

Statistical databases in theory and practice

Part IV: Modelling the contents and structure of official statistics

Bo Sundgren

2010

Modelling the contents and structure of official statistics

Or: How to design "correct" and globally consistent SDMX Data Structure Definitions

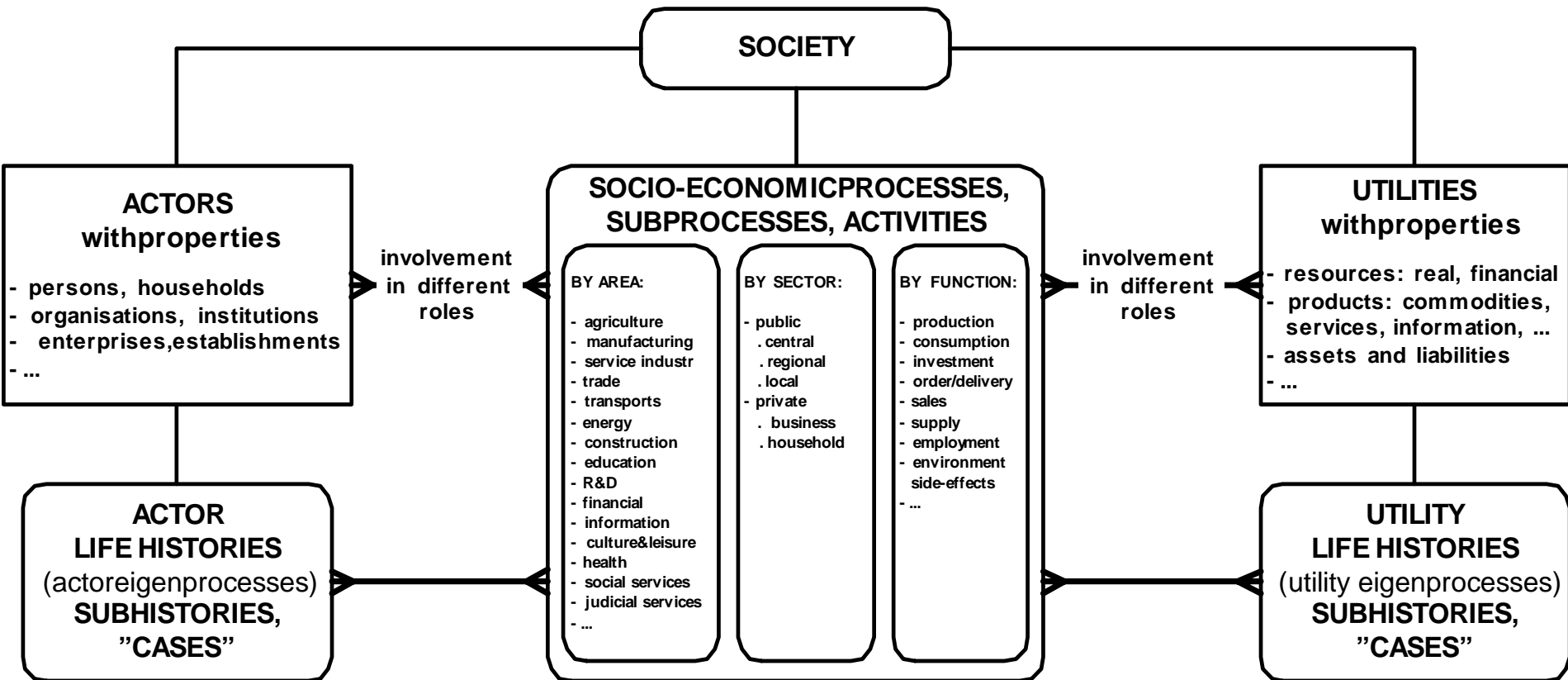
Or: Navigating in a space of statistical surveys of society

Or: Reality as a statistical construction

*Based on a paper by
Bo Sundgren, Statistics Sweden*

ICES-III, Montreal, June 18-21, 2007

A generic conceptual model of society as reflected by official statistics (1)



A generic conceptual model of society as reflected by official statistics (2)

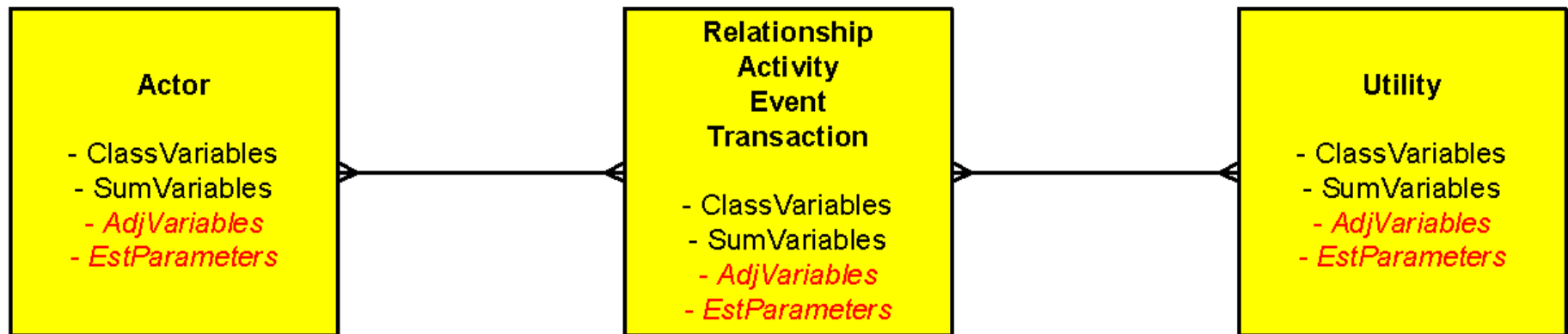


Figure 3. Generic model, covering all statistical domains.

Statistics Canada: Agents, Events, Things

AGENTS	
Social	Economic
Census Family (Census)	Business Entity
Census Family (SLID)	Business Location
Child (Census)	Earners
Child (THS)	Economy
Crime Victim	Employed Person
Criminal Accused	Employee (LFS)
Criminal Charged	Employee (private)
Emigrant	Employee (public)
Family Unit	Employee (SEPH)
Homicide victim	Employment Insurance Beneficiary
Household (Census)	Enterprise
Household Head	Establishment
Immigrant	Farm Operation (agr web)
International Migrant	Institutional Unit
Interprovincial Migrant	Labour Force Participant
Intraprovincial Migrant	Paid Worker (labour income)
Mother	Paid Worker (labour market)
Non-permanent Resident	Person 15 Years or over (LFS)
Person	Self-Employed Worker
Person 12 Years or over	Traveller
Person charged	Unemployed Person
Smoker	
Student	

EVENTS	
Social	Economic
Birth	Person-trip
Community Admission	Person-visit
Correctional Service Admission	
Criminal Incident	
Custodial Admission	
Death	
Divorce	
Homicide	
Marriage	

THINGS	
Social	Economic
Case	Building Permit
Charge	Crop
Criminal Offence	Employment Insurance Claim
Dwelling (Census)	Farm Input
Legal Aid Application	Help Wanted Ad
Legal Aid Plan	Job
Probation Order	Passenger-Kilometer
Sentence	Product
Shelter (THS)	Security
	Transaction
	Vehicle
	Vehicle -Kilometer
	Visit-night

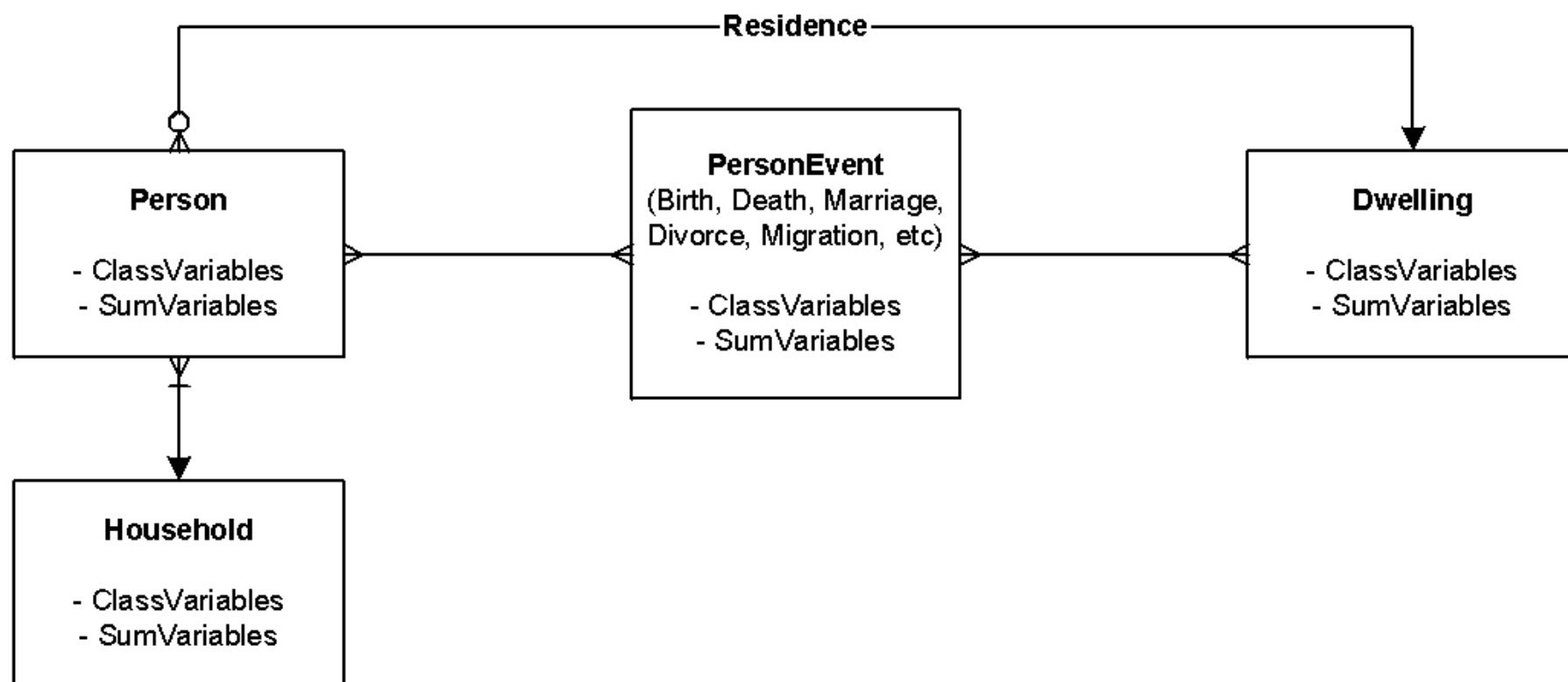


Figure 2a. Population statistics: Basic model.

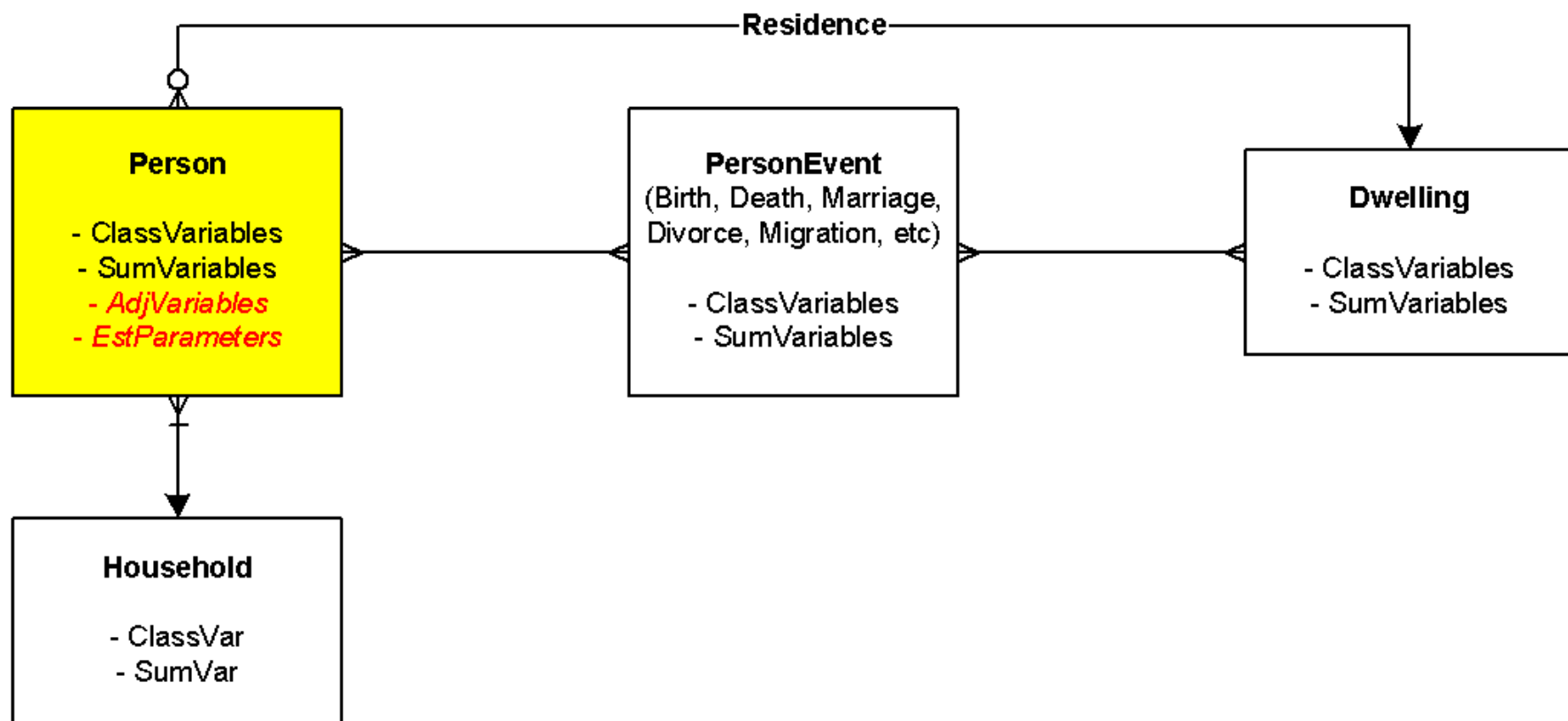


Figure 2b. Person statistics.

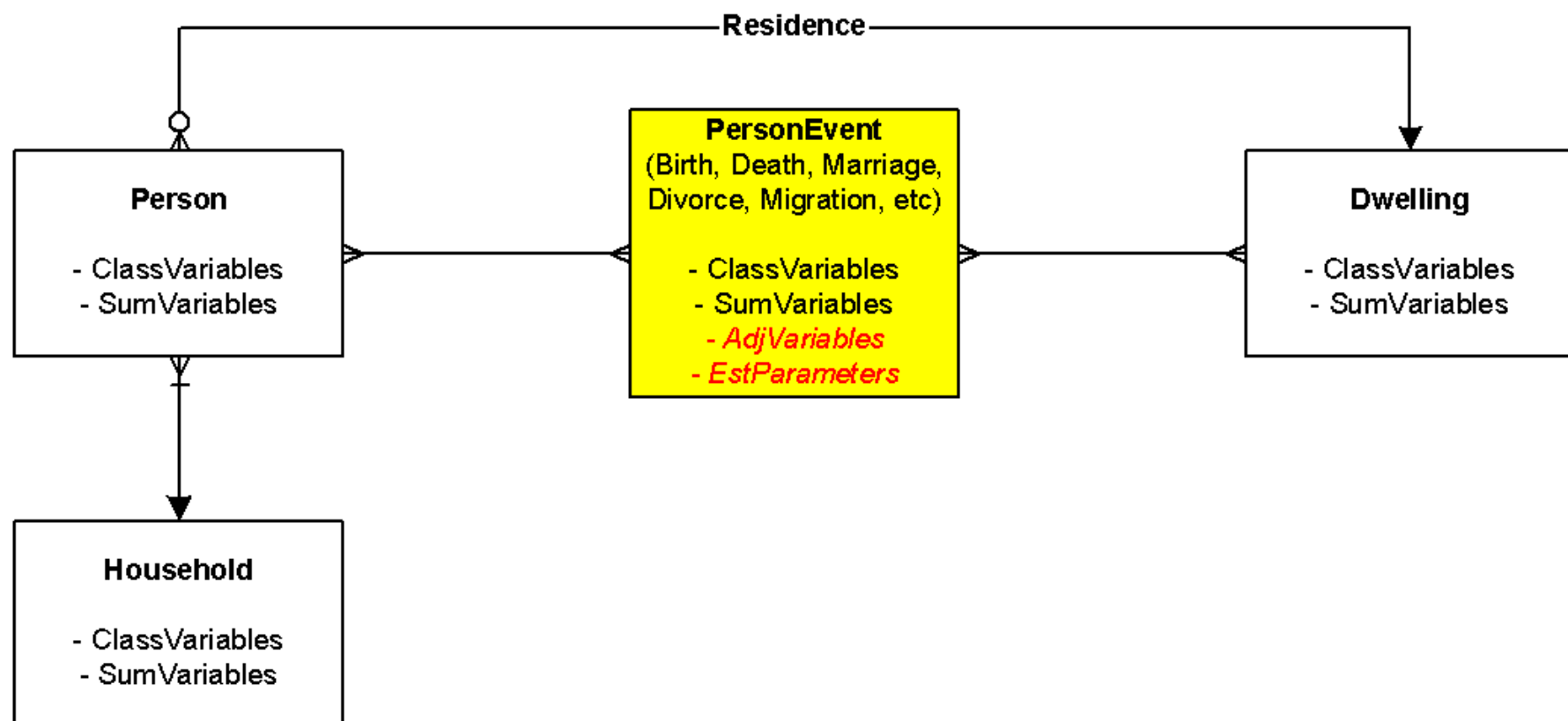


Figure 2c. PersonEvent statistics.

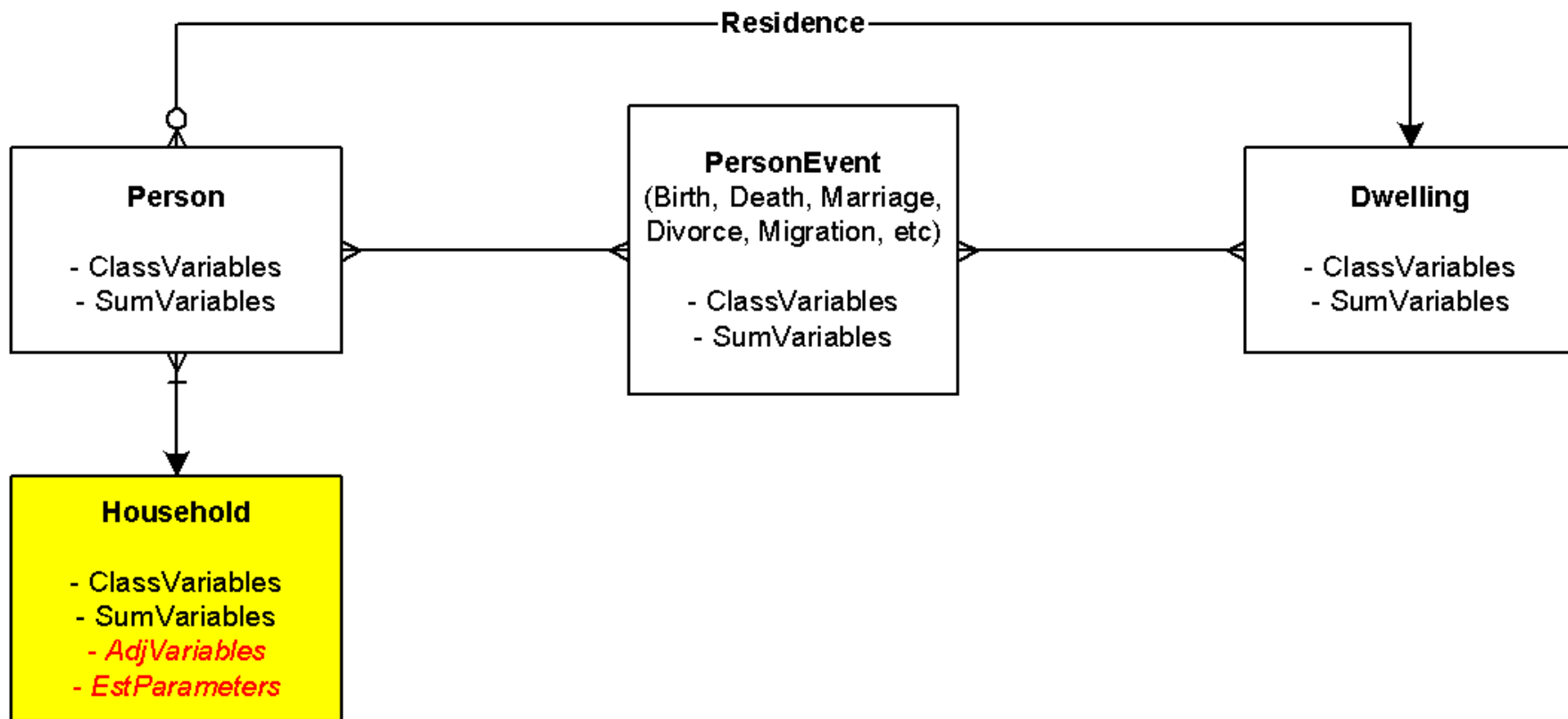


Figure 2d. Household statistics.

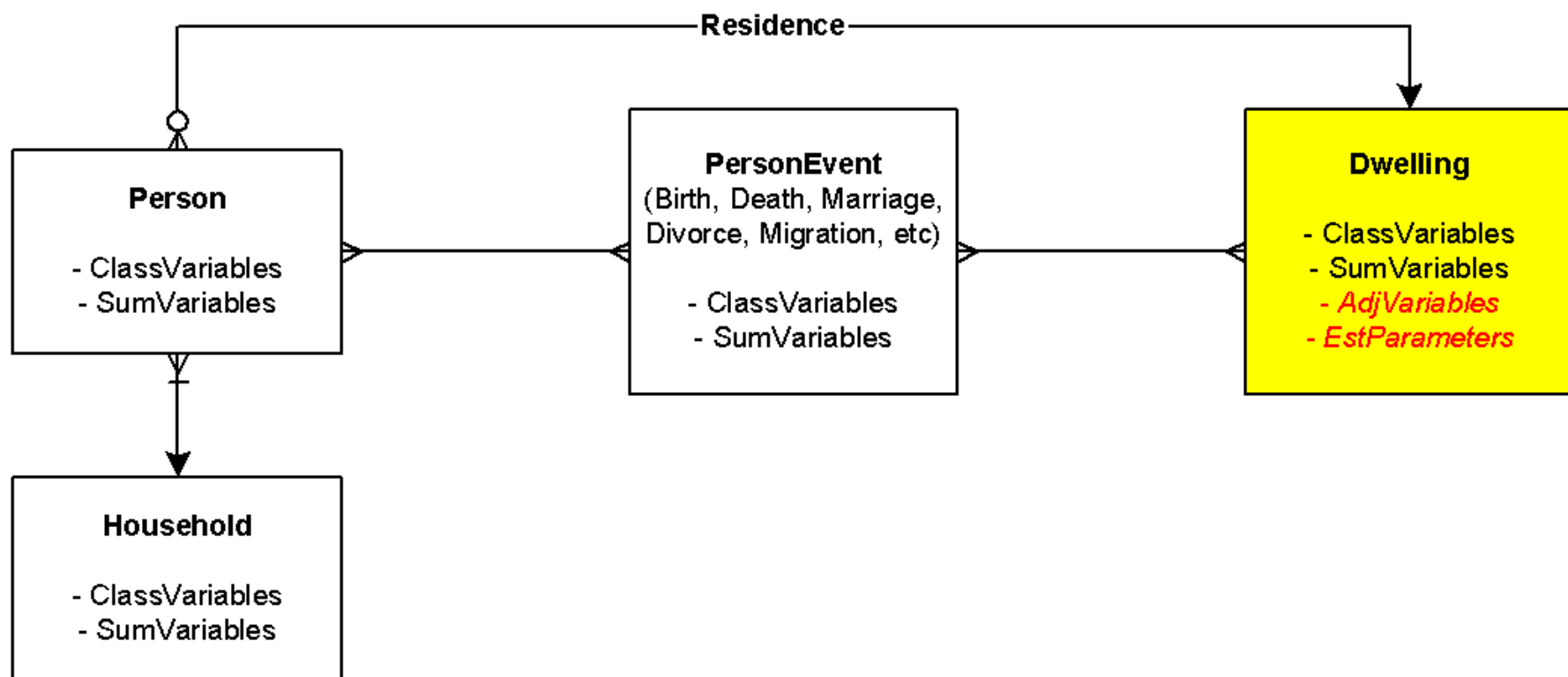


Figure 2e. Dwelling statistics.

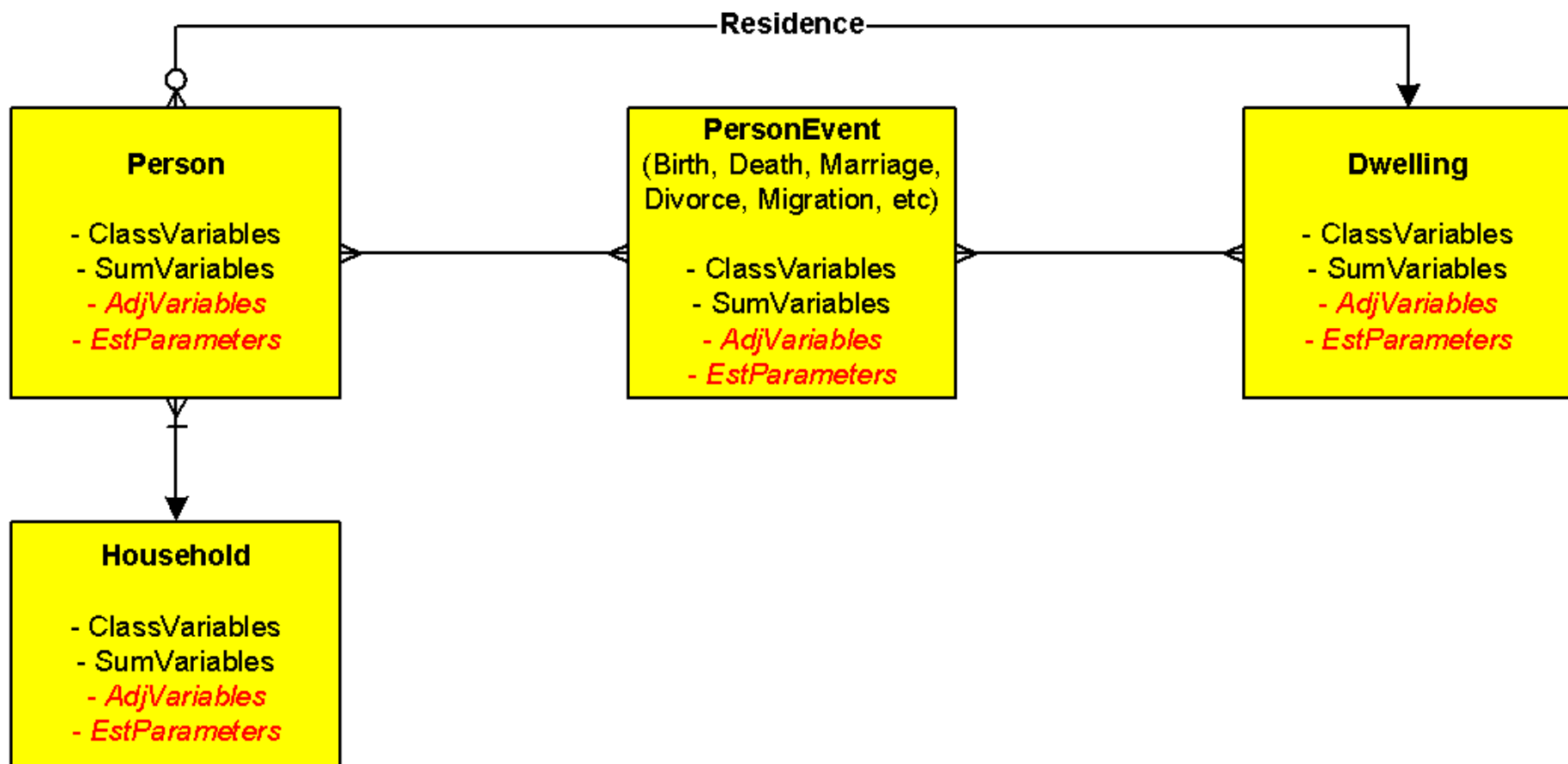


Figure 2f. Population statistics: Split vision model.

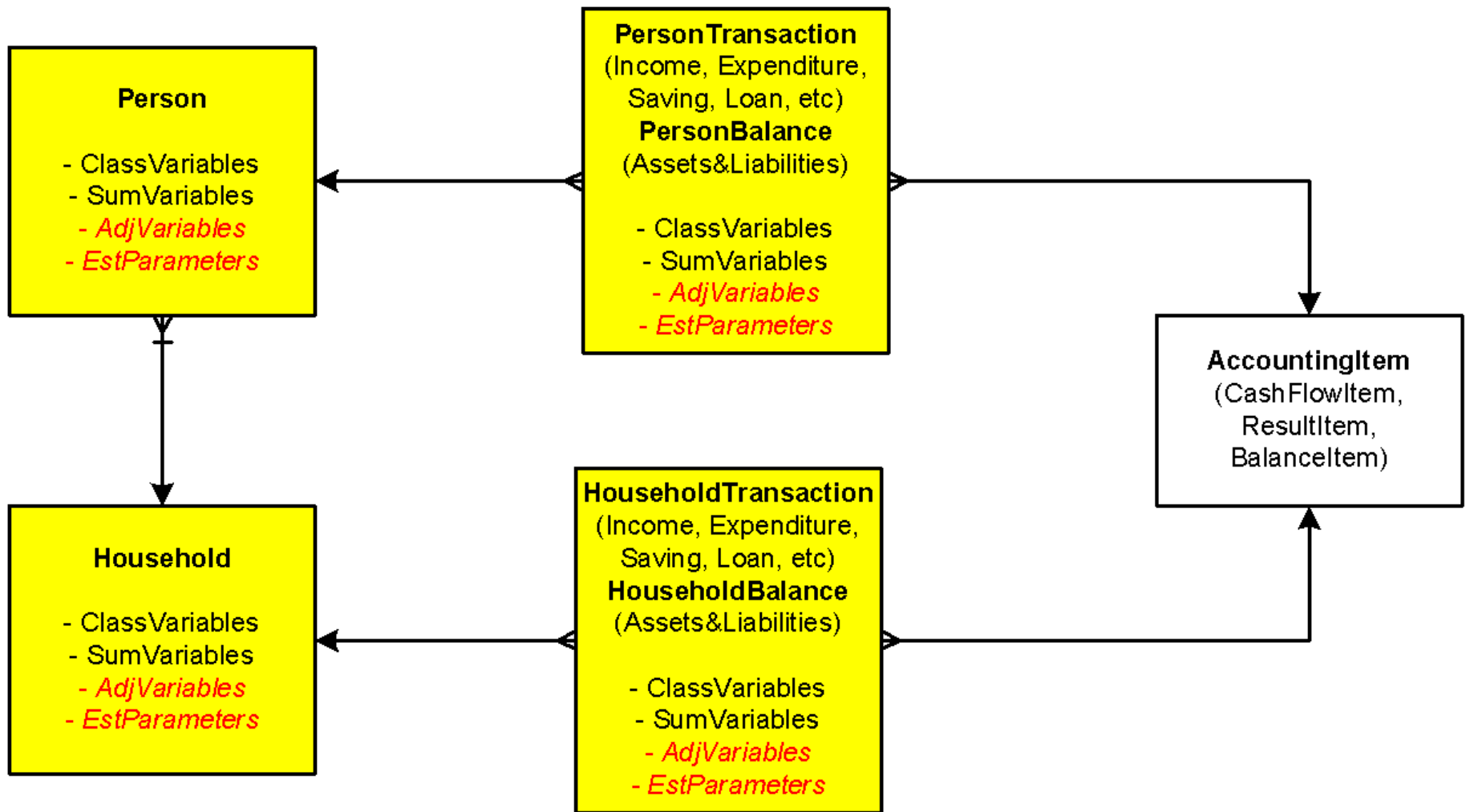


Figure 4. Household economy statistics.

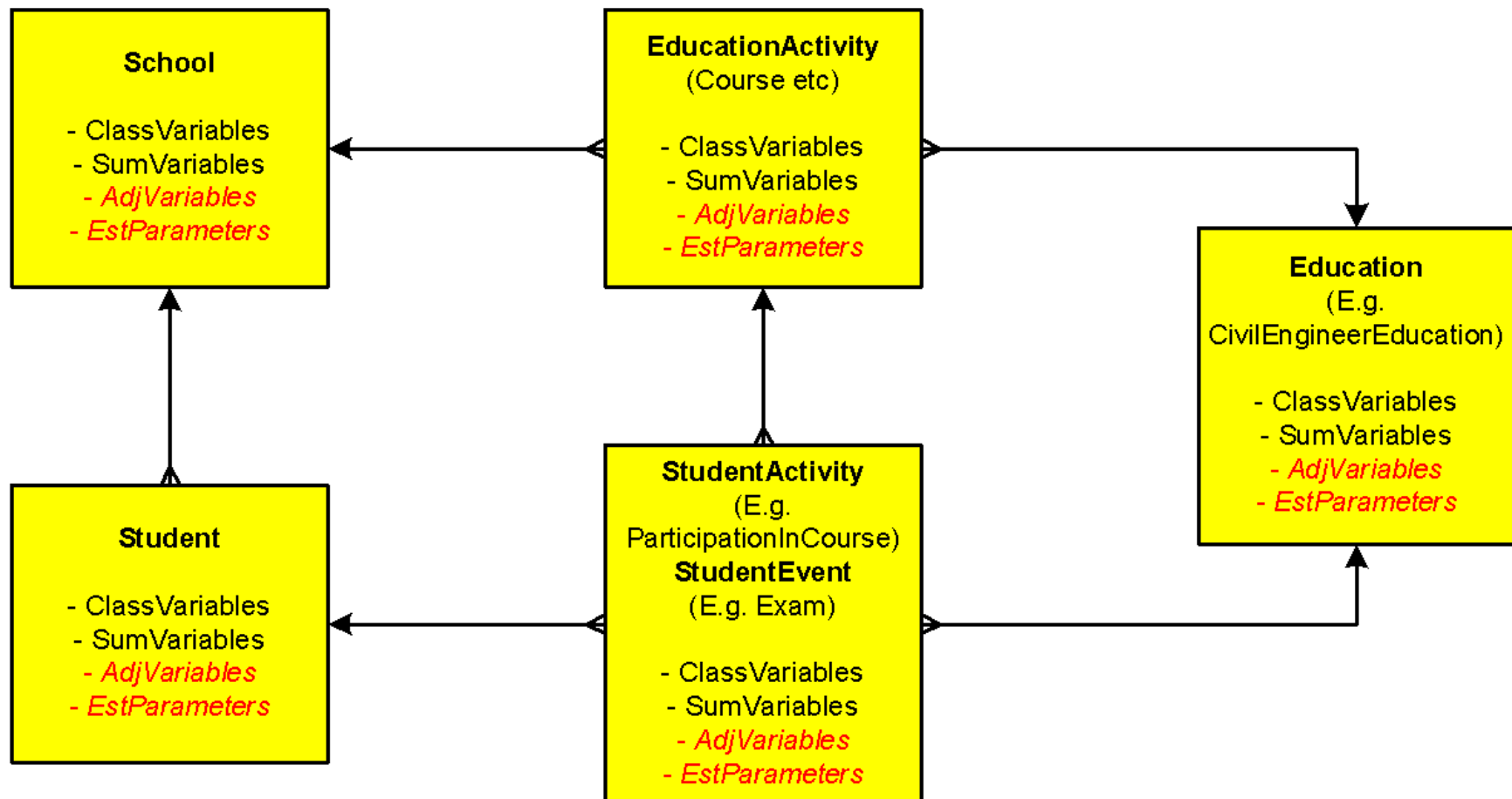
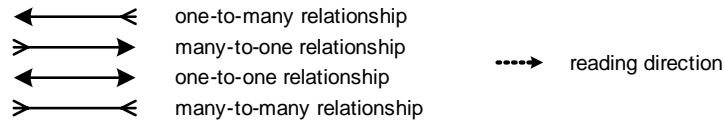


Figure 5. Education statistics.

UNESCO model version 1 (to be revised)

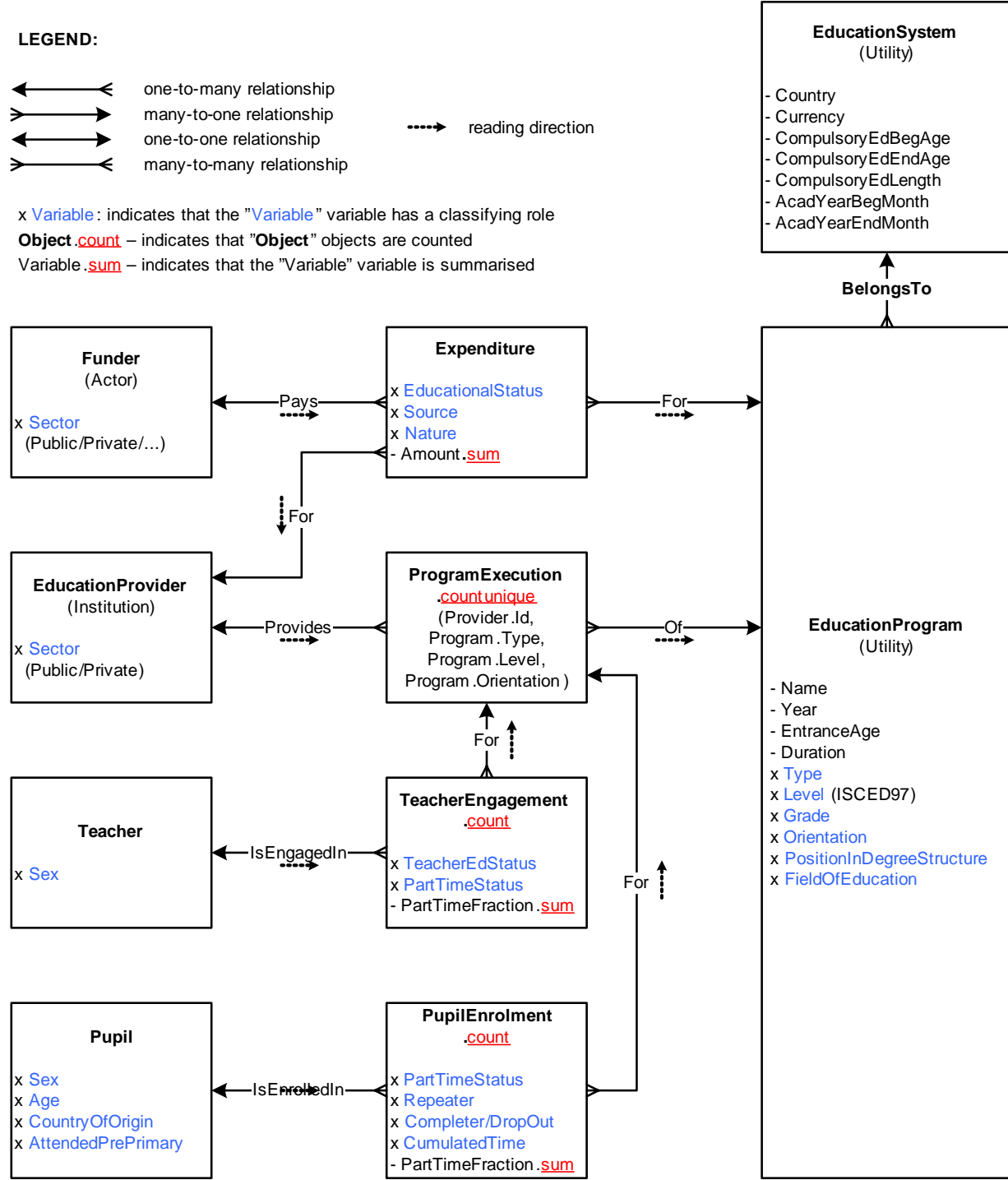
LEGEND:



x **Variable**: indicates that the "**Variable**" variable has a classifying role

Object **.count** – indicates that "**Object**" objects are counted

Variable **.sum** – indicates that the "Variable" variable is summarised



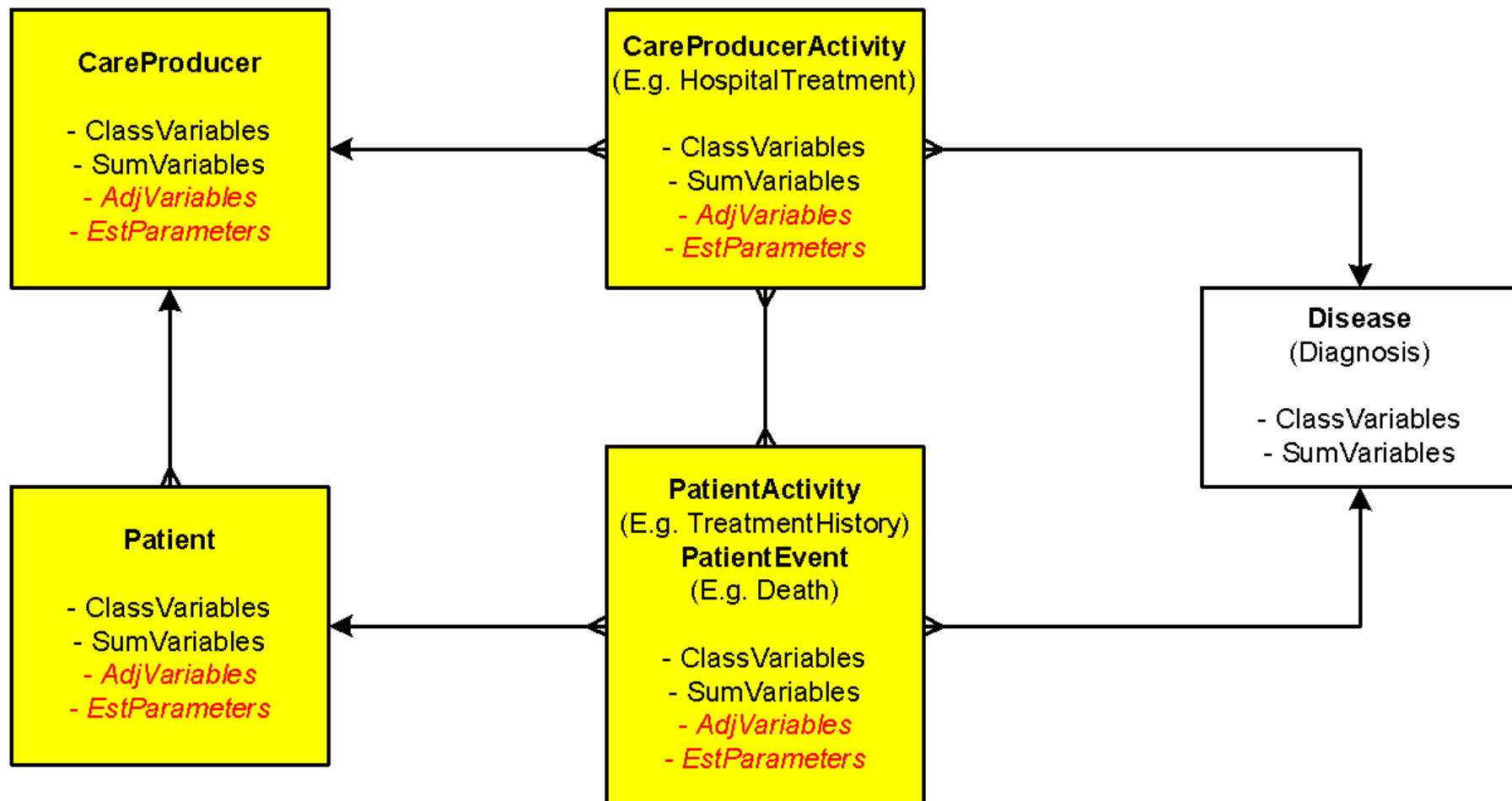


Figure 6. Health statistics.

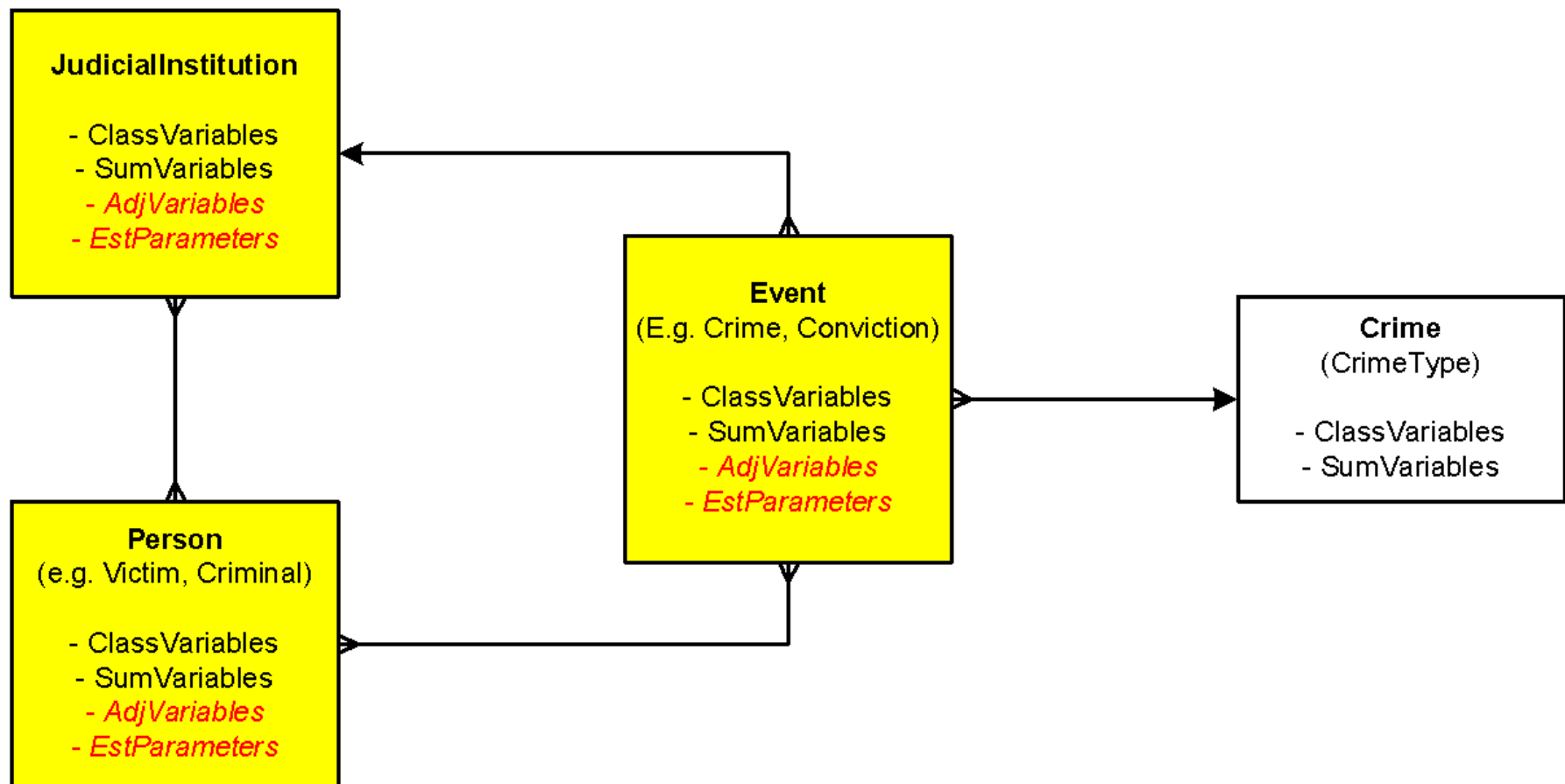


Figure 7. Judicial statistics.

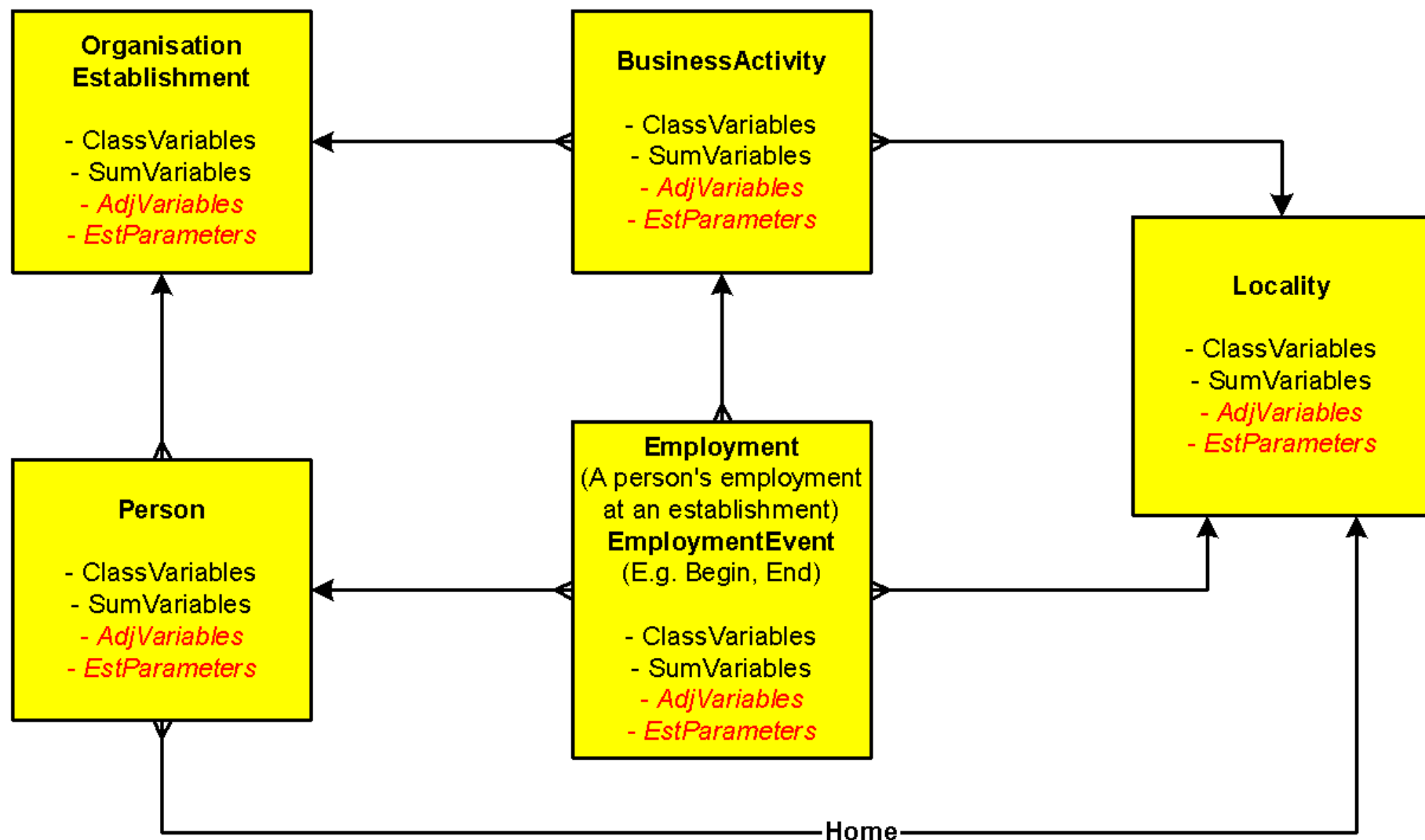


Figure 8. Labour market statistics.

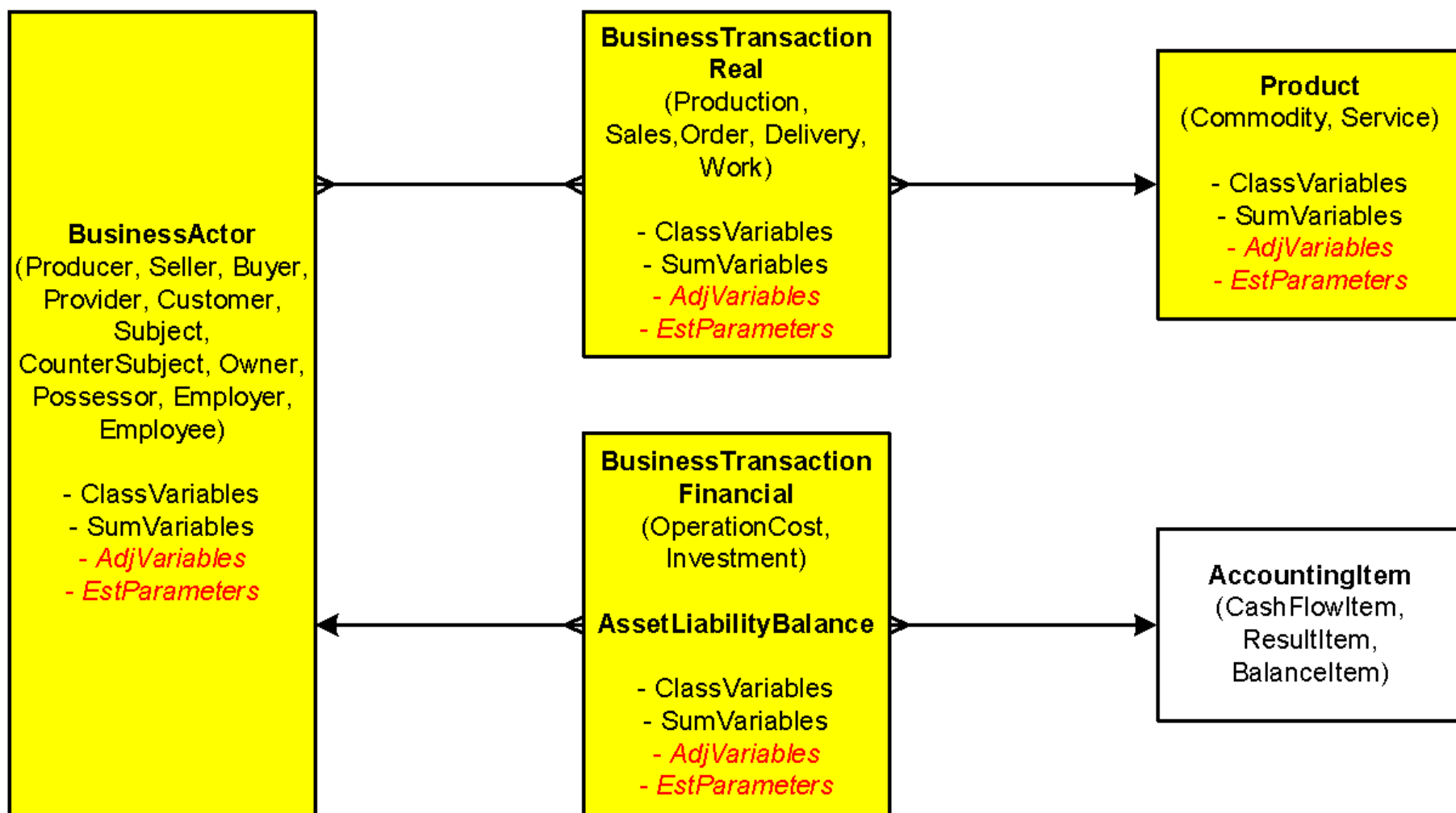


Figure 9. Business statistics.

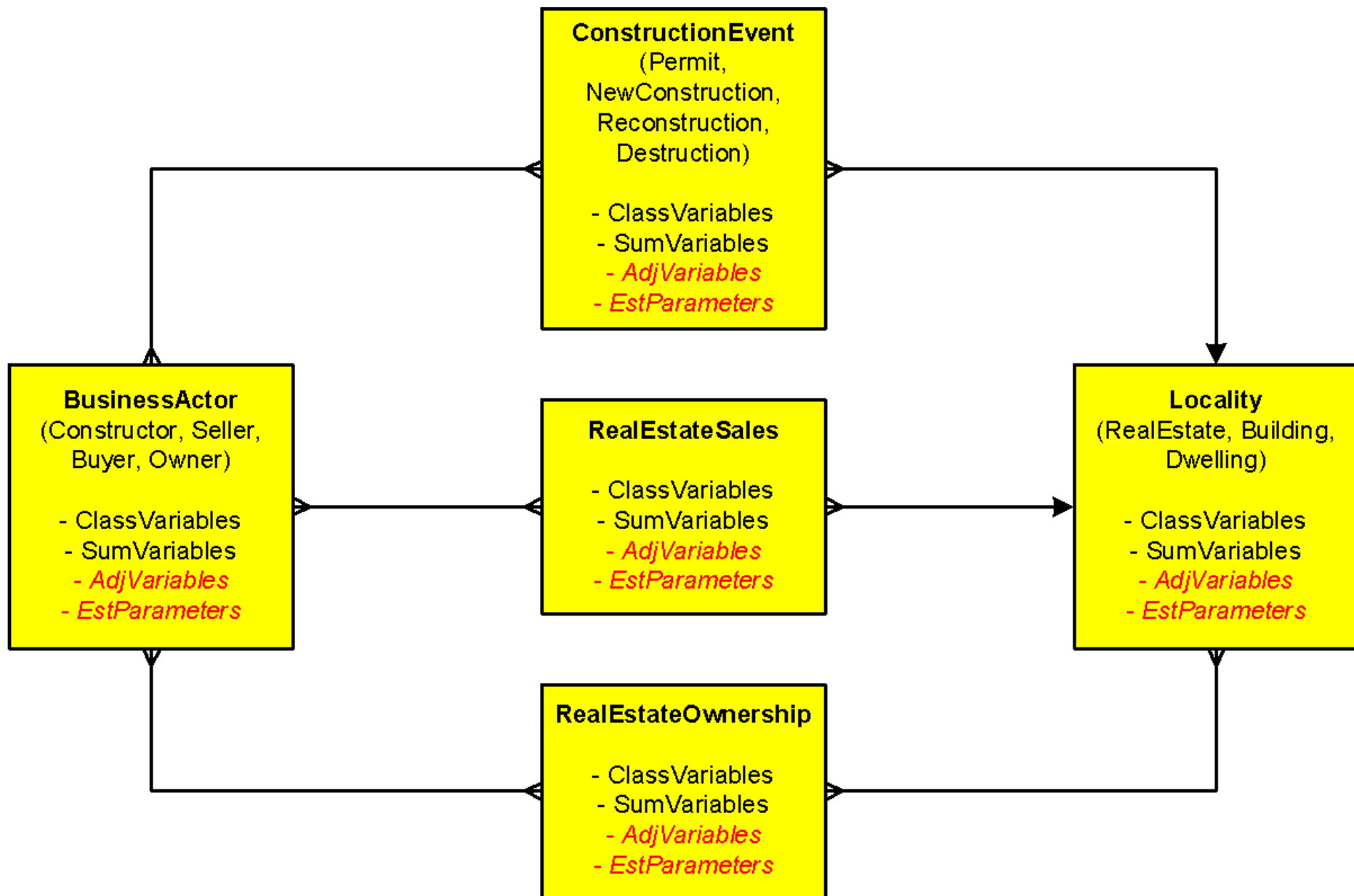


Figure 10. Housing and construction statistics.

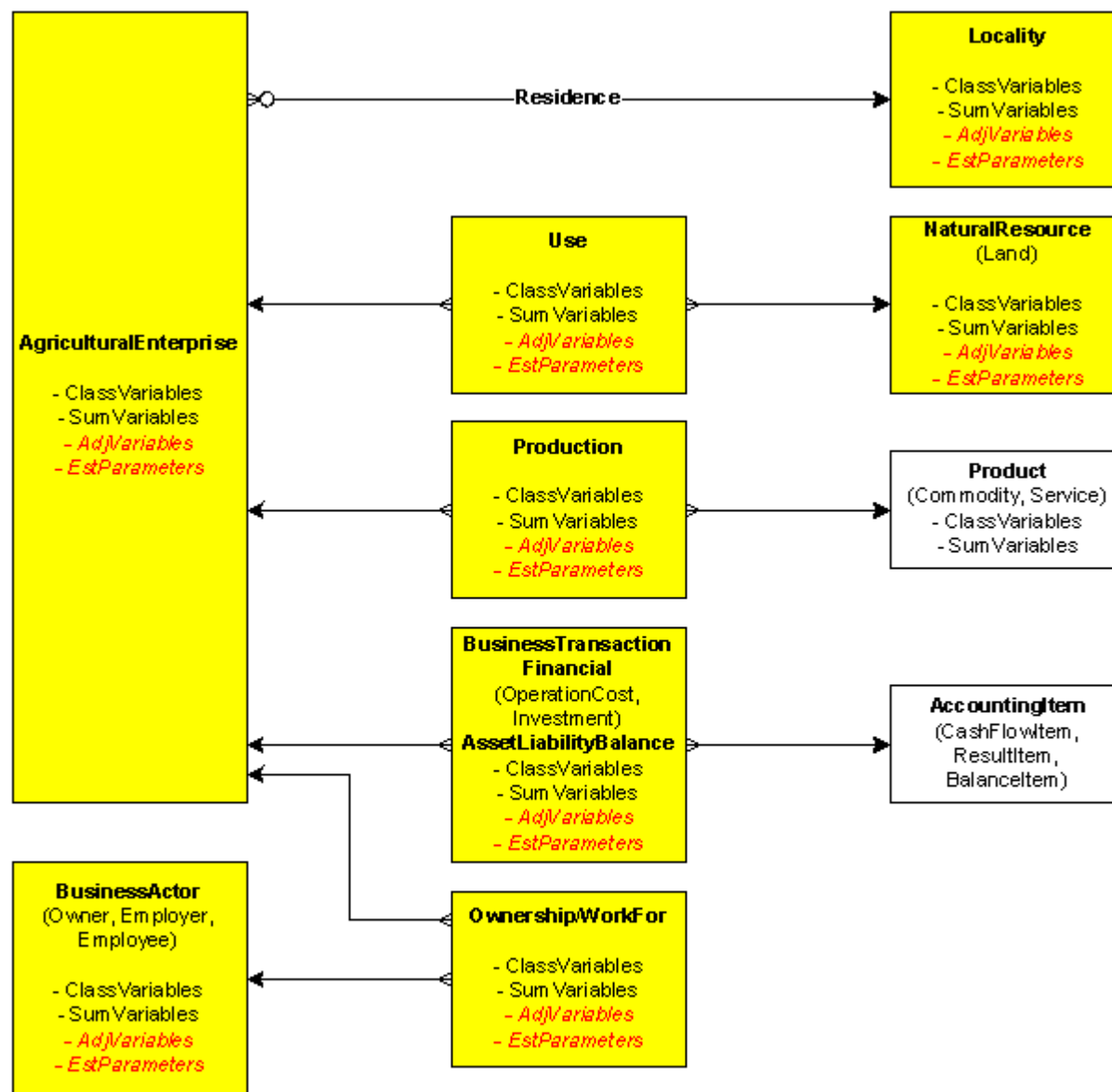


Figure 12. Agriculture statistics.

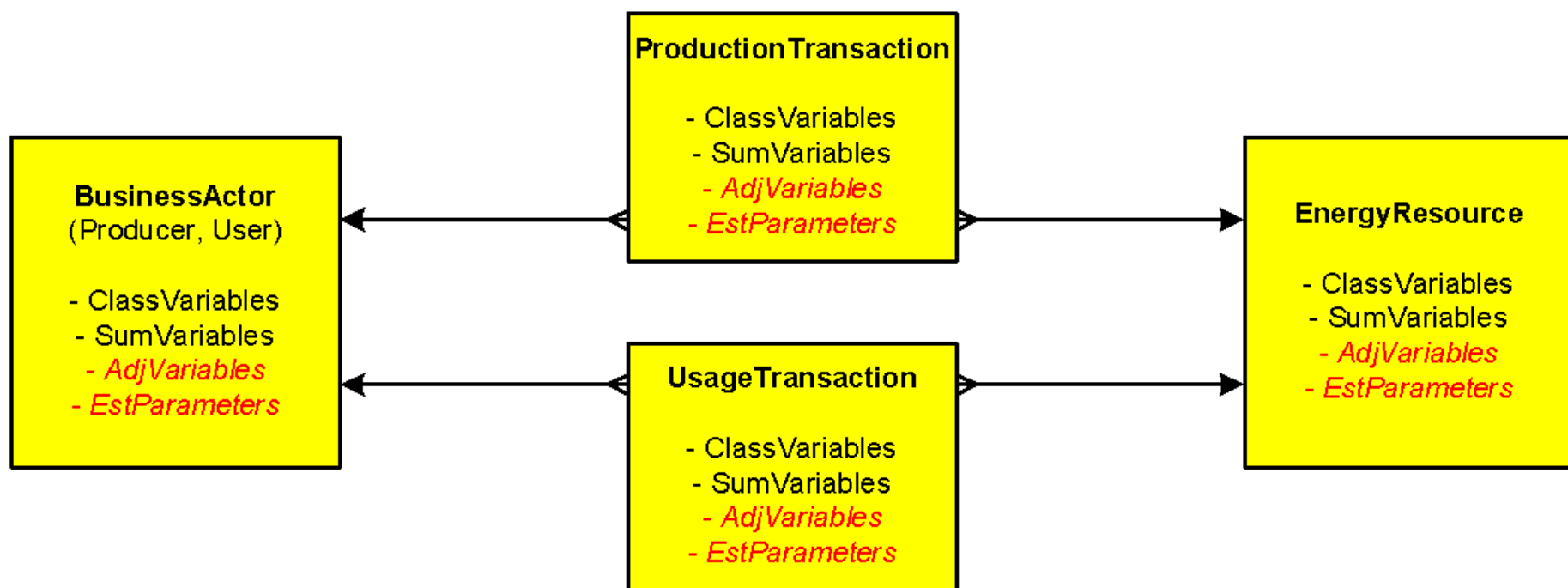


Figure 11. Energy statistics.

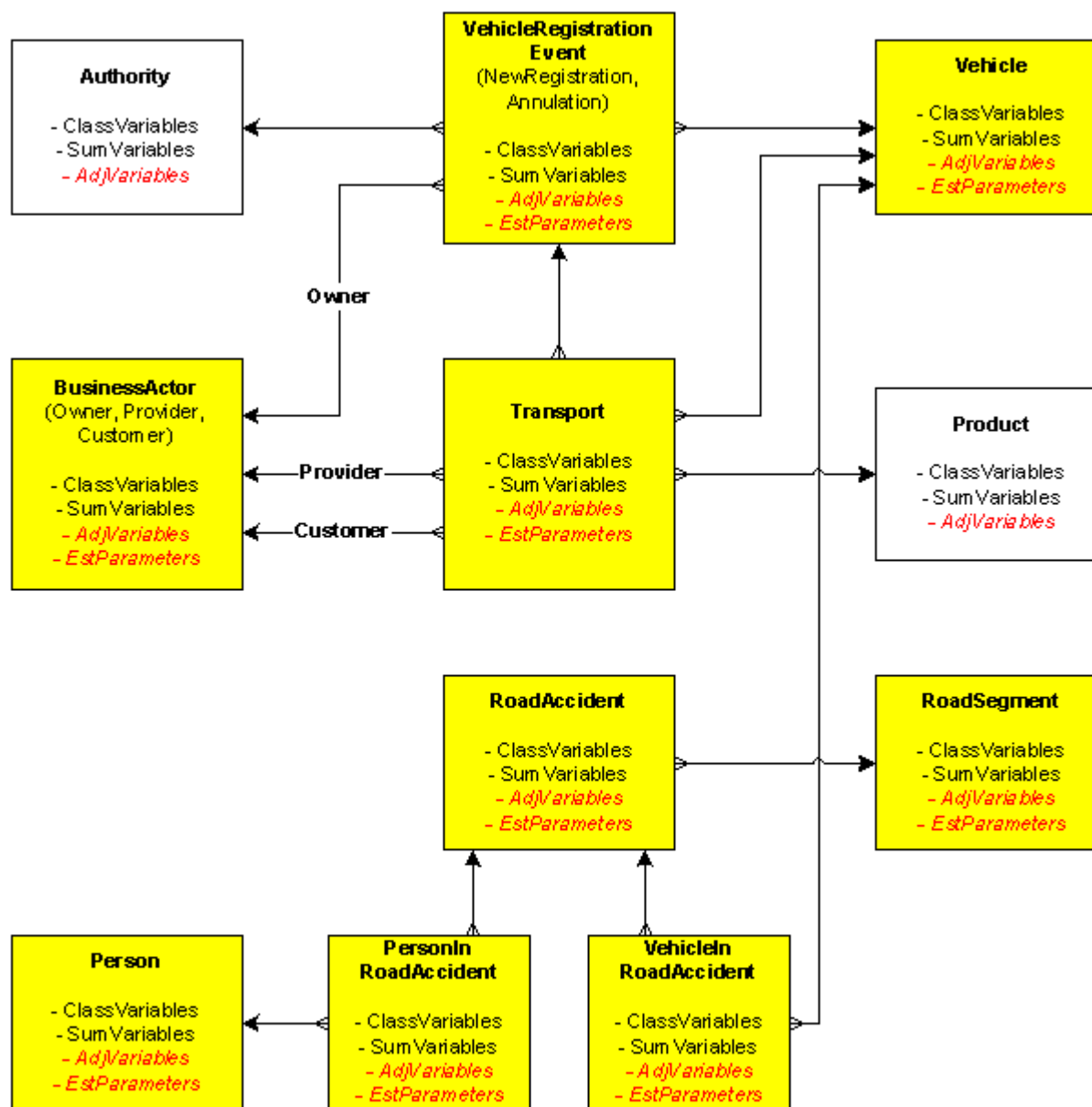


Figure 13. Transport statistics.

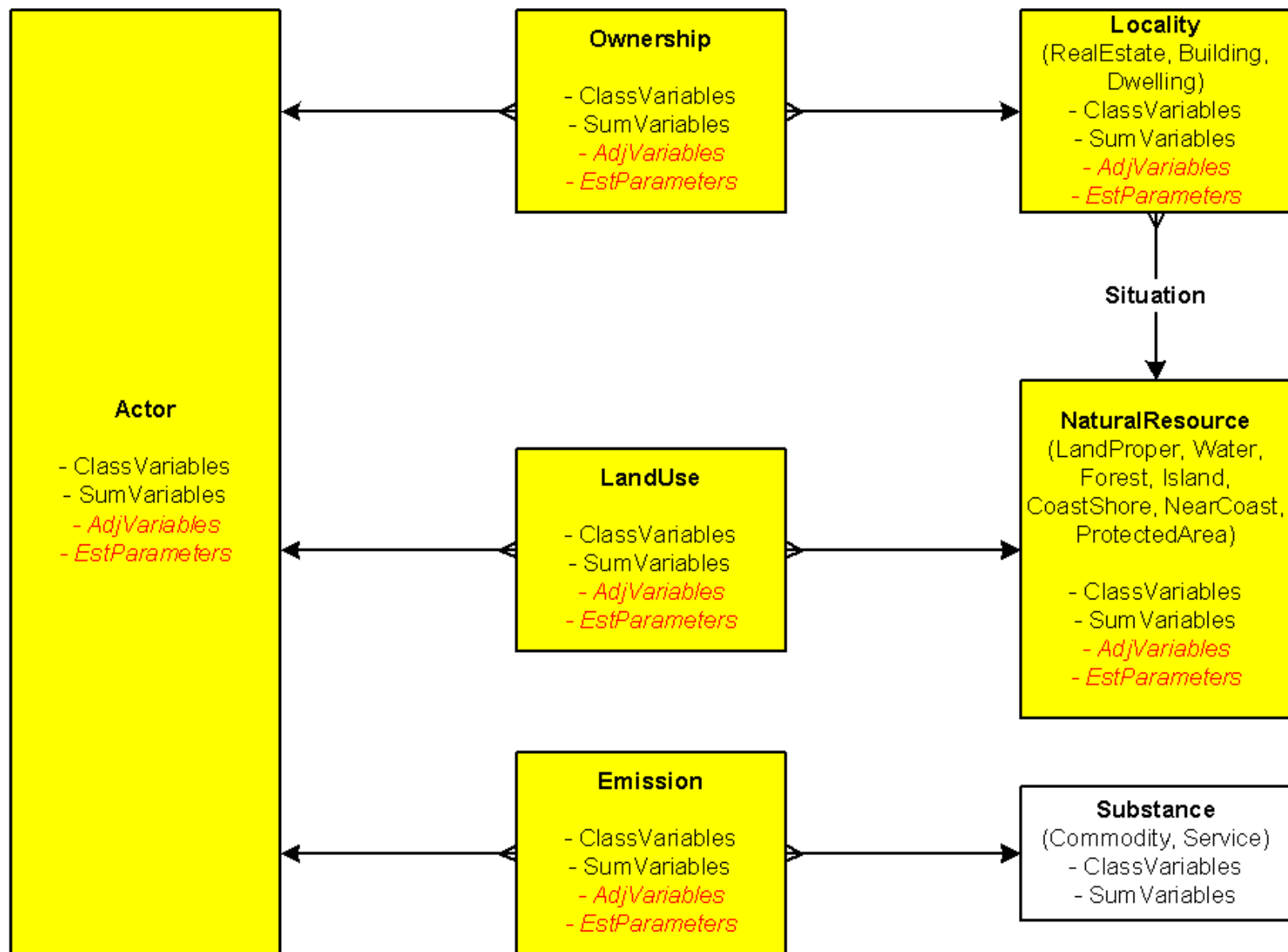


Figure 14. Environment statistics.

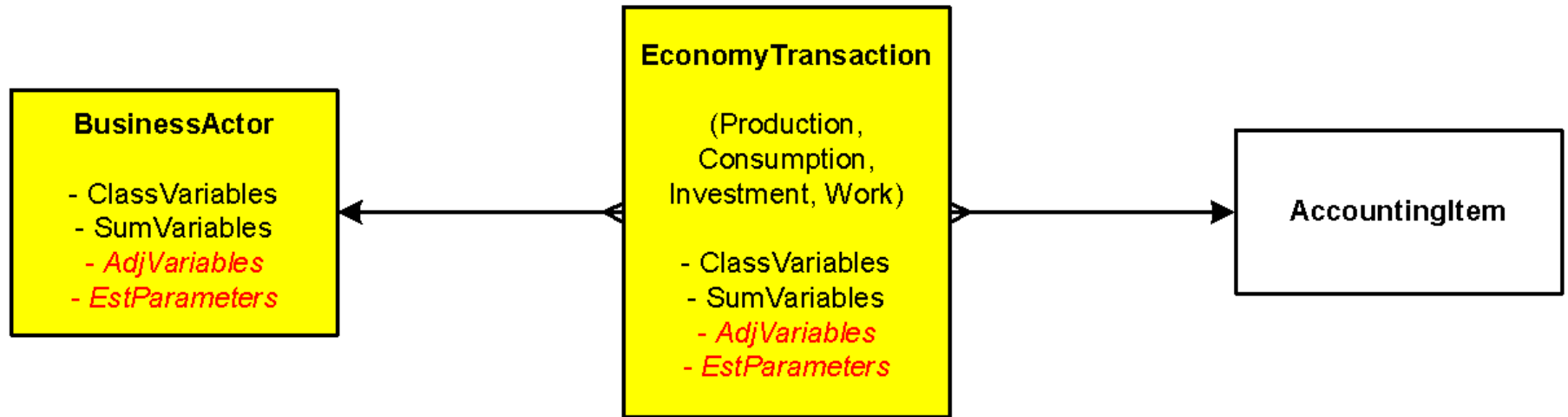


Figure 16. National accounts.

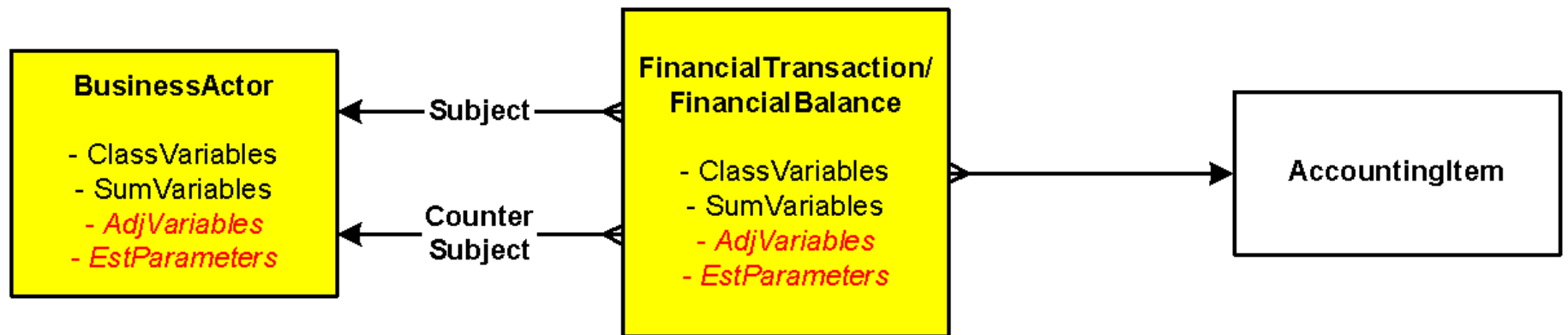


Figure 17. Financial statistics.

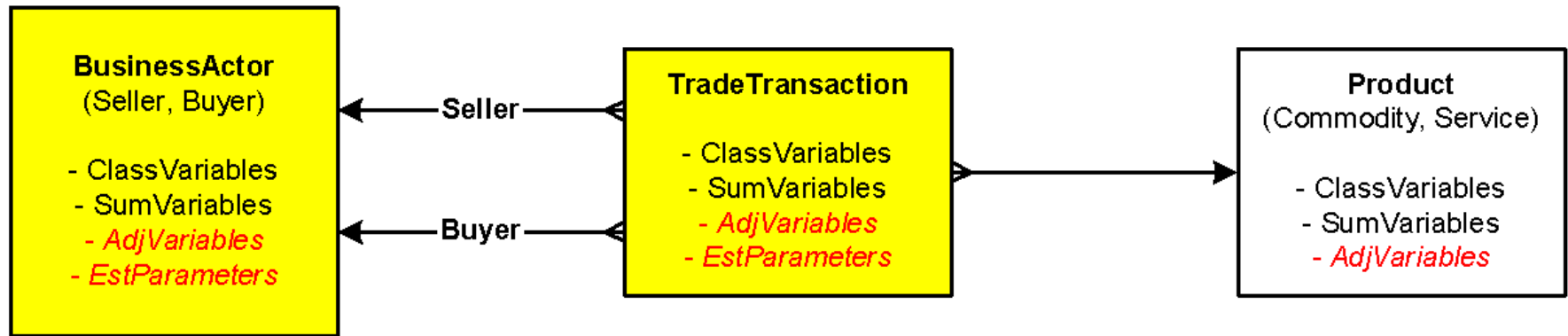


Figure 15. Trade statistics.

What can a statistical agency do,
in order to help a user

- find potentially relevant statistical data?
- judge the relevance of data retrieved?

- Provide overviews of available data
- Provide search tools
- Provide informative metadata

Contents By Example

(based on a simple generic model)

Actors

x	PERSON		
	VARIABLE		m
	VARIABLE		
x	VARIABLE		
x	VARIABLE		
	VARIABLE		>0

x	ORGANISATION		
x	VARIABLE		
	VARIABLE		p
	VARIABLE		
x	VARIABLE		
	VARIABLE		<5

Complex objects

	ACTIVITY		
	VARIABLE		
	VARIABLE		
	VARIABLE		

x	EVENT		
	Σ	VARIABLE	
		VARIABLE	
		VARIABLE	

	RELATION		
	VARIABLE		
	VARIABLE		
	VARIABLE		

Utilities

x	RESOURCE		
	VARIABLE		g
	VARIABLE		
	VARIABLE		
	VARIABLE		
	VARIABLE		

x	PRODUCT		
	VARIABLE		
	VARIABLE		
	VARIABLE		
	VARIABLE		
	VARIABLE		

<ul style="list-style-type: none"> □ All Actors □ Person <ul style="list-style-type: none"> □ Student □ Employee □ Patient □ Client □ Household □ Organisation <ul style="list-style-type: none"> □ Enterprise <ul style="list-style-type: none"> □ AgriculturalEnterprise □ Institution □ Establishment □ BusinessActor <ul style="list-style-type: none"> □ Producer □ Seller □ Buyer □ Provider □ Customer □ Subject □ CounterSubject □ Owner □ Possessor □ Employer □ Employee 	<ul style="list-style-type: none"> □ All Topics □ <i>Topic: Population</i> □ <i>Topic: Education</i> □ <i>Topic: Health</i> □ <i>Topic: Law</i> □ <i>Topic: Labour Market</i> □ <i>Topic: Business Activities</i> □ <i>Topic: Housing and Construction</i> □ <i>Topic: Agriculture</i> □ <i>Topic: Energy</i> □ <i>Topic: Transports</i> □ <i>Topic: Environment</i> □ <i>Topic: National Accounts</i> □ <i>Topic: Financial markets</i> □ <i>Topic: Trade</i> 	<ul style="list-style-type: none"> □ All Utilities □ NaturalResource <ul style="list-style-type: none"> □ Land □ CardinalResource <ul style="list-style-type: none"> □ Locality <ul style="list-style-type: none"> □ RealEstate <ul style="list-style-type: none"> □ Building □ Dwelling □ Vehicle □ Product <ul style="list-style-type: none"> □ Commodity □ Service □ AccountingItem <ul style="list-style-type: none"> □ CashFlowItem □ ResultItem □ BalanceItem □ WelfareItem <ul style="list-style-type: none"> □ Education □ Health □ Wealth □ Security
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<ul style="list-style-type: none"> □ Person <ul style="list-style-type: none"> □ Sex □ Age □ HomeLocation □ WorkLocation □ MaritalStatus □ Income(byKind) □ Wealth(byKind) □ EducationLevel □ Occupation □ Household <ul style="list-style-type: none"> □ Size □ HomeLocation □ Income(byKind) □ Wealth(byKind) 	<p>× <i>Topic: Population</i></p> <ul style="list-style-type: none"> □ Birth[Person] <ul style="list-style-type: none"> □ AgeOfMother □ Death[Person] □ GetMarried[Person] □ GetMarried[Person, Person] □ GetDivorced[Person] □ GetDivorced[Person, Person] □ SeekAsylum[Person] □ GetAsylum[Person] □ SeekCitizenship[Person] □ GetCitizenship[Person] □ Membership[Person, Household] □ MarriedTo[Person, Person] □ ChildOf[Person, Person] □ Residence[Person, Locality] □ Commute[Person, Locality.From, Locality.To] □ Migration[Person, Locality.From, Locality.To] <ul style="list-style-type: none"> □ Immigration[Person, Country.From, Locality.To] <ul style="list-style-type: none"> □ Reason □ BirthCountry □ Emigration[Person, Locality.From, Country.To] <ul style="list-style-type: none"> □ BirthCountry 	<ul style="list-style-type: none"> □ Locality <ul style="list-style-type: none"> □ Location □ Real Estate <ul style="list-style-type: none"> □ Building <ul style="list-style-type: none"> □ Dwelling
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Examples of data sets that may be specified/retrieved/exchanged on the basis of this conceptual (sub)model:

1. Number of births by sex and home location of the child and age of the mother. (4-dimensional frequency macrodata – cf underlying microdata.)
2. Number of migrations by sex, age, and occupation of migrant and place moved from and to. (5-dimensional frequency macrodata.)
3. Average income of persons by sex and education level. (2-dimensinal summarised macrodata.)

<p>x Person</p> <p>x Sex</p> <p>o Age</p> <p>x HomeLocation .<i>RegionalCode</i></p> <p>o WorkLocation</p> <p>o MaritalStatus</p> <p>o Income(byKind)</p> <p>o Wealth(byKind)</p> <p>o EducationLevel</p> <p>o Occupation</p> <p>o Household</p> <p>o Size</p> <p>o HomeLocation</p> <p>o Income(byKind)</p> <p>o Wealth(byKind)</p>	<p>o <i>Topic: Population</i></p> <p># Birth[x Person]</p> <p>x AgeOfMother .<i>AgeGrouping</i></p> <p>o Death[Person]</p> <p>o GetMarried[Person]</p> <p>o GetMarried[Person, Person]</p> <p>o GetDivorced[Person]</p> <p>o GetDivorced[Person, Person]</p> <p>o SeekAsylum[Person]</p> <p>o GetAsylum[Person]</p> <p>o SeekCitizenship[Person]</p> <p>o GetCitizenship[Person]</p> <p>o Membership[Person, Household]</p> <p>o MarriedTo[Person, Person]</p> <p>o ChildOf[Person, Person]</p> <p>o Residence[Person, Locality]</p> <p>o Commute[Person, Locality.From, Locality.To]</p> <p>o Migration[Person, Locality.From, Locality.To]</p> <p>o Immigration[Person, Country.From, Locality.To]</p> <p>o Reason</p> <p>o BirthCountry</p> <p>o Emigration[Person, Locality.From, Country.To]</p> <p>o BirthCountry</p>	<p>o Locality</p> <p>o Location</p> <p>o RealEstate</p> <p>o Building</p> <p>o Dwelling</p>
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Example of data set:

1. Number of births by sex and home location of the child and age of the mother.
(4-dimensional frequency macrodata – cf underlying microdata.)

<p>I</p> <p>x Person</p> <ul style="list-style-type: none"> x Sex x Age. <i>AgeGrouping</i> HomeLocation WorkLocation MaritalStatus Income(byKind) Wealth(byKind) EducationLevel x Occupation. <i>Occupation Code</i> <p>Household</p> <ul style="list-style-type: none"> Size HomeLocation Income(byKind) Wealth(byKind) 	<ul style="list-style-type: none"> Topic: <i>Population</i> Birth[Person] <ul style="list-style-type: none"> AgeOfMother Death[Person] GetMarried[Person] GetMarried[Person, Person] GetDivorced[Person] GetDivorced[Person, Person] SeekAsylum[Person] GetAsylum[Person] SeekCitizenship[Person] GetCitizenship[Person] Membership[Person, Household] MarriedTo[Person, Person] ChildOf[Person, Person] Residence[Person, Locality] Commute[Person, Locality.From, Locality.To] # Migration[x Person, x Locality.From, x Locality.To] <ul style="list-style-type: none"> Immigration[Person, Country.From, Locality.To] <ul style="list-style-type: none"> Reason BirthCountry Emigration[Person, Locality.From, Country.To] <ul style="list-style-type: none"> BirthCountry 	<p>xx Locality</p> <ul style="list-style-type: none"> Location. <i>RegionalCode</i> RealEstate <ul style="list-style-type: none"> Building <ul style="list-style-type: none"> Dwelling
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Example of data set:

2. Number of migrations by sex, age, and occupation of migrant and place moved from and to.
(5-dimensional frequency macrodata.)

<ul style="list-style-type: none"> x Person <ul style="list-style-type: none"> x Sex □ Age □ HomeLocation □ WorkLocation □ MaritalStatus m Income(byKind) □ Wealth(byKind) x EducationLevel □ Occupation □ Household <ul style="list-style-type: none"> □ Size □ HomeLocation □ Income(byKind) □ Wealth(byKind) 	<ul style="list-style-type: none"> □ <i>Topic: Population</i> □ Birth[Person] <ul style="list-style-type: none"> □ AgeOfMother □ Death[Person] □ GetMarried[Person] □ GetMarried[Person, Person] □ GetDivorced[Person] □ GetDivorced[Person, Person] □ SeekAsylum[Person] □ GetAsylum[Person] □ SeekCitizenship[Person] □ GetCitizenship[Person] □ Membership[Person, Household] □ MarriedTo[Person, Person] □ ChildOf[Person, Person] □ Residence[Person, Locality] □ Commute[Person, Locality.From, Locality.To] □ Migration[Person, Locality.From, Locality.To] <ul style="list-style-type: none"> □ Immigration[Person, Country.From, Locality.To] <ul style="list-style-type: none"> □ Reason □ BirthCountry □ Emigration[Person, Locality.From, Country.To] <ul style="list-style-type: none"> □ BirthCountry 	<ul style="list-style-type: none"> □ Locality <ul style="list-style-type: none"> □ Location □ RealEstate <ul style="list-style-type: none"> □ Building <ul style="list-style-type: none"> □ Dwelling
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Example of data set:

3. Average income of persons by sex and education level.
(2-dimensinal summarised macrodata.)

Everything "clickable"

OBJECT

VARIABLE

Lefthand click

Righthand click

Select:

- object
- variable

Retrieve metadata:

- definition
- value set, classification
- questionnaire
- quality declaration
- survey documentation

Part IV: Extra material

Bo Sundgren
2010

<ul style="list-style-type: none"> □ Person <ul style="list-style-type: none"> □ Sex □ Age □ HomeLocation □ MaritalStatus □ Student <ul style="list-style-type: none"> □ EducationLevel □ ParentsEducation □ NationalBackground □ FinancialSupport □ Organisation <ul style="list-style-type: none"> □ Institution <ul style="list-style-type: none"> □ School <ul style="list-style-type: none"> □ Location □ Type □ Owner 	<ul style="list-style-type: none"> □ <i>Topic: Education</i> □ EducationActivity[Institution, Education, #] <ul style="list-style-type: none"> □ EducationYearSemester □ Participation[Student, EducationActivity] □ Exam[Student, EducationActivity] 	<ul style="list-style-type: none"> □ WelfareItem <ul style="list-style-type: none"> □ Education <ul style="list-style-type: none"> □ Type □ Subject □ Level □ Duration
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<ul style="list-style-type: none"> □ Person <ul style="list-style-type: none"> □ Sex □ Age □ HomeLocation □ WorkLocation □ MaritalStatus □ Patient □ Organisation <ul style="list-style-type: none"> □ CareProducer <ul style="list-style-type: none"> □ Location □ PublicPrivate □ GeneralSpecialized 	<ul style="list-style-type: none"> □ <i>Topic: Health</i> □ DiseaseDiagnosis[Patient, Disease] □ VisitToPhysician[CareProducer, Patient] <ul style="list-style-type: none"> □ Reason □ HospitalTreatment[CareProducer, Patient] <ul style="list-style-type: none"> □ BedDays □ DeathDiagnosis[Patient, Disease] 	<ul style="list-style-type: none"> □ WelfareItem <ul style="list-style-type: none"> □ Health □ Disease
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<ul style="list-style-type: none"> □ Person <ul style="list-style-type: none"> □ Sex □ Age □ HomeLocation □ MaritalStatus □ Income(byKind) □ Wealth(byKind) □ EducationLevel □ SocioEconomicGroup □ Criminal <ul style="list-style-type: none"> □ CriminalStatus □ NationalBackground □ Organisation <ul style="list-style-type: none"> □ Institution <ul style="list-style-type: none"> □ PoliceAuthority □ Court 	<ul style="list-style-type: none"> □ <i>Topic: Law</i> □ CrimeReport[PoliceAuthority, Crime.Type] □ Conviction[Court, Crime.Type] 	<ul style="list-style-type: none"> □ WelfareItem <ul style="list-style-type: none"> □ Security <ul style="list-style-type: none"> □ Crime <ul style="list-style-type: none"> □ Type
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- **Person**
 - Sex
 - Age
 - HomeLocation
 - WorkLocation
 - MaritalStatus
 - Income(byKind)
 - Wealth(byKind)
 - EducationLevel
 - Profession
 - LabourForceStatus
 - **NotInLabourForce**
 - Reason
 - PossibilityWish
 - **InLabourForce**
 - **Employed**
 - MainOccupation
 - SideOccupation
 - **Absent**
 - TimeOfAbsence
 - ReasonOfAbsence
 - **Working**
 - WeeklyWorkingTime
 - **Unemployed**
 - UnemploymentStatus
 - UnemploymentTime
- **Organisation**
 - **Establishment**
 - Location

- *Topic: Labour Market*
- **EmploymentEvent[Person, Establishment]**
 - PartTimePercentage
 - EmploymentForm
 - PersonnelCategory
 - Salary
- **EmploymentRelation[Person, Establishment]**
 - PartTimePercentage
 - EmploymentForm
 - PersonnelCategory
 - Salary
 - SalaryChange
 - OnSickLeave
- **Residence[Person, Locality]**
- **Residence[Establishment, Locality]**
- **Commute[Person, Locality.Home, Locality.Work]**

- **Locality**
 - Location
- **RealEstate**
 - **Building**
 - Dwelling

<ul style="list-style-type: none"> □ Organisation <ul style="list-style-type: none"> □ Enterprise □ Establishment <ul style="list-style-type: none"> □ Location □ KindOfActivity □ BusinessActor <ul style="list-style-type: none"> □ Location □ Sector □ KindOfActivity □ Producer □ Seller □ Buyer □ Provider □ Customer □ Subject □ CounterSubject □ Owner □ Possessor □ Employer □ Employee 	<ul style="list-style-type: none"> □ <i>Topic: Business Activities</i> □ Residence[Establishment, Locality] □ <i>Business transactions and balances (real)</i> □ ProductionTransaction[Producer, Product] <ul style="list-style-type: none"> □ Volume □ Value □ SalesTransaction[Seller, Buyer, Product] <ul style="list-style-type: none"> □ Volume □ Value □ Order[Provider, Customer, Product] <ul style="list-style-type: none"> □ Volume □ Value □ Delivery[Provider, Customer, Product] <ul style="list-style-type: none"> □ Volume □ Value □ WorkTransaction[Employer, Employee] <ul style="list-style-type: none"> □ Volume □ Value □ StockBalance[BusinessActor, Asset] <ul style="list-style-type: none"> □ Volume □ Value □ <i>Business transactions (financial)</i> □ OperationCostTransaction[BusinessActor, CostItem] <ul style="list-style-type: none"> □ Value □ InvestmentTransaction[BusinessActor, InvestmentItem] <ul style="list-style-type: none"> □ Value □ AssetLiabilityBalance[BusinessActor, BalanceItem] <ul style="list-style-type: none"> □ Value 	<ul style="list-style-type: none"> □ Locality <ul style="list-style-type: none"> □ Location □ Product <ul style="list-style-type: none"> □ Commodity □ Service □ AccountingItem <ul style="list-style-type: none"> □ CashFlowItem □ IncomeItem □ ExpenditureItem <ul style="list-style-type: none"> □ ConsumptionItem □ InvestmentItem □ ResultItem <ul style="list-style-type: none"> □ CostItem □ RevenueItem □ BalanceItem <ul style="list-style-type: none"> □ Asset □ Liability
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<ul style="list-style-type: none"> □ Person <ul style="list-style-type: none"> □ Sex □ Age □ HomeLocation □ WorkLocation □ MaritalStatus □ Income(byKind) □ Wealth(byKind) □ Household <ul style="list-style-type: none"> □ Size □ HomeLocation □ Income(byKind) □ Wealth(byKind) □ Organisation <ul style="list-style-type: none"> □ Enterprise □ Establishment <ul style="list-style-type: none"> □ Location □ KindOfActivity □ BusinessActor <ul style="list-style-type: none"> □ Location □ Sector □ KindOfActivity □ Constructor □ Seller □ Buyer □ Owner 	<ul style="list-style-type: none"> □ <i>Topic: Housing and Construction</i> □ RealEstateOwnership[Owner, RealEstate] <ul style="list-style-type: none"> □ OwnershipShare □ RealEstateSalesTransaction[Seller, Buyer, RealEsstate] <ul style="list-style-type: none"> □ Price □ ConstructionEvent[Constructor, Building] <ul style="list-style-type: none"> □ NumberOfDwellings □ EventType □ Permit □ NewConstruction □ Reconstruction □ Destruction 	<ul style="list-style-type: none"> □ Locality <ul style="list-style-type: none"> □ Location □ RealEstate <ul style="list-style-type: none"> □ Building □ Dwelling □ Product <ul style="list-style-type: none"> □ Commodity □ Service □ AccountingItem <ul style="list-style-type: none"> □ CashFlowItem □ ResultItem □ BalanceItem
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<ul style="list-style-type: none"> □ Organisation □ Enterprise <ul style="list-style-type: none"> □ AgriculturalEnterprise <ul style="list-style-type: none"> □ Location □ KindOfActivity □ BusinessActor <ul style="list-style-type: none"> □ Producer □ Seller □ Buyer □ Provider □ Customer □ Owner □ Possessor □ Employer □ Employee 	<ul style="list-style-type: none"> □ <i>Topic: Agriculture</i> □ Residence[AgriculturalEnterprise, Locality] □ Ownership[BusinessActor, AgriculturalEnterprise] □ Work[BusinessActor, AgriculturalEnterprise] <ul style="list-style-type: none"> □ KindOfWork □ KindOfWork □ Hours □ LandUse[AgriculturalEnterprise, Land, Crop] <ul style="list-style-type: none"> □ Area □ Production[AgriculturalEnterprise, Commodity] <ul style="list-style-type: none"> □ Volume □ Value □ FinancialBalance[AgriculturalEnterprise, FinancialResource] <ul style="list-style-type: none"> □ Value □ CostRevenueTransaction[AgriculturalEnterprise, ResultItem] <ul style="list-style-type: none"> □ Value □ InvestmentTransaction[AgriculturalEnterprise, InvestmentItem] <ul style="list-style-type: none"> □ Value 	<ul style="list-style-type: none"> □ Locality <ul style="list-style-type: none"> □ Location □ NaturalResource <ul style="list-style-type: none"> □ Land □ Product <ul style="list-style-type: none"> □ Commodity <ul style="list-style-type: none"> □ Crop □ Livestock □ Service □ AccountingItem <ul style="list-style-type: none"> □ CashFlowItem <ul style="list-style-type: none"> □ IncomeItem □ ExpenditureItem <ul style="list-style-type: none"> □ ConsumptionItem □ InvestmentItem □ ResultItem <ul style="list-style-type: none"> □ CostItem □ RevenueItem □ BalanceItem <ul style="list-style-type: none"> □ Asset □ Liability
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<ul style="list-style-type: none"> □ BusinessActor □ Location □ Sector □ KindOfActivity □ Producer □ Seller □ Buyer □ Provider □ Customer □ Subject □ CounterSubject □ Owner □ Possessor □ Employer □ Employee 	<ul style="list-style-type: none"> □ <i>Topic: Energy</i> □ Production[Producer, EnergyResource] <ul style="list-style-type: none"> □ Volume □ Value □ Usage[Customer, EnergyResource] <ul style="list-style-type: none"> □ Volume □ Value 	<ul style="list-style-type: none"> □ NaturalResource □ EnergyResource <ul style="list-style-type: none"> □ Electricity □ Fuel
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<ul style="list-style-type: none"> □ Person <ul style="list-style-type: none"> □ Student □ Employee □ Patient □ Client □ Organisation <ul style="list-style-type: none"> □ Enterprise □ Institution <ul style="list-style-type: none"> □ Authority □ Establishment □ BusinessActor <ul style="list-style-type: none"> □ Producer □ Seller □ Buyer □ Provider □ Customer □ Subject □ CounterSubject □ Owner □ Possessor □ Employer □ Employee 	<ul style="list-style-type: none"> □ <i>Topic: Transports</i> □ VehicleRegistration[Authority, Owner, Vehicle] <ul style="list-style-type: none"> □ NewRegistration □ Annualation □ Transport[Provider, Customer, Vehicle, Product] <ul style="list-style-type: none"> □ Weight □ Distance □ LocationFrom □ LocationTo □ RoadAccident[RoadSegment] <ul style="list-style-type: none"> □ Time □ WeatherCondition □ RoadCondition □ PersonInRoadAccident[RoadAccident] <ul style="list-style-type: none"> □ PersonRoleInAccident □ PersonCondition □ PersonConsequences □ VehicleInRoadAccident[RoadAccident] <ul style="list-style-type: none"> □ VehicleRoleInAccident □ VehicleCondition □ VehicleConsequences 	<ul style="list-style-type: none"> □ NaturalResource <ul style="list-style-type: none"> □ Land □ CardinalResource <ul style="list-style-type: none"> □ Locality <ul style="list-style-type: none"> □ Location □ RoadSegment <ul style="list-style-type: none"> □ Type □ Vehicle <ul style="list-style-type: none"> □ Type □ Product <ul style="list-style-type: none"> □ Commodity □ Service
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<ul style="list-style-type: none"> □ Person <ul style="list-style-type: none"> □ Student □ Employee □ Patient □ Client □ Household □ Organisation <ul style="list-style-type: none"> □ Enterprise <ul style="list-style-type: none"> □ AgriculturalEnterprise □ Institution □ Establishment □ BusinessActor <ul style="list-style-type: none"> □ Producer □ Seller □ Buyer □ Provider □ Customer □ Subject □ CounterSubject □ Owner □ Possessor □ Employer □ Employee 	<ul style="list-style-type: none"> □ <i>Topic: Environment</i> □ LandUse[Actor, Land] <ul style="list-style-type: none"> □ LandUseCategory □ Emission[Actor, Land, Substance] <ul style="list-style-type: none"> □ Amount □ Situation[Locality, Land] □ Ownership[Owner, Locality] 	<ul style="list-style-type: none"> □ NaturalResource <ul style="list-style-type: none"> □ Land <ul style="list-style-type: none"> □ Type □ Location □ Area □ NumberOfBuildings □ LandProper □ Water □ Forest □ Island □ CoastShore □ NearCoast □ ProtectedArea <ul style="list-style-type: none"> □ KindOfProtection □ CardinalResource <ul style="list-style-type: none"> □ Locality <ul style="list-style-type: none"> □ RealEstate <ul style="list-style-type: none"> □ Building <ul style="list-style-type: none"> □ Dwelling □ Vehicle □ Product <ul style="list-style-type: none"> □ Commodity □ Substance □ AccountingItem <ul style="list-style-type: none"> □ CashFlowItem □ ResultItem □ BalanceItem
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<ul style="list-style-type: none"> □ BusinessActor <ul style="list-style-type: none"> □ Location □ Sector □ KindOfActivity 	<ul style="list-style-type: none"> □ <i>Topic: National Accounts</i> □ ProductionTransaction[BusinessActor, Product] <ul style="list-style-type: none"> □ Value □ ConsumptionTransaction[BusinessActor, Product] <ul style="list-style-type: none"> □ Value □ InvestmentTransaction[BusinessActor, InvestmentItem] <ul style="list-style-type: none"> □ Value □ WorkTransaction[BusinessActor, AccountingItem] <ul style="list-style-type: none"> □ Hours 	<ul style="list-style-type: none"> □ Product <ul style="list-style-type: none"> □ Commodity □ Service □ AccountingItem <ul style="list-style-type: none"> □ CashFlowItem <ul style="list-style-type: none"> □ IncomeItem □ ExpenditureItem <ul style="list-style-type: none"> □ ConsumptionItem □ InvestmentItem □ ResultItem <ul style="list-style-type: none"> □ CostItem □ RevenueItem □ BalanceItem <ul style="list-style-type: none"> □ Asset □ Liability
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<ul style="list-style-type: none"> □ BusinessActor □ Subject □ Location □ Sector □ CounterSubject □ Location □ Sector 	<ul style="list-style-type: none"> □ <i>Topic: Financial markets</i> □ FinancialTransaction[Subject, CounterSubject, AccountingItem] <ul style="list-style-type: none"> □ RunTime □ Purpose □ Security □ Currency □ ValuationPrinciple □ Value □ FinancialBalance[Subject, CounterSubject, AccountingItem] <ul style="list-style-type: none"> □ RunTime □ Purpose □ Security □ Currency □ ValuationPrinciple □ Value 	<ul style="list-style-type: none"> □ AccountingItem □ CashFlowItem □ IncomeItem □ ExpenditureItem □ ResultItem □ CostItem □ RevenueItem □ BalanceItem □ Asset □ Liability
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<ul style="list-style-type: none">□ BusinessActor<ul style="list-style-type: none">□ Location□ Sector□ KindOfActivity□ Seller□ Buyer	<ul style="list-style-type: none">□ <i>Topic: Trade</i>□ TradeTransaction[Seller, Buyer, Product]<ul style="list-style-type: none">□ Volume□ Value	<ul style="list-style-type: none">□ Product<ul style="list-style-type: none">□ Commodity□ Service
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