

**NAME**

*EVP\_PKEY\_copy\_parameters*, *EVP\_PKEY\_missing\_parameters*, *EVP\_PKEY\_cmp\_parameters*,  
*EVP\_PKEY\_cmp* - public key parameter and comparison functions

**SYNOPSIS**

```
#include <openssl/evp.h>

int EVP_PKEY_missing_parameters(const EVP_PKEY *pkey);
int EVP_PKEY_copy_parameters(EVP_PKEY *to, const EVP_PKEY *from);

int EVP_PKEY_cmp_parameters(const EVP_PKEY *a, const EVP_PKEY *b);
int EVP_PKEY_cmp(const EVP_PKEY *a, const EVP_PKEY *b);
```

**DESCRIPTION**

The function *EVP\_PKEY\_missing\_parameters()* returns 1 if the public key parameters of **pkey** are missing and 0 if they are present or the algorithm doesn't use parameters.

The function *EVP\_PKEY\_copy\_parameters()* copies the parameters from key **from** to key **to**.

The function *EVP\_PKEY\_cmp\_parameters()* compares the parameters of keys **a** and **b**.

The function *EVP\_PKEY\_cmp()* compares the public key components and parameters (if present) of keys **a** and **b**.

**NOTES**

The main purpose of the functions *EVP\_PKEY\_missing\_parameters()* and *EVP\_PKEY\_copy\_parameters()* is to handle public keys in certificates where the parameters are sometimes omitted from a public key if they are inherited from the CA that signed it.

Since OpenSSL private keys contain public key components too the function *EVP\_PKEY\_cmp()* can also be used to determine if a private key matches a public key.

**RETURN VALUES**

The function *EVP\_PKEY\_missing\_parameters()* returns 1 if the public key parameters of **pkey** are missing and 0 if they are present or the algorithm doesn't use parameters.

These functions *EVP\_PKEY\_copy\_parameters()* returns 1 for success and 0 for failure.

The function *EVP\_PKEY\_cmp\_parameters()* and *EVP\_PKEY\_cmp()* return 1 if the keys match, 0 if they don't match, -1 if the key types are different and -2 if the operation is not supported.

**SEE ALSO**

[EVP\\_PKEY\\_CTX\\_new\(3\)](#), [EVP\\_PKEY\\_keygen\(3\)](#)