

# Automating the quarterly processing for the British Crime Survey

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## Introduction

The British Crime Survey is a continuous household survey of the experience of crime for individuals and households. The sample is balanced every quarter, and every quarter the data for the previous year (four quarters) is analysed and results are reported. The analysis and reporting requirements change only slowly, and most of the processing is based on standardised (well-documented) scripts.

However, the process involves several transfers of data between SPSS, SAS and Stata, and manual updating of syntax files. In all this takes about two weeks of elapsed time. The objective of the project was to reorganise the processing to eliminate as much as possible of the repetitive manual work. The solution involves:

- Standardising directory structures and file names, and organising syntax files into modules
- Use of macros to automate file name and period references
- Use of g-Calib and Complex Samples to bring weighting and standard error calculations into SPSS
- Upgrading to the latest version of SPSS and arranging additional staff training.

The presentation will discuss the issues and solutions, together with residual problems.

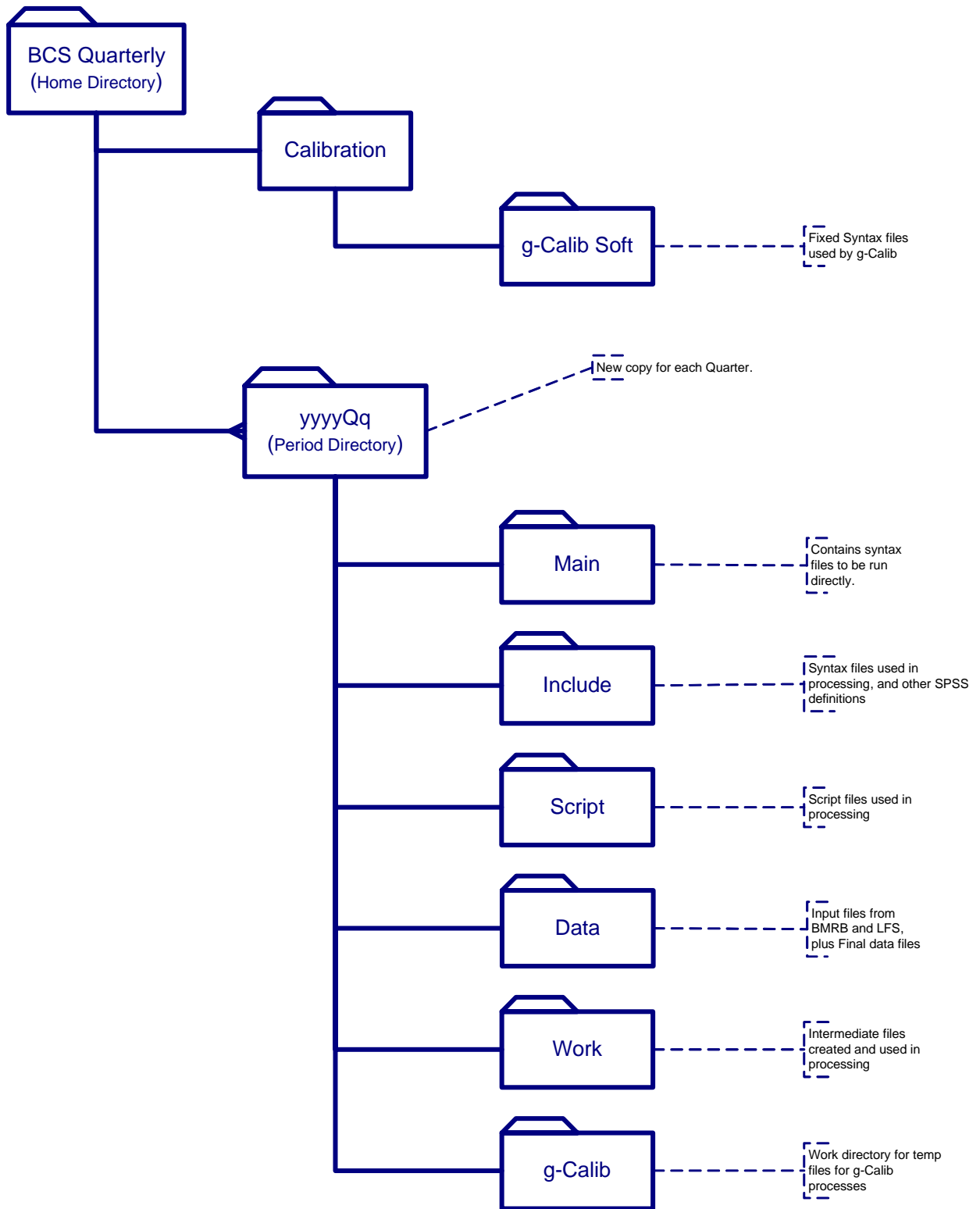
## Contacts

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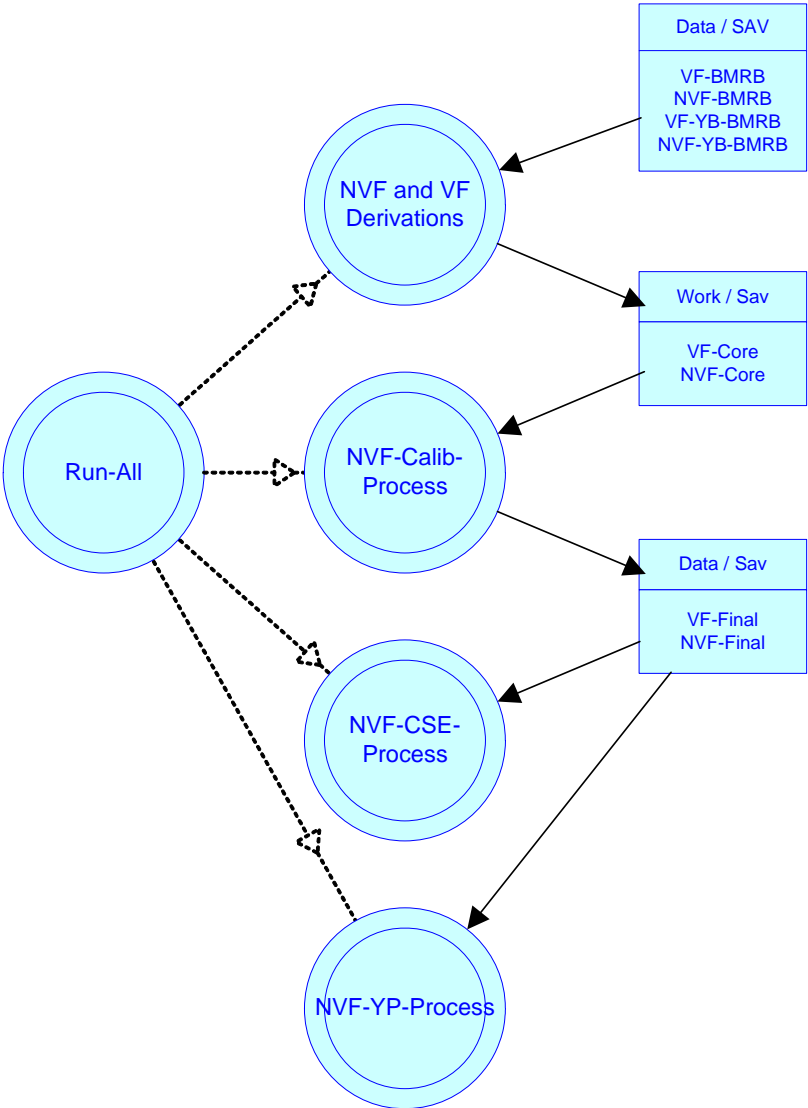
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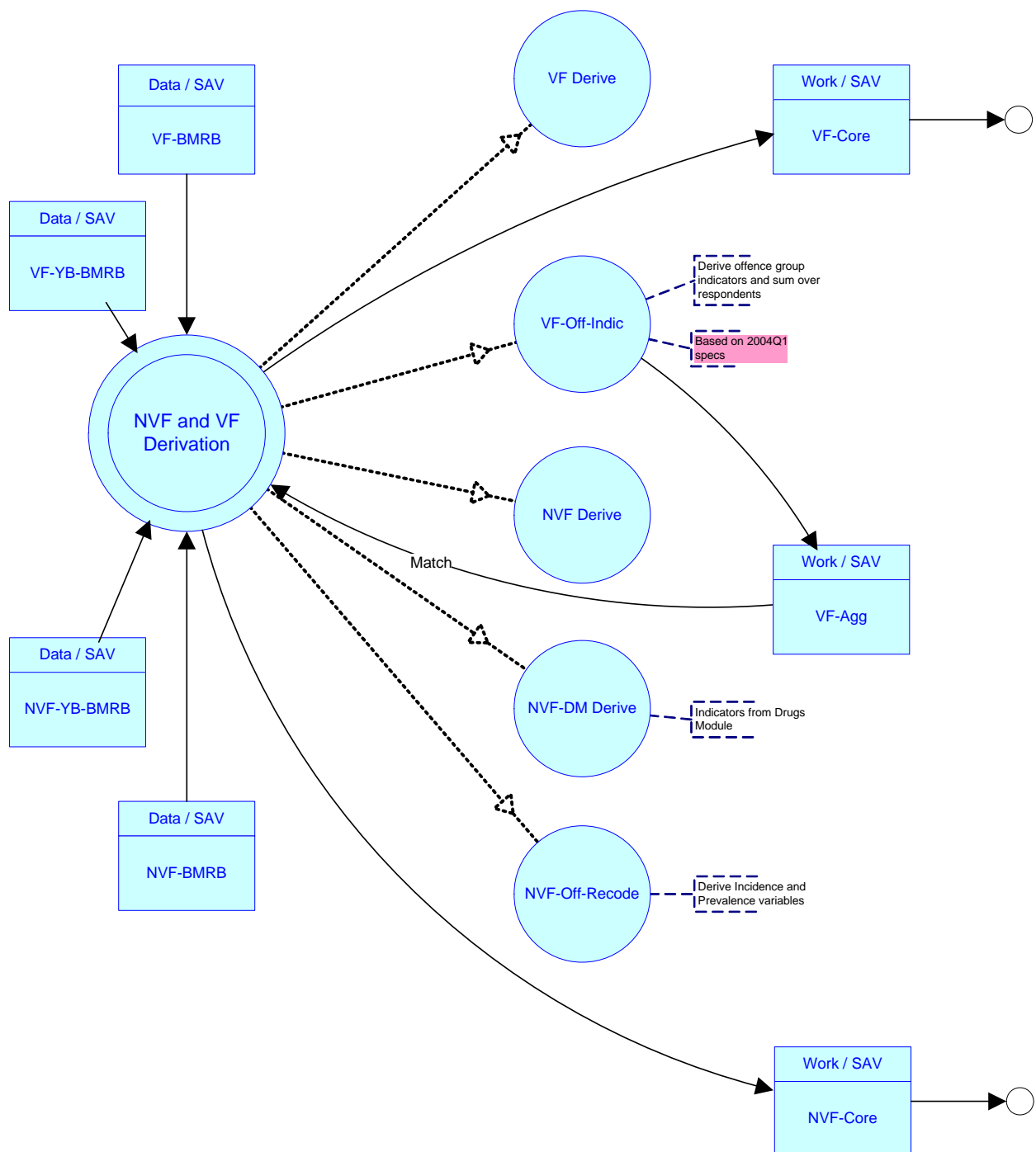
### Directory Structure



Data Flow Overview



Add Derived Variables



## Initial setup of Macros

```

set printback=on.

* Macros that are variables for use in Syntax.
* ##### Comments starting like this indicate actions that are needed.

* The following macro sets the Home Path where all the quarterly directories are
  found.
* ##### Alter the following line when a new processing system is established.
define mBCSHomePath() "\\tower\client home\home office\ DAR" !Enddefine.

* Set the Year and Quarter
* ##### Alter the following two lines when setting up for a new quarter.
define mPeriodYear() "2004" !Enddefine.
define mPeriodQuarter() "3" !Enddefine.

* Create the Directory name, as yyyyQq
define mPeriodDir() !Quote(!Concat(!Unquote(!Eval(mPeriodYear)), "Q", !Un-
  quote(!Eval(mPeriodQuarter)))) !Enddefine.
* Create the full path for the directory
define mPeriodPath() !Quote(!Concat(!Unquote(!Eval(mBCSHomePath)), "\", !Un-
  quote(!Eval(mPeriodDir)))) !Enddefine.

* Set a Title, to be used as printback to confirm the data set
* ##### Alter the following line when setting up for a new quarter.
define mPeriodTitle() !Concat("Data for the year to September 2004 (Directory ", !Un-
  quote(!Eval(mPeriodDir)), ")") !Enddefine.

* Quoted version of title, for use in strings.
define mqPeriodTitle() !Quote(!Eval(mPeriodTitle)) !EndDefine.

Set Printback=off.

Title mPeriodTitle.
SubTitle 'Full Path: ' + mPeriodPath .

```

## Example of use of Macros to include correct Files and Scripts

```

* This procedure assumes that the BCS Startup processes have been run.
* Syntax files for g-Calib specific to the period are in the Include sub-directory.
* The generic ones are in the Calibration area.
* All the working files specific to calibration are created in the g-Calib sub-
  directory.

SubTitle "Produce Calibrated Weights with g-Calib".

* Set up intermediate file for Respondents, with individual weighting.
Get File = mPeriodPath + "\Work\NVF-Core.sav".
Include File = mPeriodPath + '\Include\NVF-Calib-Setup-Resp.sps'.

* Set up intermediate file for Household Members, with household weighting.
Get File = mPeriodPath + "\Work\NVF-Core.sav".
Include File = mPeriodPath + '\Include\NVF-Calib-Setup-HHM.sps'.

* Convert Population Estimates to the format needed.
Include File = mPeriodPath + '\Include\NVF-Calib-Setup-Pop.sps'.

* Run the Calibration calculations (Respondent and Household).
Include File = mPeriodPath + '\Include\NVF-Calib-Run.sps'.

* Merge the new weights (Respondent and Household) with the Core data to produce the
  Final version.

```

```
Include File = mPeriodPath + '\Include\NVF-Calib-Merge.sps'.
```

```
* Merge the weights (Respondent or Household as appropriate) with the Incident records  
to produce the Final version.
```

```
Include File = mPeriodPath + '\Include\VF-Calib-Merge.sps'.
```

```
SubTitle "Production and mergeing of Calibration Weights completed".
```

### Example of a complex Macros

```
* This process applies to both files  
* It derives the Interview Quarter.  
* It neither opens nor saves files.
```

```
Define mComputeQuarter()
```

```
* Syntax to add interview quarter, relative to reporting period.  
* This changes each time, with the most recent quarter always being 4  
* So in Q1, Jan-Mar is the last quarter, so has code 4.  
Compute IntQu = Trunc((IntMon+2)/3) - !Unquote(!Eval(mPeriodQuarter)).  
if (IntQu < 1) IntQu = IntQu + 4.
```

```
* QCode is a string of blanks, with length the code for the current quarter.  
* The first quarter is 4 if the Period is Q1, falling to 1 when the Period is Q4.  
!Let !QCode = !Substr(!Blank(4),!unquote(!Eval(mPeriodQuarter)))
```

```
variable labels intqu "interview quarter".  
value labels intqu  
  !Blank(1) !Length(!Qcode) "Jan to Mar"  
!Let !QCode = !Concat(!QCode, !Blank(1))  
!If (!Length(!QCode) > 4) !Then !Let !QCode = !Blank(1) !IfEnd  
  !Blank(1) !Length(!Qcode) "April to June"  
!Let !QCode = !Concat(!QCode, !Blank(1))  
!If (!Length(!QCode) > 4) !Then !Let !QCode = !Blank(1) !IfEnd  
  !Blank(1) !Length(!Qcode) "July to Sept"  
!Let !QCode = !Concat(!QCode, !Blank(1))  
!If (!Length(!QCode) > 4) !Then !Let !QCode = !Blank(1) !IfEnd  
  !Blank(1) !Length(!Qcode) "Oct to Dec".
```

```
!Enddefine.
```

**Decision Table to document calculation for Social Class (part)**

<b>Se- quenc e</b>	<b>RSoc1990</b>	<b>RespSeg</b>	<b>SelfEmp</b>	<b>Manage</b>	<b>RespSC</b>
<i>1</i>	100				<b>1</b>
	101, 102, 103, 111, 113, 120, 121, 122, 123, 124, 125, 126, 127, 130, 131, 132, 139, 140, 141, 142, 152, 153, 154, 155				<b>2</b>
<i>2</i>	160, 169, 170, 171, 173, 175, 177, 179, 190, 191, 199				<b>2</b>
<i>3</i>	112				<b>3.1</b>
<i>4</i>	110, 172, 174, 176, 178	1.2, 2.2			<b>2</b>
<i>5</i>	110, 172, 174, 176, 178	5.2, 1.1, 2.1, 12			<b>3.1</b>
<i>6</i>	200, 201, 202, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 230, 232				<b>1</b>
<i>7</i>	240, 241, 242, 250, 252, 253, 260, 261, 262, 290, 291, 292				<b>1</b>
<i>8</i>	231, 233, 234, 235, 239, 251, 270, 271, 293				<b>2</b>
<i>9</i>	300, 301, 302, 303, 304, 309, 311, 312, 313, 320, 330, 331, 332, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350				<b>2</b>
<i>10</i>	360, 361, 362, 363, 364, 370, 371, 380, 381, 382, 383, 384, 385, 390, 391, 392, 394, 395, 396, 399				<b>2</b>
<i>11</i>	310, 386, 387, 393	1.2, 2.2			<b>2</b>
<i>12</i>	310, 386, 387, 393	1.1, 2.1, 12, 5.2, 6			<b>3.1</b>
<i>13</i>	400, 401, 410, 411, 412, 420, 421, 430, 440, 450, 451, 452, 459, 460, 461, 463, 490, 491				<b>3.1</b>
<i>14</i>	441	2.2, 8			<b>3.2</b>
<i>15</i>	441	1.1, 2.1, 12, 10			<b>4</b>
<i>16</i>	462	5.2			<b>3.1</b>
<i>17</i>	462	6			<b>4</b>
<i>18</i>	510, 514, 519, 523, 524, 531, 581, 582, 597				<b>3.2</b>
<i>19</i>	500, 502, 504, 506, 507, 515, 516, 517, 518, 520, 521, 522, 525, 526, 529, 530, 532, 533, 534, 535, 536, 537, 540, 541, 542, 543	2.2			<b>2</b>
<i>20</i>	500, 502, 504, 506, 507, 515, 516, 517, 518, 520, 521, 522, 525, 526, 529, 530, 532, 533, 534, 535, 536, 537, 540, 541, 542, 543	1.1, 2.1, 12, 8, 9			<b>3.2</b>
<i>21</i>	550, 551, 552, 554, 555, 556, 557, 559, 560, 561, 562, 563, 569, 570, 571, 572, 573, 579, 580, 590, 591, 592, 593, 598	2.2			<b>2</b>
<i>22</i>	550, 551, 552, 554, 555, 556, 557, 559, 560, 561, 562, 563, 569, 570, 571, 572, 573, 579, 580, 590, 591, 592, 593, 598	1.1, 2.1, 12, 8, 9			<b>3.2</b>
<i>23</i>	501, 503, 505, 509, 511, 512, 513, 544, 553, 594, 596, 599	1.2, 2.2, 8			<b>3.2</b>
<i>24</i>	501, 503, 505, 509, 511, 512, 513, 544, 553, 594, 596, 599	1.1, 2.1, 12, 10			<b>4</b>
<i>25</i>	595	15	1	2	<b>3.2</b>
<i>26</i>	595	15	2		<b>4</b>
<i>27</i>	595	15		3	<b>4</b>

