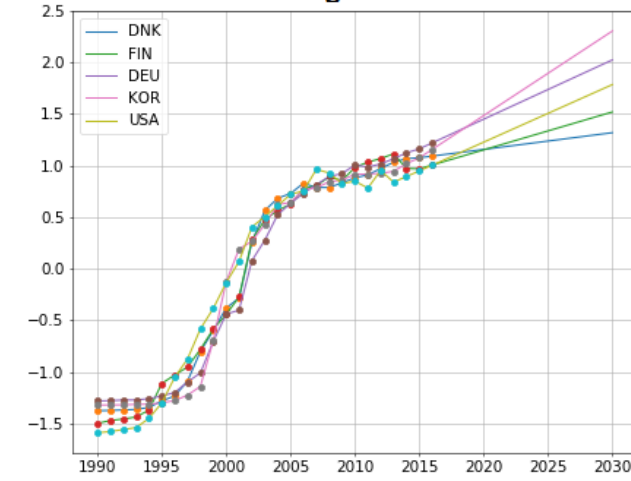
## % 15-24 ans



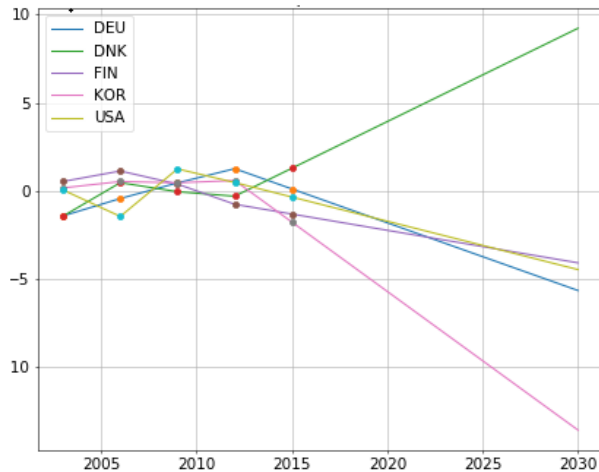
## GDP



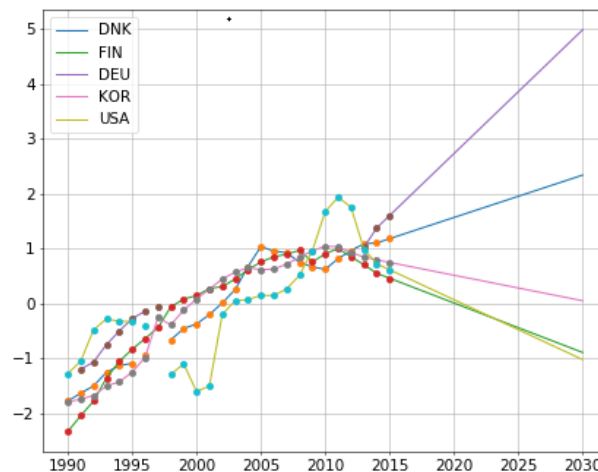
## Usage Internet



## PISA





## % Scolarisation





# Classement des pays 2015 - Pr vision 2020

	Country	NET.USER	GDP	TER.ENROL	PISA	POP.CIBLE	MOY	
Korea	KOR	1.431674	1.380371	1.894493	1.094986	-0.951923	0.969920	 en 2015
United States	USA	0.902825	2.359375	1.604986	0.545739	-0.617803	0.959025	
Denmark	DNK	1.665780	0.607807	1.487009	0.840674	-0.990574	0.722139	
Finland	FIN	1.318630	0.530877	1.663564	1.155648	-1.185433	0.696657	
Germany	DEU	1.359540	1.718797	0.917614	0.906376	-1.431315	0.694203	
								 en 2020
Denmark	DNK						0.99835	
Finland	FIN						0.10342	
Germany	DEU						-0.07337	
United States	USA						-0.24468	
Korea	KOR						-0.75266	

# Classement des zones géographiques 2015 - Prévision 2020

Country	NET.USER	GDP	TER.ENROL	MOY
NAC	1.314291	0.544095	1.648955	0.701468
ECS	1.072681	0.999072	0.867975	0.587946
EAS	0.093392	1.299577	-0.200704	0.238453
LCN	0.179988	-0.314687	0.026620	-0.021616
MEA	-0.201895	-0.589685	-0.251457	-0.208608
SAS	-1.134075	-0.381174	-0.955207	-0.494091
SSF	-1.324382	-1.557198	-1.459820	-0.868280

North America

Europe & Central Asia (all income levels)

East Asia & Pacific (all income levels)

Latin America & Caribbean (all income levels)

Middle East & North Africa (all income levels)

South Asia

Sub-Saharan Africa (all income levels)

← en 2014

EAS	2.131
ECS	1.095
LCN	1.125
MEA	1.765
NAC	0.391

East Asia & Pacific (all income levels)

Europe & Central Asia (all income levels)

Latin America & Caribbean (all income levels)

Middle East & North Africa (all income levels)

North America

← en 2020